

No /2012 /HOD /Engg. Cell /Civil
FOREST RESEARCH INSTITUTE
(ICFRE), P.O. New Foret Dehra Dun
NOTICE INVITING TENDER

Dated:-

Sealed tenders are hereby invited on behalf of Director Forest Research Institute Dehra Dun for the following work from reputed . Authorized dealer of Generator set having experience for providing doing similar type & cost of the work in Govt. organizations on contract basis. Tender will be received up to **2.30 PM 15-10-12** and will be opened on the same day at 3 P.M. in presence of tenderers or their authorized representative if any.

S l. N o	Name of Work	Estimated cost. Rs. in Lacs	Earnest Money Rs.	Last date of receipt of application for tender	Date & time of issue of tender form	Cost of tender form	Period of completion
1	Provision of 62.5 KVA Diesel Driven Generator set complete including , testing , commissioning, , foundation, cabling & earthing complete for pump house no. 2, officer rest house & council house at FRI.	8,00,000 /-	16,000/-	10-10-12 up to 5.00 PM	13-10-12 at 5.00 PM.	500+ 13.5% VAT	20 Days

1. The rates must be quoted in ink, in prescribed tender form only, obtained from Engg. Cell FRI.
2. No enclosure should be attached alongwith the tender form . Enclosures will not be considered
3. Tender document shall be obtained on producing Demand draft of tender cost favoring to Account officer FRI as maintained in table.
4. Earnest money must be enclosed with tender as shown table in the form of CDR/ DD pledged to Accounts Officer FRI.
5. Attested copies of the following documents should be enclosed along with the application for the tender form.
 - (i) Valid Authorized dealership of reputed manufacture of Diesel generator set.
 - (ii) Valid Income Tax clearance Certificate or PAN.
 - (iii) Up to date balance sheet of the firm.
 - (v) Undertaking of Annual financial turnover which should not be less than **40 lacs** during last financial year duly verified by C.A.
 - (vii) Experience certificates of similar type of one work 62.5 KVA DG set or two works of 50 KVA DG set during last three financial year.
 - (ix) Application without attested copy of the document will not be consider for issuing Tender form.
6. The above documents enclosed with the application will be thoroughly scrutinized by the technical evolution committee on **12-10-12 at 11.00AM** and tender will be issued only to those contractors who will be recommended by the said committee.
7. Incomplete tenders/tender without earnest money will be rejected.
8. Rates should be inclusive of all taxes.ie. ST, CST, VAT.etc.
9. Payment will be made only after successful completion of the work.
10. Tender notice may be seen on website www.icfre.gov.in & [http:// fri.icfre.gov.in](http://fri.icfre.gov.in).
11. Detail particular specification and special condition can be seen/ downloaded for the website icfre.
- 12..The Director FRI reserves the right to issue, accept or reject any or all the tenders without assigning any reason Whatsoever.

**HEAD
ENGINEERING CELL**

PARTICULAR SPECIFICATIONS

1. MATERIALS AND GENERAL SPECIFICATIONS

- 1.1 All equipments and materials shall be new and conform to the relevant Indian standards/British standard in case Indian standards are not available for a particular equipment/item. The contractor shall also produce test certificate from the manufacturer that the equipments/items conform to the relevant IS/BS.
- 1.2 The various equipments shall be of any of the makes as indicated in Abstract at the contractor's option, subject to approval of the Head Engineering Cell.
- 1.3 The contractor shall submit complete technical details, specifications, illustrated technical pamphlets/ literature of the equipments proposed to be incorporated by him.
- 1.4 All similar equipments and similar materials shall be of the same make and shall be inter- changeable.
- 1.5 The contractor shall be responsible for supplying , installing, connecting, Commissioning, and testing all equipments and fittings according to sound Engineering practice and tested as specified to the entire satisfaction of the Engineer-In-Charge.

2. STANDARD OF QUALITY AND WORKMANSHIP

- 2.1 The supply of the electrical equipment and accessories shall strictly comply with the provision contained in the latest edition of Indian Standards , in case , it has not been issued, they shall comply with the current British Standard as applicable to above mentioned work, except where such regulations and rules are modified by these particular specifications.
- 2.2 Unless specified otherwise, the installation of all electrical equipments

and accessories shall strictly comply with provisions contained in the latest edition of the Indian Electricity rules.

- 2.3 All electrical works shall be carried out by properly skilled and licensed Electricians under the supervision of qualified electrical supervisors/ Engineers. The contractor shall on demand by the Engineer-in-Charge, produce such evidence of qualifications of his workman/supervisors/ Engineers either at commencement of work or at any time thereafter during the currency of the contract. The entire work shall be of high class best workmanship and to the entire satisfaction of Engineer-In-Charge.
- 2.4 The equipments specified in this contract are for important installations Where continuity of service is very essential. The design and manufacture of the equipments and the materials used thereafter shall be of the highest standard to ensure continuous and trouble free services.

