



An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

ENQUIRY	Phone: +91 431 257 76 53 Fax : +91 431 252 00 31 Email : skaruna@bheltry.co.in Web : www.bhel.com
NOTICE INVITING TENDER	

TWO PART BID Tender to be submitted in two Parts	Enquiry Number: 2851300002	Enquiry Date: 06.08.2013	Due date for submission of quotation: 05.09.2013
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You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.

Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 hrs on the Date of tender opening.

Item	Description	Quantity
10	1010 KVA Diesel Generator Sets as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in)	2 Nos.

Important points to be taken care during submission of offer

- The rate of EMD for this Tender will be (INR) : 2,00,000/-
- The Vendor shall offer against the following requirement of BHEL :-

Delivery Period for Supply Portion	10 Months
Duration for Completion of Erection & Commissioning (i.e. Delivery for Service Portion)	60 days

In case of deviation the offer will be commercially loaded as indicated in the checklist.

- The Checklist for Acceptance of Commercial Terms & Conditions to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
- The Price bid for O&M Services as per Clause 9.2.3 shall be submitted separately in a sealed cover placed inside the Price Bid (Part II of the offer).
- All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.

BHEL's General guidelines / instructions (refer [MM/CE/GENL/001-EMD](#)) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under above Enquiry reference.

Tenders should reach us before 14:00 hours on the due date
Tenders will be opened at 14:30 hours on the due date
Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**

Sr. Manager / Capital Equipment / MM

 BHARAT HEAVY ELECTRICAL LIMITED High Pressure Boiler Plant Tiruverumbur Tiruchirapalli-620 014 TamilNadu, India	Enquiry No. : 2851300002 dt.06.08.2013
	Due Date : 05.09.2013
	Supplier Qtn. No.:
	Date :

**PART-A: QUALIFYING CONDITION: 2x1010KVA DIESEL GENERATOR SET SYSTEM FOR BHEL PEFP
BHANDARA**

NOTE:-

Vendor should meet the Qualifying Condition mentioned below for consideration of their offer

NAME & ADDRESS OF THE SUPPLIER :	
TELEPHONE NOS.:	
FAX NOS.:	
E-MAIL ADDRESS :	

1.0 QUALIFYING CONDITIONS :				
1.1 Only those vendors, who have supplied and commissioned at least one 11000V, Three Phase, 1010 KVA capacity or more Diesel Generator Set in last five years should quote. The DG Set should presently be working satisfactorily for more than one year after commissioning (as on the date of opening tender). However, if such DG Set has been supplied to BHEL, then the same should be presently working satisfactorily for more than six months after its commissioning and acceptance in BHEL. The following information should be submitted by the vendor about the companies where above DG Set has been supplied. This is required from all the vendors for qualification of their offer	Vendor to confirm and furnish details			
1.1.1 Name of the customer / company where the DG Set is installed.	Vendor to furnish details			
1.1.2 Complete postal address of the customer.	Vendor to furnish details			
1.1.3 Year of commissioning.	Vendor to furnish details			
1.1.4 KVA Rating, Voltage, Type(indoor/outdoor) of the DG Set	Vendor to furnish details			
1.1.5 Name and designation of the contact person of the customer.	Vendor to furnish details			
1.1.6 Phone, FAX no. and email address of the contact person of the customer.	Vendor to furnish details			
1.1.7 Performance certificate from the customers regarding satisfactory performance of DG Set supplied to them for minimum one year or more (Original Certificate or Through E-mail directly from the customer). The original performance certificate may be returned after verification by BHEL.	Vendor to furnish			

 BHARAT HEAVY ELECTRICAL LIMITED High Pressure Boiler Plant Tiruverumbur Tiruchirapalli-620 014 TamilNadu, India	Enquiry No. :	
	Due Date :	
	Supplier Qtn. No.:	
	Date :	

PART-B: SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR 2 X 1010kva DIESEL GENERATOR SET SYSTEM AT BHEL PEFP UNIT, BHANDARA, MAHARASTRA

NOTE:-

1. The "Offer" 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.

2. The offer and all documents enclosed with offer should be in English language only.

NAME & ADDRESS OF THE SUPPLIER :	
TELEPHONE NOS.:	
FAX NOS.:	
E-MAIL ADDRESS :	

