



BHARAT HEAVY ELECTRICALS LTD.
 (A GOVT. OF INDIA UNDERTAKING)
 P.O BHEL Jhansi - 284129, INDIA
 Tel.:0510-277001/2412260 Fax: 2412120
 Email : mmx@bheljhs.co.in

PURCHASE ENQUIRY

ENQ NO/DT:	E7110783	16/09/21	PAGE <u>1</u> 6
REV NO/DT:	0	16/09/21	

REQUIRED:	PLEASE SEND YOUR BEST QUOTATION AS PER TERMS & CONDITIONS AND REMARK MENTIONED UNDERNEATH.		
	Eng Due on:	08-10-21 FRIDAY	
	Close at:	13:15 Open at:14:00	
	Matcat:	714001 CAPITAL ITEMS	
	Validity:	180 days from Technical bid opening date	
	IEM:		
	TOP:	See Special Remarks	
	RA:	BHEL reserves the right to conduct RA	
	Est. Value:	Item wise	
	Bid Type:	TWO BID	Delivery:
Tot Item:	1	E-Proc:	No

ITEM NO : 1 PSL QTY/UM: 1.00 NO
 MATL CODE : JS8275900000 PO QTY /UM:
 DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY (PSL UM)
SUPPLY, INTEGRATION, ERECTION, TESTING & COMMISSIONING OF 10 MVA MG SET WITH PLC COMMON CONTROL PANEL AS PER SPECIFICATION NO.ME-7211 Rev-0& ANNEXURE A-SPEC. FOR PLC COMMON CONTROL PANEL ANNEXURE-B MOTOR DATA SHEET, ANNEXURE-C GENERATOR DATA SHEET AND DRAWING No. BHEL/JHS/WEX/A4-2273 (EN CLOSED)	JUN-22	1.00

SPECIAL REMARKS:

- ENQUIRY IS FLOATED IN TWO BID SYSTEM THRU E-PROCUREMENT (<https://eprocurebhel.co.in>) TO PROCURE THE ITEM MENTIONED IN THE DESCRIPTION.
- ALL THE TENDER DOCUMENTS , TECHNICAL SPECIFICATIONS, DRAWINGS , CAPITAL TERMS & CONDITIONS AND GENERAL TERMS AND CONDITIONS OF ENQUIRY IS UPLOADED AT OUR E-PROCUREMENT PORTAL i.e <https://eprocurebhel.co.in>.
- SUBMISSION OF TENDER DOCUMENTS THROUGH OTHER THAN E-PROCUREMENT MODE SHALL NOT BE ACCEPTED.
- INSPECTION SHALL BE DONE BY BHEL AT SUPPLIER WORKS BEFORE DISPATCH. 15 DAYS ADVANCE INSPECTION CALL FOR INSPECTION WITHIN INDIA.
- CONTACT NOS. & e-mail SHOULD BE PROVIDE FOR AUTHORISED PERSON WITHOUT E-MAIL/CONTACT NOS YOUR OFFER MAY NOT EVALUATE.
- VENDER TO SUBMIT COPY OF PAN CARD & GSTIN CERTIFICATE, WITHOUT THESE DOCUMENTS THE OFFER MAY NOT ACCEPTED/EVALUATED.
- DETAIL TECHNICAL CATALOGUE FOR THE EQUIPMENT IS TO BE FURNISHED.
- ALL THE DOUCMENTS ATTACHED ARE TO BE SUBMITTED ALONG WITH OFFER DULY FILLED IN ,SEALED AND SIGNED.
- VENDER TO BE SUBMIT DULY FILLED TECHNICAL SPECIFICATION AS PER SPECIFICATION ENCLOSED.
- SUPPLIER QUALIFYING REQUIREMENT AS PER ATTACHED TECHNICAL SPECIFICATION.
- COMPLIANCE FURNISHED IN THE SPECIFICATION WILL BE TREATED AS FINAL ACCEPTANCE ANY DEVIATION FROM THE SPECIFICATION HAS TO BE CLEARLY BROUGHT OUT OTHERWISE OFFER WILL BE CONSIDERED AS COMPLIANCE TO THE SPECIFICATION. ANY LEFT OUT ENTRY IN THE SPECIFICATION WILL BE CONSIDER AS DEVIATION AND NON COMPLIANCE.
- FOLLOWING DOCUMENTS HAVE BEEN ATTACHED ALONG WITH ENQUIRY :-
 (i)Duly signed & sealed copy of Enquiry
 (ii)Duly signed & sealed copy of Technical Specification ME-7211 REV-00



JSC140/M2053

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- (iii)Duly signed & sealed copy of Drawing 10 MVA MG Set Drawing No. BHEL/JHS/WEX/A4-2273
- (iv)Duly signed & sealed copy of Spec. For PLC Common Control Panel / Annexure-A.
- (v)Duly signed & sealed copy of Motor Data Sheet / Annexure-B.
- (vi)Duly signed & sealed copy of Generator Data Sheet / Annexure-C.
- (vii)Duly signed& sealed copy of PBG FORMAT / Annexure-D.
- (viii)Duly signed& sealed copy of CEBG Format / Annexure-E.
- (ix)Duly Signed & sealed copy of List of Consortium of Bank /Annexure-F
- (x)Duly signed and sealed copy of INTEGRITY PACT / Annexure-G.
- (xi)Duly Signed & sealed copy of Capital Terms & Conditions Rev-05.
- (xii)Duly Signed & Sealed copy of General Terms & Conditions of Enquiry Rev-03.
- 13-EMD SHALL BE RS. 2,00,000.00.
- 14-VENDOR HAS TO FURNISH EMD(EARNEST MONEY DEPOSIT)ALONG WITH TECHNO-COMMERCIAL BID IN FORM OF DEMAND DRAFT OR RTGS/NEFT/EFT(ONLY IN FAVOUROF BHARAT HEAVY ELECTRICALS LIMITED, JHANSI PAYABLE AT BHEL JHANSI)INBHEL JHANSI (BRANCH CODE-03807, ACCOUNT NO.10670828866 IFSC CODESBIN0003807/SWIFT CODE SBININBB498)
- 15-FURTHER IT IS REQUESTED TO SEND AN E-MAIL OF FUND REMITED IN ABOVE ACCOUNT CONCERNED DEPARTMENT OFFICIAL WHO IN TURN FORWARD IT TO THESE prateekgupta@bhel.in & abhisheks@bhel.in
- 16-CEBG SHALL BE 10% OF BASIC ORDER VALUE (Supply VALUE + E&C VALUE)A S PER CLAUSE 18 OF OUR CAPITAL TERMS & CONDITIONS.FORMAT OF CEBG HAS BE EN ATTACHED.
- 17-PBG OF 10% OF BASIC ORDER VALUE (SUPPLY VALUE + E&C VALUE) IS REQUIRED AS PER CLAUSE 19 OF OUR CAPITAL TERMS & CONDITIONS.FORMAT OF PBG HAS BEEN ATTACHED .
- 18-INTEGRATION, ERECTION, TESTING & COMMISSIONING REQUIRED AS PER TECHNICAL SPECIFICATION AND AT BHEL JHANSI WORKS.
- 19-ERECTION & COMMISSIONING CHARGES SHALL BE MINIMUM 30 % OF BASIC ORDER VALUE (SUPPLY VALUE + ERECTION & COMMISSIONING VALUE).
- 20-PAYMENT TERMS SHALL BE AS PER CLAUSE NO 19 OF ANNEXURE-III (REFER PAGE NO 27-29 OF ATTACHED CAPITAL TERMS AND CONDITIONS REV-03) .
- 21-ERECTION , TESTING , COMMISSIONING AND PROVING TO BE DONE WITHIN 03 MONTHS FROM THE DATE OF CALL OF COMMISSIONING FROM BHEL.
- 22-GUARANTEE:GUARANTEE SHALL BE AS PER ATTACHED TECHNICAL SPECIFICATION
- 23-Integrity pact as attached shall be submitted duly filled along with offer. Integrity pact is a tool to ensure that activities and transactions between the company and its bidders/ contractors are handled in a fair, transparent and corruption free manner. A panel of independent external monitors (Sh. VIRENDRA BAHADUR SINGH-IPS/Retd. and Sh. ARUN CHANDRA VERMA- IPS/Retd.) have been appointed to oversee implementation of integrity pact in BHEL.
- 24-ALL DOCUMENTS UPLOADED WITH ENQUIRY TO BE RETURNED WITH STAMP & SIGNED OF PARTY ALONG WITH OFFER AS A TOKEN OF ACCEPTANCE.
- 25-BHEL SHALL BE RESORTING TO REVERSE AUCTION (RA) (GUIDELINES AS AVAILABLE ON WWW.BHEL.COM) FOR THIS TENDER. RA SHHALL BE CONDUCTED AMONG ALL THE TECHNO COMMERCIALY QUALIFIED BIDDERS.
PRICE BIDS OF ALL TECHNO COMMERCIALY QUALIFIED BIDDERS SHALL BE OPENED AND SAME SHALL BE CONSIDERED AS INITIAL BIDS OF BIDDERS IN RA.IN CASE ANY BIDDERS(S) DO(ES) NOT PARTICIPATE IN ONLINE REVERSE AUCTION , THEIR SEALED ENVELOPE PRICE BID ALONG WITH APPLICABLE LOADING,IF ANY , SHALL BE CONSIDERED FOR RANKING.
- 26-For this procurement, the local content to categorize a supplier as a CLASS I LOCAL SUPPLIER/ CLASS II LOCAL SUPPLIER/ NON LOCAL SUPPLIER and purchase preference to CLASS I LOCAL SUPPLIER, is as defined in public procurement (preference to make in India),Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before



JSC140/M2053

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opening of PART-II bids against this NIT.
Vendors shall have to declare following details in their offer:-
(a)Percentage of local content.
(b)self-certification of local content.
(c)Details of location(s) of local value addition.
This will supersede all other conditions attached in NIT
27-ALL THE TERMS AND CONDITION UNLESS OTHERWISE SPECIFIED ARE AS PER
CAPITAL T&C REV-05 DATED 04-09-2019 AND ATTACHED GENERAL TERMS &
CONDITIONS OF ENQUIRY (JHS 2055A REV03)

**THE QUOTATION MUST BE SEALED AND BE SENT IN DOUBLE ENVELOPE.
THE INNER ENVELOPE SHOULD BEAR ENQUIRY NUMBER & DUE DATE AT THE TOP.**

In case the bidder has not submitted PAN No, TIN No. and E-mail ID, the bidder has to submit the same along with the copy of PAN No and TIN No. Else his offer will be liable to be rejected.

If you are not in a position to quote due to any reason, you must send regret letter titled enquiry no. etc, failing which you may not be considered for sending future enquiries.

ENCLOSERS:



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FOR AND ON BEHALF OF
BHARAT HEAVY ELECTRICALS LTD

Prateek
16/09/21
PRATEEK GUPTA
SR ENGINEER (CMM)
Email:-prateekgupta@bhel.in

***** END OF PURCHASE ENQUIRY*****

NOTE :

- * THE BIDDER IS INFORMED THAT THE GENERAL TERMS & CONDITIONS OF ENQUIRY (JHS 2055A Rev 03) WHICH ARE UPLOADED AT <https://www.bheljhs.co.in/apps/sip/index.php> AT (TERMS & CONDITION -> FOR ENQUIRY) LINK, ARE TO BE READ BY THE BIDDER BEFORE SUBMITTING QUOTE IN THE ENQUIRY. BHEL SHALL CONSTRUE THE PARTICIPATION BY THE BIDDER IN ENQUIRY AS ACCEPTANCE TO THE GENERAL TERMS AND CONDITIONS OF ENQUIRY.
- * SUPPLIERS ARE REQUESTED TO INFORM US WITH VALID CERTIFICATE, IF THEY ARE REGISTERED UNDER MSMED ACT'2006. (APPLICABLE FOR INDIAN SUPPLIERS ONLY).
- * FOR SUPPLIERS SUPPLYING FROM OUTSIDE THE LOCAL AREA OF BHEL JHANSI, ENTRY TAX WILL BE APPLICABLE. SUPPLIERS SHOULD NECESSARILY INDICATE RATE OF ENTRY TAX SEPARATELY WHEREVER APPLICABLE. THEY SHOULD ALSO MENTION THE ENTRY TAX CHARGED SEPARATELY IN THE INVOICE.
- * FOR SUPPLIERS SUPPLYING FROM OUTSIDE UP, IN CASE THE OFFER IS SILENT ON ENTRY TAX, IT SHALL BE LOADED SUITABLY WITH THE APPLICABLE RATES
- * IN CASE IF THERE IS ANY DIFFERENCE BETWEEN THE 'SPECIAL REMARKS/ANNEXURES' OF THE ENQUIRY AND THE PREPRINTED TERMS & CONDITIONS (REF JSC140/M2053), THE REQUIREMENT GIVEN IN REMARKS WILL PREVAIL.
- * Reference Sl. No. 2(B) of General Terms and Conditions regarding option for offer submission through Email addressed to tenderbox.jhs@bhel.in , please note that the maximum mail size including attachments should not exceed 20 MB , otherwise the offer shall not be delivered due to size limitation and bidder sending mail attachments more than 20 MB will have no claim whatsoever on the subject tender . Also due to any technical snag , if offer has not reached tenderbox.jhs@bhel.in , it will be bidder's sole responsibility to ensure offer submission through alternate routes before the due date and time .BHEL will not entertain any such claim for non-receipt of offer on time .

