

BHARAT HEAVY ELECTRICAL LIMITED, JHANSI



Specification No.	ME-7230
Item No.	ME-1/8/2780
Location	Bay-09 Test Area
Quantity	1 Lot

SPECIFICATION CUM COMPLIANCE CERTIFICATE OF 15 MVA VARIABLE FREQUENCY MG SET FOR UPGRADATION OF MANUFACTURING & TESTING FACILITIES FOR 400 KV CLASS HIGHER RATING POWER TRANSFORMERS AT TP JHANSI.

NOTE:-

- Vendor must submit complete information against clause no. 20.0 (Qualifying Condition). The offer meeting this clause would only be processed.
- Vendor to furnish the offer using this standard template of the specification. While furnishing the offer, no change is to be made in the first three columns (i.e. 'S.NO.', 'DESCRIPTION FOR BHEL REQUIREMENT' & 'ACTION BY VENDOR'). Only the 'Offered' column and where applicable, the 'Deviations' & 'Remarks' Column of this format shall be filled in by the Vendor and submitted along with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance.
- The offer and all documents enclosed with offer should be in English language only.
- Wherever "vendor to specify" or "suitable" is mentioned suitable backup data or calculation or justification is required for establishing the suitability.
- Circuit diagram of the system offered is to be enclosed with proper writeup.

NAME & ADDRESS OF THE OEM/SUPPLIER :

TELEPHONE NOS.:

E-MAIL ADDRESS :

SCOPE: SUPPLY AND SUPERVISION OF SHIFTING, ERECTION, COMMISSIONING AND TESTING/PROVING OF 15 MVA VARIABLE FREQUENCY MG SET COMPLYING WITH BHEL SPECIFICATIONS AS BELOW.

S.NO.	PURPOSE AND WORK PIECE MATERIAL	DESCRIPTION FOR BHEL REQUIREMENT	ACTION BY VENDOR	OFFERED	DEVIATION/REMARK
1.0					
1.1		This specification governs the quality requirements of Supply and supervision of erection, commissioning and testing/proving at BHEL JHANSI PLANT (with material/scope of supply) in all respect for 15 MVA Variable frequency MG SET with associated equipments required for upgradation of manufacturing & testing facilities for 400 kv class higher rating power transformers at TP Jhansi. 15 MVA MG SET is required for testing 400 KV class transformers in new UHV Lab. Complete system engineering and integration of variable frequency 15 MVA MG set system including VFD and Static excitation system along with all major items supplied will be in vendor's scope. Demonstration of full featured reliable operation of above variable frequency 15 MVA MG set system along with 245 KV test point at new UHV lab with PLC Control system and protection panels will be done by vendor. Quantity - 01 SET			
2.0	ITEM No - 01 Specification for 15 MVA, 0 – 11 KV, 45-250 Hz, 3 Phase Generator.		Vendor to confirm		
2.1	Quantity - 01 SET Rated Capacity (maximum) : 15 MVA, Nominal 3 phase output: 15000 KVA and 2250 KW		Vendor to confirm		
2.2	Complete Civil foundation Work for MG SET and associated equipment supplied will be in the scope of BHEL JHANSI (Detailed civil foundation drawing for each item will be submitted by vendor with in 60 days after issuing of Purchase Order)		Vendor to confirm		
2.3	Rated voltage : 11 KV (Variable from 0-11 KV). The residual voltages generated shall be kept minimum. Voltage variation steady state: $\pm 1\%$		Vendor to confirm		
2.4	Rated power factor (Lagging) : 0.15 max		Vendor to confirm		
2.5	Rated frequency 45-250Hz Frequency variation : ± 0.5 Hz		Vendor to confirm		

