NATIONAL INSTITUTE OF SOLAR ENERGY

An autonomous Institute of Ministry of New & Renewable Energy)

GURGAON

NOTICE INVITING TENDER FOR PROCUREMENT OF D G SET

Sealed Tenders are invited by office of the Director General, National Institute of Solar Energy (NISE) Gurgaon for supply ,installation and commissioning of one 320 kVA DG Set (three Phase, 415 V) with AMF Control Panel, Full Canopy Silent and eco-friendly at NISE GURGAON in replacement of the old 250 KVA DG Set to be taken under buy back arrangement. The tender document and detailed technical specifications along with tender terms and conditions may be downloaded from the website of Ministry of New & Renewable Energy: www.mnre.gov.in. The bidders if interested may visit NISE Gurgaon on any working day between 10.00AM to 4.00 PM to see the condition and other details of the old 250 kVA DG set before submitting the bid

Sealed tenders should be submitted in two parts i.e. Part-I and Part-2. Prart-1 should contain Technical Bid along with Demand Draft for EMD and should be kept in a sealed envelope super scribed as technical bid. Part-II should contain the commercial invoice and should be kept in a separate sealed envelope super scribed as Commercial bid. Both the envelope should be kept in another envelope super scribed as Tender for 320 kVA DG set , addressed to: The Director (Admn), National Institute of Solar Energy, Faridabad- Gurgaon Road, Gwal Pahari, Gurgaon, Haryana, India. The bidders may submit their tenders by post or by dropping it in the tender drop box located at the reception counter of NISE Gurgaon.

The closing time and date for receipt of tenders at NISE Gurgaon is 1.00 P.M. on 7th November, 2014..

TENDER

SUB- Supply ,installation and commissioning of one 320 kVA DG Set(three Phase, 415 V) with AMF Control Panel, Full Canopy Silent and eco-friendly at NISE GURGAON in replacement of the old 250 KVA DG Set to be taken under buy back arrangement.

COMPANY PROFILE (To be filled by the vendor)

1. Name & Address of the Firm.
2. Name of the Contact person
3. Telephone No.
4. Mobile No.
5. Fax No:
6. E-mail Id:
7. Trade License No (With Photocopy).
8. Professional License No: (With Photocopy).
9. Service Tax Registration No (With Photocopy).
10. PAN No(With Photocopy) .
11. Registration No-VAT.
12. Latest income tax clearance certificate.
13. Financial capability over last three years (Turnover and profit).

    Financial YEAR- 2010-2011-
    2011-2012-
    2012-2013 -

14. Organization Capability.

Project Manager-
Supervisors---
Safety Engineer-
Quality Engineer-
Technician-

15. Engine and Alternator model name/no (Technical specification /literature/brochure to be attached).
16. Additional Information if the party wants to include
17. Copies of Testimonials/credentials/certificates regarding Services/experience /ISO Certification etc .
18. Name and address of the service center in Gurgaon.
19. Response time from service center after launching a complaint.
20. Response time for required spare parts from service center after launching a complaint.

Signature with Stamp

National Institute of Solar Energy

Gwal Pahari, Gurgaon-Faridabad Road
Gurgaon 122003 Haryana

SUB- Supply ,installation and commissioning of one 320 kVA DG Set(three Phase, 415 V) with AMF Control Panel, Full Canopy Silent and eco-friendly at NISE GURGAON in replacement of the old 250 KVA DG Set to be taken under buy back arrangement.

Content of Bidding Documents

(a) Notice inviting tender
(b) Instructions to Bidder;
(c) General Conditions of Contract (GCC);
(d) Special Conditions of Contract (SCC);
(e) Technical specifications.
(f) Price Bid.

National Institute of Solar Energy

Gwal Pahari, Gurgaon-Faridabad Road
Gurgaon 122003 Haryana

NOTICE INVITING TENDER

SUB- Supply ,installation and commissioning of one 320 kVA DG Set(three Phase, 415 V) with AMF Control Panel, Full Canopy Silent and eco-friendly at NISE GURGAON in replacement of the old 250 KVA DG Set to be taken under buy back arrangement.

Tender Fees	Rs.500.00 (non-refundable)
Earnest Money	Rs.40,000.00 only (refundable to the unsuccessful bidders without any interest) by Demand Draft drawn in favor of "National Institute of Solar Energy" payable at Gurgaon
Last date for submission of tenders	1.00 P.M. on 7th November, 2014
Date of opening of Techno Commercial un priced bids	To be intimated to bidders in due course
Opening of Price Bid	To be intimated to bidders in due course
Submitting of Tenders	Sealed bids both Technical & Price Bids to be submitted in different envelopes superscribed Technical Bid for 320 KVA DG Set and Price Bid put in bigger envelopes may be dropped in the Tender Box placed at Reception Room in the Institute.
Address for Communication	The Director (Admn), National Institute of Solar Energy, Faridabad- Gurgaon Road, Gwal Pahari, Gurgaon, Haryana, India.