 BHARAT HEAVY ELECTRICALS LIMITED, JHANSI				
Spec No-	ME-7211 (Rev. 0)			
Item No	ME-182759			
Quantity	01 LOT			
Location	BAY-09 TEST			
VENDOR must submit complete information against clause No-12 (Qualifying condition) The offer meeting this clause would only be processed.				
The "offered" Column and where applicable, the "Deviation" Column of this format shall be filled in by the vendor and submitted along with the offer. Technical detail also submitted with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specification / requirements shall be treated as non-compliance.				
The offer and all documents enclosed with offer should be in English language only.				
Scope: To augment existing Power Transformer Testing facility at BHEL Jhansi				
(1) Erection & Commissioning of a new Transformer test system (99KV) comprising of (a) 10 MVA MG Set (b) 40 MVA, 99/11 KV testing transformer (c) 120 MVAR, 99 KV Capacitor Bank along with MV drive, Isolators, Breakers, CT/PT, LA, Test Point Selector Panel, Control Desk etc. in addition to the existing testing set up.				
(2) Integration of above 10 MVA MG set system (99 KV test point) with existing test point systems (existing MG Set 1 - 7 MVA, MG Set 2 - 2 MVA, MG Set 3 - 1.25 MVA & MG Set 4 - 1 MVA) and existing MG sets with new 99 KV test point through common PLC Control Panel.				
Sr. No.	DESCRIPTION OF BHEL REQUIREMENTS	ACTION BY VENDOR	OFFERED	DEVIATION
1.0	PURPOSE & WORKPIECE MATERIAL A) Setting up of Power Supply Source with 10 MVA MG set for new Test Point (99KV) with 40 MVA, 99/11 KV testing transformer, 120 MVAR, 99 KV Capacitor Bank along with MV drive, Isolators, Breakers, CT/PT, LA, Test Point Selector Panel, Control Desk etc. in Bay-9 Testing Area B) Integration of 10MVA MG set (99 KV test point) with existing Test Points (5 KV, 11 KV, 33 KV, 66 KV & 176 KV test points) & existing MG sets (MG Set 1 - 7 MVA, MG Set 2 - 2 MVA, MG Set 3 - 1.25 MVA & MG Set 4 - 1 MVA) with newly created 99 KV test point (10 MVA MG set) through common PLC Control Panel. Refer attached BHEL Drawing : BHEL/JHS/WEX/A4-2273	Vendor to confirm		

[Signature]
16/08/21
Dy. Manager (QC-Testing)

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16/08/21
Manager (WEX)

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Sr. Mgr (WEX)

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16/08/2021
Sr. Mgr (QC-Testing)

[Signature]
16/08/21
Dy. Mgr (WEX)

2.0	SCOPE OF SUPPLY : BHEL JHANSI The following equipments/items shall be made available (free issued) by BHEL to Vendor.		
2.1	SQUIRREL CAGE INDUCTION MOTOR (Qty - 1 No.)		
2.1.1	Squirrel Cage Induction Motor. 2000 KW, 6.6 KV, 0-1000-1200 rpm (max.), 0-50-60 Hz. (Motor Data Sheet attached for reference as Annexure - B)	Vendor to note	
2.2	AC GENERATOR (Qty - 1 No.)		
2.2.1	10 MVA, 11 KV (variable 0 to 11 KV), 3 Phase, 50 & 60 Hz, 1200 rpm (max.) (Generator Data Sheet attached for reference as Annexure- C) Winding Selection: Winding selection shall be SERIES-STAR, PARALLEL- STAR, PARALLEL- DELTA, and SERIES- DELTA SERIES - STAR 11KV 525Amp 10MVA PARALLEL - STAR 5.5 KV 1050Amp 10MVA SERIES - DELTA 6.35KV 909Amp 10MVA PARALLEL - DELTA 3.175KV 1818Amp 10MVA	Vendor to note	
2.3	STATIC EXCITATION EQUIPMENT FOR GENERATOR (Qty. - 1 No.)		
2.3.1	The supplied Static Excitation Equipment is for voltage control of 10MVA Generator. The static excitation panel shall be with state of the art solid-state components with high end power electronic controller based on digital technology with micro processor and thyristorised excitation control system for stable frequency & stable terminal voltage. (Schematic drawing shall be shared during engineering)	Vendor to note	

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Dy. Manager (QC-Testing)

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Manager (WEX)

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Sr. Mgr. (WEX)

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16-08-2021
Sr. Mgr. (QC-Test)

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16/08/21
DGM (WEX)

<p>2.4</p>	<p>OTHER EQUIPMENT/ITEMS FOR INSTALLATION OF 99 KV TEST POINT</p>	<p>1) 3 Nos each CT & VT For 99 KV Test Point 2) 40 MVA, 11/99KV Transformer & its Accessories - 1 No. 3) 132 KV, 2000 A, 3 Pole Isolator For Test Point.- 1 No. 4) 120 MVAR Capacitor Bank - 1 Set 5) 3 Nos each CT & LA for Capacitor Bank 6) 132 KV Solid Post Insulators 7) Termination Kits (11KV, 1CX500 sqmm.) - 1 Lot If any other size Termination Kits are required, shall has to be supplied by Vendor. 8) HT & LT Cables - 1 Lot</p> <p>The following cables are available with BHEL which will be given to Vendor as free issue and further any cable (HT, LT or Control Cables) if required, shall has to be supplied by Vendor in order to complete the work in totality)</p> <p>11KV, 1CX500 sqmm. - 3000 mtr. 11KV, 3CX95 sqmm. - 500 mtr. 11KV, 3CX240 sqmm. - 500 mtr. 4CX2.5 sqmm. - 1000 mtr. 12CX2.5 sqmm. - 1000 mtr. 24CX2.5 sqmm. - 1000 mtr.</p> <p>Note : Shifting, Laying, Termination of all HT Power & LT Power & Control Cables shall be in Vendor scope.</p>	<p>Vendor to confirm</p>
<p>2.4.1</p>			
<p>3.0</p>	<p>SCOPE OF SUPPLY : VENDOR</p>		
<p>3.1</p>	<p>MOTOR DRIVE VFD (Qty - 1 No.)</p>		
<p>3.1.1</p>	<p>Medium Voltage AC VFD System for 2 MW AC Motor (Make - Siemens/ABB/Hitachi/Toshiba-Mitsubishi)</p>	<p>Vendor to confirm and specify the make</p>	
<p>3.1.2</p>	<p>Inverter Cascaded H Bridge Type Multilevel Inverter</p>	<p>Vendor to confirm</p>	
<p>3.1.3</p>	<p>Output Voltage range [V] 0-6600</p>	<p>Vendor to confirm</p>	
<p>3.1.4</p>	<p>Output Frequency range [Hz] 0-60</p>	<p>Vendor to confirm</p>	
<p>3.1.5</p>	<p>Type of Motor - Asynchronous</p>	<p>Vendor to confirm</p>	
<p>3.1.6</p>	<p>Motor Shaft Power [KW] 2000</p>	<p>Vendor to confirm</p>	
<p>3.1.7</p>	<p>VFD output current required at least 20% higher than rated motor current</p>	<p>Vendor to confirm</p>	
<p>3.1.8</p>	<p>Maximum continuous motor output current [A] 219</p>	<p>Vendor to confirm</p>	
<p>3.1.9</p>	<p>Maximum Peak Output current [A] 245 (60s every 600s)</p>	<p>Vendor to confirm</p>	
<p>3.1.10</p>	<p>Motor Nominal Voltage [V] 6600</p>	<p>Vendor to confirm</p>	
<p>3.1.11</p>	<p>Motor Nominal Speed [RPM] 1000 (50Hz) / 1200A (60Hz)</p>	<p>Vendor to confirm</p>	
	<p>Motor Nominal Frequency [Hz] 50</p>	<p>Vendor to confirm</p>	

[Signature]
 Dy. Manager (QC-Testing)

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 Manager (WEX)

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 Sr. Mgr. (WEX)

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 Sr. Mgr. (QC-Testing)

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 DGM (WEX)

3.1.12	Rectifier Type : Diode Front End (DFE) 30 / 36 Pulse	Vendor to confirm	
3.1.13	For Remote Control & Monitoring of VFD. Drive shall be controlled through Control Desk (located in test gallery at a separate remote location) through these I/O's. Adequate protection & isolation to be provided.	Vendor to confirm	
3.1.13a	Digital Inputs: 8	Vendor to confirm	
3.1.13b	Digital Outputs: 8	Vendor to confirm	
3.1.13c	Analog Inputs: 4	Vendor to confirm	
3.1.13d	Analog Outputs: 4	Vendor to confirm	
3.1.14	Supply Type (Suitable for VFD Duty) : Integrated Transformer Dry Type, Forced air cooled (Both Transformer & Inverter enclosure are placed side by side), Cu windings, H class insulation, complete with standard accessories including CT's & RTDs, distribution class arrestor.	Vendor to confirm	
3.1.15	Primary Voltage for Transformer : 11 KV, 3 Phase, 50 Hz (Through Motor VCB Cl. 3.3 of spec.)	Vendor to confirm	
3.1.16	Side by Side configuration for Transformer & Drive	Vendor to confirm	
3.1.17	Min supply fault level [MVA] 350 Max supply fault level [MVA] 500	Vendor to confirm	
3.1.18	Voltage Tolerance [%] -10 to +10	Vendor to confirm	
3.1.19	Supply Frequency [Hz] 50	Vendor to confirm	
3.1.20	Frequency Tolerance [%] -3 to +3	Vendor to confirm	
3.1.21	Type of Enclosure : Corrosion protected 2 mm thick sheet steel	Vendor to confirm	
3.1.22	Cabinet Protection Class: IP42	Vendor to confirm	
3.1.23	Cabinet Color: RAL 7035 (Light Grey)	Vendor to confirm	
3.1.24	Painted Surfaces : Only front and side walls or complete VFD enclosure	Vendor to confirm	
3.1.25	Door Interlocking : Electromechanical door interlocking system with integrated grounding switch / VFD controller to take care of ground related fault	Vendor to confirm	
3.1.26	Sound pressure level @ 1m distance [dB (A)] <85	Vendor to confirm	
3.1.27	Cooling Data Site Altitude[mas] 1000 Min Ambient temp. [°C] 3 Max Ambient temp. [°C] 48 Min off state Temp. [°C] 3 Cooling Method : Air Forced Cooling Fans : Single / Multiple cooling fans for Transformer and Converter section	Vendor to confirm	
3.1.28	Control I/O extension : Extension 1	Vendor to confirm	

DGM (WEX) 15/08/21

Sr. Mgr. (DC-Testing)
15/08/21

Sr. Mgr. (WEX)

15/08/21
Manager (WEX)

15/08/21
Dy. Manager (QC-Testing)

3.1.29	Busbars : Copper		Vendor to confirm	
3.1.30	THD : Output Voltage Harmonics < 2.5% and Input Current Harmonics < 5%		Vendor to confirm	
3.1.31	Certifications : Standards IEC 61800, IEC 60146, IEEE 519 with latest revision Load characteristic : Constant Torque		Vendor to confirm	
3.1.32	Speed Feedback : Pulse Encoder with complete mounting accessories. Hubner, Baumer) Closed Loop Frequency & Voltage control of MG Set (Make -		Vendor to confirm	
3.1.33	Others : CTs and PTs, Keyed Off - Local - Remote Selector switch, Starter for forced air cooling, Starter for converter blower, Temperature Scanner, Motor RTD & BTD monitor system, Main Supply ON/OFF Push Buttons, Emergency Stop Push Buttons Mushroom Head Stay put type, Indicating lamps, Cabinet illumination with service socket, Space Heater, Gland Plates Aluminium, Grounding Studs etc.		Vendor to confirm	
3.1.34	Panel mounted intelligent display for VFD Monitoring, parameterization & Diagnostics with provision for connecting Laptop. Communication cable with necessary adapters for Drive programming through Laptop		Vendor to confirm	
3.1.35	All necessary Motor Protections to be incorporated in VFD. indicative List of Protections : Over current, over voltage, over load, grounding, main power input voltage drop, control power supply voltage drop, Output AC voltage abnormal, Output AC current abnormal, Enclosure temperature high, input transformer overheat, enclosure door open, connectors disconnected, Input Transformer secondary earth fault, Inverter cell fault, Cell over temperature, IGBT Out of Saturation, Inverter panel cooling fan abnormal, Motor abnormal (RTD & BTD input), upstream incoming panel abnormal etc.		Vendor to confirm	
3.1.36	Alarms : Overload warning, Transformer cooling fan stop, Transformer panel temperature high etc.		Vendor to confirm	
3.1.37	Display of Motor current, voltage, pf and speed		Vendor to confirm	
3.1.38	Display of voltage and current for input supply monitoring		Vendor to confirm	
3.1.39	Cable Entry : Bottom		Vendor to confirm	
3.1.40	Programming software in Pen Drive for monitoring/programming drive parameters from Laptop		Vendor to confirm	
3.1.41	Supply of Programming/diagnostic laptop with licenced drive programming software. The laptop should have following minimum configuration: Processor core i7, 8GB RAM, 1TB Hard disk, 14" FHD LED screen, 2 USB ports, Windows 10		Vendor to confirm	
3.1.42	Duty Cycle - Continuous		Vendor to confirm	
3.1.43	Other miscellaneous items not specifically mentioned above but required for commissioning of drive panel shall be considered in scope of vendor		Vendor to confirm	

Sr. Mgr. (WEX)
 Sr. Mgr. (QC-Testing)
 Dy. Manager (WEX)
 Dy. Manager (QC-Testing)

3.1.44	Ensuring availability of spares minimum 10 years after guarantee	Vendor to confirm	
3.2	WINDING CHANGE OVER CUBICLE (Qty - 1 No.)		
3.2.1	Suitable winding change over panel to select the winding of AC Generator. Separate metering CT's and VT's & protection CT's and VT's (Input to Generator Control & Protection Panel) shall be provided in this panel as per requirement.	Vendor to confirm and specify the make	
	Winding selection shall be SERIES-STAR, PARALLEL-STAR, PARALLEL-DELTA, and SERIES-DELTA suitable for 10 MVA, 11 KV, 3 Ph, 50/60 Hz Generator		
	SERIES - STAR 11KV 525Amp. 10MVA		
	PARALLEL - STAR 5.5 KV 1050Amp. 10MVA		
3.2.2	SERIES - DELTA 6.35KV 909Amp. 10MVA		
	PARALLEL - DELTA 3.175KV 1818Amp. 10MVA		
	* For Reference - Attaching the Scanned copy of Power and control drawing of existing change over cubicle of 7MVA & 2MVA MG Sets (Combined Drawing)		
3.2.3	No. of input Terminals - 12 / Tentative runs & size - (12RX1CX500 sqmm. HT Cable)	Vendor to confirm	
3.2.4	Mode Selection: Through Interlocked Load Break Switches (to be done on no load before energizing the generator). Load Break Switches shall be with auxiliary contacts 4 NO + 4 NC mechanically operated (Make: Siemens/ABB/Schneider/L&T/Fuji Electric)	Vendor to confirm & specify the make	
3.2.5	All the off-load break switches shall be mounted on insulators suitable for 11KV and ratings as per IS	Vendor to confirm	
3.2.6	Load Break Switches shall be operable from outside without opening front panel door/cover. For visual inspection - glass cutout shall be provided in the front to visualize actual position of switches. Panel illumination MCB shall be mounted on the front which can be operated from outside without opening door.	Vendor to confirm	
3.2.7	Interlocks (Using Castle Lock & Key) : The interlocks of selector switches shall be Mechanical type. Sample set of LOCK & KEY shall be made available by BHEL. Insertion and withdrawal of key shall be from front facia without opening the panel cover.	Vendor to confirm	
3.2.8	Indication Lamps - 4 nos. for mode indication 230 V LEDs	Vendor to confirm	
3.2.9	CT as per system requirement (Input to Generator Control & Protection Panel) & PT : 11KV-6.35KV-5.5KV-3.175KV / 110 V	Vendor to confirm	
3.2.10	Cable Entry Bottom, Power cable clamping provision in the panel. Tentative runs & size - (12RX1CX500 sqmm. HT Cable)	Vendor to confirm	
3.2.11	Mechanical Interlock provided to permit operation in any one mode only	Vendor to confirm	
3.2.12	Bus Bars - Copper	Vendor to confirm	
3.2.13	Power Terminations: Suitable for 11 KV single core cables	Vendor to confirm	
3.2.14	Gland Plate - Undrilled detachable from bottom	Vendor to confirm	