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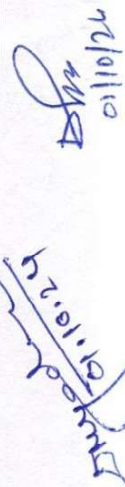
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2.6	Rated speed : 1500 rpm Over speed : 1800 rpm for 2 minutes	Vendor to confirm		
2.7	Overload capacity: upto 50% for 30 sec and upto 10% for 1 hour (in interval of 24 hours)	Vendor to confirm		
2.8	Rated current: 787 Amps.	Vendor to confirm		
2.9	Modes of operation: 3 ph and 1 ph Single phase rating (continuous) : 8.66 MVA, 11 KV, 787 Amps, 250 Hz	Vendor to confirm		
2.10	Class of insulation for Stator and field windings: Class 'F'	Vendor to confirm		
2.11	Standards : IS 4722 / IEC: 34-1	Vendor to confirm		
2.12	Generator mounting: IM1101 (Foot mounting with belly down)	Vendor to confirm		
2.13	Phase/ connection/ No. of terminals : Three/ Star/ Twelve All twelve leads are to be brought-out for star-delta, star-series, parallel-delta & zigzag series & zigzag parallel connection.	Vendor to confirm		
2.14	Enclosure protection (Main/ Exciter) IP23 Terminal Box protection: IP44	Vendor to confirm		
2.15	Coiling system IC31 of IC36 (open blower cooled)	Vendor to confirm		
2.16	Excitation system Static. With slipring and brushes.	Vendor to confirm		
2.17	Design altitude mts <= 1000 Design ambient temperature Deg C - 50	Vendor to confirm		
2.18	Insulation class (stator/ Rotor): F Temperature rise limit according to IEC 60034-1 : Class B at 1000 m a.s.l	Vendor to confirm		
2.19	Type of winding treatment : VPI / Rein Reach	Vendor to confirm		
2.20	Maximum deviation from sine wave: As per IS / IEC 60034-1	Vendor to confirm		
2.21	Maximum harmonic content in output: As per IS/ IEC 60034-1	Vendor to confirm		
2.22	Maximum noise level: As per IS/ IEC 60034-1	Vendor to confirm		
2.23	Maximum vibration limit: As per IS 12075/ IEC 60034-14	Vendor to confirm		
2.24	% Efficiency Subjected to Tolerance as per IS/ IEC 60034-1 Standards : IS 4722 / IEC:34-1	Vendor to confirm		
2.25	EXITATION DETAILS Excitation system type: Static Excitation supply: Transformer and thyristor rectifier	Vendor to confirm		


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S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	ACTION BY VENDOR	OFFERED	DEVIATION/REMARK
2.26	BEARING & LUBRICATION Bearing type: Sleeve Bearing Mounting DENDE: End shield mounted Type of lubrication & grade: Forced oil (ISO VG 100) Lubricated	Vendor to confirm		
2.27	COOLING DATA Blower location at NDE Cooling air inlet temperature (Max.) Deg C: 50	Vendor to confirm		
2.28	Moment of inertia (GD ²) Generator (Approx) 16900 Kg.Sq.M or more	Vendor to confirm		
2.29	Accessories : One set SOLE plate with foundation and holding down bolts will be supplied by vendor. Suitable coupling between Motor and Generator complete with bolts and HP & LP forced oil Lubrication system along with , RTDs, pressure gauges, oil level gauges etc. will be supplied by vendor.	Vendor to confirm		
3.0	ITEM No. - 02 SPECIFICATION OF 3 MW AC MOTOR Quantity - 01 SET			
3.1	SQUIRE CAGE INDUCTION AC MOTOR (Make - Siemens/ABB/Hitachi/Toshiba-Mitsubishi/TDPS)	Vendor to specify and confirm		
3.2	Rating: 3000KW	Vendor to confirm		
3.3	Rated voltage : 6.6KV	Vendor to confirm		
3.4	Speed: 0-1500-1800 rpm	Vendor to confirm		
3.5	Frequency: 0-50-60 Hz	Vendor to confirm		
3.6	Shaft torque capability: 200% min.	Vendor to confirm		
3.7	Standards IEC-34 / IS 325	Vendor to confirm		
3.8	Max Ambient Temperature: 50°C, Max Altitude: 1000 m a.s.l.	Vendor to confirm		
3.9	Supply 6.600 V/ 3ph / 50.3 Hz	Vendor to confirm		
3.10	Temperature rise class: B -class	Vendor to confirm		
3.11	Duty type: S1	Vendor to confirm		
3.12	Mounting / Protection / Cooling: IM 1001 / IP 24W / IC 06	Vendor to confirm		
3.13	Insulation class F	Vendor to confirm		
3.14	Direction of rotation: Bi-directional	Vendor to confirm		
3.15	Bearings: Standard roller / Sleeve bearings Bearing Insulation: Insulated NDE only	Vendor to confirm		