NOTE: The Tender document can be downloaded from Ministry of New & Renewable Energy website: www.mnre.gov.in

INSTRUCTIONS TO BIDDER

1. Eligibility of Bidders

i) The Bidder should be a manufacturer or reputed vendor who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the "Technical Specification" Such equipments must be of the most recent series/models incorporating the latest improvements in design. The models should be in successful operation for at least one year as on date of Bid Opening.

ii) Details of Service Centres located in Gurgaon or adjoining areas and information on Service support facilities that would be provided after the warranty period (In the Service Support Form).

iii) That, the Bidder shall be equipped and able to carry out the Supplier's maintenance, repairs and Spare parts, stocking obligations prescribed by the conditions of the contract.

iv) That adequate and specialized expertise is already available or will be made available following the execution of the contract in the Purchaser's city, to ensure that the support services are responsive and adequate.

v) That the Bidder will assume total responsibility for the fault-free operation of equipment, application software, if any, and maintenance during the warranty period and provide necessary maintenance services for five years after end of warranty period if required.

vi) Bidders who meet the criteria given above are subject to be disqualified, if they have made untrue or false representation in the forms, statements and attachments submitted in proof of the qualification requirements or have a record of poor performance, not properly completing the contract, inordinate delays in completion or financial failure, etc.

2. Cost of Bidding Documents : Interested eligible bidders may download from the website, Rs 500.00 (Five hundred only) is to be paid as the cost of tender documents and Rs.40, 000/- (Forty Thousand only) is to be paid as EMD in the form of a Demand Draft, in favor of the "National Institute of Solar Energy" payable at Gurgaon.

GENERAL CONDITIONS OF CONTRACT

1.0 Codes & Standards: The diesel engine driven Generator and their components shall comply with the latest edition of the applicable standards as per DGS&D specifications.

2.0 Drawing & Documents: The vendor on award of purchase order, shall submit the following drawing and documents to NISE:

1. Technical Specifications: 4 sets
2. G.A & Foundation Drawings
   (Specifying point load & size of foundation): 4 sets
3. Tests Certificates: 1 + 3
4. O & M Manual: 2 sets
5. List of Spare Parts: 3 sets
6. Design Qualification Report: 4 sets
7. Preventive maintenance schedule: 3 sets
8. Any Other documents as per requirements: 4 sets

3.0 Inspections and Tests: All routine test & acceptance tests as per relevant standards and specification shall be carried out by the vendor on the premises of the MANUFACTURER. Charges for all these tests for all the equipments & components shall be included. Drawings and production data shall be
furnished to the inspectors at no charge basis to the Purchaser, Should any inspected or tested Goods fail to conform to the specifications, the Purchaser may reject the goods.

4.1 Load Test : The engine shall be given test run for a period of at least 15 hours depending upon the actual power factor of the load and set shall be subjected to the maximum achievable load without exceeding the engine or alternator capacity. The load is to be arranged by the vendor. This full load test is to be followed immediately by a 10% overload run for one hour. The performance of the engine, alternator and exciter shall be satisfactory at the end of this overload run. At the end of the full-load run, and again at the end of the over-load run, tests for temperature rise and insulation resistance of the alternator as specified shall be taken.

4.2 The alternator of each type and rating shall be type tested for the all tests as per Indian Standards. Required type test certificates shall be furnished for information.

4.3 The alternators and the starting motors shall be tested for the routine tests as per Indian Standards and test certificates submitted for acceptance.

4.4 The control panels shall be tested/checked for following (but not limited to):

a) Compliance to drawing, data sheet and this specification.
b) Check for workmanship, wiring, conformity to functional requirements.
c) Calibration of instruments, meters C.T., P.T. etc.
d) H.V. Test
e) I.R. Test before and after HV test.

4.5 The acceptance and routine tests of battery shall be done as per relevant standard. Battery Charger as per Indian Standards

a) All routine tests as per relevant IS.
b) Test for ripple factor & regulation
c) Heat run test (as type test)
d) Operational

4.6 Commissioning Check Tests/Performance and Guarantee Test : In addition to the checks and test recommended by the manufacturer, the contractor shall supervise the following acceptance tests to be carried out on each set.

4.7 Speed and Governing : The speed of the engine shall be verified to ensure that it conforms to the
requirement as per DGS&D specifications.

4.8 Vibrations : The vibrations shall be measured during full load test as well as during the overload test and the limit shall be limited to DGS&D specifications.