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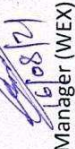
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3.2.15	Earthing Provisions: 2 independent earthing terminals provided	Vendor to confirm	
3.2.16	The panel shall be made of 2.5 mm thick CRCA Sheet Steel (load bearing member 3mm thick), indoor floor mounting, metal clad, powder coated to Paint shade RAL 7035 (Light Grey), IP 42, dust and vermin proof, panel wiring with multistrand PVC 2.5 sq.mm Copper wire, 1100V (Finolex, Havells, Polycab, KEI make), properly dressed/tied and terminated with crimped lugs, neoprene gaskets and having all standard accessories.	Vendor to confirm	
3.2.17	Output Bus Bars of winding change over cubicle shall be matched with input side Bus Bars of Generator VCB. Both has to be inter-connected, required hardware for interconnection shall also be supplied by vendor.	Vendor to confirm	
3.3	MOTOR BREAKER (VCB) (Qty - 1 No.) (Make - Siemens/ABB/L&T)	Vendor to confirm and specify the make	
3.3.1	Stand Alone Drawout VCB - For Input supply to VFD (3.1) integrated Transformer	Vendor to confirm	
3.3.2	TECHNICAL SPECIFICATION	Vendor to confirm	
3.3.3	Rating 11 KV, 630 A, TP, 40 KA/3 sec, 50 Hz	Vendor to confirm	
3.3.4	System Highest Voltage [KV] 12	Vendor to confirm	
3.3.5	Insulation Level Power Frequency [KVrms] 28	Vendor to confirm	
3.3.6	Insulation Level Irmpulse [KVp] 75	Vendor to confirm	
3.3.7	Breaking Capacity [kA at kV] 25 at 11	Vendor to confirm	
3.3.8	Making Capacity [kAp] 62.5	Vendor to confirm	
3.3.9	Breaker Control Switch TNC (Make: Kaycee/Salzer/ABB)	Vendor to confirm and specify the make	
3.3.10	Auxiliary Contact Block	Vendor to confirm	
3.3.11	Metering Section		
a	Digital Multifunction Meter CI 1.0 with RS 485 Port (Make: L&T/Siemens/Schneider/ABB)	Vendor to confirm and specify the make	
b	3 Ph Digital Amp Meter CI 1.0 with Selector Switch (Make - AE/Rishabh/Secure/Schneider)	Vendor to confirm and specify the make	
c	3 Ph Digital Volt Meter CI 1.0 with Selector Switch (Make - AE/Rishabh/Secure/Schneider)	Vendor to confirm and specify the make	
3.3.12	Protection Relays		
a	Numerical Protection Relay (50,51,50N,51N) with RS 485 Port (Make: Siemens/ABB/GE/Schneider)	Vendor to confirm and specify the make	
b	Master Trip Relay (86) (Make: Siemens/ABB/GE/Schneider)	Vendor to confirm and specify the make	
c	Trip Circuit Supervision Relay (95) (Make: Siemens/ABB/GE/Schneider)	Vendor to confirm and specify the make	

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d	Surge Suppressor	
	Auxiliary Supply Closing and Tripping [V DC] 30 Spring Charging Motor [V AC] 240 Heater, Illumination, Indication [V AC] 240	Vendor to confirm
3.3.13	CT Ratio: 250/5 AMP, 11 KV Core - I [output / class] 10VA / 5P10 Core -II [output / class] 10VA / CL-0.5	Vendor to confirm and specify the make
3.3.14	PT Ratio: 11000/ $\sqrt{3}$ / 110/ $\sqrt{3}$ / 110 / $\sqrt{3}$ Burden / Accuracy: 100VA / 1.0 (Fixed type with PT Fuses & MCB for PT Sec.)	Vendor to confirm and specify the make
3.3.15	Indication Lamps & Panel Accessories	
a	Indication Lamps (R/Y/B/V/CB On/Off/Trip/Test/Service/Spring Charge/TCH) (Make: Siemens/ABB/L&T/Schneider)	Vendor to confirm and specify the make
b	Space Heater (80W-100W), 230 V AC	Vendor to confirm
c	Thermostat (30-110 Deg.)	Vendor to confirm
d	Emergency PB (Off), Stay put Mushroom Type (Make: Schneider/L&T/Siemens/ABB)	Vendor to confirm and specify the make
e	Illumination LED/Door Limiting Switch/CFL with Holder/3 Pin Socket & Switch/Gland Plate 3 mm Al/Heat Shrinkable PVC Sleeves/Insulators/MCB/Neutral Links/Toggle Switch/Aux. Relays	Vendor to confirm
f	25A, Local/Remote Selector Switch (Make: Kaycee/Salzer/ABB)	Vendor to confirm and specify the make
3.3.17	Main Bus Bar & Earth Bus - Copper	Vendor to confirm
3.3.18	Relay Compartment IP 55 and Breaker Compartment IP 42	Vendor to confirm
3.3.19	Paint RAL 7035 (Light Grey)	Vendor to confirm
3.3.20	Input Cable Entry: From Side to Busbar. Output Cable Entry: From the Bottom.	Vendor to confirm
3.3.21	Applicable standard with latest revision	Vendor to specify
3.4	GENERATOR BREAKER (VCB) (Qty - 1 No.) (Make - Siemens/ABB/L&T)	Vendor to confirm and specify the make
3.4.1	Stand Alone Drawout VCB - For Generator Output 0 - 11KV Variable)	Vendor to confirm
3.4.2	TECHNICAL SPECIFICATION	Vendor to confirm
3.4.3	Rating 11 KV, 2000 A, TP, 40 KA/3 sec, 50 Hz	Vendor to confirm
3.4.4	System Highest Voltage [KV] 12	Vendor to confirm

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3.4.5	Insulation Level Power Frequency [KVrms] 28	Vendor to confirm
3.4.6	Insulation Level Impulse [KVp] 75	Vendor to confirm
3.4.7	Breaking Capacity [kA at kV] 25 at 11	Vendor to confirm
3.4.8	Making Capacity [kAp] 62.5	Vendor to confirm
3.4.9	Breaker Control Switch TNC (Make: Kaycee/Salzer/ABB)	Vendor to confirm and specify the make
3.4.10	Auxiliary Contact Block	Vendor to confirm
3.4.11	Metering Section	
a	Digital Multifunction Meter CI 1.0 with RS 485 Port (Make: L&T/Siemens/Schneider/ABB)	Vendor to confirm and specify the make
b	3 Ph Digital Amp Meter CI 1.0 with Selector Switch (Make - AE/Rishabh/Secure/Schneider)	Vendor to confirm and specify the make
c	3 Ph Digital Volt Meter CI 1.0 with Selector Switch (Make - AE/Rishabh/Secure/Schneider)	Vendor to confirm and specify the make
3.4.12	Protection Relays	
a	Numerical Protection Relay (50,51,50N,51N) with RS 485 Port (Make: Siemens/ABB/GE/Schneider)	Vendor to confirm and specify the make
b	Master Trip Relay (86) (Make: Siemens/ABB/GE/Schneider)	Vendor to confirm and specify the make
c	Trip Circuit Supervision Relay (95) (Make: Siemens/ABB/GE/Schneider)	Vendor to confirm and specify the make
d	Surge Suppressor	Vendor to confirm
3.4.13	Auxiliary Supply Closing and Tripping [V DC] 30 Spring Charging Motor [V AC] 240 Heater, Illumination, Indication [V AC] 240	Vendor to confirm
3.4.14	CT Ratio : 2000/5 AMP, 11 KV class Core - I [output / class] 10VA / 5PI0 Core -II [output / class] 10VA / CL-0.5	Vendor to confirm and specify the make
3.4.15	PT Ratio : 11000/√3 / 110/√3 / 110 / √3 Burden / Accuracy: 100VA / 1.0 (Fixed type with PT Fuses & MCB for PT Sec.).	Vendor to confirm and specify the make
3.4.16	Indication Lamps & Panel Accessories	
a	Indication Lamps (R/Y/B/V/CB On/Off/Trip/Test/Service/Spring Charge/TCH) (Make: Siemens/ABB/L&T/Schneider)	Vendor to confirm and specify the make

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b	Space Heater (80W-100W), 230 V AC	Vendor to confirm	
c	Thermostat (30-110 Deg.)	Vendor to confirm	
d	Emergency PB (Off), Stay put Mushroom Type (Make: Schneider/L&T/Siemens/ABB)	Vendor to confirm and specify the make	
e	Illumination LED/Door Limiting Switch/CFL with Holder/3 Pin Socket & Switch/Gland Plate 3 mm Al/Heat Shrinkable PVC Sleeves/Insulators/MCB/Neutral Links/Toggle Switch/Aux. Relays	Vendor to confirm	
f	25A, Local/Remote Selector Switch (Make: Kaycee/Salzer/ABB)	Vendor to confirm and specify the make	
3.4.17	Main Bus Bar & Earth Bus - Copper	Vendor to confirm	
3.4.18	Relay Compartment IP 55 and Breaker Compartment IP 42	Vendor to confirm	
3.4.19	Paint RAL 7035 (Light Grey)	Vendor to confirm	
3.4.20	Input Cable Entry: From Side to Busbar. Output Cable Entry: From the Bottom.	Vendor to confirm	
3.3.21	Applicable standard with latest revision	Vendor to specify	
3.5	FORCED OIL LUBRICATION SYSTEM FOR SLFVE BEARING OF GENERATOR (Qty. - 1 Set)	Vendor to confirm	
3.5.1	DE & NDE Bearing (each with one inlet & one outlet) Lubrication Oil ISO VG 100 (65 LPM Total) Oil Pump & Motor set for Generator Bearings (One main pump motor set with one stand by set) of suitable rating (Motor make: ABB/Siemens/CGL) Motor DOL Starter Cubicle with MPCB & OLR, On/Off/Trip indication, Start/Stop PB, A/M Selector Switch, Remote interlocking contacts, Auxiliary and Trip contact TB (Make:Siemens/L&T/BCH/Schneider)	Vendor to confirm and specify the make	

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<p>3.5.2</p>	<p>Pressure Transmitter & 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: 45 deg. C Pressure at Bearing inlet: 0.2 to 0.5 bar (Max.) Temperature rise in oil 15 deg. C Cooling arrangements for cooling the return oil: Water Cooled Condenser (Material internal & external - Stainless steel, Capacity to be specified) Pressure Switch & Flow Switch for interlocking Oil Storage Tank - 500 Ltr. capacity with supply of 500 Ltr. oil Material: MS) MS Pipe, valves, fittings, gauges, oil filters etc. as per requirement</p>	<p>Vendor to confirm and specify the make</p>	
<p>3.6</p>	<p>CONTROL & RELAY PANEL FOR 120 MVAR, 99 KV CAPACITOR BANK (Qty. - 1 No.)</p>	<p>Vendor to confirm</p>	
<p>3.6.1</p>	<p>Control & Relay Panel comprising of Overcurrent relays, Over voltage relays, under voltage relays & Unbalance current relays suitable for capacitor bank complete with metering, push buttons (to operate isolator from remote), indications & alarms</p>	<p>Vendor to Confirm</p>	
<p>3.7</p>	<p>CONTROL DESK FOR MG SETS CONTROL (Qty - 01 No.)</p>	<p>Vendor to confirm</p>	
<p>3.7.1</p>	<p>A new 99 KV test point is being set-up for which a Control Desk is required having the following Specifications. The Control Desk shall be made of 2.5 mm thick CRCA Sheet Steel (load bearing member 3mm thick), indoor floor mounting, metal clad, powder coated to Paint shade RAL 7035 (Light Grey), IP 42, dust and vermin proof, panel wiring with multistrand PVC 2.5 sq.mm. Copper wire, 1100V (Finolex, Havells, Polycab, KEI make), properly dressed/tied and terminated on heavy duty DIN Rail mounted Polymide Terminal Blocks with crimped lugs, neoprene gaskets and having all standard accessories.</p>	<p>Vendor to confirm</p>	
<p>3.7.2</p>	<p>The layout of components shall be distributed into three compartments (a) For new and existing MG Sets Control (b) For Test & Measurement (c) For placement of Power analyzer and Laptop The cable entry shall be from the bottom with gland plates. Panel access shall be from the back door having heavy duty door locks. (The tentative size of the existing control desk is 3500 mm(L) X 1000 mm(W) X 1500 mm(H) and Table Height - 900mm)</p>	<p>Vendor to confirm</p>	

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3.7.3	Devices to be mounted on the Control Desk shall be as follows:	Vendor to confirm
3.7.4	Push Buttons: Qty.- 10 Nos. Potential Free, Normally Open, 6Amp/230V (Siemens, L&T, BCH make) having the following nomenclature	Vendor to confirm
3.7.5	1) DC Breaker Close PB (Green) 2) DC Breaker Open PB (Red) 3) Field Breaker Close PB (Green) 4) Field Breaker Open PB (Red) 5) Frequency Rise PB (Black) 6) Frequency Lower PB (Black) 7) Voltage Rise PB (Black) 8) Voltage Lower PB (Black) 9) Lamp Test PB (Yellow)	Vendor to confirm
3.7.6	Breaker Control Switch Spring loaded 2 pole Trip and Close Middle Neutral: Qty-01 No, 440 V, 25 Amps (Kaycee/L&T/Salzer make)	Vendor to confirm
3.7.7	Selector Switches: 12 Nos 16A, 440V (Kaycee/L&T/Salzer make) having the following other specifications	Vendor to confirm
3.7.8	1) CT Sensitivity make before break Selector switch 2 way 12 Pole: 1 Nos. 2) CT make before break Selector switch (2 CT per phase for 3 phase): 1 Nos. 3) Ammeter Selector switch for external meter: 1 Nos. 4) Ammeter Selector switch for Generator Amps Meter: 1 Nos. 5) VT Selector Switch 3 Pole 4 Way: 1 Nos. 6) Voltmeter selector for Wattmeter Pressure Coil (1 pole 4 way No OFF): 6 Nos 7) Voltmeter selector switch for external voltmeter: 1 Nos.	Vendor to confirm
3.7.9	LED Indication Lamps, 230 V AC: Qty-25 Nos. Size 22mm, (Siemens/L&T/C&S Make) having the following nomenclature	Vendor to confirm

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<p>1) DC Breaker OFF indication Green 2) DC Breaker ON indication Red 3) Field Breaker OFF indication GREEN 4) Field Breaker ON indication RED 5) Gen. Breaker OFF Indication GREEN 6) Gen. Breaker ON Indication RED 7) Source Selection MG#1 YELLOW 8) Source Selection MG#3 YELLOW 9) Source Selection MG#4 YELLOW 10) Source Selection MG#5 YELLOW 11) Gen. Wdg. Selection Series YELLOW 12) Gen. Wdg. Selection Star YELLOW 13) Gen. Wdg. Selection Parallel YELLOW 14) Gen. Wdg. Selection Delta YELLOW 15) Capacitor Bank ON RED 16) Capacitor Bank OFF GREEN 17) Ammeter Reading X 1 White 18) Ammeter Reading X 4 White 19) Ammeter Reading X 12 White 20) KV Meter Top Scale X 1 White 21) KV Meter Top Scale X 1/2 White 22) KV Meter Bottom Scale X 1 White 23) KV Meter Bottom Scale X 1/2 White</p>	<p>Vendor to confirm</p>	
<p>3.7.10</p>		
<p>3.7.11</p>	<p>20 Amp, 440V Banana Knobs for Wattmeter Pressure coil , Current coil , external voltmeter and Ammeter Qty. 20 Nos.</p>	<p>Vendor to confirm</p>
<p>3.7.12</p>	<p>Other Panel Accessories required are as follows:</p>	<p>Vendor to confirm</p>
<p>3.7.13</p>	<p>Control Supply MCB 16A, 2 Pole, Qty. 01 No. (C&S/Havells make)</p>	<p>Vendor to confirm</p>
<p>3.7.14</p>	<p>Panel Lighting LED Fitting, 9 W, 230V AC with ON-OFF or door switch: Qty-03Nos. (Havells/Philips/C&S make)</p>	<p>Vendor to confirm</p>
<p>3.7.15</p>	<p>5 Amp Switch/Socket (Anchor/Havells make) Qty.-03 Nos</p>	<p>Vendor to confirm</p>