SNO	DESCRIPTION FOR BHEL REQUIREMENT	BHEL SPEC	OFFER	DEVIATIONS	REMARKS
1.0	SCOPE:				

SNO	DESCRIPTION FOR BHEL REQUIREMENT	BHEL SPEC	OFFER	DEVIATIONS	REMARKS
1.1	Design, Manufacture, Testing, Supply, Installation & Commissioning of 2Nos. 1010kva, 0.8 PF, Diesel Generator Set system comprising of the following: a) Four Stroke Diesel Engine suitable for operation on High Speed Diesel fuel RADIATOR COOLED b) 11KV Alternator coupled to the Diesel Engine c) Fuel Day Tank (990L) d) Mounting arrangement e) Common Base Frame for the DG Set f) Batteries with leads for starting g) Control Panel h) Standard Accessories	Vendor to Confirm			
1.2	AMF, Relay Panel, synchronising Panel, NIS,NGR Panels for the above - 1 Set	Vendor to Confirm			
1.3	Accoustic Enclosure - 1No	Vendor to Confirm			
1.4	Exhaust Stack of Suitable Height for the DG Set- 1 Set	Vendor to Confirm			
1.5	Under ground Fuel Tank, Fuel unloading, storage and pumping system	Vendor to Confirm			
1.6	First Fill of Lube Oil	Vendor to Confirm			
1.7	Interconnecting power and control cables within the system	Vendor to Confirm			
1.8	Painting, Installation, Erection & Commissioning	Vendor to Confirm			
1.9	RCC foundation, Canopy over the DG sets, Control room & UG Tank related civil works including fencing are to be in BHEL Scope, Other Civil works like Chimney foundation, Structural, Cable trench are in Vendors scope.	Vendor to Confirm			
2.0	SPECIFICATION:				
2.1	GENERATOR SET:				
2.1.1	Prime Power Rating (KVA)	1010			
2.1.2	Output Voltage & Frequency	11KV, 50 Hz			
2.1.3	Voltage Regulation (around $\pm 1\%$)	Vendor to Specify			
2.1.4	Frequency Regulation	Vendor to Specify			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	BHEL SPEC	OFFER	DEVIATIONS	REMARKS
2.1.5	Power Factor (lagging)	0.80			
2.1.6	No of Phases	3 Phase			
2.1.7	Model	Vendor to Specify			
2.1.8	Civil works like RCC foundation, Canopy over the DG sets, Control room & UG Tank related civil works including fencing are in BHEL Scope. Other civil works like stack foundation,cable trench, piping are vendors scope				
2.1.9	Application	Outdoor.			
2.2	DIESEL ENGINE:				
2.2.1	Prime Power Output (BHP)	Vendor to Specify			
2.2.2	Shaft Speed (around 1500 rpm)	Vendor to Specify			
2.2.3	Speed Stability	Vendor to Specify			
2.2.4	Direction of rotation	Vendor to Specify			
2.2.5	Make (Reputed make like Cater Piller, Cummins , Perkins, MTU, FG Wilson)	Vendor to Specify			
2.2.6	Model no	Vendor to Specify			
2.2.7	Aspiration	Turbo Charged-Aftercooled			
2.2.8	Electronic Governor (Class A1)	Vendor to Specify			
2.2.9	No. of cylinders	Vendor to Specify			
2.2.10	Arrangement of Cylinder	Vendor to Specify			
2.2.11	Bore & Stroke (mm)	Vendor to Specify			
2.2.12	Displacement (liters)	Vendor to Specify			
2.2.13	Piston Speed (m/s)	Vendor to Specify			
2.2.14	Compression ratio	Vendor to Specify			
2.2.15	BMEP of the engine	Vendor to Specify			
2.2.16	Fuel	HSD			
2.2.17	Specific Gravity of Fuel	Vendor to Specify			
2.2.18	Fuel Consumption @ 75% load	Vendor to Specify			
2.2.19	Fuel Consumption @ 100% load	Vendor to Specify			
2.2.20	Combustion Air Intake @ 100% load	Vendor to Specify			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	BHEL SPEC	OFFER	DEVIATIONS	REMARKS
2.2.21	Air Filter	Vendor to Specify			
2.2.22	Lub Oil Capacity	Vendor to Specify			
2.2.23	Lub Oil Consumption at Full Load	Vendor to Specify			