4.9 Check of Fuel Consumption : A check of the fuel consumption shall be made throughout the test run of full load and overload.

4.10 Insulation Resistance of Wiring : On completion of the engine tests, the insulation of each unit of local wiring in the control cubicles and other components of the engine set, shall be tested for insulation resistance as per general standards.

4.11 Functional Tests :

a) Protective equipment on the engine against excessive cylinder temperature and low lubrication oil pressure.
b) Type of starting provided for the engine.
c) Pilot and fault indication lamps.

4.12 TESTING OF CABLES : Before energizing, the insulation resistance of every circuit shall be measured from phase to phase and from phase to ground. Measure the insulation resistance of directly buried cable circuits before cable trenches are back filled. Repeat measurement after backfilling.

5.0 Certificate : The vendor shall furnish, at its own cost, test certificate for the various material and equipment as called for. Such certificate shall be from the manufactures for the particular consignment / lot/piece and shall be dully authenticated by respective consultants.

6.0. Packing : The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

7.0 Delivery and Documents : Delivery of the goods should be made within 06 weeks from the date of placement of purchase order. Within 24 hours of shipment, the supplier shall notify the purchaser and the
insurance company by cable/telex/fax/e mail the full details of the shipment including contract number, railway receipt number/ AWB etc and date, description of goods, quantity, name of the consignee, invoice etc. The Supplier shall mail the following documents to the purchaser with copy to the insurance company:

i) Copies of the Supplier invoice showing contract number, goods' description, quantity, unit price, total amount;
ii) Acknowledgment of receipt of goods from the consignee(s) by the transporters; iii) Insurance certificate, if any.
iv) Manufacturer's/Supplier's warranty certificate;
v) Inspection Certificate issued by the expert from NISE, and the Supplier's factory inspection report; and Certificate of Origin.
vi) Two copies of the packing list identifying the contents of each package.

The above documents should be received by the Purchaser before arrival of the Goods (except where the Goods have been delivered directly to the Consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses.

8.0. Insurance : For delivery of goods at the purchaser’s premises, the insurance shall be obtained by the Supplier to an amount equal to 110% of the value of the goods from "warehouse to warehouse" (final destinations) on "All Risks" basis including War Risks and Strikes.

9.0. Transportation : Where the Supplier is required under the Contract to transport the Goods to a specified place of destination including insurance, as shall be specified in the Contract, shall be arranged by the Supplier, and the related cost shall be included in the Contract Price.

10.0. Warranty: The vendors must provide full comprehensive warranty for a period of 36 months (three year) post installation. During this period they should provide for all spare and parts required for repair and maintenance along with repair maintenance service within 12 hrs of communication of such services cell.

11.0. AMC : The vendor must have provision for prompt and high quality after-sales services after Completion of the warranty period in an AMC basis and must quote the cost of such AMC in the main tender for the 4th and 5th year.

12.0 Payment : Payment shall be made by the Purchaser to the extent of 80% against delivery at NISE, Gurgaon, in good condition and the balance 10% will be paid after completion of installation, commissioning and acceptance of the system /equipment to the entire satisfaction of the Purchaser and on production of unconditional performance bank guarantee (for three years as guaranty period) the rest 10% will be released.

13.0 Taxes and Duties : Suppliers shall be entirely responsible for all taxes, duties, license fees, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser. Being the purchases for scientific purpose, the customs/Excise duty exemptions are applicable.

14.0 Penalty Clause : If the Supplier fails to deliver the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as penalty (Half percent of contract price per week of delay subject to a ceiling of 5% of final contract price).

15.0. Applicable Law : The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction in Gurgaon, Haryana.

16.0 Training : The Supplier is required to give training to the designated Purchaser's technical and end user personnel at site to enable them to effectively operate the total equipment wherever indicated/necessary.

17.0 FREE MAINTENANCE AND DEFECTS LIABILITY PERIOD OF THREE YEAR. The vendor must have a permanent address in Kolkata with at least five years of local after-sales Service history. Following are the works shall be carried out during the free maintenance period.

- Emergency call back service
- Inspect, clean, oil and grease where necessary
- Adjustment of machinery
- Replacement of any defective parts

18.0 The existing 250 KVA Diesel Generator Set including panel (excluding battery) is to be taken back on Buy Back basis and the offer should be for supply of new Generator Set and buy back of the existing Generator Set.

19.0 For this purpose the intending bidders shall be provided an opportunity to examine the existing 250 KVA Generator Set in 'as-is-where-is' condition. Such examination shall be permitted by the Building Maintenance (Electrical) Department officials upon receipt of written request from the bidders.