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3.8	11KV, TEST POINT SELECTOR PANEL	Vendor to confirm
3.8.1	A 11 kV Test Point Selector panel is required for transfer of MG Set output to various Test Points. The panel shall be made from 2.5 mm. CRCA sheet steel (load bearing member 3mm thick), powder coated to Paint shade RAL 7035 (Light Grey) having all standard accessories, The selector panel shall be fitted with 5 Nos. off-load break switches in two columns, with one Incoming Bus chamber at the centre and two columns of out going cable chamber. The tentative Schematic Diagram of Test Point selection Panel is shown in point 3.8.21 below. The entry of all the power & control cables are from the bottom. The major specifications of the panel shall be as follows:	Vendor to confirm
3.8.2	Load Break Switches (Make: Siemens/ABB/Schneider/L&T/Fuji Electric)	Vendor to confirm & specify make
3.8.3	11KV, 2000A, 3-pole Off-Load Break Switch having following specifications: Qty-02 No. a) Rated Voltage - 11 KV b) Highest System Voltage - 12 KV c) Rated Current - 2000 Amp. d) Number of Poles - 03 e) Minimum clearance from Line to Earth and Line to Line - As per applicable IS f) Operation - Manual and No Load operation only G) Break - Single h) Aux. Contacts - 8NO + 8 NC (Mechanically operated)	Vendor to confirm
3.8.4	11KV, 630 A, 3-pole Off-load Break Switch having following specifications: Qty-03 Nos. a) Rated Voltage - 11 KV b) Highest System Voltage - 12 KV c) Rated Current - 630 Amp. d) Number of Poles - 03 e) Minimum clearance from Line to Earth and Line to Line - As per applicable IS f) Operation - Manual and No Load operation only G) Break - Single h) Aux. Contacts - 8NO + 8 NC (Mechanically operated)	Vendor to confirm
3.8.5	11KV, 630 A, 3-pole Off-load Break Switch having following specifications: Qty-03 Nos. a) Rated Voltage - 11 KV b) Highest System Voltage - 12 KV c) Rated Current - 630 Amp. d) Number of Poles - 03 e) Minimum clearance from Line to Earth and Line to Line - As per applicable IS f) Operation - Manual and No Load operation only G) Break - Single h) Aux. Contacts - 8NO + 8 NC (Mechanically operated)	Vendor to confirm
3.8.6	BUS BARS The Main Bus and incoming and out going Bus Bar of 2000A Switch shall be made from Copper with a minimum cross section of 1000 Sq.mm. Whereas the Bus Bars from and to 630A switches shall be made from copper with a minimum cross section of 500 Sq.mm.	Vendor to confirm
3.8.7	Insulators - As per applicable IS All the off-load break switches shall be mounted on insulators suitable for 11kV and all ratings as per IS	Vendor to confirm
3.8.8	All the off-load break switches shall be mounted on insulators suitable for 11kV and all ratings as per IS	Vendor to confirm
3.8.9	All the off-load break switches shall be mounted on insulators suitable for 11kV and all ratings as per IS	Vendor to confirm
3.8.10	All the off-load break switches shall be mounted on insulators suitable for 11kV and all ratings as per IS	Vendor to confirm

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Manager (WEX)

3.8.11	Interlocks (Using Castle Lock & Key)	Vendor to confirm	
3.8.12	The interlocks of selector switches shall be Mechanical type. Sample set of LOCK & KEY shall be made available by BHEL. Insertion and withdrawal of key shall be from front facia without opening the panel cover.	Vendor to confirm	
3.8.13	Interlock Condition to be fulfilled: One set of three Locks shall be mounted in each load break switch. All the three keys are required to CLOSE / OPEN the switch. Two keys will not come out from the lock and the third one will come out from the lock when the switch is in CLOSE position. All the three keys will come out when the switch is in OPEN position.	Vendor to confirm	
3.8.14	Panel Accessories	Vendor to confirm	
3.8.15	2 Nos. 9 W LED Fittings with door interlock	Vendor to confirm	
3.8.16	2 Nos. 5 Amps Switch/Socket	Vendor to confirm	
3.8.17	LED Indication lamps (Close-Red and Open-Green) to be provided on the panel doors for each Load Break Switch.	Vendor to confirm	
3.8.18	Panel Wiring	Vendor to confirm	
3.8.19	All the wires from Aux. Contacts (8NO+8NC) including the wires used for internal wiring per Load Break Switch shall be done with multistrand PVC 2.5 sq.mm Copper wire, 1100V (Finolex, Havells, Polycab, KEI make), properly dressed, cable tied, routed in cable trays and terminated with crimped lugs on heavy duty DIN Rail mounted Polymide Terminal Blocks rated for 1100V/24 Amps.	Vendor to confirm	
3.8.20	Tentative Schematic Diagram of 11KV Test Point Selection Panel (Item 3.9 above)	Vendor to confirm	

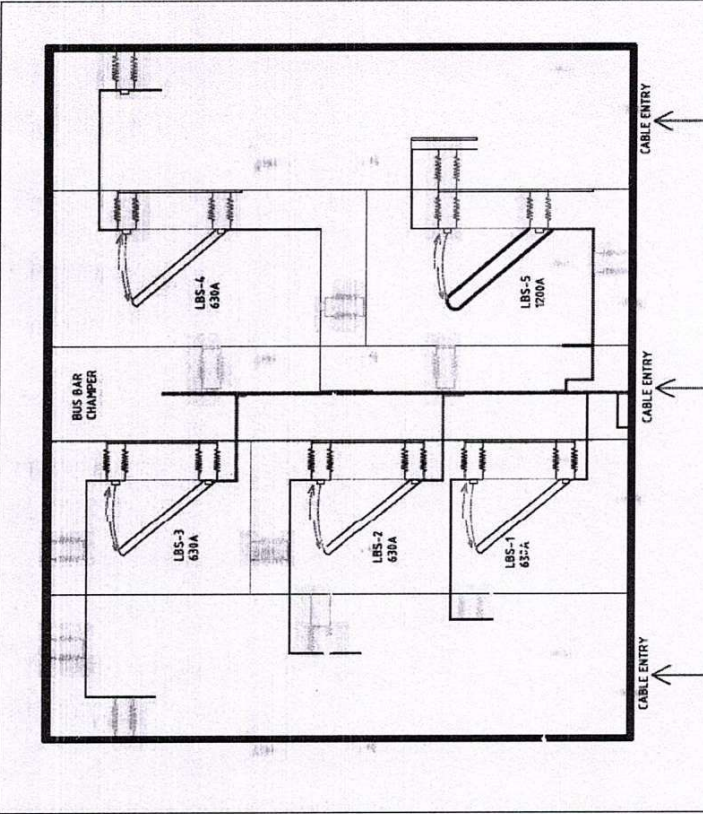
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<p>3.8.21</p>	 <p>The diagram shows a bus bar chamber with three cable entries on the right side. Inside, there are five load break switches (LBS) connected to the bus bars. LBS-1 is rated 63A, LBS-2 is 630A, LBS-3 is 630A, LBS-4 is 630A, and LBS-5 is 1200A. A 'BUS BAR CHAMBER' label is on the left.</p>	<p>Vendor to confirm</p>
<p>3.8.22</p>	<p>Cable Entry - Bottom & Tentative runs & size: Incoming 4RX1CX500 sqmm. per Phase Outgoing from each 630A Load Break Switch 1RX1CX500 sqmm. per Phase Outgoing from each 2000A Load Break Switch 4RX1CX500 sqmm. per Phase Adequate space shall be there for cable terminations, keeping in view number of runs. Drawing shown is tentative & only for reference only.</p>	<p>Vendor to confirm</p>
<p>3.90</p>	<p>CONTROL, PROTECTION & ALARM ANNUNCIATION PANEL (QTY- 01 No)</p>	<p>Vendor to confirm</p>
<p>3.9.1</p>	<p>A Protection and Alarm Annunciation panel for 40MVA, 11/99KV Testing Transformer & 10 MVA MG Set.</p>	<p>Vendor to confirm</p>

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3.9.2	The panel shall be indoor metal clad, made from 2.5 mm thick CRCA Sheet Steel (load bearing member 3mm thick), powder coated to Paint shade RAL 7035 (Light Grey), panel wiring shall be done with multistrand PVC 2.5 sq.mm Copper wire, 1100V (Finolex, Havells, Polycab, KEI make) door with neoprene gaskets, IP 42 with door lock and panel key having all standard accessories.	Vendor to confirm	
3.9.3	The Devices to be mounted in the panel as follows (For Transformer Protection)		
3.9.4	12 Window annunciator panel for 40MVA 11/99KV Transformer: 1No. with Hooter Supply Voltage 230 VAC (Minilec/equivalent make) Alarm Nomenclature (Bucholtz Alarm, Bucholtz Trip, Winding Temp Alarm, Winding Temp Trip, Oil Temp Alarm, Oil Temp Trip, Low Oil Level Alarm, PRV trip, Over Current Trip.	Vendor to confirm	
3.9.5	Master Trip Relay (86) (Make: Siemens/ABB/GE/Schneider make)	Vendor to confirm	
3.9.6	Numerical Protection Relay (50,51,50N,51N,49 thermal Overload,24) with RS 485 Port (Make: Siemens/ABB/GE/Schneider make)	Vendor to confirm	
3.9.7	CT & PT (Metering & Protection) for Transformer Protection		
3.9.8	The Devices to be mounted in the panel as follows (For Generator Protection)		
3.9.9	Numerical Protection Relay (50,51,50N,51N,40,46,49,59,24,81U/O,64R,50BF) with RS 485 Port (Make: Siemens/ABB/GE/Schneider make)	Vendor to confirm	
3.9.10	Master Trip Relay (86) (Make: Siemens/ABB/GE/Schneider make)	Vendor to confirm	
3.9.11	CT & PT (Metering & Protection) for Generator - Input from Winding Changeover Cubicle	Vendor to confirm	
3.9.12	Panel - Space Heater, Thermostat, Panel lighting, 3 Pin socket and switch, Door limiting switch, Earthing, MCB	Vendor to confirm	
3.10	132KV, 03-POLE, 2000 AMP, DOUBLE BREAK MOTORISED ISOLATOR (QTY-1 No.)		
3.10.1	A 132KV, 2000 Amp, 3 pole outdoor motorised isolator for connection of capacitor bank to the testing transformer. It will be double break rotary type isolator with earth switch complete with all accessories, namely mounting stand, mounting bracket insulators, motor, manual operating mechanism, earth switch complete with manual operating handle, motor operating panel, conforming to IS-9921 (latest revision). Broad specification shall be as under, for which test certificate to be submitted along with material. (Make: G R Power/ABB/Crompton Greaves)	Vendor to confirm & specify make	
3.10.2	Rated Voltage- 132KV	Vendor to confirm	
3.10.3	Highest System Voltage 145KV	Vendor to confirm	
3.10.4	Rated Current 2000 AMP.	Vendor to confirm	

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3.10.5	Breaking Current Capacity - As per applicable IS (latest revision)	Vendor to confirm
3.10.6	Rated Short Time withstand Current - 25KA for 03 Sec.	Vendor to confirm
3.10.7	Rated peak withstand current 78.5 KA	Vendor to confirm
3.10.8	System Frequency 50Hz(+/- 3%)	Vendor to confirm
3.10.9	Creeping Distance As per applicable IS (latest revision)	Vendor to confirm
	Rated Power Frequency Withstand Voltage - INSULATION LEVEL	Vendor to confirm
	(A) Rated One Minute Power Frequency WET withstand Voltage	Vendor to confirm
	(i) To Earth and Between Poles - As per applicable IS (latest revision)	Vendor to confirm
	(ii) Across Isolating Distance - As per applicable IS (latest revision)	Vendor to confirm
3.10.10	(B) Rated One Minute Power Frequency DRY withstand Voltage	Vendor to confirm
	(i) To Earth and Between Poles - As per applicable IS (latest revision)	Vendor to confirm
	(ii) Across Isolating Distance - As per applicable IS (latest revision)	Vendor to confirm
3.10.11	Lightning Impulse Withstand Voltage	Vendor to confirm
	(i) To Earth and Between Poles - As per applicable IS (latest revision)	Vendor to confirm
	(ii) Across Isolating Distance - As per applicable IS (latest revision)	Vendor to confirm
3.10.12	Minimum Clearance	Vendor to confirm
	(i) Phase to Phase - As per applicable IS (latest revision)	Vendor to confirm
	(ii) Phase to Earth - As per applicable IS (latest revision)	Vendor to confirm
3.10.13	No of Poles - 03	Vendor to confirm
3.10.14	No of Breaks per pole - 02	Vendor to confirm
3.10.15	Auxiliary contacts for interlocking(8 NO + 8 NC) , Aux Contacts in earthswitch (4NO+4NC)	Vendor to confirm
3.10.16	Motor Make	Vendor to confirm
3.10.17	Motor Rating (KW / HP)	Vendor to confirm
3.10.18	Motor Supply Voltage	Vendor to confirm
3.10.19	Make of Isolator	Vendor to confirm
3.10.20	Model of Isolator	Vendor to confirm
3.11	AC FOR VFD & STATIC EXCITATION EQUIPMENT	
	VFD Drive & Static Excitation Equipment Panel shall be erected & commissioned in a separate AC room. Vendor shall supply required numbers of AC of suitable rating to maintain required room temperature. Heat Load calculation shall be submitted by Vendor. Civil work pertaining to room for VFD & SEE Panel shall be in the scope of BHEL. (Make of AC - Hitachi/Daikin/Blue Star/Lloyd) Type of AC, make of AC, tentative rating & quantity considered to be specified	Vendor to confirm & specify make
3.11.1		
3.12	MISCELLANEOUS ITEMS	
	Supply & Erection of Heavy Duty Copper Lugs & Glands Double compression, Heavy duty brass, nickel chrome plated of various sizes (Make: Dowell/Somet/3D) of different required sizes for all cables including those mentioned at point 2.4	Vendor to confirm
3.12.1		

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3.12.2	Supply & Erection of Cable Trays, Coupler Plates & Accessories (Ladder or Perforated Type, Hot rolled sheet steel, galvanized, depth 100mm & thickness 2.5mm) of various width as required	Vendor to confirm		
3.12.3	Supply & Erection of Solid post insulators of required rating to support IPS Al. Tube	Vendor to confirm		
3.12.4	Supply & Erection of GI Earthing Strips 75X10mm & 50X10mm, Primer & Paints for newly erected Structure, MS Anchor Fasteners Bolts, Cable Ties, Ferrules, Copper lugs, Trefoil Clamps etc. as required	Vendor to confirm		
3.12.5	<p>Supply & Erection of 4" IPS (EH) Aluminium Tubular busbar dia=114.2 mm thickness=8.51 mm ID = 97.18 mm, Weight 7.678 Kgs/Mtr. suitable for current rating of 2000 amps. Aluminium tubular bus bar pipe shall be Alloy 6340 Temper Designation WP (range 2) as per IS 5082: 1998. Material of Aluminium Tubular bus pipe shall be cold drawn aluminium tube with minimum 55% IACS conductivity at 20 deg C temperature. (International Annealed Copper standards). The total length of busbars to be installed shall be approx. 75 metres.</p> <p>The overhead busbars have to be mounted underhung from ceiling using solid core post insulators as supports. The busbars have to be supported at both the ends. The busbars shall be aligned in line axially with each other. The Maximum span between two busbars supports shall be 3 metres. A drain hole of 10 mm diameter should be drilled at bottom centre point of tubes to facilitate drainage of condensate moisture. The shape and profile of busbars shall have to be modified as per site requirements. Bending of busbars shall have to be done as per requirement. Bending of busbars shall be entirely in the scope of vendor.</p> <p>Welding of Aluminium 100 mm tubular Bus bar. Tubular busbars shall be welded together with aluminium welding sleeves, to provide the required total length. The welding shall be carried out by highly skilled welder and there shall not be any corona. Installation of Expansion Joints to ensure that the busbars are free to expand and contract and to prevent busbar distortion. The support insulators shall not be stressed so that they do not crack and busbars distortion.</p> <p>Supply and Fabrication of 45 nos of suitable clamps for supporting and holding 4" IPS Aluminium tubular busbars from the solid core post insulators.</p> <p>Fabrication of Plastic external end caps to suit aluminium busbar. The installed aluminium tubular bus bar shall not have any sharp edges, cuts, abrasions, etc and shall be free from visible corona. The insulators shall be used for mounting and supporting of 4" IPS Aluminium tubular busbars.</p>	Vendor to confirm		