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S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	ACTION BY VENDOR	OFFERED	DEVIATION/REMARK
3.16	Terminal Box: Standard air insulated IEC main terminal box	Vendor to confirm		
3.17	Quality Assurance: ISO 9001 and ISO 14001	Vendor to confirm		
3.18	Accessories – -Separate ventilation for open construction machine (IC x 6 / WP-II) (50Hz, 415 V) -Standard roller / sleeve bearings -Bearing insulation for bearings, NDE only -Standard air insulated IEC main terminal box - Star point in separate terminal box. -Separate star points terminal boxes for IEC machines, normal size. -RTD's (Pt-100) in stator windings, 6 Pcs, 4 wire, unshielded. Safe and hazardous areas -Duplex RTD's (Pt-100) in bearings, 1 pc/ bearing, 4-wire, shielded, safe areas -Space heater for stator winding, 1 ph (240 V AC) -SPM nipple for shock pulse measuring in each bearing -Terminal box for accessories -Terminal box for space heater -Transport lock for bearings	Vendor to confirm		
4.0	ITEM No - 03 MEDIUM VOLTAGE AC VFD SYSTEM FOR 3 MW AC MOTOR Quantity - 01 SET			
4.1	Output voltage range [V] 0-6600 Output Frequency range [Hz] 0-60 (Make - Siemens/ABB/Hitachi/Toshiba-Mitsubishi/TDPS)	Vendor to specify and confirm		
4.2	Type of motor: Asynchronous	Vendor to confirm		
4.3	Motor shaft power [KW] 3000	Vendor to confirm		
4.4	Maximum continuous output current [A] 304	Vendor to confirm		
4.5	Maximum Peak Output current [A] 340 (60s every 600s)	Vendor to confirm		
4.6	Motor nominal voltage [V] 6600	Vendor to confirm		
4.7	Motor nominal speed [rpm] 1500	Vendor to confirm		
4.8	Motor nominal frequency [Hz] 50	Vendor to confirm		
4.9	Rectifier type: Diode Front End (DFE) 36 pulse VFD output current required at least 20% higher than rated motor current	Vendor to confirm		

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4.10	For Remote Control & Monitoring of VFD- Drive shall be controlled through remote Control Desk (located in test gallery at a separate remote location) through these I/O's. Adequate protection & isolation to be provided. Digital I/P - 08 (min) Digital O/P - 08 (min) Analog I/P - 04 (min) Analog O/P - 04 (min) Any type of extra hardware / software required for interfacing of drive to existing SIEMENS make PLC/SCADA system for remote operation shall be in vendor's scope.	Vendor to confirm		
4.11	Supply type: External transformer	Vendor to confirm		
4.12	Number of input phase: 6x3	Vendor to confirm		
4.13	Nominal converter input voltage [V] 1920	Vendor to confirm		
4.14	Max cont. converter input current [A] 6x178 Min supply fault level [MVA] 350	Vendor to confirm		
4.15	Max supply fault level [MVA] 500	Vendor to confirm		
4.16	Supply network voltage [V] 11000	Vendor to confirm		
4.17	Max cont supply network current [A] 311	Vendor to confirm		
4.18	Voltage tolerance [%] -10 +10	Vendor to confirm		
4.19	Supply frequency [Hz] 50	Vendor to confirm		
4.20	Frequency tolerance [%] -2 +2	Vendor to confirm		
4.21	VFD Enclosures : Type of enclosure: Corrosion protected, 2mm thick sheet steel	Vendor to confirm		
4.22	Cabinet protection class: IP42	Vendor to confirm		
4.23	Cabinet color: RAL 7035 (light grey)	Vendor to confirm		
4.24	Painted surfaces: Only front and sides	Vendor to confirm		
4.25	Door Interlocking: Electromechanical door interlocking system	Vendor to confirm		
4.26	Sound pressure level @ 1m distance [dB(A)] -85	Vendor to confirm		
4.27	Cooling Data Site altitude [masl] 1'000 Min ambient temperature [°C] 5 Max ambient temperature [°C] 40 Min off-state temperature: [°C] 5 Cooling method: Air forced Cooling fans: Single Cooling air flow [m3/h] 19'650	Vendor to confirm		
4.28	Control interface : Fieldbus adapter modules: Profibus (DP) Control I/O extension: Extension 1	Vendor to confirm		
4.29	Busbars: Copper	Vendor to confirm		
4.30	Certifications: Standard IEC 61800, IEC 60146 Load characteristic: Constant torque	Vendor to confirm		
4.31	Speed feedback: Pulse Encoder	Vendor to confirm		