20.0 Interested bidders are requested to inspect the work site at the address above mentioned and get them acquainted with the nature of work and local conditions that may have a bearing on the rates before submitting their lowest offer.

THE FOLLOWING FORMS TO BE FILLED BY THE BIDDER

(i) Performance Statement form
(ii) Service Support details;
(iii) Manufacturer's Authorization Form

NOTES

(1) NISE, Gurgaon reserve right to accept or reject any or all applications without assigning any reasons.
(2) The offers from OEM authorized dealer of engine manufacture only will be considered. The offers received from un authorized dealer/firms may will be passed over.
(3) OFFERS with INCOMPLETE INFORMATION ARE LIABLE TO BE REJECTED, which may be noted.

TECHNICAL SPECIFICATIONS

Higher Rating DG Set, Three Phase, 415 V with AMF Control Panel

Type of Governor: Electronic, Rating of DG Set : 320 KVA

Technical specifications as per DGS&D Specifications Annexure to Schedule B

ANNEXURE

(A) DETAILED SPECIFICATION FOR ALTERNATOR, TURBO-CHARGED DIESEL ENGINE AND MANUAL/AMF CONTROL PANEL:

Diesel Generating set complete with turbo charged Diesel Engine, Alternator and MANUAL Control Panel conforming to the specification given below. Turbo charged Diesel engine and alternator shall be closely coupled or provided with flexible coupling and mounted on a base plate of robust in construction. DG Set shall meet the requirements of environmental protection rules, 1986 as laid down by Ministry of Environmental & Forest read with GSR 371(E) dated 17.05.2002, GSR 520(E) dated 01.07.2003 & GSR 448(E) dated 12.07.2004, amended upto date, in respect of "emission norms" for the engine and in respect of "noise norms" for DG sets. All turbocharged engines shall conform to IS:13018/1990(reaffirmed 2005)AND IS: 10,000 series.

DG Set should have protection against under voltage, over voltage, under frequency, over frequency, low battery voltage, over current, earth fault, short circuit, phase sequence change etc.

(1) ALTERNATOR:

The alternator shall be self excited and self regulated of specified KVA rating in three phase at 415 Volts, 50 Hz, 1500 RPM & 0.8 PF and shall conform to IS:13364(Part 2)/1992(reaffirmed 2008). The alternator shall be of brushless type only with VG-2 Grade of voltage regulation. The alternators shall be screen protected, drip proof with IP-21 or better degree of protection as per IS:4691/85(reaffirmed 2004). The alternator should be suitable to take unbalanced load as per IS:13364(Part-2)/1992(reaffirmed 2008). ALTERENATORS REGISTERED WITH DGS&D SHALL ONLY BE ACCEPTED.

(2)TURBOCHARGED DIESEL ENGINE:

The turbocharged Diesel Engine shall be water cooled for all ratings except for 62.5 KVA rating which can either be water cooled or air cooled as specified, electric start developing required BHP at 1500 RPM with class A-2 or better governing to deliver specified continuous KVA output at 0.8 Power Factor Lag at NTP conditions. ENGINES OF RATING 250 KVA AND ABOVE WILL HAVE ELECTRONIC GOVERNOR. The Diesel engine should be capable of providing 10% overload for one hour in every 12 hours continuous running at full load. The turbocharged Diesel engine shall conform to IS:13018/1990(reaffirmed 2005)AND IS: 10,000 series. Specific fuel consumption(SFC)shall be as per IS specification.

The Turbocharged Diesel engine shall be complete with the following accessories :

(a) Fuel tank with air breather, drain plug with capacity for 8 hours of continuous running at full load or 990 liters capacity, whichever is lesser.

(b) Engine instrument panel consisting of starting switch with key, lube oil temperature and pressure gauges, RPM indicator and hour meter with additional feature of auto start/remote start and auto stop.

(c) Safety control to shut down the engine in the event of overspeed, low lube oil pressure and high engine water temperature.

(d) Exhaust silencer residential type.

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(e) 12 V or 24 V starting system complete charging alternator or dynamo and cutout.

(f) Lead Acid/ semi-maintenance free batteries of suitable ratings with connecting cables. The batteries shall be supplied dry and in uncharged condition and shall conform to relevant IS. Only, the following make of batteries shall be accepted- Exide, Tata Green, Amron, Amco, Tudor, Cummins-Pulselite, Prestolite and Standard Furukuwa or DGS&D regd make.

(g) Anti-Vibration mountings for complete DG set in case of flexible coupling and for turbocharged engine in case of direct coupling.

(h) The fuel level should be indicated with the help of fuel gauge meter.

(i) There should be provision for filling the fuel from outside (as in case of automobiles) with locking arrangement.