2.2.24	Lub Oil Cooling System	Vendor to Specify			
2.2.25	Lub Oil Filter	Vendor to Specify			
2.2.26	Coolant	Vendor to Specify			
2.2.27	Coolant Capacity (Engine & Radiator) (liters)	Vendor to Specify			
2.2.28	Exhaust Temperature (deg C)	Vendor to Specify			
2.2.29	Aftercooler- Type & Location	Vendor to Specify			
2.2.30	Mechanical /Eletronic overspeed trip device	Vendor to confirm			
2.2.31	Starting	Electric & Battery Start			
2.2.32	Complete air and exhaust gas system comprising intake filters, intake manifold, expansion bellows, exhaust piping, bends, fittings, silencer etc.	Vendor to confirm			
2.2.33	Length (Engine Alone) (mm)	Vendor to Specify			
2.2.34	Width (Engine Alone) (mm)	Vendor to Specify			
2.2.35	Height (Engine Alone) (mm)	Vendor to Specify			
2.2.36	Weight (Engine, radiator and fan)	Vendor to Specify			
2.3 ALTERNATOR:					
2.3.1	Design Maximum Rating (KVA)	Vendor to Specify			
2.3.2	Max Continuous Rating (KVA)	Vendor to Specify			
2.3.3	Rated Full Load Current (Amps)	Vendor to Specify			
2.3.4	Make (Reputed make like TOYO Denki, Leroysoner & Stanford)	Vendor to Specify			
2.3.5	Type	Brushless			
2.3.5(a)	Excitation	Seperately excited, self-regulated			
2.3.6	Field	Salient Pole			
2.3.7	Voltage Regulation (%)- no load to full load	Vendor to Specify			
2.3.8	Insulation	Class F			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	BHEL SPEC	OFFER	DEVIATIONS	REMARKS
2.3.9	Stator Winding	Vendor to Specify			
2.3.10	Rotor should be dynamically balanced	Vendor to Confirm			
2.3.11	Bearing for Rotor	Double Bearing			
2.3.12	Rotor should be dynamically balanced	Vendor to Confirm			
2.3.13	Enclosure	IP 23			
2.3.14	Telephone Interference Factor	Vendor to Specify			
2.3.15	Total Harmonic Factor	Vendor to Specify			
2.3.16	Waveform Distortion (%) a) at no load b) at balanced load	Vendor to Specify			
2.3.17	Bearing Temperature Sensors (1 No per Bearing)	Vendor to Confirm			
2.3.18	Winding Temperature Sensors in each phase for monitoring the temperature (2 nos. of RTD's per phase).	Vendor to Confirm			
2.3.19	Sensor Make	Vendor to Specify			
2.3.20	Sensor Model	Vendor to Specify			
2.3.21	Weight (Kgs)	Vendor to Specify			
2.3.22	Automatic Voltage Regulator suitable for parallel operation of generators	Vendor to Specify			
2.3.23	Engine mounted instruments and control with provision for remote indication/operation comprising set start/stop, speed raise/lower, alarm, anunciation, gauges, meters etc.	Vendor to furnish details			
2.4	FUEL TANK:(Day Tank)				
2.4.1	Capacity (liters)	Vendor to Specify			
2.4.2	Location	Vendor to Specify			
2.4.3	Size (L mmx B mmx H mm)	Vendor to Specify			
2.4.4	Piping between fuel tank and engine are part of the scope of supply of vendor	Vendor to Confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	BHEL SPEC	OFFER	DEVIATIONS	REMARKS
2.4.5	Fuel pipes, Overflow pipes , Drain valve for Fuel Tank, Vent connection for Fuel Tank, Fill connection for Fuel Tank, Inspection and Cleaning Hole for Fuel Tank, Level Gauge and Level Indicator for the fuel tank should be provided	Vendor to Specify			
2.5 BATTERY:					
2.5.1	Rating (AH)	Vendor to Specify			
2.5.2	Voltage	Vendor to Specify			
2.5.3	Type (preferably maintenance free)	Vendor to Specify			
2.5.4	Make (reputed makes like Exide, Amaron, AMCO etc)	Vendor to Specify			
2.5.5	Scope of Supply includes battery leads	Vendor to Confirm			