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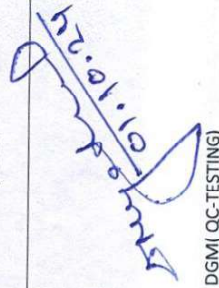
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4.32	OTHERS: CTs and PTs, starter for forced air cooling starter for converter blower, ON/OFF Push buttons, Emergency Stop Push Buttons, Indicating lamps, local & remote operation selection etc. is to be supplied by vendor.	Vendor to confirm		
4.33	Cable entry : Bottom	Vendor to confirm		
5.0	ITEM No - 04 TRANSFORMER FOR VFD SYSTEM FOR 3 MW AC MOTOR, ONAN, 3750 KVA Quantity - 01 SET			
5.1	Primary Voltage: 11 Kv 3 Phase, 50 Hz	Vendor to confirm		
5.2	Secondary voltage: 6.6 Kv 3 Phase 50 Hz	Vendor to confirm		
5.3	Duty: Suitable for VFD duty	Vendor to confirm		
5.4	Vector group: Dyn11 or as per OEM topology.	Vendor to confirm		
5.5	Installation: Outdoor	Vendor to confirm		
5.6	Accessories: Standard	Vendor to confirm		
5.7	Tapping's: $\pm 2.5\%$, $\pm 5\%$ on HT side.	Vendor to confirm		
5.8	Cooling: ONAN	Vendor to confirm		
5.9	Insulation: Class F	Vendor to confirm		
5.10	HVCTs for over current protection	Vendor to confirm		
5.11	Excitation transformer over current protection system: 1 No.	Vendor to confirm		
5.12	Excitation transformer temperature Surveillance unit: 1 No.	Vendor to confirm		
5.13	Earth fault relay: 1 No.	Vendor to confirm		
5.14	Bus bars and other hardware's	Vendor to confirm		
6.0	ITEM No - 05 STATIC EXCITATION EQUIPMENT FOR GENERATOR Quantity - 01 SET			
6.1	Static excitation equipment is required for variable frequency 15 MVA MG SET for upgradation of manufacturing & testing facilities for 400 kv class higher rating power transformers at TP Jhansi.	Vendor to confirm		

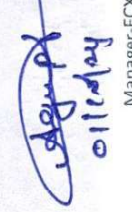

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6.2	THYRISTOR CUBICAL (1No.) Consisting of: 1. Three phase fully controlled thyristor bridge with semi-conductor fuses and Gate circuit assembly with pulse transformer. 2. Air flow monitoring unit 3. Thyristor bridge cooling fans 4. Miscellaneous items comprising ACB, MCCB, HRC fuses, MCB, Meters, Shunts etc.	Vendor to confirm		
6.3	FIELD SUPPRESSION CUBICLE (1 No.) Consisting of: 1. Field discharge resistor 2. Over voltage protection 3. Field circuit breaker 4. Field voltmeter and shunt 5. Miscellaneous items i.e. MCBs, relays and fuses 6. CTs for over current protection 7. Bus bars and other hardware's	Vendor to confirm		
6.4	Input Transformer for Excitation system : Suitable outdoor excitation input transformer with all complete standard accessories will be supplied by vendor	Vendor to confirm		
6.5	The supplied excitation system is to be interfaced with existing SIEMENS make PLC/SCADA system for remote operation from control desk. Any extra hardware / software required for above interfacing shall be in vendor's scope.	Vendor to confirm		
7.0	ITEM No - 06 HP & LP FORCED OIL LUBRICATION SYSTEM FOR SLEEVE BEARING OF GENERATOR Quantity - 01 SET			
7.1	DE and NDE Bearing (each with one inlet and one outlet) Lubrication oil ISO VG 100 (Min. 65 LPM total or as per bearing cooling requirement for generator) Oil pump and motor set for generator bearing (One main pump motor set with one stand by set) of suitable rating (Motor make (ABB/Siemens/CGL or equivalent) Motor DOL Starter cubicle with MPCB and OLR, ON/OFF/Trip indications. Start/Stop PB, Auto/Manual Selector Switch, Remote interlocking contactors, Auxiliary and trip contacts TB. (Make: Siemens/L&T/BCH/Schneider)	Vendor to confirm and specify the make		
7.2	Pressure transmitter and Temperature transmitter at both bearing inlet and differential pressure gauge at both bearings (Make : Jumo/Wika/Yokogawa/Siemens/Honeywell) Maximum Temperature of oil at bearing inlet : 45deg C Pressure at bearing inlet : 0.2 to 0.5 bar (Max) Temperature rise in oil : 15 deg C Cooling arrangement for cooling the return oil : Water cooled condenser. (Material internal and external- Stainless steel , capacity to be specified) Pressure switch and flow switch for interlocking Oil storage tank - Min 500 Ltr capacity with supply of 500 Ltr oil, Material - MS All required MS pipes , flanges, valves, fittings, gauges, oil filters etc as per requirement will be in suppliers scope.	Vendor to confirm and specify the make		