(3) MANUAL CONTROL PANEL:

The MANUAL control panel shall be fabricated from MS sheet of minimum 1.5 mm thick, duly pretreated and aesthetically finished. The control panel shall be dust & vermin proof, floor mounted with IP-53 degree of protection as per IS/IEC:60947/part-1/2004.

The MANUAL control panel shall consists of the following instruments :

(a) A.C. Voltmeter(s) of class 1.5 accuracy and 0-500 Volts with 4 position selector switch.

(b) A.C. Ammeter(s) of class 1.5 accuracy and of suitable range, with selector switch.

(c) One MCCB for ratings upto 360 KVA and manual fixed ACB for ratings beyond 360 KVA.

(d) Frequency meter digital type.

(e) Power factor meter digital type.

(f) Push button switch for ON and OFF operation.

(g) Pilot lamps 3 nos. in case of three phase DG sets.

(h) Battery charger complete with voltage regulator, voltmeter and Ammeter for charging the battery from the mains.This will be in addition to the battery charging alternator fitted on the engine.

(i) Digital Energy meter (class-2) of suitable rating.

(j) Instrument and control fuses.

(k) Rating plate and danger sticker/plate.

All the components in the control panel shall be properly mounted, duly wired and labeled. Suitable terminals are to be provided for incoming & outgoing connections. The instruments/components shall be of reputed make. Any of the above items can be alternatively supplied in one multifunctional digital

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display
meter.

(4) AMF CONTROL PANEL:

AMF control panel shall be able to start up the DG set and transfer the load to DG set on the Mains failure without requiring any human intervention. Similarly on restoration of the Mains supply it shall be able to transfer the load to Mains supply and switch off the DG Set automatically.

The AMF control panel shall be fabricated from steel sheet of 2.0 mm thickness minimum duly pretreated and aesthetically finished. The control panel shall be totally enclosed, dust and vermin proof, floor mounted type with degree of protection IP-53 as per IS/IEC:60947(part-1)/2004.

The AMF control panel shall consists of following instruments of which any of the items can be supplied in a combined relay/meter also.

(a) Microprocessor based AMF relay.

(b) AC voltmeter(s) of class 1.5 accuracy ,0-500 volts with selector switch. Separate voltmeter shall be provided for Mains and Alternator.

(c) AC Ammeter(s) of class 1.5 accuracy and of suitable range, with selector switch.

(d) Mode selector switch for setting the panel on any one position such as off or auto or manual or test.

(e) Engine ON-OFF switch (push button type).

(f) HRC fuses of suitable ratings.

(g) Rectangular aluminium bus bars(1 No. for each phase, neutral and earthing terminal) of adequate rating duly colour coded with head shrinkable PVC sleeves.

(h) Two nos. power contactor (one for Mains and one for generator) upto 360 KVA & EDO breaker for DG sets above 360 KVA, ACB will be complete with O/L, U/V release, short circuit protection.

(i) Under voltage relay for mains.

(j) Three attempt engine start /engine cranking relay.

(k) On delay timer for load change over.

(l) On delay timer for engine shut off.

(m) Pilot lamps three nos. in case of three phase DG sets.

(n) 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.

(o) Instruments and control fuses 06(Six) nos. power fuses of suitable rating.

(p) Five nos. indicating lamps to indicate Mains Low Voltage, Load On Mains, DG Set running, Load on set and Battery charger ON.

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(q) Audio Visual alarm for Low Lubricating Oil Pressure, High water temperature,
Start Failure and DG O/L.

(r) Overcurrent relay protection.

(5) ACCOUSTIC ENCLOSURE:

The accoustic enclosure shall conform to the drawings TYPE approved by a Govt lab, for conformity to noise norms. This aspect shall also be verified by QA officer at the time of INSPECTION. The QA officer shall tally the enclosure offered with the approved drawing.

The Accoustic enclosure should consist of following :

(a) The enclosure should be fabricated out of CRCA sheet of minimum 1.6 mm thick.

(b) The sheet metal components should be suitably pretreated and should be powder coated to have long life of enclosure.

(c) The battery should be accommodated in a separate tray in the enclosure.

(d) There should be provision of drain plugs for draining lube oil and diesel.

(e) The doors should be gasketed with quality gaskets to avoid leakage of sound.

(f) The door handle should be lockable type.

(g) Sound proofing of enclosures should be done with high quality rock wool/ mineral wool/foam/fiberglass wool.

(h) The rock, mineral, fiberglass wool is further covered with fiberglass cloth and perforated powder coated sheet.

(i) A special residential silencer should be provided along with the enclosure to control exhaust noise.

(j) Specially designed louvers should be provided to control sound at air entry to the container and exit from the container.

