

On 01 FEB 2012

Ref. No.: 2012 Been..372

30/1/2012

Minutes of the meeting of the purchase committee to decide the NIQ for the purchase of machine sets for the UG machines laboratory:

Members present : G.Bhuvanewari, Bhim Singh, Sukumar Mishra, A.R.Abyankar

Notice inviting quotations for 20 sets of the following rotating electrical machines coupled together on one shaft and 20 pieces of single-phase & three-phase transformers :

one set of rotating machines consists of two DC machines, one 3-phase induction machine and one 3-phase alternator (coupled together on one shaft) of standard make (adhering to BIS specifications). Apart from these, every set will have one single-phase and one three-phase transformer also. The following are the specifications for each of the machines:

1. Single-phase Transformer (with wheels at the base)
2 kVA single phase 50 Hz: 120V winding – 2 of them in secondary and 2 of them in primary.
All 4 terminals of the primary and 4 terminals of the secondary should be brought out.
Efficiency should be more than 95% (Should adhere to BIS specifications)
2. Three-phase transformer (with wheels at the base)
10 kVA and 5 kVA three-phase 50 Hz : each phase winding should be made up of 2 sections rated for 200 V (each). For each phase , in primary and secondary 4+ 4 =8 terminals to be brought out. Thus, for three-phases 24 terminals should be brought out.
Efficiency should be more than 95%. (Should adhere to BIS specifications)
3. DC machine :

S No	Property	Value
1	Type	Separately excited
2	No. of poles	4 poles, laminated
3	Armature voltage	220 V
4	Power rating	1.1 kW (10% more than the induction machine)
5	Field voltage and rated field current	220V and .8 A DC
6	Speed	1500 rpm
7	Terminals	Terminal box all 4 terminals (2 of field and 2 of armature) to be brought out.
8	Duty class	S1
9	Insulation	Class F
10	Enclosure	IP23
11	Efficiency	Minimum 80%
12	No-load voltage ripple factor	Less than 1% at rated speed
13	Interpoles	present
14	Compensating winding	present



To Computer Service Centre ! Please put it on website.

4. 3-phase induction machine

S No	Property	Value
1	No of phases	3
2	Type of rotor	Squirrel cage with bar skew of one slot width
3	Rating	1 kW
4	No. of poles	4, full load slip 4%
5	Stator voltage	415 V 3-phase
6	Full-load PF	Greater than or equal to 0.8 lag
7	Terminals	Six stator winding terminals (3-phase - both ends)
8	Duty class	S1
9	Insulation	Class F
10	Enclosure	IP55
11	Full-load Efficiency	Minimum 80%
12	Standard for testing	Applicable IS

5. 3-phase alternator

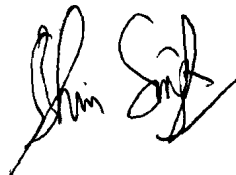
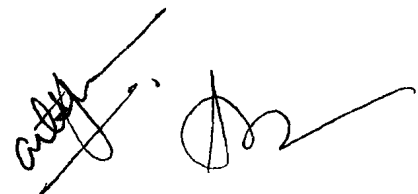
S No	Property	Value
1	Type of rotor (Filed on rotor)	Cylindrical rotor
2	No. of poles	4
3	Stator voltage	415 V 3-phase
4	Power rating	1.5kVA at 0.8 PF lag
5	Field current	0.8 A DC at 0.8 PF lag; Max field current 1 A
6	Stator phase voltage waveform	Sinusoidal with third harmonic < 3% and THD <4%
7	Terminals	Six stator winding terminals and 2 field winding terminals
8	Duty class	S1
9	Insulation	Class F
10	Enclosure	IP55
11	Efficiency	Minimum 80%
12	SC current	3.95 A

Brushless type alternator – Enclosure can be IP20.

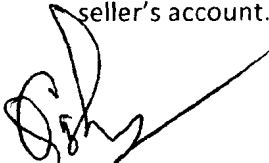
TERMS & CONDITIONS

- Please submit the TECHNICAL and FINANCIAL bids in separate sealed envelopes. Mark the two envelopes clearly as "Technical Bid" and Financial Bid". Both the sealed envelopes should be sent in a single sealed envelope, with clearly marked as "Quotations for Electrical Machine sets". The quote should reach the following address on or before **15/2/2012** up to **5:00 PM**.

Name : Prof. G. Bhuvaneshwari
Address : Block II 102
 Deptt. of Electrical Engineering
 Indian Institute of Technology, Delhi
 Hauz Khas, New Delhi-110016 (India)

2. Please quote prices at FOB/ CIF New Delhi, inclusive of installation charges.
3. Quote should be in Indian Rupees or foreign currency and should be valid for at least three months.
4. Attach all the technical literature and a list of similar installations done in India.
5. A minimum of three years comprehensive onsite warranty needed.
6. Mention if you can provide any technical support like training of IIT Delhi personnel at IIT Delhi or in your organization. Kindly mention about this in technical bid.
7. If the quote is being submitted by the representative of the Principals/manufactures themselves, a valid Agency ship/Dealership Certificate authorizing the agent to quote to IIT Delhi on behalf of the Principals should be enclosed.
8. The Institute reserves the rights to accept/reject any/all quotations without assigning any reasons thereof.
9. Complete set of manuals for the operation and servicing of equipment should be given. All circuit diagrams, other mechanical and electrical schematics must be provided to Main unit, sub systems and accessories.
10. Delivery as early as possible in weeks on receipt of PO.
11. Clearly specify the installation requirements – such as space, power, frequency, environment (Temperature and humidity) etc.
12. If the items quoted are proprietary in nature, please enclose proprietary certificate from the principals stating "Certified that ----- is a proprietary item of M/s ----- and no other manufacture make these items".
13. If the bidder is Indian agent, the agency certificate should be enclosed.
14. Please produce compliance certificate for the specification.
15. Please ensure that the Indian agent has been enlisted with the Department of Expenditure, evidence may please be attached.
16. All bank charges payable in India are to buyer's account and bank charges in seller's country to seller's account.



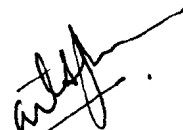
G. Bhuvaneswari



Bhim Singh



S. Mishra



A.R. Abhyankar

(Members of the Purchase Committee)