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8.0	SCOPE OF SUPPLY : 1)- All supplied equipment shall meet our specifications point to point as mentioned above. 2)- Operation and maintenance manual with necessary drawings(Hard Copy-2 sets and soft copies in pen drive/DVD/CD). 3)- Detailed drawings of all required civil foundations for the supplied equipments will be provided by supplier. All civil work as per drawings provided shall be provided by BHEL. 4)- Erection and installation of all supplied equipment will be in BHEL scope. All the interconnecting power / control cables and accessories are not in supplier scope. 5)- Cabling & Interfacing with PLC / Control Desk / Protection Panels shall be in BHEL scope. All technical support and detailed schemes for interfacing of VFD Drive and Generator Excitation panel with existing SIEMENS make PLC/SCADA & control desk for remote operation will be provided by vendor. 6)- Complete system engineering for integration of variable frequency 15 MVA MG set with VFD , Static excitation system and FOLS along with all major items supplied shall be done by vendor. 7) Supervision during Shifting ,erection, installation and prove out shall be in suppliers scope.	Vendor to confirm		
8.1	The offered motor & drive for this tender shall be of same make. For items where Bidder is not OEM, will source items directly from respective OEM.	Vendor to confirm and specify the make		
9.0	DELIVERY: Delivery : Within 12 months from date of drawing approval. Drawing Approval : Vendor to submit detailed drawings of each item within 60 days from date of PO for BHEL approval.	Vendor to confirm		
10.0	SAFETY ARRANGEMENTS: Following safety features in addition to other standard safety features should be provided on the system: 1. System should have adequate and reliable safety interlocks / devices to avoid damage to the workpiece and the operator due to the malfunctioning or mistakes. 2. Emergency switches at suitable locations as per applicable industry standard are to be provided. 3. Required PPEs shall be used by all the workers engaged by vendor at site from start of work till completion and other safety arrangements shall be arranged by vendor at his own cost as per requirement.	Vendor to confirm		
11.0	ENVIRONMENTAL PERFORMANCE The system shall conform to the following factors related to environment: 1. If any safety / environmental protection enclosure is required, it should be built in the system by the vendor.	Vendor to confirm		
12.0	DOCUMENTS : 3 copies of each of the following in English language (both in hard copies and soft copies in pen drive/DVD/CD) shall be supplied along with the supply.	Vendor to confirm		
12.1	Detailed GA Drawing, catalogues of all supplied equipments and accessories.	Vendor to confirm		
12.2	Operation & Maintenance manual & Instruction manual of all supplied equipments and accessories with circuit diagrams and schematics for trouble shooting.	Vendor to confirm		
12.3	Test Reports, Calibration/Test certificate & Guarantee certificate of all supplied equipment.	Vendor to confirm		
13.0	SYSTEM INSPECTION	Vendor to confirm		
13.1	Inspection of equipment at OEM works before dispatch as per CI No. 13.2	Vendor to specify and confirm		
13.2	Bidder to carry out all routine test on synchronous Generator, Induction Motor, VFD Drive and Static excitation system for generator as per IEC at OEM works before dispatch in presence of BHEL representatives. Inspection call shall be given 15 Days in advance.	Vendor to confirm		
14.0	INSTALLATION AND COMMISSIONING	Vendor to confirm		
14.1	Supervision during Shifting ,erection, installation and prove out shall be in suppliers scope. Total 70 days of supervision at BHEL works from call after site readiness in minimum 5 visits shall be provided by supplier. Call of supervision will be provided 10 days in advance by BHEL.	Vendor to confirm		