(k) It should have Type approval certificate and also COP certificate (if applicable) from certification agencies mentioning MOEF notification No.371(E) dated 17.05.2002 or as amended and applicable at the time of supply.

(l) Ambient temperature limit inside the canopy should be specified.

(m) There shall be provision for emergency STOP from outside the enclosure.

(n) Accoustic Enclosure shall conform to pollution noise norms stipulated in notification GSR 371(E) dated 17.05.2002, amended upto date.

(B) Supplier shall provide the testing facilites for the following tests in their

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works at the time of inspection to DQA concerned. The inspection report proforma is attached alongwith.

(1) The testing of diesel generating sets of all ratings shall be done with a load of 0.8 pf lag.

(2) The sample size shall be 100% of the offered quantity of DG sets for conducting acceptance tests.

(3) The facility for checking of alignment of DG set before subjecting to load test for which tolerance is 0.01 mm in case of flexible coupled DG set and not applicable for direct coupled.

(4) Voltage regulation test at 0.8 pf lag.

(5) Full load test for 4 hours at rated KW at 0.8 pf lag.

(6) After 4 hours full load test, 10% overload test shall be conducted for one hour at 0.8 pf lag. DG set should be capable of running at full-load test for one hour, after the overload test. The parameters should meet the requirements at full load, conducted after the over-load test.

(7) High voltage test at 1.6 KV for one minute after the load test.

(8) Insulation resistance test.

(9) Checking for the trouble free starting and oil leakage.

(10) High voltage and insulation resistance tests should be conducted on alternator as well as control panel after the load test.

(11) The control panel will be checked for functional requirements and completeness as per R/C specification.

(12) Vibration test : Vibration below AVM's should not exceed 100 microns.

(C) Supplier shall also provide following documents to DQA at the time of inspection.

(1) DG Sets manufacturer's shall furnish invoices and OEM's test certificates for turbocharged engine/alternators used, at the time of inspection from the original manufacturer. The Invoice should have been billed directly to DG sets manufacturer. Original will be shown to the visiting inspector for verification during inspection.

(2) Valid Calibration certificates of all the testing meters from any Govt. Lab.

(3) Complete & satisfactory Type test cetificate (TTC) for turbocharged engines, alternators complete with enclosure to be used by them for EACH rating of DG sets clearly identifying make, model and ratings of the DG sets tested to the concerned DQA at the time of pre despatch inspection. The TTC of three phase alternators shall cover unbalanced load test as per cl.24 of IS:13364(part-2)/1992(reaff 2008) as applicable. The TTC shall be from any Govt. Lab. Type testing witnessed by the representative of concerned DQA at the firm's premises shall also be acceptable.

(a) For turbo charged engines, which are in market in more than 500 nos. and for at least two years of operation prior to date of T.O., tenderers shall submit "endurance test" conforming compliance with IS:13018/1990 (Reaff 2005) for LOWEST &

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HIGHEST rating of these turbo charged engines. These endurance tests may be carried out by engine manufacturers on their own test beds and under their own supervision. The self certified copies(i.e. certified by engine manufacturers) of these tests shall be submitted by firms for registration.

Turbo Engine manufacturers shall also carry out "rating tests" conforming compliance with IS:13018/1990(reaffirmed 2005)AND IS: 10,000 series. covering governing speed,specific fuel consumption, Lube oil consumption & exhaust temperature tests for EACH model of the engine in the presence of rep. of DQA for the purpose of registration.

(b) For new models of turbocharged engines i.e. the engines which are not in market in more than 500 nos. and for at least two years of operation prior to date of Tender opening, tenderers shall submit "endurance test" for EACH and every model of engine conforming compliance to IS: 13018/1990 (Reaff 2005) from a Govt. lab/ARAI for registration.

Apart from above, these Engine manufacturers shall also carry out "rating tests" conforming compliance with IS:13018/1990(reaffirmed 2005)AND IS: 10,000 series. covering governing speed, specific fuel consumption, Lube oil consumption & exhaust temperature tests for each model of the engine in the presence of rep. of DQA for the purpose of registration.

However, all the turbocharged engines models/ratings will need other relevant certifications as per norms in both the cases.

(4) Type approval certificate for "emission norms" for engine from certification agency as per notification no.GSR 371(E) dated 17.05.2002 amended up to date.

(5) Type approval certificate of DG set for "noise norms" with turboengine model combination from certification agency as per notification no.GSR 371(E) dated 17.05.2002 amended uptodate.

(6) Type test certificate from any Govt Lab for IP-53 degree of protection for mannual as well as AMF panel.

(7) Routine Test certificate of engine, alternator and control panel under supply.