2.5.6	No of Batteries/charger	Vendor to Specify			
2.5.7	No of Starts before re-charging	Vendor to Specify			
2.6 AMF, GENERATOR PROTECTION & SYNCHRONISING PANEL:					
2.6.1	Micro processor Based AMF, Protection & Synchronising Panel	Vendor to Confirm			
2.6.2	Suitably rated Electrically operated drawout type 3 pole + Neutral isolation VCB with required C.T., P.T., Ammeter, Voltmeter, indication lamps for Alternator(2 I/C-2O/G-1B/C-copper bus)	Vendor to Confirm			
2.6.3	Suitably rated Electrically operated drawout type 1 pole + Neutral isolation VCB with required C.T., P.T., Ammeter, Voltmeter, indication lamps for Mains(for NIS Panel)	Vendor to Confirm			
2.6.4	Rating of Switchgear-630A 25KA	Vendor to Specify			
2.6.5	Make of Switchgear (Shall be of reputed make like L&T, Schnieder, ABB, Siemens etc acceptable to BHEL)	Vendor to Specify			
2.6.6	Bus Bars of suitable rating for incoming & outgoing terminations	Vendor to Confirm			
2.6.7	Overcurrent & Earth Fault ,Differencial,MFR,Master Trip,Bearing Temp	Vendor to Confirm			
2.6.8	Supply Failure Timer	Vendor to Confirm			
2.6.9	Restoration Timer	Vendor to Confirm			
2.6.10	Automatic Start / Stop of Engine	Vendor to Confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	BHEL SPEC	OFFER	DEVIATIONS	REMARKS
2.6.11	Generator Voltage, Current & Frequency Monitoring & Display	Vendor to Confirm			
2.6.12	Battery Voltage Sensing & Monitoring	Vendor to Confirm			
2.6.13	Push Buttons for Manual Start / Stop	Vendor to Confirm			
2.6.14	Manual / Auto / Test -Mode Selector Switch	Vendor to Confirm			
2.6.15	Annunciation, Alarm & Trip Features	Vendor to Specify			
2.6.16	Indications for DG "ON", Load on DG	Vendor to Confirm			
2.6.17	Indications for MAINS "ON", Load on Mains	Vendor to Confirm			
2.6.18	Indications for Over Current & Earth Fault	Vendor to Confirm			
2.6.19	KW & KWH Meter-Multi Data Meter	Vendor to Confirm			
2.6.20	Meter for Power Factor	Vendor to Confirm			
2.6.21	Instrument fuses duly wired	Vendor to Confirm			
2.6.22	SMPS Based automatic Trickle cum Boost Battery Charger with DC Voltmeter & Ammeter, Selector Switch for Auto / Manual & Float / Boost	Vendor to Confirm			
2.6.23	Neutral grounding resistor panel as required	Vendor to Confirm			
2.6.24	Synchronising logic panel comprising synchronising lamps, digital meters for generator/ Bus voltage/ frequency , synchroscope etc. as required.(suitable for auto and manual synchronising)	Vendor to Confirm			
2.6.25	Power and control cables for interconnection within the system	Vendor to Confirm			
2.6.26	Complete technical details of the control Panel	Vendor to Furnish			
2.6.27	Auxillary panel for battery charger,aviation lamp,accoustic lighting etc	Vendor to specify			
2.6.27(a)	The Panels, VCB etc. to be housed in indoor type control room. Room construction under the scope of BHEL. Vendor to give layout and indicate the approx. size of the room.	Vendor to Furnish			
2.7	PROTECTION (Alarm or Tripping):				
2.7.1	High Water Temperature	Vendor to Specify			
2.7.2	Low Lube Oil Pressure	Vendor to Specify			
2.7.3	Over Speed	Vendor to Specify			
2.7.4	Low Coolant Oil Level	Vendor to Specify			
2.7.5	Air Filter Clog Indicator	Vendor to Specify			
2.7.6	Starting Failure	Vendor to Specify			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	BHEL SPEC	OFFER	DEVIATIONS	REMARKS
2.7.7	Generator Overload	Vendor to Specify			