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3.12.6	Supply & Erection of Terminal Connectors for CT & VT (Bi-metallic) made from Al alloy castings as per rated voltage and current for connecting equipment terminals made of copper with AL tube. Hardware (Bolts, nuts, plain & spring washers etc.) shall be of MS Hot Dip Galvanized as per IS. Supply & Fabrication of suitable clamps for supporting and holding 4" IPS Aluminium tubular busbars from the solid core post insulators (Qty = 60 Nos)	Vendor to confirm		
3.12.7	Supply of any other miscellaneous items required for completion of work in totality without any cost implication to BHEL.	Vendor to confirm		
3.12.8	All equipment shall meet our specification point to point, as mentioned above	Vendor to confirm		
3.13	PLC COMMON CONTROL PANEL (SPEC. AS PER ANNEXURE A)			
3.13.1	Supply, Erection, Testing & Commissioning of PLC common control panel as per specification attached as Annexure A			
4	SCOPE OF WORK - ERECTION, TESTING & COMMISSIONING			
4.1	Shifting (loading & Unloading), Erection, Testing & Commissioning of all equipments/items (BHEL & Vendor supplied) including supply, fabrication & erection of structural steel shall be in the scope of Vendor. All the Erection, Testing & Commissioning work associated with establishment of the following systems shall be under Vendor scope: A) Setting up of Power Supply Source with 10 MVA MG set for new Test Point (99KV) with 40 MVA, 99 KV testing transformer, 120 MVAR, 99 KV Capacitor Bank along with MV drive, Isolators, Breakers, CT/PT, LA, Test Point Selector Panel, Control Desk etc. in Bay-9 Testing Area B) Integration of 10MVA MG set (99 KV test point) with existing Test Points (3 KV, 11 KV, 33 KV, 66 KV & 176 KV test points) & existing MG sets (MG Set 1 - 7 MVA, MG Set 2 - 2 MVA, MG Set 3 - 1.25 MVA & MG Set 4 - 1 MVA) with newly created 99 KV test point (10 MVA MG set) through common PLC Control Panel.	Vendor to confirm		

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<p>4.2</p>	<p>a) Drawing approvals shall be taken from BHEL before start of manufacturing of any item/equipment. But approval shall not absolve vendor for proving complete functionality of individual equipment and overall system to the satisfaction of BHEL. Wiring / Interconnection schematic drawings will have to be prepared by vendor based on details/sketches provided by BHEL. All the cabling/wiring subsequently shall be done accordingly. Complete system engineering & Integration with the existing set up shall be done by vendor. b) Supply, Fabrication & Erection of MS Steel structure for test point platform and other equipments. Equipment shall be leveled on the trench/foundation providing suitable supporting MS channels, angles frames & foundation bolts. Grouting of foundation bolts & fasteners. c) Shifting, Assembly, Erection & Commissioning of all the equipments, Installation of support structure & racks at their designated locations as per drawings, specification & as per BHEL Instructions. d) Shifting, laying, Dressing with die-punched aluminium strip identification tags and termination of HT & LT power and control cables as per the approved scheme and cable schedule. e) Connecting copper busbars supported by 132KV solid post insulator at 99KV test point to 120MVAR capacitor bank.</p>	<p>Vendor to confirm</p>
<p>4.3</p>	<p>f) Supply of all required material & Preparation of 10 Nos. earth pits (6 mtr. depth) and connecting Neutral and body earthing of all equipment. Uniform earth resistance of less than 1 Ohm. Excavation of pit, installation of electrode, providing salt, charcoal back filling, making concrete bed, concrete pit with top cover, cable entry provisions etc. Boring machine to be arranged by vendor. (GI pipe electrode earthing as per relevant IS. 65 mm dia, 6 mtr. long). g) Laying & fixing of cable trays on supporting system, earthing of trays, fabrication of tray supports with MS channel/angle. h) Structural steel, supporting & mounting structures for equipment shall be painted with 2 coats of zinc chromate primer followed by 2 coats of synthetic enamel paint of approved colour as per relevant IS. i) All precommissioning check and testing before energising the system/equipment. All relay settings, testing and coordination shall be done by vendor.</p>	<p>Vendor to confirm</p>

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4.4	<p>Alignment of couplings of MG set. Adjust to bring throw to less than 0.05 mm. Measure run-out of coupling halves w.r.t. bearing housing. Tightening of coupling bolts. Complete the coupling of generator with motor.</p> <p>Removal of top halves of all bearings. Check rotor level at bearings with water level sling check with bearings liners removed. Adjust pedestal of bearing to align with rotor. Checking of levels of MG set with spirit levels. Adjustment of shims under bearings. Adjustment of axial & side clearances of all bearings. Parallel, angular & axial alignment using dial gauges in four different positions: top, bottom, right & left i.e. every 90 deg. while both shafts are turned simultaneously. Boxing up of bearing, tightening of foundation bolts of pedestal of bearing. Dowelling of pedestal with insulation bolts. Check air gaps for all six poles. Balancing of MG set. Installation of bearing temperature indicator. Complete assembly of MG set. IR & PI measurement, connection of cables, trial run, ensuring vibrations and temperature of all bearings and machine within acceptable levels.</p>	Vendor to confirm		
4.5	<p>All Civil Works as per drawing shall be in the scope of BHEL. Minor civil works viz. grouting, chipping, fixing insert plates, anchor fastening, painting etc. shall be in the scope of vendor. Supply & fabrication of Structural steel for erection shall be in the scope of vendor.</p>	Vendor to confirm		
4.6	<p>Vendor shall be responsible for complete erection and commissioning of 10 MVA MG set in totality to the satisfaction of BHEL. During execution of work, vendor shall be bound by all safety regulations as prevailing or newly enforced by BHEL/Govt. Factory Safety Regulations. All tools, tackles, labor, welding machines, gas, consumables, scaffoldings & supporting arrangements equipment as per safety norms shall be in the scope of vendor. Vendor has to maintain adequate number of manpower for proper & timely execution of work.</p>	Vendor to confirm		
4.7	<p>Scope of work shall be in line with above details. Any things else which is required to complete the scope of work & performance of all supplied items will be in the scope of vendor without extra payment.</p>	Vendor to Confirm		
4.8	<p>Time Schedule for Completion of Work in totality shall be submitted</p>	Vendor to Submit		
4.9	<p>Free construction power 415V, 3 Ph, 3 Wire shall be provided at one point, further distribution shall be done by vendor.</p>	Vendor to Confirm		
4.10	<p>Accommodation & Transportation of staff and labors engaged for the above job shall be arranged by vendor at their cost. Hydra or Crane if required shall be arranged by BHEL inside factory.</p>			
4.11	<p>Vendor may visit BHEL Jhansi plant to familiarize with the existing testing set up. No issues arising out of site condition or layout constraints shall be entertained later on and any modification required due to site conditions shall be done by vendor without any cost implication to BHEL. All Statutory requirements in vendor scope.</p>	Vendor to Confirm		

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5.0	<p>DOCUMENTATION : 3 copies of each of the following in English language (both in hard copies and soft copies in pen drive) shall be supplied along with the supply.</p>	Vendor to Confirm	
5.1	Detailed GA Drawing, catalogues of all instrument/accessories along with the offer.	Vendor to Confirm	
5.2	Operation & Maintenance manual & Instruction manual of all instrument/accessories with circuit diagrams and schematics for trouble shooting.	Vendor to Confirm	
5.3	Test Reports, Calibration/Test certificate & Guarantee certificate of all supplied equipment.	Vendor to Confirm	
6.0	INSPECTION: (Pre-Dispatch, Inspection)	Vendor to Confirm	
6.1	Pre-dispatch inspection will be carried out by the representative of BHEL at suppliers works before supply of any equipment/item.	Vendor to Confirm	
7.0	INSTALLATION & COMMISSIONING (At BHEL Jhansi Works)	Vendor to Confirm	
7.1	Vendor to take full responsibility for carrying out Erection of vendor supplied equipment & BHEL supplied (free issue) items, Start-up and Commissioning and successful proving of complete MG set at BHEL Jhansi works. Following shall also be part of E&C activities	Vendor to Confirm	
7.2	Demonstration of all features of the supplied items with all accessories to the satisfaction of BHEL for their efficient and effective use.	Vendor to Confirm	
7.3	Successful proving of supplied items as per relevant IS by the supplier at BHEL works shall be part of commissioning.	Vendor to Confirm	
7.4	Installation & Commissioning of equipments/items shall be as per relevant IS. Operational and checks of performance parameters of all equipments (vendor & BHEL supplied).	Vendor to Confirm	
7.5	Commissioning spares, testing kits required for commissioning of the system shall be brought by the vendor on returnable basis.	Vendor to Confirm	
8.0	TRAINING:	Vendor to Confirm	
8.1	BHEL testing and maintenance person should be trained at BHEL Jhansi Works for (a) Use of all system Features of system & accessories, programming etc. (b) Electrical, Electronic & Maintenance aspects of system & accessories.	Vendor to Confirm	
9.0	AMBIENT CONDITIONS & THERMAL STABILITY :	Vendor to Confirm	
9.1	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 80% Operating Temperature : 3°C to 48 °C (Vendor to confirm that all supplied items is suitable for above and details of provisions on the system for the same are to be furnished by Vendor)	Vendor to Confirm	

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9.2	Thermal Stability of the complete system keeping in view specified Ambient Conditions and accuracy requirements of BHEL components and trouble free operation of the system should be ensured by vendor. (Vendor to confirm that system is suitable for above and details of provisions on the system for the same should be furnished by Vendor)	Vendor to Confirm		
10.0	PACKING:			
10.1	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		
11.0	GUARANTEE :			
11.1	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, overall system performance shall be demonstrated by vendor to the satisfaction of BHEL.	Vendor to Confirm		

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12.0	<p>QUALIFYING CONDITIONS:</p> <p>1) Only those Vendors are eligible to quote who meet the following requirements:</p> <p>a) Vendor must be OEM or authorised dealer (valid authorisation certificate from OEM shall be submitted along with offer) of the offered VFD and must have experience of Supply and E&C of 2 MW or higher rating drive (atleast 2 nos.) during last 10 years from date of enquiry. Performance certificate from customer regarding satisfactory performance of above mentioned two drives, minimum for 1 year from date of commissioning during last 10 years from date of enquiry.</p> <p>OR</p> <p>b) Vendor must have experience of Erection of atleast 1 No. MG Set based test plant equipments of 10 MVA or higher rating during last 10 years from date of enquiry. Such vendors will have to submit following documents:</p> <p>b.1) Work Completion certificate from customer for above mentioned work.</p> <p>b.2) Letter from OEM for technical support of offered VFD.</p> <p>b.3) Performance certificate (atleast 2 nos.) from customer regarding satisfactory performance of the 2 MW or higher rating drive (of offered make), minimum for 1 year from date of commissioning during last 10 years from date of enquiry. Performance certificate for above supplied drive may either be in the name of vendor/OEM/any authorised dealer of OEM, shall be acceptable.</p> <p>Following details from 12.1.1 to 12.1.4 are to be mandatorily furnished.</p>				
12.1				Vendor to submit	
12.1.1	Name of the Customer / Company where similar work is completed (Copy of Purchase Order/Work Order/LOA should be furnished).			Vendor to submit	
12.1.2	Name and designation, phone, email address, postal address of the contact person of the customer.			Vendor to submit	
12.1.3	Year of completion of work.			Vendor to submit	
12.1.4	Reference list of all Customers mentioning the customer name, contact details and year of completion, where the work similar to that mentioned in point 12.1 above has been undertaken.			Vendor to submit	
13.0	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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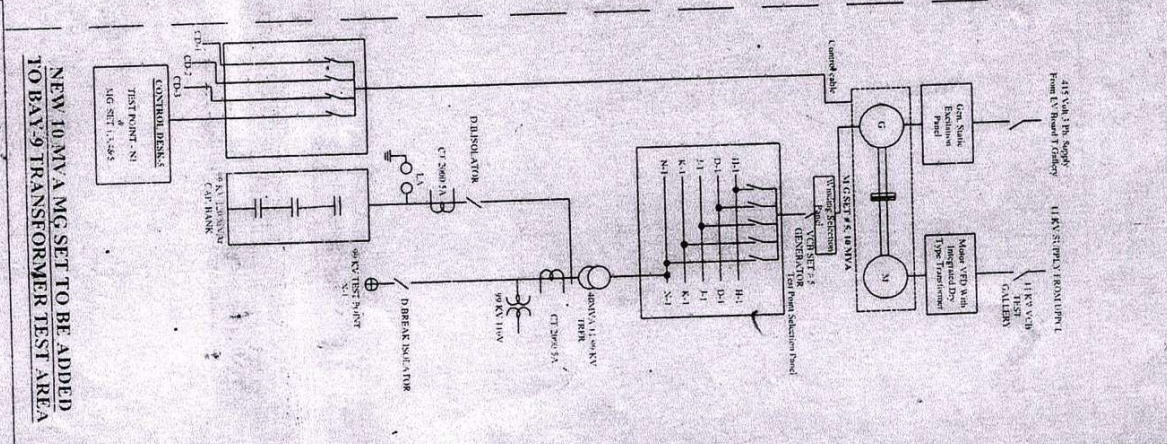
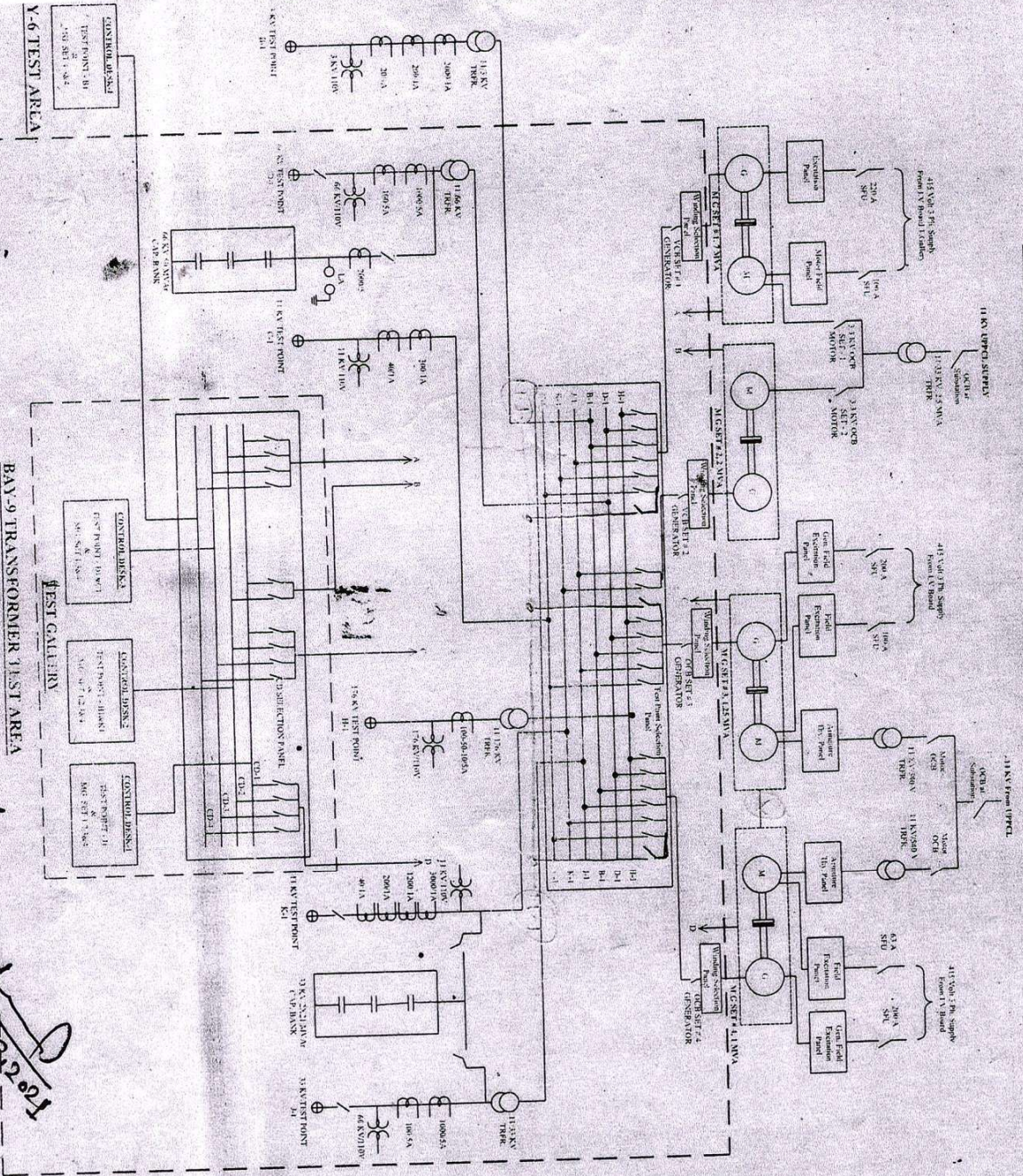
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SINGLE LINE DIAGRAM OF MG SETS & TEST POINTS