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14.2	Commissioning of VFD drive and generator excitation system to run the MG set in local mode operation at rated voltage and frequency will be done by vendor. All power and control cable interconnection will be provided by BHEL as per technical drawings submitted by vendor during commissioning. Duration of commissioning in included in above mentioned period of days.	Vendor to confirm		
14.3	Demonstration of all features of the generators and all accessories to the satisfaction of BHEL for their efficient and effective use.	Vendor to confirm		
14.4	Demonstration by actual use of all supplied components and accessories to their full capacity shall be done by bidder	Vendor to confirm		
14.5	Successful proving of supplied system as per specification at BHEL works by the bidder shall be considered as part of commissioning. Operational checks and performance parameter checks for generator, motor, VFD Drive and static excitation system necessary for system acceptance shall form part of the commissioning activity.	Vendor to confirm		
14.6	MG SET continuous trial operation of 24 hours shall be completed for final commissioning subject to availability of inputs from BHEL	Vendor to confirm		
14.7	Commissioning spares required for commissioning of the system within stipulated time, shall brought by supplier on returnable basis.	Vendor to confirm		
15.0	TRAINING			
15.1	BHEL testing and maintenance person should be trained at BHEL Jhansi Works for (a) Use of all system Features of VFD and excitation system & accessories, programming etc. (b) Electrical, Electronic & Maintenance aspects for the supplied system & accessories.	Vendor to confirm		
16.0	AMBIENT CONDITIONS & THERMAL STABILITY :			
16.1	Total System and all supplied items should work trouble free and efficiently under following operating conditions and should give specified accuracies. Input Power Supply: 11 KV, 3 phase, 3-wire system / 415 V AC, 3 phase, 3-wire System / 220 V AC Frequency: 50 Hz +/- 3% Hz Operating Humidity : 10% to 90% Operating Temperature : 3°C to 48 °C (Vendor to confirm that all supplied system is suitable for above and details of provisions on the system for the same are to be furnished by Vendor. The ambient conditions mentioned above for control system will be made available with suitable air-conditioning at works)	Vendor to confirm		
16.2	Thermal Stability of all supplied items keeping in view of specified Ambient Conditions and accuracy requirements of BHEL and trouble free operation of the system should be ensured by vendor. (Vendor to confirm that all supplied system is suitable for above and details of provisions on the system for the same are to be furnished by Vendor)			
17.0	PACKING:			
17.1	Air worthy/Sea worthy & rigid packing for all items of complete system, all accessories and other supplied items to avoid any damage/loss in transit. When system is dispatched in containers, all small loose items shall be suitably packed in boxes	Vendor to confirm		
18.0	GUARANTEE :			
18.1	24 months from the date of commissioning of all supplied equipments/items. This guarantee is applicable to equipments supplied by vendor. At the time of handing over of complete system to BHEL, all equipment supplied overall performance shall be demonstrated by vendor to the satisfaction of BHEL.			
19.0	GENERAL : The Vendor should submit the following information			
19.1	Equipment Model	Vendor to furnish		
19.2	Total connected load KVA	Vendor to furnish		
19.3	Total weight of system	Vendor to furnish		

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19.4	Vendor to submit along with offer, the reference list of customers where similar systems have been supplied mentioning the customer details, PO details, machine model, major specifications of the supplied system, year of supply etc.	Vendor to furnish		
19.5	Detailed catalogues, sketch/photographs of the machine and accessories/attachements should be submitted with offer	Vendor to furnish		
20.0	QUALIFYING CONDITIONS:			
20.1	Only those bidders are eligible to quote who meet the following requirements: 1) The bidders must have supplied and be OEM of : a) AC synchronous generator of capacity 15 MVA, 0-11 KV, 50 Hz or higher And / Or b) AC induction motor and AC drive of capacity 3 MW or higher 2) The bidder shall furnish the copy of PO and GEM CRAC /Tax Invoice etc. for generator of capacity 15 MVA, 0-11 KV, 50 Hz or higher, AC induction motor and AC drive of capacity 3 MW or higher along with commissioning certificate of the equipment supplied for which it is OEM and for the other equipment through its respective OEM, as applicable. The reference POs may be different for generator, motor & drive. 4) Bidder to submit satisfactory performance report atleast for one year from date of commissioning for the same PO as per point (20.1-2) above OR self-declaration regarding satisfactory working of each item (generator, motor and drive) for atleast past one year from date of enquiry.	Vendor to submit		
20.2	Complete postal address of customer. Name and designation, phone, email address, postal address of the contact person of the customer in line with CI No. 20.1 where above items are installed. BHEL may verify the supply and satisfactory performance / working Credentials submitted from vendor's customers	Vendor to submit		
21.0	BHEL reserves the right to verify information submitted by vendor. In case the information is found to be false/incorrect, the offer shall be rejected.	Vendor to note & confirm		

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