3. LAYOUT OF EQUIPMENT

The contractor shall submit in triplicate to the Engineer-in-charge layout plan showing actual positions of DG set, cable run, earthing pits, earthing leads and all other information that will be necessary for record, (earth test report maintenance and operations.

4. L.T. CABLES

- 4.1 L.T. cables shall be XLPE insulated , PVC sheathed and armoured with Aluminum conductor, 3 core or 3.5 core, 1100 volts grade, heavy duty as indicated in Schedule of abstract and shall conform to IS-1554.
- 4.2 No joint in the cable shall be permitted . However where jointing of cable is inescapable viz, when length of cable to be provided is more than one cable drum etc. straight through joint shall be provided under the direction of Engineer-in-charge. No extra amount shall be payable to the contractor on this account.

4.3 The tenderer shall submit test certificate giving full particular specifications of cable, constructional details and maximum continuous current carrying capacities in ground, air and in duct along with standard design conditions.

5. DG SET

5.1 The same shall be provided all as per abstract.

5.2 TESTING OF DG SET

5.2.1 All routine test certificates from the manufacturer in respect of the diesel Engine, alternator, and the control panel will be made available by the contractor.

5.2.2 The Generating set shall be run for a period of 4 hours of which at least 2 hours shall be at the rated load.

5.2.3 All instruments , equipments , materials including DHPP and Engine oil and labour required for following testing will be made available by contractor at his own cost and unit rate of respective item in Sch 'A' will be deemed to be included for Material & Labour for testing to the entire satisfaction of the Engineer-in-charge:-

(i)Insulation resistance test on the alternator and control panel.

(ii)High voltage test as per BS-2613 clause 33 on the alternator when still hot.

(iii)Efficiency test at rated load and over load.

The electrical output in terms of KW from the above observation will be worked out and compared to the output indicated by the manufacturer for assessing the performance. The observations in respect of cooling temperature, oil pressure etc. made during the test shall be compared with these laid down by the manufacturer to ensure that the set is performing within the designed conditions. Attention shall also be paid to the foundation/fixing, to ensure that there are no undue vibrations in the set.

5.2.4 All the expenses included on above tests including provision of testing apparatus required to carryout above mentioned test shall be borne by the contractor without any extra cost to Government. If the results of test are not found satisfactory, the contractor shall at his own expenses replace the defective equipment/materials or any part there of as directed by the Engineer-in-charge. The decision of the Head Engineering Cell shall be final, conclusive and binding in this respect.

5.2.5 The test as described above under clause 5.2.1 to 5.2.3 shall be carried out in presence of electrical Engineer.

5.3 COMPLETION

After test, the installation will be approved and accepted by Head Engineering Cell. The installation will taken over provisionally for one month and if no defect noticed during one month period, the final completion certificate will be issued. If any defect is found during one month period, the contractor will repair it and installation will again be taken provisionally for one month. Maintenance period for one year will start from the date of final completion certificate which is issued after one month of his satisfactory working from the date of provisional take over.

6. GUARANTEE

The contractor shall ensure that the generating set, panels, electrical Fittings/accessories etc under this contract, shall be of best quality and shall be strictly n accordance with specifications and particulars contained/ mentioned in the clause there of and the contractor shall guarantee that the said generating set will continue to confirm the description and quality aforesaid for a period of 12 Months. Head

Engineering Cell have inspected or approved it . if during the aforesaid period of 12 Months the said generating set, articles are discovered not to confirm the description, quality, type aforesaid or have deteriorated and the decision of Head Engineering Cell in that matter will be final conclusive and binding the rejected item will be replaced by the contractor

free of cost.

7. PAINING

Electric control panel shall be factory made and duly painted , having undergone rigorous rust proofing process, treated with high corrosion resistant primer and finally painted with rust proof synthetic enamel paint of gray tint.

8. CATALOGUES

(a) The tenderer shall supply the following literature after acceptance of tender to the Engineer-in-charge.

(i) Manufacturer's instructions/Books on maintenance and operation of the plant-4sets.

(ii) Spare parts catalogue of each of the unit of plant-4sets.

Note:- Cost of spare parts shall be deemed included by the contractor under unit rates of items of Sch 'A'.

(b)The tenderer shall supply the literature giving technical information of equipments offered by him—2 sets.