NEW 10 MVA MG SET TO BE ADDED TO BAY-9 TRANSFORMER TEST AREA

DRG:- BHEL/JHS/WEX/A4-2273

12/19/27

12/19/27

12/19/27

12/19/27

BAY-9 TRANSFORMER TEST AREA

BEST GALLERY

CONTROL DISK

TEST POINT 10 MVA

MG SET 1

MG SET 2

MG SET 3

MG SET 4

MG SET 5

MG SET 6

MG SET 7

MG SET 8

MG SET 9

MG SET 10

MG SET 11

MG SET 12

MG SET 13

MG SET 14

MG SET 15

MG SET 16

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MG SET 100



BHARAT HEAVY ELECTRICALS LIMITED, JHANSI

ANNEXURE - A

PLC COMMON CONTROL PANEL FOR 10 MVA MG SET (SPEC. NO. ME-7211, REV. 0)

Sr. No.	DESCRIPTION OF BHEL REQUIREMENT	ACTION BY VENDOR	OFFERED	DEVIATION
1.0	<p>PURPOSE</p> <p>BHEL Jhansi's Power transformer Test setup comprises of 4 Nos MG Set namely a) 7.0 MVA, b) 2.0 MVA, c) 1.2 MVA and d) 1.0 MVA. The Power Output of these MG Set can be switched to 5 Nos Test points (4 Nos located in Bay-9 Test Area and 1 Nos located at Bay-6 Spl. Transformer test area). Each test points has a dedicated control desk used for control of MG Set as per requirement of device under test. In addition a new 10 MVA MG Set and its associated equipments are also being procured and shall be added in the Test Plant. The Single Line Diagram of Test Plant and New 10 MVA MG Set is as per drawing no. BHEL/JHS/WEX/A4-2273 which is enclosed</p> <p>Presently all the Operators controls, Indication & Metering of MG Set are transferred to the selected Test Point located Control Desk, through a Relay based interlocking Panel located in the Test Gallery.</p> <p>It is now proposed to replace the Relay Based Interlocking Panel, with a PLC based panel. The PLC shall comprise of Digital/Analog Inputs and Digital/Analog Outputs for handling signals from all field equipments like all MG Set, Control Desk, Breakers, Output Selection Panel, Winding Selection Panels, Current Transformers, Voltage Transformers etc. The wiring from most of the devices are already wired upto the Relay Based Interlocking Panel, which is proposed to be used for building up PLC interlocking scheme. Further additional wiring as per the requirement of new devices that will be introduced also will have to be undertaken and built into PLC System.</p> <p>In addition to the control of MG Set and devices through existing Control Desks whose functionalities shall be restored through PLC. A 22 inch Touch Panel HMI shall be added to each Control Desk. These HMI shall have full functionalities, similar to that of Control Desks and shall be fully capable of independent Control, Visualisation & Metering of all MG Set and their associated equipments.</p>			
2.0	<p>DETAILED SPECIFICATION AND SCOPE OF SUPPLY:</p>			
2.1	<p>PLC BASED CONTROL PANEL</p>			

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	<p>The PLC Control Panel shall comprise of centralized Hot-Redundant Failsafe dual CPU in fully wired panel with pluggable type DIN rail mounted interposing relays in a ready to connect state to the field I/Os. Redundant power supply at each level (such as CPU rack, I/O Racks), Current, AC Voltage and DC Voltage Transducers for interfacing field devices together with all Panel Accessories. In addition PLC shall have redundant ethernet link for communication of CPUs with Control Desk mounted HMIs.</p>	
2.1.1	<p>Programmable Logic Controller</p>	
2.1.1.1	<p>PLC CPU Rack: The fault tolerant PLC shall comprise of the following:- i) Hot-Redundant Failsafe CPUs: 2 Nos ii) Independent Power Supply module for CPU: 2 Nos. iii) CPU racks: 2 Nos. iv) Memory Card suitable to project requirement.; 2 Nos. v) Backup battery for the CPUs; 2 Nos. PLC acceptable makes: Siemens /Schneider/ABB/Allen-Bradley only.</p>	
2.1.1.2	<p>PLC Input, Output Rack: The PLC I/O Rack shall comprise of the following:- i) I/O Rack Power Supply Module: As per requirement ii) 24 VDC Digital Inputs : 300 Nos iii) 24 VDC Digital Outputs. 230 Nos. iv) Analog Input 16 bit resolution: 48 Nos. v) Analog Outputs 16 bit resolution: 24 Nos. x) Input/Output rack suitable for above I/O's. Note: All field Connections to be wired to PLC Inputs/Outputs shall be routed through fused TB's having fuse failure indicator.</p>	
2.1.1.3	<p>Other Accessories of PLC: The PLC shall be supplied with the following accessories: i) Interface for Tele-diagnostic service support through internet for troubleshooting of PLC system. ii) PLC programming software with communication adapters/cables, license key/dongle, CD etc. including all software required to program PLC and HMI stations, third party device</p>	
2.1.2	<p>DIN rail mounted PLC-INTERFACE Relay: All the PLC outputs shall be wired to the field, through PLC-INTERFACE Relay for protection against interference currents or interference voltages on the control side. Consisting of basic terminal block with Push-in connection and plug-in miniature relay with power contact of 6A and 10 A, 230 V AC changeover contact as per requirement. Typical specs shall be as follows: a) Coil Voltage: 24VDC b) Contact Single Changeover Contact (Main contact silver tin oxide (AgSnO2), lead contact tungsten) Acceptable makes: Phoenix Contact/Siemens/ABB/Schneider/Allen-Bradley.</p>	

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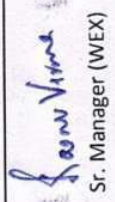
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<p>2.1.3</p> <p>AC Voltage Transducers for interfacing Potential Transformer to PLC: 20 Nos.</p> <p>Typical specs of transducers shall be as follows:</p> <ul style="list-style-type: none"> a) Input - 0-130 VAC, b) Output- 4-20mA/0-10VDC suitable for PLC. c) Accuracy: 0.5% d) Dielectric Strength: 2.5kV e) Auxiliary Supply: 24 VDC f) Noise immunity: EN 61000-6-2 When being exposed to interference, there may be minimal deviations. <p>Acceptable makes: Rishabh /AESiemens/ABB/Schneider/Allenbradley/LEM/masibus</p>			
<p>2.1.4</p> <p>DC Voltage Transducers for interfacing DC tacho for measurement of Frequency: 7 Nos</p> <p>Typical specs of DC transducers shall be as follows:</p> <ul style="list-style-type: none"> a) Input -250 VDC, b) Output- 4-20mA/0-10VDC suitable for PLC analog input. c) Accuracy: 0.5% d) Dielectric Strength: 2.5kV e) Auxiliary Supply: 24 VDC f) Noise immunity: EN 61000-6-2 When being exposed to interference, there may be minimal deviations. <p>Acceptable makes: Rishabh /AESiemens/ABB/Schneider/Allen Bradley/LEM/masibus</p>			
<p>2.1.5</p> <p>Current Transducers for interfacing Field CT's to PLC: 20 Nos.</p> <p>Typical specs of DC transducers shall be as follows:</p> <ul style="list-style-type: none"> a) Input - 0-1/0-5A AC b) Output- 4-20mA/0-10VDC suitable for PLC analog input. c) Accuracy: 0.5% d) Dielectric Strength: 2.5kV e) Auxiliary Supply: 24 VDC f) Noise immunity: EN 61000-6-2 When being exposed to interference, there may be minimal deviations. <p>Acceptable makes: Rishabh /AE/Siemens/ABB/Schneider/Allenbradley/LEM/masibus</p>			
<p>2.1.6</p> <p>1 KVA Online UPS system for PLC panel: 1 No.</p> <ul style="list-style-type: none"> a) UPS Type: True Sinewave Online UPS. b) Backup: 60 Min c) Battery: Sealed SMF battery bank. (inclusive) d) Technology: IGBT based control. e) Input: 230VAC, 1-ph, +/-10% f) Output: 230VAC+/-1% Sinewave. f) Battery Rack: suitable for housing all SMF batteries. h) Other accessories: I/O cables, battery isolators and AC power distribution board. i) Acceptable makes <p>- UPS make - Microtek/Luminous/Emerson/APC/Aplab.</p> <p>- Battery make - Exide, Yuasa Panasonic. only.</p>			

By:  Manager (QC-Testing)

 Manager (WEX)

 Sr. Manager (WEX)

 Sr. Manager (QC-Testing)

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<p>2.1.7 Panel Enclosure: 1 no.</p> <p>a) A fully wired electrical control panel of suitable size housing complete PLC system, I/O modules, power supplies, relays contactors, fuse, TB etc. along with other accessories as per requirement.</p> <p>b) The TBs, relays, modules installed in the panel should be properly tagged, wires should have printed ferrules, all control cable should be properly dressed and routed through cable trays.</p> <p>c) Aux 240VAC single phase socket point inside PLC panel should be provided.</p> <p>d) Panel Illumination LED lamp 20W through door close switch for each section.</p> <p>e) Input Supply 415 VAC. Suitable 415V/230V Isolation Transformer shall be provided.</p> <p>f) Panel AC: Rittal make Panel AC of suitable capacity.</p> <p>g) All the wirings from the field devices are presently terminated onto 3 Nos Old Selection Panel. These wirings are subsequently transferred to Relay Based Selection Panel which was retrofitted subsequently. It is planned to remove all the 3 Nos. Old Selection Panel and Relay based Selection panel and terminate the wiring directly to PLC Panel. Since the field terminations would be more than 1200 Nos (Two per I/O), a separate section of suitable size in the Panel Enclosure must be considered for accommodating TB's and associated cables routing.</p> <p>Enclosure Acceptable Make: Rittal/BCH/ABB/Schneider</p>			
<p>2.2 HMI TOUCH PANELS AND ASSOCIATED ITEMS FOR CONTROL DESKS:</p> <p>Fully configurable 22" color HMI Touch Panels are to be retrofitted on each of 5 Nos. Control Desk of Test Points. These shall be mounted on top of each Control Desk. Being retrofitted on existing Control Desk, they shall be supplied housed in a Sheet Metal/Moulded PVC enclosure such that it ergonomically gells with surrounding. In addition one 27" All-in-One Desktop PC will be required for overall monitoring of Test Plant and PLC programming. These HMI Panels and 27" All-in-One Desktop PC shall communicate with PLC over Ethernet connected through Fibre Optic Cables.</p> <p>Detailed Specifications and Scope of Supply for HMI and its communication network are as under:</p>			

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<p>2.2.1</p>	<p>Fully configurable 22" color HMI Touch Panels: 5 Nos These HMI shall be suitable for configuring MIMIC Screens for Independent Control, Visualization & Metering of all MG Set and their associated equipments. MIMICS of Functions like Push Button, Selector Switches, Potentiometers, On/OFF indication, Analog/Digital Metering, Breakers, Winding Selection Panel, Motors, Generators, Breakers etc of each MG Set are to be configured on these HMI panels. The typical specification for HMI shall be as under: a) Display: Widescreen TFT, 16 million colors, LED backlighting. b) Size: 22". c) Resolution (W x H in pixels): Minimum 1,280 x 800 d) MTBF ⁸⁾ backlighting (in h): Minimum 80,000 Hrs e) Process Functionality: Process Pictures, Tags, Vector Graphics, Bar charts, Trend diagram, Faceplates. f) Connectivity: With standard PLC. g) Programming/Configuration: With any SCADA or dedicated software. h) Input Power Supply 230VAC/24VDC. If 24VDC model is offered, suitable Regulated Power supply shall be supplied loose with each HMI for wiring at each control desk. i) Acceptable makes: Siemens /Schneider/ABB/Allen-Bradley only. Further PLC and HMI should be of same make</p>	
<p>2.2.2</p>	<p>27" All-in-One Desktop PC: This PC shall be used for overall display of selection, control and status of all the Test Plant equipments's. Necessary MIMIC screens will have to be configured for the purpose. This PC shall be equipped with licenced fully functional SCADA package for display, configuration and diagnosis of the PLC System. This PC shall also communicate with PLC over the optical fibre Ethernet. Typical Specification of All in One 27" FHD Desktop PC shall be (11th Gen i5-1135G7/ 8GB RAM/256GB SSD/Integrated Graphics/Windows 10/ MS Office). Acceptable make: Dell/HP/Lenovo</p>	

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2.2.3	<p>Redundant Fibre Optic Gigabit Ethernet Switch: (Qty. as per requirement of ring network). All the 5 Nos Touch Panel HMI and 27" All-in-One Desktop PC shall be connected to the PLC through a failsafe Optical Fibre network configured over a Redundant Ring Gigabit Ethernet Switch, for maximum redundancy and reliability. The system shall be such that if a fiber cable or device failure occurs, the data path automatically switches over within short span of time to the secondary path to maintain Ring Network integrity, broad specification shall be as under:</p> <ul style="list-style-type: none"> a) Fault Recovery within 38ms. b) IEC 61850 & IEEE 1613 Compliant c) Network Management (Web, Telnet, SNMP) d) IEEE 802.3, 802.3u, 802.3x Compliant e) 6 Ethernet 10/100-Base Auto-Sensing UTP Ports f) 2 Fiber Optic 1000Base-SX/LX Ports g) Input Power Supply: 24 VDC. h) Communication jacks/connectors and accessories as per requirement i) Ethernet cable for connecting to HMI, SCADA PC j) Laying through PVC conduit including mounting accessories. k) 24 V DC Regulated Power Supply as per requirements. 			
2.2.4	<p>Optical Fibre Cable: 2000m The Optical Fibre cable for establishing Redundant Ring Ethernet Network. The OFC cable shall be Single Mode Fibre cable, PVC insulated with overall armour, suitable for heavy duty application. Alongwith cable the necessary connectors, cable terminators as per requirement is to be supplied. Acceptable Makes: Finolex/Birla/HFCL/Vindhya Telelinks Ltd</p>			
2.2.5	<p>GI Conduit: 2000m For providing EMI/RFI protection to the Optical Fibre cable which may run through Cable Trenches, Overhead Steel Structural Columns of Block, suitable heavy duty Class-C GI Conduit with all accessories like Couplers/Right angle Joints / T-Joints/ Clamps etc shall be supplied.</p>			
2.3	<p>The following items are to be supplied loose for fitting on the existing control desks</p>			
2.3.1	<p>Control and Signalling Devices 30 MM Dia a) Push Buttons: 75 Nos (25 each of Green, Red & Black Colour). b) LED Indicating Lamp: 120 Nos (30 each of Green, Red, Amber & White) b) TNC Switches: 10 Nos. c) Emergency Switches: 10 Nos. d) Local/Remote Switches: 10 Nos. e) Acceptable makes: Siemens/ABB/Allen Bradley/Schneider/</p>			