2.7.8	Battery Voltage Low	Vendor to Specify			
2.7.9	Others	Vendor to Specify			
2.8 ACCOUSTIC ENCLOSURE:					
2.8.1	The maximum permissible sound pressure level shall not exceed 75 dB(A) at 1 metre from the enclosure surface.	Vendor to Confirm			
2.8.2	Enclosure should be provided with an "Emergency-off" Push Button	Vendor to Confirm			
2.8.3	Enclosure shall be of suitable gauge sheet steel and painted	Vendor to Confirm			
2.8.4	View Glass shall be provided	Vendor to Confirm			
2.8.5	Gauge of Steel Enclosure	Vendor to Specify			
2.8.6	Accoustic Material	Vendor to Specify			
2.8.7	Openings for pipe connections to be provided (Vendor to Furnish Details)	Vendor to Confirm			
2.8.8	Doors for easy access to the DG Set should be provided for easy inspection & maintenance	Vendor to Confirm			
2.8.9	Suitable accoustic insulation beading shall be provided for the doors	Vendor to Specify			
2.8.10	Suitable arrangement for fresh air inlet and hot air outlet shall be provided	Vendor to furnish details			
2.8.11	Sufficient fluorescent tube lamp lighting shall be provided inside the enclosure	Vendor to Confirm			
2.9 EXHAUST SYSTEM WITH STACK:					
2.9.1	Exhaust Connections	Flexible, Stainless Steel			
2.9.2	Vendor to provide exhaust piping , insulation & hangers and Support structure starting from engine to out side DG Room	Vendor to Confirm			
2.9.3	Exhaust Silencer should be provided	Vendor to Confirm			
2.9.4	Thermal insulation with aluminum sheet cladding for exhaust piping upto the stack is in the Scope of vendor-100mm thick	Vendor to Confirm			
2.9.5	Stack of required height as per pollution control norms should be provided and installed by the vendor for the DG Set .	Vendor to Confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	BHEL SPEC	OFFER	DEVIATIONS	REMARKS
2.9.6	Stack Height (m)-Min 30 M height as per CPCB	Vendor to Specify			
2.9.7	The DG Sets are proposed to be provided with a weather proof roof on the top. Vendor to give a layout indicating the space required.	Vendor to specify			
2.9.8	Emissions shall be within norms specified by Pollution Control Board and Environment Protection Rules.	Vendor to Confirm			
2.9.9	Emission Levels	Vendor to Specify			
2.10 FUEL STORAGE SYSTEM:					
2.10.1	Fuel	HSD			
2.10.2	Storage Capacity	40KL			
2.10.3	Mounting	Above floor level			
2.10.4	Fuel loading system complete unloading pump, valves, strainers, piping, electrical controls etc. to fill the day tank automatically	Vendor to confirm			
2.10.5	Fuel tank with level indicator, venting system	Vendor to confirm			
2.10.6	Fuel puming system for filling the day tank comprising pumps(one working and one standby), valves, filters, pipelines, return line from day tank, electric controls	Vendor to confirm			
2.10.7	Complete P&I diagram and layout drawing to be furnished with the offer	Vendor to confirm			
2.10.8	Pump and motor details to be furnished with the offer	Vendor to furnish			
2.10.9	Necessary clearance from Statutory authorities (CCOE Certificate) to be obtained by the vendor	Vendor to confirm			
2.10.10	Necessary civil works in the scope of BHEL	Vendor to note			
2.11 APPLICABLE CODES & STANDARDS:					
2.11.1	Rating Definition as per ISO 3046 / BS 5514				
2.11.2	IS 4722				
2.11.3	BS 5000				
2.11.4	IEC 34/1				
2.11.5	ISO 8528				
2.11.6	IS- 4889, 10000, 10002				
2.11.7	Pollution Control Board directives with regard to exhaust stack height				