9. LAYOUT PLAN

The contractor shall to the Head Engineering Cell layout plan , in triplicate duly signed by contractor and Engineer-in-charge showing actual position of DG set, fuel tank, electric control panel, and change over switch, batteries etc, and all other information that will be necessary for record, maintenance, and operation. The contractor shall also submit sufficient copies of the recommended design of foundation for DG set supplied by the manufacturer for perusal and approval of the Electrical Engineer.

10.The metallic bodies of DG set and connected metal works shall be electrically connected at two points to earth by means of GI strips and shall be fixed over the entire length on floors/ walls or in duct by GI clamps/clips, saddle, staple etc.(at every one meter centre to centre) which shall not in any way damage the earthing strips. The contractor shall get the layout of the earth strips and positions of proposed earthing pits approved from Engineer-in-charge before installing the same.

- 10.1 The charcoal dust and returning filling shall be done in layers not exceeding 15 cm thick and shall be properly watered and rammed. Surplus spoil shall be disposed off upto a distance not exceeding 150 meter and site left clean and tidy on completion.
- 10.2 The ultimate depth of earth electrode would depend on the nature of soil and contractor is required to take it to depth where sufficient moisture exist and nature conditions are suitable for resistance as specified here-in –after.
- 10.3 The test link shall be provided in the circuit on earth pit, and a suitable point to be approved by the Engineer-in-charge for carrying out resistance system as near as possible to zero ohm and shall not in any case exceed one ohm.
- 10.4 As far as possible joints in the GI earthing strips shall be avoided . But wherever it is absolutely necessary, prior permission of Engineer-in-charge will be obtained in wiring. While jointing , strip shall be properly cleaned, straight joint shall be over lap 50 mm. All joints in GI strips shall be riveted (using 6 mm dia GI rivets in two rows with 2 nos. rivets in each row) and than welded on all the four sides to full length of the joint.
- 10.5 Curing and protection of cement concrete surfaces:- All cement concrete surfaces shall be cured and protected as directed.

(Signature of Contractor)

Head, Engineering Cell

Schedule of Quantity

Sl.No	Description of Item of work	Qty	Unit	Rate	Amount
	Supplying installation testing and commissioning of 62.5 KVA CPCB approved silent diesel engine driven generator set comprising water cooled, 1500 RPM coupled with 62.5 Kva A.C. 3 phase alternator 1500 RPM, 415 V complete with standard accessories including base plate, fuel tank, charged batteries with leads, silencer, equactic enclosur, AMF control panel and fill in raditor coolent and Ist fill engine oil in chamber including test on load for hour complete all as per specification & standard of Kirloskar/ Mahindra/ Jackson.	1.00	No.		
2.	Supply & laying testing of LT UG cable of PVC sheathed size 3.5 corex 70 sqmm. Aluminium conductor armed cable on wall/in ducts.make Havells.by provide proper lugs/ thimble.	250.00	R.M		
3.	Laying of one Nos. PVC insulated and PVC sheated/ XLPE armourd aluminum conductor power cable of 1.1 KV grade of size 3.5 core x 70 sq mm not exceeding 120 sqmm. Direct in ground including excavating, and refilling trenches etc. as but including sand cushining protective covering and re filling the trench etc as required.	220.00	R.M		
4.	Excavation for foundation for DG set and filling in with 1:1.5:3 P:C:C foundation of size 360x180x60 cm. deep complete including with all materials reqd. for the same.	1.00	Job		
5.	Excavation of trench in hard rock/road cutting not exceeding 1.5 meter in width and lift up 1.5 meter including getting out the excavated soil and disposal of excavated soil and making good by masonry work complete all as directed.	16.00	Mtr		
6.	Providing & fixing of G.I pipe light grade 50 mm dia laying for under ground cable protection.	16.00	Mtr		

7.	<p>Earthing with G.I earth plate 600mm.x 600mm.x6mm. Thick burried directly in ground (earth pit not less than 2.25 mtr. deep below ground level) with top edge not less than 1.5 mtrs.below normal ground level providing masonary enclosure with cover plate & watering pipe etc. charkol or coak & salt as reqd. earth stip upground lavel to main switch threw wall should be fixed properly with clamps & nut bolts as reqd. earthing testing point all as specified or indicating testing on completion.</p> <p>Including using salt & charkol for G.I. or copper plate earth electrode as reqd with Providing & fixing 25mm.x 5mm. G.I. stip on surface or in recess for connection etc. as reqd.</p>	2.00	Set		
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Note:-

1. Rates are inclusive of all taxes.
2. Tender form received from office of the Engineering Cell , duly signed by the Head, Engineering Cell to the qualified bidder of technical bid will be acceptable only.