

**ARYABHATTA RESEARCH INSTITUTE OF OBSERVATIONAL SCIENCES (ARIES),
MANORA PEAK, NAINITAL-263 129 (INDIA)**

Phone (91-05942)233727,233734,233735,232655, Fax No. (91-05942)233439, Gram : ASTRONOMY

No. : AO/ 278(1-10)3-2(2)/11-12

Dated: 03 May, 2010

Sir,

This office is in need of the following items. You are requested to send technical and Commercial bid in a separate envelope. Both envelope should be put up in a another envelope and clearly marked on the cover of envelope Technical bid, Commercial bid, enquiry No., date of opening. Sealed envelop should reach latest by dated 07 Jun 2011 up to 2:00 P.M. Technical bid will be opened on same day at 16:00 Hrs and Commercial bid will be opened on 14 June 2011 at 16:00 Hrs.

Sl.No.	Description of Item	Specification	Qty
1.	Supply, Errection ,and commissioning of outdoor three phase(415V) 25 KVA silent DG Set with AMF Pannel and canopy. Complete with all material and labor in all respect	As per attached sheet	01 Set

Other terms and conditions of the tender :

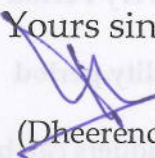
- Specifications and make for each item should necessarily be mentioned as per specification.
- Place of Delivery : ARIES, Manora Peak, Nainital-263129
- Delivery Period : To be specified.
- Validity period : Based on delivery period.
- All bidders can be present at the time of opening the tender. No. separate intimation shall be given in this regard.
- The opening of the tenders shall only be attended by an authorized representative of the firm whose name, designation and address should be indicated in the offer of the firm. Tendering firm shall issue a letter of authority to such representative indicating the tender no. date due on for the item. In no case un-authorized person shall be allowed to enter tender opening room.
- Payment : 100% payment will be released after inspection and acceptance of Item and submission of Performance Bank Guarantee of 10% of the total amount (including taxes) valid for two months beyond warranty period or else 10% of the amount will be released after two months beyond warranty period.
- Warranty period : Minimum 24 months onsite warranty from the date of installation.
- Insurance : Transit insurance covering all risk for all the items is to be arranged by the supplier.

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10. **Special Cause** : Any tender can be rejected by the order of the Director, ARIES, Nainital without assigning any reason whatsoever.
11. Prices should be quoted on F.O.R ARIES, Manora Peak, Nainital .
12. Packing & Forwarding charges, Bank Charges, Insurance and Freight Charges should mention clearly and separately in the quoted price. Term like "at actual & at the time of delivery" will not be acceptable and the tender will be rejected.
13. If the item is found to have any defect during the warranty Period, Transportation and other charges from ARIES to the Service Station will be borne by the Vendor supplying the item.
14. Tenders Received by only Post/Speed post/Courier will only be accepted.
15. Sealed tender should reach "Director, ARIES, Manora Peak, Nainital - 263 129" by stipulated date. Tender received late by whatsoever reason will not be accepted at all.
16. All The Bidder has to submit the EMD of Rs 10000.00 infavour of Director, ARIES in the form of D.D. Only. Any other mode of EMD will not be acceptable.
17. Liquidated damage as decided by ARIES will be charged, if the item(S) is/are not delivered within the stipulated time frame.
18. Loading /off loading will be the responsibility of supplier.
19. Prices for earthling inclusive material & labor, must be fibercated / to be quoted separately. Road permit and excise exemption certificate as per notification No: 10/97 will be provided by ARIES.

Note : Please quote the tender no. and opening date on the top of the cover containing tenders.

Yours sincerely,


(Dheerendra Kumar)
Junior Purchase Officer
For, Director

**Specification for 25KVA silent Gen Set (DG set) with AMF control panel and Canopy
(For outdoor Installation and environmental friendly type)**

Supply, Erection and Commissioning of outdoor three phase 25 KVA silent DG set with AMF panel and canopy. Loading/unloading, supply of required cable for the load at ~125m distance. Required earthing with 10 ft earth pit, Copper plate 3mm x 600mm x 600mm, copper strip up to required point and GI pipe with required hole and length or Chemical gel earthing and civil work of a required platform for keeping the generator set on ground etc. complete with all material and labor in all respect as per requirement.

The Alternator shall be self excited and self regulated of 25KVA rating in three phase, 4 wire system at 415 Volt, 50 Hz, 1500 RPM and 0.8 power factor with H class of insulation.

Diesel Engine shall be air or water cooled, electric start developing required B.H.P at 1500 RPM with Class A-2 Governing or better for alternator to deliver continuous 25KVA output at 0.8 lagging PF at NTP (normal temp. and pressure) conditions (all rating shall be tested at 0.8 PF). The Diesel Engine should be capable of providing overload of 10% for one hour in 12 hours of operation (continuous running at full load).

The Diesel Engine shall be complete with the following accessories:

- (a) Fuel tank with capacity for 12 hours continuous running at full load.
- (b) Engine instrument Panel consisting of starting switch with Key, Lube Oil temperature and pressure gauges, (water temperature gauge in case of water cooled engines), RPM indicator and hour meter.
- (c) Safety controls to shut down the engine in the event of low lube oil pressure or high cylinder head temperature in case of air-cooled engines or high water temperature in case of water-cooled engines.
- (d) Radiators in case of water-cooled engines and Exhaust (residential type) silencer.
- (f) 12V or 24V starting system complete with starter motor, charging alternator and Cutout.
- (g) Battery/ies of suitable ratings with connecting cables.
- (h) Standard set of tools shall be provided.

Automatic mains failure (AMF) control panel shall be able to start up the DG set and transfer the loads on to the DG sets on mains failure without requiring any human intervention. Similarly on restoration of 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 have the following instruments:

- (a) Microprocessor based relay with composite meter for digital display of
 - i) Generator voltage/AC Mains voltage, Generator Current, Power Factor, Frequency and Energy.
 - ii) Three attempts engine start / engine cranking relay.
 - iii) On -delay timer for load change over and engine shut off.
- (b) Mode selector switch for setting the panel on any one position such as off or auto or manual, or test.

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- (c) Engine On-Off switch (Push button type)
- (d) MCCB of suitable rating shall be provided.
- (e) 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) Lamps to indicate 'mains ON', 'load on mains', 'set running', 'load on set' and 'battery charger on'.
- (k) Audio visual alarm for 'Low lubricating oil pressure', 'High water temperature'(for water cooled), 'High cylinder head temperature'(for air cooled),'Start failure' and 'DG over load'.
- (l) Any other switch, instrument, relay or contactor etc. essential for smooth and trouble free functioning of DG set with AMF panel as per requirement.

Mounting arrangement: Engine and alternator will be mounted on a common MS fabricated base frame with Anti Vibration Mounting (AVM) pads.

Control panel: The control panel should be manufactured with 14/16 gauge CRCA sheet and powder coated for a weather-proof, long lasting finish.

Acoustic enclosure (Canopy): The acoustic enclosure will be made of 1.6/ 2 mm thick CRCA sheets and structural/ sheet metal base frame painted. The walls of the enclosure should be designed to meet stringent MOEF (Ministry of Environment & Forest)/ CPCB norms of 75 dBA @ 1mtr at 75% load under free field conditions and insulated with fire retardant foam. Single point lifting for easy handling and powder coated for a weather-proof, long lasting finish. Fuel filling point and Fluid drains for lube oil and fuel.

Environmental conditions: 2.5 km. altitude from sea level, Temperature variation from -10 degree Celsius to 50 degree Celsius and 90% RH.

Warranty period: 24 months from the date of installation.