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2.11.8	Fuel conforming to IS 1460				
2.11.9	Fuel consumption tolerance as per BS 5514				
2.11.10	Environmental Protection Rules by BHEL- Necessary documents.	Vendor to furnish			
3.0	TOOLS FOR ERECTION, OPERATION & MAINTENANCE :				
3.1	Necessary tools like Torque Wrench, Spanners, Keys, grease guns etc.for operation and maintenance of the DG Set should be supplied. List of such tools should be submitted with offer	Vendor to Furnish			
4.0	SPARES:				
4.1	Itemised breakup of mechanical & Electrical spares in sufficient quantity as per recommendation of Vendor for 2 years of trouble free operation should be offered by vendor. (Unit Price of each item of spare should be offered)	Vendor to provide List			
4.2	Vendor to confirm that complete list of spares for DG Set and accessories, along with specification / type / model, and name & address of the spare supplier shall be furnished along with documentation to be supplied with the machine	Vendor to Confirm			
5.0	DOCUMENTATION : Three sets of following documents (Hard copies) in English language should be supplied along with the machine				
5.1	Operating & Maintenance Manuals for the Diesel Engine	Vendor to Confirm			
5.2	Operating & Maintenance Manuals for the Alternator	Vendor to Confirm			
5.3	Operation & Maintenance Manual for the AMF Panel	Vendor to Confirm			
5.4	General arrangement plan of DG set.	Vendor to Confirm			
5.5	Piping schematic diagram	Vendor to Confirm			
5.6	Chimney drawing.	Vendor to Confirm			
5.7	Complete Master List of parts used in the DG Set shall be submitted by the vendor.	Vendor to Confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	BHEL SPEC	OFFER	DEVIATIONS	REMARKS
5.8	One additional set of all the above documentation on CD ROM, wherever possible.	Vendor to Confirm			
6.0	FOUNDATION:				
6.1	BHEL will carryout the civil work for foundations,fencing . Vendor shall provide details of the foundation for this purpose immediately after placement of LOI/P.O	Vendor to Confirm			
7.0	ERECTION & COMMISSIONING				
7.1	Supplier shall be responsible for carrying out the painting, erection, start up, testing and commissioning of the DG Set. Required technical personnel and labour required for the same shall be provided by the vendor. Tools, tackles, required for the same shall be a arranged for by the vendor. Service requirement like power, air & water shall be in the vendor scope.	Vendor to confirm			
7.2	Erection of the Stack and thermal insulation of the exhaust system is also the responsibility of the vendor	Vendor to confirm			
7.3	Duration, terms & conditions for E&C should be furnished in detail separately by vendor along with offer. Charges for the same should be indicated in the price bid	Vendor to furnish			
7.4	Schedule of Erection and Commissioning shall be submitted after placement of order	Vendor to confirm			
8.0	OPERATING CONDITIONS :				
8.1	The DG Set should work trouble free and efficiently under following operating conditions: Ambient Conditions: Temperature = 20 to 45 degree celsius Relative Humidity = 95% max. Height above MSL: 78.0 m	Vendor to Confirm			
8.2	Weather conditions are tropical, Atmosphere may be dust laden during some part of the year.	Vendor to confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	BHEL SPEC	OFFER	DEVIATIONS	REMARKS
9.0	MACHINE ACCEPTANCE: (Tests/Activities to be performed by Vendor)	Should be accepted & confirmed by			
9.1	Tests/Activities to be carried out at supplier's works in the presence of BHEL Engineers before dispatch :				
9.1.1	Physical Inspection of all components of the DG Set	Vendor to Confirm			
9.1.2	Verification of Original test certificates in English for engine, alternator, acoustic enclosure, and all other bought out items.	Vendor to Confirm			
9.1.3	Run test of DG Set	Vendor to Confirm			
9.2	Test/ Activities to be carried out at BHEL works while commissioning the DG Set :				
9.2.1	8 hours Run Test-Fuel and load will be provided by BHEL	Vendor to Confirm			
9.2.2	Operation of protective devices.	Vendor to Confirm			
9.2.3	Confirmation on O&M and AMC services by the vendor .	Vendor to Confirm			
9.2.4	The requirement of electrical power supply during erection & commissioning shall be at vendor scope	Vendor to Confirm			
9.2.5	Training in O&M of the DG set to be given to BHEL personnel at Supplier,s works or at any other place in India	Vendor to Confirm			
10.0	PACKING:				
10.1	Sea worthy / Road Worthy & rigid packing for the DG Set and accessories to avoid any damage/loss in transit as required.	Vendor to confirm			
10.2	Unloading /positioning the DG set and the control panels using required mobile crane shall be included in the offer	Vendor to confirm			
11.0	GUARANTEE :				
11.1	12 months from the date of commissioning or 18 months from the date of supply of the DG Set whichever is earlier.	Vendor to confirm			