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2.3.2	<p>Control and Signalling Devices 22 MM Dia: a) Push Buttons: 24 Nos (8 each of Green, Red & Black colour). b) LED Indicating Lamps: 32 Nos (8 each of Green, Red, Amber & White colour) b) TNC Switches: 4 Nos. c) Emergency switches: 2Nos. d) Local/Remote Switches: 10 Nos. e) Acceptable makes: Siemens/ABB/Allen Bradley/Schneider/</p>		
2.3.3	<p>6- Core, 1.5 Sq.mm Control cable:1000m 6 core,0.5 Sq mm control cable for wiring of external field input/outputs. Acceptable makes: Lapp/Heli.</p>		
2.3.4	<p>Wiring Accessories: All the accessories like Cable glands, Cable markers, Ferules, Lugs, Legends for Control & Signalling devices of 2.3.1 & 2.3.2 etc as per requirement shall be in scope of vendor.</p>		
3.0	<p>SCOPE OF WORK:</p>		
3.1	<p>After award of work, the vendor will have to prepare a Power and Control Schematic and Wiring Diagram of the Test Plant. This shall include all existing equipments and those being added due to addition of 10 MVA MG Set and its associated equipments. All the available existing drawings shall be provided to the vendor and the new PLC based control scheme will have to be made. Since the field wiring shall be retained, the actual nomenclature of Cables, TB's and Wire Ferules must be incorporated in the new Schematic Diagrams.</p>		
3.2	<p>The erection work shall involve removal of 3 Nos Old Control Desk Selection Panel and 1 Nos. Relay Based Selection Panel. Erection of supplied PLC Panel in its place. Termination of all Control Wiring removed for old panel to PLC Panel.</p>		
3.3	<p>Retrofitting of 5 Nos 22" HMI Touch Panel on respective Control Desk and its associated Power Supply. Replacement of all Push buttons, Indications lamps, Selector Switches etc of existing Control desk with those supplied as mentioned at Point 2.3.1 & 2.3.2 above.</p>		
3.4	<p>Laying of Fibre Optic cable housed in GI Conduits in existing Cable Trays, through Shop Columns as per requirement. Mounting of Ethernet Switches and its associated Power Supply at their respective locations.</p>		
3.5	<p>PLC Programming as per requirement for safe selection, control and visualisation of 5 MG Sets and its associated equipments from various control desks.</p>		
3.6	<p>Design and development of HMI Screens for selection, control and visualisation of 5 Nos MG Sets and its associated equipments. The MIMIC Screens shall be ergonomically designed having large Displays Meters. All other devices namely Push Button, Selector Switches, Potentiometers, On/OFF indication, Analog/Digital Metering, Breakers, Winding Selection Panel, Motors, Generators, Breakers etc shall be incorporated as per requirement.</p>		
3.7	<p>Faults/Error Messages will have to be configured for easy fault identification and diagnosis.</p>		
3.8	<p>Commissioning and proveout of complete system. All interlocks to be checked and validated for their effective functioning by physical operation.</p>		

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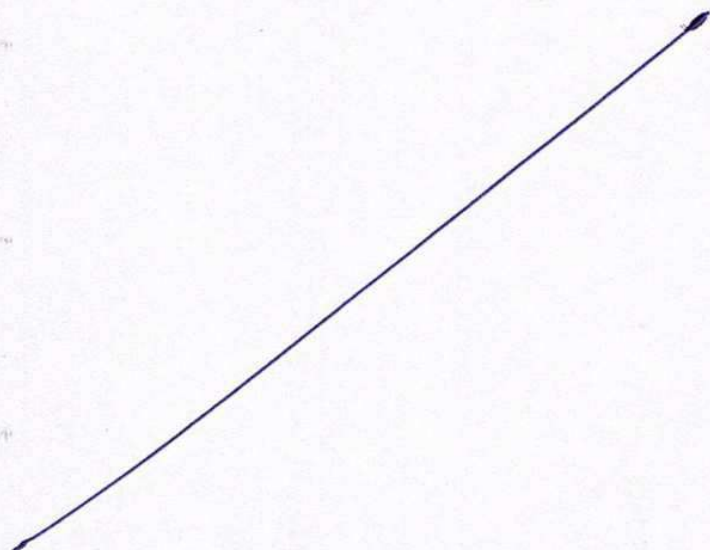
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 DGM (WEX) 19/10/21

4.0	GUARANTEE/WARRANTEE: The complete supplied system shall be covered under warranty for a period of 24 months from date of commissioning at BHEL.			
5.0	DOCUMENTATION: 5.0 Complete Electrical Schematic Drawings, PLC Program, HMI program with comments in english in Hard as well as soft copy. Soft copies of PLC & HMI backup file with comments in English. PDF copy of PLC Ladder and screens of HMI all in one USB Pen drive.			



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16/08/21

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16/08/21

Manager (WEX)
16/08/21

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16/08/21

DWI/EM/AME/002 & 003

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AME/2001B

ANNEXURE - B


A.C. Motors Engineering Division

No.	Description	Item - 1	Item - 2
1.	Application	PUMP	
2.	Machine Description	SCIM/ Safe area	
3.	Rating (KW) / F.L. RPM	2000/1190 (Appx.)	
4.	(a) Rated Voltage (b) Rated Frequency (c) Combined variation	6600 60 V/F ratio to be kept constant	
5.	Frame Type/ DOR (uni/bi)	1RA7638-6 /UNI	
6.	Enclosure/ Method of cooling	IP23/ IC01/SPDP	
7.	Insulation Class / Type	'F' / RESIN POOR(VPI)	
8.	Ambient / Temp. Rise °C (By Res.)	48/72	
9.	Full Load (Amps.)	219	
10.	Efficiency(%) At 4/4,3/4,1/2 Load	96/95.5/94.5	
11.	Power Factor(%) At 4/4,3/4,1/2 Load	0.83/0.80/0.72	
12.	Locked rotor current(%FLC)	Depends on VFD setting	
13.	Starting / Pull Out Torque (% FLT)	Depends on VFD setting / 210	
14.	Rotor OCV(Volts)	NA	
15.	Ring current(Amps)	NA	
16.	Rotor connection/Resistance(Ohms)	Cage	
17.	Starting Time (Sec) 100 %/at 80%	Depends on VFD setting	
18.	LRW Time at 100 % V(sec.) Hot/Cold	15/20	
19.	Motor GD ² (kGM ²) / WEIGHT(KG)	During detail engineering	
20.	Bearing type /NOs.	ANTIFRICTION/03	
21.	Lubrication type	GREASE	
22.	Improved PF & Cap. KVAR Required	NA	
23.	Mounting / External Thrust	Horizontal/ NA	
24.	Method Of Starting	VFD	

Name	Sign	Date
BNJ		01.03.2021
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ANNEXURE - B

DWT/EM/AME/002 & 003	 AME/2006B	A.C. Motors Engineering Division	
	Accessories / Instruments		
	Enq. /	Customer:	
	No.	Description	Qty.
	1.	Winding RTD - PT 100 / 3 w/ Simplex	12 Nos.
	2.	Bearing RTD - PT 100 / 3 W/ Duplex	2 Nos.
	3.	Air Circuit RTD - PT 100 / Cu 53, SIMPLEX / DUPLEX, 2 / 3 / 4 Wire (a) For hot air (b) For cold air	NA
	4.	DTT'S with contacts (a) For bearings (b) For hot air (c) For cold air	2 Nos. NA NA
	5.	Space heaters (240 V, 1Ph AC)	1 Set.
	6.	Current Transformers (As per customer's specifications)	NA
	7.	Stator Terminals - Fabricated box	1 No.
	8.	Neutral Terminals - Fabricated box	1 No.
	9.	Speed Switch	NA
	10.	Auxiliary Terminal Box for RTDs & BTDs	1 No.
	11.	Terminal Box for space heaters	1 No.
	12.	Grounding pads / terminals (a) On M/C frame (b) In main Terminal Box	2 Nos. 1 No.
	13.	Vibration pads on End shield / Bearing Housing	YES
	14.	Insulation of bearings	YES
	15.	Forced oil lubrication system	NA
	16.	Oil level indicators (For oil lubricated bearings)	NA
	17.	Water flow indicator (For water cooled machines)	NA
	18.	Water leakage detector (For water cooled machine)	NA
	19.	Foundation bolts & holding down bolts	YES


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ANNEXURE - B

WI/EM/AME/002 & 003	 AME/2006B	A.C. Motors Engineering Division			
					Page 3 of 3
	No.	Clause No.	Comments	Status	
	01				
	02				
	03				
	04		All data furnished are subjected to IS/IEC:60034-1 tolerance.		
	05				
	06				
	07				
	08		Please arrange the detail technical specification and load detail .		
			Name	Sign	Date
			BNJ		01.03.2021
			YS		


Jawant


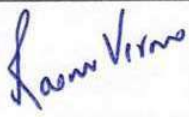
Ram Viro

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ANNEXURE - C

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	Synchronous Machine Technical Data (Rev 01)											
Enq. / Ref:		Customer: BHEL Jhansi – Test Plant Generator										
No.	Description	Item - 1										
1.	Application	Prime mover										
2.	Machine Description	Lam. Cylindrical Rotor Generator										
3.	Rating (kVA) / Power Factor	10000 / 0.15										
	(a) Rated Voltage Range	11 / 6.6 / 3.3 KV										
	(b) Rated Frequency Range	50 & 60 Hz										
	(c) Combined Variation	-										
	(d) Poles	6										
4.	Rated Max. Speed (RPM)	1200										
5.	Frame Type	G 871094										
6.	Type Of Protection / Enclosure											
	(a) Machine	IP – 23 (SPDP)										
	(b) Slip Rings – Static Excitation	IP – 23 (SPDP)										
7.	Insulation Class / Type	Cl ` F' / Global VPI										
8.	Ambient / Temp. Rise °C (By Res.)											
	(a) Stator	48 / 72 °C										
	(b) Rotor	48 / 82 °C										
9.	Full Load Current (Amps.) – 11 / 6.6 / 3.3 kV	525 / 875 / 1750										
10.	Efficiency(%) At 4/4,3/4,1/2 Load & 11 kv & 50 Hz	85.6 / 85.2 / 82.0										
11.	Excitation -Type/Volts/Amps (@ 11KV,50 Hz)	Static / 200 / 380										
12.	Starting Current (% FLC)	N.A.										
13.	Starting / Pull Out Torque (% FLT)	N.A.										
14.	Bearing Housing Vibration(IEC:34-14/IS:12075)	2.3 mm/sec(rms)										
15.	Noise (IEC:34-9/ IS:12065)	90 db										
16.	M/C GD Sq.(KG-M2)	7800										
17.	Shaft Extension	SINGLE KEYED										
18.	Short Circuit Ratio	0.5										
19.	Reactances (P.U.)/Xdu/Xqu/X'd/X''d	2.2 / 2.05 / 0.22 / 0.16										
20.	Commutating Reactance (P.U.)	N.A.										
21.	Stator Connection (11 / 6.6 / 3.3 KV)	Refer Connection Diagram										
Rev.	Note: Data furnished is subject to IEC:60034-1 tolerances and pertains to rated conditions unless stated otherwise.		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Name</th> <th style="width: 20%;">Sign</th> <th style="width: 60%;">Date</th> </tr> </thead> <tbody> <tr> <td>CPM</td> <td></td> <td>18-Feb121</td> </tr> <tr> <td>AKS</td> <td></td> <td>18-Feb20</td> </tr> </tbody> </table>	Name	Sign	Date	CPM		18-Feb121	AKS		18-Feb20
Name	Sign	Date										
CPM		18-Feb121										
AKS		18-Feb20										



ANNEXURE - C

DWT/EM/AME/002 & 003	 AME/2002	A.C. Machines Engineering Division		Page 2/3
	Accessories / Instruments Enq. / W.O. Ref: _____ Customer: BHEL Jhansi – Test Plant Generator			
Confidential & Copyright The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company	No.	Description	Qty.	
	1.	Winding RTD - PT 100, SIMPLEX,3 Wire	12 Nos.	
	2.	Bearing RTD - PT 100, DUPLEX, 3 Wire	2 Nos.	
	3.	Air Circuit RTD - PT 100, SIMPLEX, 3 Wire (a) For hot air (b) For cold air	-- --	
	4.	DTT'S with contacts (5A at 240 V AC) (a) For bearings (b) For hot air (c) For cold air	2 1 1	
	5.	Space heaters (240 V, 1Ph AC, Each 950 Watts)	1 Set	
	6.	Current Transformers (As per customer's specifications)	NA	
	7.	Stator Terminals - Rod Type Terminals at Bottom (Changeover / Connection Cubicle Not in Generator's scope of supply)	Yes	
	8.	Neutral Terminals -	NA	
	9.	Rotor Terminal Box	NA	
	10.	Auxiliary Terminal Box for RTDs & BTDs	1 No.	
	11.	Terminal Box for space heaters	1 No.	
	12.	Grounding pads / terminals (a) On M/C frame	2 Nos. NA	
	13.	Vibration pads on Bearing Housing	Yes	
	14.	Insulation of bearings (at NDE)	YES	
	15.	Forced oil lubrication system (Not in generator's scope of supply)	Required	
	16.	Oil level indicators (For oil lubricated bearings)	Yes	
	17.	Static Excitation enclosure – SPDP IP23	NA	
	18.	Cooling : SPDP ICO1 Cooling	NA	
	19.	Foundation bolts & holding down bolts	1 Set	
	20.	Bearings - Sleeve (Forced Oil Lubricated, Oil Parameters shall be communicated shortly) -	2 Nos.	
21.	Sole Plate / Base Plate	1 Set		
The product offered satisfies statutory & safety requirements as applicable				


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ANNEXURE - C

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	Schedule of Deviations / Comments On Customer's Specifications / Work Order Enq. / W.O. Ref: _____ Customer: BHEL Jhansi – Test Plant Generator					
		No.	Clause No.	Comments	Status	
			General	<ul style="list-style-type: none"> - Torsion analysis for combined shaft system to be done by Prime mover supplier. - Generator is suitable for flexible coupling with limited end float limited to ± 1mm. - Coupling not in our scope. - Protection system is not part of generator scope - Static Excitation System & Terminals Change Over Panels not in generator's scope of supply. 		
Rev.				Name	Sign	Date
				CPM		13-Jul-20
				AKS		13-Jul-20

Sawary

Sanu Verma

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ANNEXURE B

PROFORMA OF BANK GUARANTEE (in lieu of SECURITY DEPOSIT)

In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at _____¹ through its Unit at.....(name of the Unit) having agreed to exempt (Name of the Vendor / Contractor / Vendors) with its registered office at _____² (hereinafter called the said "Contractor" which term includes vendors), from demand under the terms and conditions of the Contract reference No. _____ dated _____³ valued at Rs.....⁴ (Rupees _____)⁴ (hereinafter called the said Contract), of Security Deposit for the due fulfilment by the said Contractor of the terms and conditions contained in the said Contract, on production of a Bank Guarantee for Rs. _____⁵ (Rupees _____ only),

we _____ (indicate the name and address of the Bank) having its Head Office at _____ (address of the head Office) (hereinafter referred to as the Bank), , at the request of _____ [Contractor(s)], being the Guarantor under this Guarantee, do hereby irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer, , an amount not exceeding Rs. _____ without any demur, immediately on demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand

Any such demand made on the bank, shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any Court or Tribunal or Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this guarantee shall be a valid discharge of our liability for payment hereunder and the Contractor(s) shall have no claim against us for making such payment.