(8) DG Sets manufacturers may also take up steps to request OEM's to take necessary action so that the details of contracting invoices/bills are available on the websites of OEM's Of Turbo Engine/alternator for facilitating easy verification by stake holders.

(9) DG Sets should be self-contained units supplied with the accoustic enclosure.
Therefore supplier shall have to furnish the foundation details alongwith the DG Set to facilitate the process of installation & erection of DG set.

(10) While dispatching the DG Sets to the consignee, the supplier shall issue letters to respected Engine /alternator manufacturer whose engine /alternator have been used in their DG Set supplied, informing them about the consignee's details including Name, Location so as to take care of the maintenance requirement in future at consignee's end.

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Simultaneously, Consignees will also be informed about the above details of service centre i.e. Name, mailing address, e-mail address, telephone Nos. and name of the contact person etc. of the turboengine/alternator manufacturer who may be contacted for obtaining the service support & due maintenance. This requirement is in addition to the contractual obligation of the DG Set suppliers.

(D). Tenderer shall confirm that DG set shall meet the requirements of Environmental (Protection) rules 1986 as laid down by Ministry of Environment and Forest read with GSR 371(E) dated 17.05.2002, GSR 520(E)dated 01.07.2003 and GSR 448(E) dated 12.07.2004 in respect of emission norms for engine & noise norms for DG Sets. The latest amendments to above GSRs shall be applicable.

(E). DG set shall also meet all the other statutory requirements as notified by the Government from time to time. Tenderers shall give complete details as per the questionnaire in this regard for each item quoted.

INSTALLATION AND COMMISSIONING OF HIGHER RATING DG SETS:

The responsibility for installing and commissioning of DG sets shall be that of the firm. The firm shall complete installation within 3 months of receipt of DG sets by the consignee.

The scope of installation and commissioning shall be as follows:

1. Foundation:

Foundation shall be of PCC type with the ratio of 4:2:1. The length and breadth of the foundation shall be 300 mm more from the respective length and breadth of the DG set. The height of the foundation shall be 400 mm i.e. 200 mm below and 200 mm above the ground level.

2. Cable:

Armoured PVC sheathed Aluminium cable and its necessary laying and termination shall be done by firm. For 3-phase DG sets, 3.5 core or higher core cables shall be used. The current rating of the cables shall be as per table attached. Total length of the cable shall be within 20 metres for DG sets with manual control panel and within 40 metres for DG sets with AMF control panel.

3. Earthing:

Building suitable earthing station and necessary connections shall be done by firm. In case of 3 phase DG sets, the total number of earthing pits/stations shall be 4 i.e. 2 for neutral and 2 for body-earthing. In case of single phase DG sets, the total number of earthing station shall be 2 and it shall be used for body-earthing. The consignee should choose installation site in such a way that the earthing stations can be made within 20 metres of the DG set. Earthing station shall be typically built as per prevalent standard practices.

4. Installation of Fuel tank, battery charging, and battery connection.

5. Supply and installation of a change-over of suitable rating for DG set with manual control panel.

6. Unloading and placement of DG set on foundation. The consignee shall ensure that the site is located along a motorable road.

7. First fill of lube oil and all filters shall be provided by the firm. The firm

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shall also provide 50 litres of Diesel for DG sets of rating upto 125 KVA, 100 litres for rating upto 250 KVA and 200 litres for ratings more than 250 KVA.

8. The consumables provided by the firm cover the trial run of DG set as well. The firm shall conduct trial run of the DG set with the available electrical load at site. The trial run shall be for ONE hour. The available electrical load shall be less than or equal to the rated capacity of the DG set.

9. Exhaust piping, extra civil work, distribution board shall be provided by the consignee /user.

10. Note: Necessary approvals, if any, shall be obtained by the consignees.

11. Firm shall declare SFC (Which will become part of Rate Contract.

SPECIAL NOTE TO TENDERERS:

1. Both the turbocharged diesel engine manufacturer and the DG set manufacturer must be registered with DGS&D on the date of tender opening.

2. A copy of valid formal agreement between turbocharged diesel engine manufacturer and DG set manufacturer, ensuring steady supply of engines, should be submitted to concerned DQA at the time of registration and inspection.

3. Firm shall supply DGS&D registered alternators only.

4. DG sets have been declared as safety/difficult/complaint prone items. NSIC registered firms should approach QA office for 'special capacity assessment'with complete documents. Such applications should be received in QA office 21 days before tender opening. Late applications will not be entertained by QA office.

5. Installation and commissioning shall be the responsibility of DG set supplier for which separate rates will be invited in the tender. The procedure for installation of DG sets is ATTACHED alongwith.

6. DG set and diesel engine shall meet the specified norms of Central Pollution Control Board. They shall submit certificate in this regard.

7. Necessary gauges/meter shall be installed to indicate the quantity of diesel input, quantity of diesel consumed and the number of hours of DG set operation.

8. Tenderer shall indicate specific fuel consumption for each rating of DG set in the questionnaire.

9. Tenderers shall have to get the manufacturers of various Engine models and Alternators models registered with DGS&D for various Engine models and Alternators models used in DG sets to facilitate inspection of these engines and alternators at the time of registration.

Installation and Commissioning of Higher Rating DG Set

The scope of installation and commissioning of Higher Rating Diesel Generating sets shall be as per details given in 'General Technical Requirements'.

The details are also given under the link 'DG set installation2' given at the end of 'Questionnaire'.

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Higher Rating DG Set ,Three Phase, 415 V with Manual Control Panel

Higher Rating Diesel Generating sets with MANUAL control panel shall comply to the specifications given in 'General Technical Requirements'.

Higher Rating DG Set ,Three Phase, 415 V with AMF Control Panel

Higher Rating Diesel Generating sets with AMF control panel shall comply to the specifications given in 'General Technical Requirements'.

Drawing/Proforma/Annexure Attached [Click on the following to View/Print]

DG SET INSTALLATION2

IR_proforma

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PERFORMANCE STATEMENT FORM

(For A Period of Last 3 Years)

Name of the Firm……..

Order placed by (full address of purchaser)	Order No. and date	Description and quantity of ordered equipment	Price	Date of completion of delivery as per Contract/ Actual	Remarks indicating reasons for late delivery, if any	Has the equipment been installed satisfactory? (Attach a certificate from the purchaser/ Consignee)	Contact Person along with Tel. NO., Fax No. & e-mail address

Signature
Rubber stamp

Place :
Date :

SERVICE SUPPORT DETAILS FORM

Sl. No.	Nature of training imparted	List of similar type equipments serviced in the past 3 years	Local Address, Telephone Nos. Fax Nos and e mail address of the firm located at Gurgaon or adjoining areas	Value of minimum stock of consumable spares is to be held by the purchaser at all Times.

Signature and Seal of the manufacturer/Bidder…….

Place:
Date:

MANUFACTURERS' AUTHORIZATION FORM

No. Dated _____

The Director (Admn),
National Institute of Solar Energy,
Faridabad-Gurgaon Road,
Gurgaon 122003 Haryana

Dear Sir:

We who are established and reputable manufacturers of having factories at _____ (address of factory) submit a bid, negotiate and receive the order from you against your tender enquiry.

No company or firm or individual other than M/s is authorized to bid, and conclude the contract in regard to this business.

We hereby extend our full guarantee and warranty as per the General Conditions of Contract and the Special Conditions of Contract for the goods and services offered.

Yours faithfully,

(Name)

(Name of manufacturers)

Note: This letter of authority should be on the Letter head of the manufacturer and should be signed by a person competent and having the power of attorney to bind the manufacturer. It should be included by the Bidder in its techno-commercial un priced bid.

Special Terms & Condition

(TO BE FILLED BY THE BIDDER)

	DESCRIPTION OF CONDITION	YES/NO
1.0	Tender should be in two part,	
2.0	Unit Price should be inclusive of design, manufacturing, acceptance test mentioned in IS specification to be done at works in presence of representatives of NISE, packing, loading, dispatch from the factory, transportation, Transit Insurance, arranging all NOC from respective authority & unloading by crane at NISE,	
3.0	Taxes & duties will be paid extra.	
4.0	Warranty should be of minimum 3 year from commissioning / 3.5 years from date of supply which ever earlier.	
5.0	Cost of AMC for 4th and 5th year in the price bid	
6.0	Validity of tender should be 180 days.	
7.0	The acceptance of DG Sets shall be subjected to load tests at works and at NISE site after installation in the presence of NISE`s representative with consultant. All the consumables required during testing of DG Sets at works & site shall be included in the scope of DG vendor. Load at works is to be arranged by the vendor and load at site is to be arranged by the NISE. The test shall be carried out as per Technical Specification & records to be submitted for approval. The formats of all tests carried out at factory & at site with details of relevant standards as per latest standards & permissible limits should be submitted by DG vendor for reference along with tender.	
8.0	Mandatory Spare Parts: The list of mandatory spares which are considered essential by the Supplier shall be indicated in the bid for successful operation of DG Set for 3 years. Price may also be quoted separately for these spares.	
9.0	EXISTING OLD 250 KVA DIESEL GENERATOR SET INCLUDING PANEL (Excluding battery) IS TO BE TAKEN BACK ON BUY BACK BASIS. Price may also be quoted separately	
10.0	Complete Technical data is to be provided, otherwise the tender will be cancelled.	