We, further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied & the Employer certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said contractor(s) or acceptance of the final bill or discharge of this guarantee by the Employer, whichever is earlier. This guarantee shall initially remain in force upto and including _____⁶ and shall be extended from time to time for such period as may be desired by the Employer. Unless a demand or claim under this guarantee

is made on us in writing on or before the _____⁷, we shall be discharged from all the liability under this guarantee thereafter.

We, _____ (indicate the name of the Bank) further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by any reason of any such variation or extension being granted to the said contractor(s) or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Contractor but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

We,..... BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁵
- b) This Guarantee shall be valid up to⁶
- c) Unless the Bank is served a written claim or demand on or before _____⁷ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

Date _____ Day of _____

for _____ (indicate the name of the Bank)

(Signature of Authorised signatory)

¹ ADDRESS OF THE EMPLOYER. I.e Bharat Heavy Electricals Limited

² ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER .

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ CONTRACT VALUE

⁵ BG AMOUNT IN FIGURES AND WORDS

⁶ VALIDITY DATE

⁷ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 3-6 months after validity date. It may be ensured that the same is in line with the agreement/ contract entered with the Vendor.
2. The BG should be on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Contractor/Supplier /Bank issuing the guarantee.
3. In line with the GCC, SCC or contractual terms, Unit may carry out minor modifications in the Standard BG Formats. If required, such modifications may be carried out after taking up appropriately with the Unit/Region's Law Deptt.
4. **In Case of Bank Guarantees submitted by Foreign Vendors-**
 - a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
 - b. **From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**
 - b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank's (BHEL's Consortium Bank) branch in India. It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - b.2 **In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank** (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.
 - b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). The BG Format provided to them should clearly specify the same.

ANNEXURE D

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To
NAME
& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at _____¹ through its Unit at.....(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) with its registered office at _____² hereinafter referred to as the 'Vendor / Contractor / Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer any sum or sums upto a maximum amount of Rs -- -----⁶ (Rupees -----) without any demur, immediately on first demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor / Contractor / Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority; our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor / Contractor / Supplier shall have no claim against us for making such payment.

We thebank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract/satisfactory completion of the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till

~ ~ ~ ~ ~

all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

WeBANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Vendor / Contractor / Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Vendor / Contractor / Supplier and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Vendor / Contractor / Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Vendor / Contractor / Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Vendor / Contractor / Supplier and notwithstanding any security or other guarantee that the Employer may have in relation to the Vendor / Contractor / Supplier 's liabilities.

This Guarantee shall remain in force upto and including.....⁷ and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Vendor / Contractor / Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the⁸we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁶
- b) This Guarantee shall be valid up to⁷
- c) Unless the Bank is served a written claim or demand on or before⁸ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

Dated.....

21/11/20

¹ NAME AND ADDRESS OF EMPLOYER I.e Bharat Heavy Electricals Limited

² NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ CONTRACT VALUE

⁵ PROJECT/SUPPLY DETAILS

⁶ BG AMOUNT IN FIGURES AND WORDS

⁷ VALIDITY DATE

⁸ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 3-6 months after validity date. It may be ensured that the same is in line with the agreement/ contract entered with the Vendor.
2. The BG should be on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Contractor/Supplier /Bank issuing the guarantee.
3. In line with the GCC, SCC or contractual terms, Unit may carry out minor modifications in the Standard BG Formats. If required, such modifications may be carried out after taking up appropriately with the Unit/Region's Law Deptt.

4. In Case of Bank Guarantees submitted by Foreign Vendors-

- a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
- b. **From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**
 - b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank's (BHEL's Consortium Bank) branch in India. It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - b.2 **In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank** (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.
 - b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). The BG Format provided to them should clearly specify the same.

List of Consortium Banks (As on 22.02.2017)			
	Nationalised Banks		Nationalised Banks
1	Allahabad bank	19	Vijaya Bank
2	Andhra bank		Public Sector Banks
3	Bank of Baroda	20	IDBI
4	Canara Bank		Foreign banks
5	Corporation bank	21	CITI Bank N.A
6	Central bank	22	Deutsche Bank AG
7	Indian Bank	23	The Hongkong and Shanghai Banking Corporation Limited
8	Indian Oversea Bank	24	Standard Chartered Bank
9	Oriental bank of Commerce	25	J P Morgan
10	Punjab National Bank		
11	Punjab & Sindh Bank		Private banks
12	State Bank of India	26	Axis Bank
13	State Bank of Hyderabad	27	The Federal Bank Limited
14	Syndicate Bank	28	HDFC
15	State Bank of Travancore	29	Kotak Mahindra Bank
16	UCO Bank	30	ICICI
17	Union Bank of India	31	Indusind Bank
18	United Bank of India	32	Yes Bank

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at “BHEL House”, Siri Fort, New Delhi – 110049 (India) hereinafter referred to as “The Principal”, which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as “The Bidder/ Contractor” which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART.

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

- 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution:-
 - 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
 - 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
 - 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - 2.1.4 The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3–Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors" framed by the Principal.

Section 4 – Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from all subcontractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those sub-contractors whose contract value is more than 20 % of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/ Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7–Criminal Charges against violating Bidders/Contractors/Sub-contractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 –Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.

- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.10 The word 'Monitor' would include both singular and plural.

Section 9 – Pact Duration

- 9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.
- 9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On behalf of the Principal
(Office Seal)

For & On behalf of the Bidder/ Contractor
(Office Seal)

Place-----

Date-----

Witness: _____

Witness: _____

(Name & Address) _____

(Name & Address) _____

GENERAL TERMS & CONDITIONS OF CONTRACT

1. DEFINITION OF TERMS

Throughout the Tender Documents including the Enquiry Letter, the following words shall have the meanings assigned to them herein, unless the subject matter or the context requires otherwise.

- 1.1. The '**Purchaser**' or '**BHEL**' shall mean Bharat Heavy Electricals Limited (A Govt. of India Undertaking) incorporated under the Companies Act 1956 acting through its Jhansi Unit , BHEL House, Siri Fort, New Delhi-110 049, which expression shall include its successors and assigns. Tenders are to be submitted to M/s BHEL Jhansi.
- 1.2. The '**Tenderer**' shall mean the Firm/Company/Organisation, which quotes against the Tender Enquiry issued by the Purchaser. It may also be referred as '**Bidder**'.
- 1.3. The '**Supplier**' shall mean the firm/company/organisation with whom the Order/Contract is made and shall be deemed to include his successors, representatives, heirs, executors, administrators and permitted assigns, as the case may be. It may also be referred as '**Contractor**' or '**Vendor**'.
- 1.4. The '**Sub-contractor**' shall mean the person/firm/company/ organisation to whom any part of the work has been sub-contracted by the Supplier, with the written consent of the Purchaser and shall include his heirs, executors, administrators, representatives and assigns.
- 1.5. The '**Engineer**', for the purpose of this Contract shall mean an engineer, person or company duly appointed as such from time to time or such other officials as may be duly authorised and appointed and notified in writing by purchaser to act as engineer. In cases where no such Engineer has been so appointed, the word 'Engineer' shall mean the Purchaser or his duly authorised representative.
- 1.6. The '**Equipment**' shall mean and include plant and stores and materials to be provided by the Supplier under the Contract.
- 1.7. The '**Specification**' shall mean the specifications contained in the Tender Documents and any subsequent modifications thereof and the drawings, schedules etc. attached thereto, if any.
- 1.8. The '**Offer**' shall mean and include the technical and commercial documents including specifications, schedule of prices and quantities, drawings etc submitted by the Tenderer in response to the tender enquiry and any subsequent clarifications thereof. It may also be referred as '**Bid**'.
- 1.9. '**Acceptance of offer**' shall mean issue of letter of intent/award or memorandum or detailed Order/Contract communicating the acceptance of offer, to the successful Tenderer.
- 1.10. The '**Contract**' shall mean and include the general conditions, bidding conditions, specific conditions, specifications, schedules, drawings, form of tender, Offer, covering letters, schedule of prices and quantities, letter of intent/award of the Purchaser, Offer of the Tenderer, any special conditions applicable to the particular Order and subsequent amendments mutually agreed upon. It may also be referred as '**Order**' or '**Purchase order**'.
- 1.11. The '**Contract Price**' shall mean the total price to be paid by the Purchaser to the Vendor for the supply & services to be provided by the Vendor to the Purchaser as per Contract. It may also be referred as '**Order Value**'.
- 1.12. The '**Site**' shall mean the site of the proposed work at BHEL Plant at Jhansi.
- 1.13. The '**Inspector**' shall mean the Purchaser for the time being or such other person as may be duly authorised and appointed in writing by Purchaser to act as Inspector for the purpose of Contract.

- 1.14. **'Approved'** shall mean the approval of the Engineer or of the inspector as the case may be in writing.
- 1.15. **'Test on completion'** shall mean such tests as are prescribed by the specifications and/or tests mutually agreed upon by the Purchaser and the Supplier, to be performed by the Supplier after Installation of the equipment to establish satisfactory operation as required by the specifications.
- 1.16. **'Commissioning'** shall mean the first operation of the equipment after all initial adjustments, trials, cleaning and re-assembly required at site, if any, have been completed and equipment is made ready for commercial use.
- 1.17. **'Performance Tests'** shall mean the tests to be conducted on the equipment at site for checking the performance parameters of the equipment as defined in Technical Specification.
- 1.18. **'Commercial use'** shall mean that use of the equipment, which the Contract contemplates or of which it is to be commercially capable.
- 1.19. **'Acceptance of Equipment'** shall have the meaning as specified elsewhere in this document.
- 1.20. **'Consignee'** shall mean the official(s)/person(s) to whom the Equipment is required to be delivered in the manner indicated in the Purchase Order.
- 1.21. **'Contract Engineer'** shall mean the official who has signed the Order/Contract on behalf of the Purchaser.
- 1.22. **'Site Engineer'** shall mean officer of the Purchaser as may be duly appointed and authorised in writing by the purchaser to act as the Site Engineer on his behalf.
- 1.23. **'Months'** shall mean calendar months.
- 1.24. **'Days'** shall mean calendar days.
- 1.25. **'Writing'** shall include any manuscript, typewritten or printed statement under or over signature, seal as the case may be.

The words incorporating singular shall include plural and vice-versa, in the words importing masculine gender shall include feminine and vice-versa and the words importing persons shall include bodies corporate, limited liability companies, partnership and other legal entities.

2. SUBMISSION OF TENDER

2.1. General

- 2.1.1. The tender shall be addressed to Head (MM), BHEL Jhansi and shall be submitted with one original and one duplicate copy.
- 2.1.2. Sealed Tenders may be submitted personally, by Courier or by registered post with due allowance for any transit/postal delay. The tenders received after due date and time of opening are liable to be rejected. Telegraphic offers and offers received by fax/email may not be considered unless confirmed in writing by a detailed offer.
- 2.1.3. The Tenderer shall closely peruse all the clauses, specifications and drawings indicated in the Tender Documents before quoting. Should the Tenderer have any doubt about the meaning of any portion of the Tender Specifications or find discrepancies / omissions in the drawings or the tender documents issued are incomplete or shall require clarification on any of the technical aspect, scope of work etc., he shall at once contact the authority

inviting the tender for clarification before submission of the tender. The specifications and terms and conditions shall be deemed to have been accepted unless otherwise specifically commented upon by the Tenderer in his Offer.

- 2.1.4. Tenderer must fill the schedules and furnish all the required information as per the instructions given in various sections of the tender specification. Each and every page of the offer must be signed, stamped and submitted by the Tenderer. The information furnished shall be complete by itself.
- 2.1.5. The tender shall quote the rates in English Language using international numerals. These rates shall be entered in figures as well as in words. For the purpose of the tender, the metric system of units shall be used.
- 2.1.6. All entries in the tender shall either be typed or be written in blue ink. Erasures and overwriting are not permitted and may render such tenders liable to summary rejection. The Tenderer shall duly attest all cancellations and insertions. Signatures shall be in blue ink.
- 2.1.7. DUNS number (allotted by M/s Dun & Bradstreet) shall be mentioned in the offer in case of foreign suppliers.
- 2.1.8. The Offer shall be signed by a person who has requisite authority from the Tenderer to do so.
- 2.1.9. Standard pre-printed conditions of the Tenderer attached to the offer will not be accepted and only those mentioned in the body of his offer will be considered.
- 2.1.10. No request for extension of due date will be entertained.
- 2.1.11. **For any clarification please contact Sh.B K Manjhi, AGM (MM), Phone no-0510-2412435 ,Sh. Prateek Gupta ,Sr PO (MM) Ph No. 0510-2412373, Sh. Sadhu Sharan Verma Dy Engineer(MM), Phone No.0510-2412373.**

2.2. Two Part Bids

- 2.2.1. Bidders shall submit the offer in three inner envelopes (covers) and one outer envelop (cover) as indicated below.
- 2.2.2. **Envelope I:** This sealed envelope should contain all the copies of technical & commercial bid together with **Un-Priced Bid (price formats without prices as per Annexure-I or II)**. This envelope should be clearly marked "**Part I - Technical and commercial bid**", indicating Tender No., Due Date and Address & Reference of the Bidder. Commercial terms and conditions should be as per format given in **Annexure-III** .
- 2.2.3. **Envelope II:** This sealed envelope should contain only **price formats with prices as per Annexure-I or II** . This envelope should be clearly marked "**Part II - Price bid**", indicating Tender No., Due Date and Address & Reference of the Bidder.
- 2.2.4. **Envelop III:** This sealed envelop should contain Demand Draft/ Pay order in favour of BHEL Jhansi for Earnest Money Deposit (if applicable). This envelope should be clearly marked "**Envelop III- EMD**", indicating Tender No., Due Date and Address & Reference of the Bidder.
- 2.2.5. All the envelopes shall be put in one envelop, duly sealed, super scribed as Part I and Part II of Enquiry No., due date of opening, name & address of the officer inviting Tender and the address and reference of the Bidder.

2.3. Part I – Technical and Commercial Bid

2.3.1. Technical

This part shall include / indicate the following:

- 2.3.1.1. Complete scope of supply with all technical details and other terms and conditions.
- 2.3.1.2. Point by point confirmation for the Technical Specification in the specified format. If there are any deviations, the same should be clearly specified. Offers received without confirmation to our specification will be rejected.
- 2.3.1.3. List of customers to whom same or similar equipment have been supplied along with performance certificates.
- 2.3.1.4. Relevant catalogues.
- 2.3.1.5. List of spare parts (with part numbers) for two years operation and maintenance.
- 2.3.1.6. You should also furnish details of shipping specification, sizes, volume, Gross weight, number of cases or no. of container (40' or 20') required for shipping the material etc. When articles are packed with packaging material of plant origin, phytosanitary certificate will be required (**Applicable for foreign suppliers only**).

2.3.2. Commercial

This part shall include / indicate the following:

- 2.3.2.1. Port of shipment / Station of dispatch
- 2.3.2.2. Terms of payment
- 2.3.2.3. Taxes & duties applicable.
- 2.3.2.4. Delivery Schedule
- 2.3.2.5. Offer validity
- 2.3.2.6. Country of origin
- 2.3.2.7. A copy of "Un-Priced Part II" i.e., a copy of the Price Bid without price particulars. Instead of the price, the Tenderer shall write 'quoted' against the item for which price have been quoted in the Price Bid.
- 2.3.2.8. Demand Draft number / Pay order number, issue date and amount of Earnest Money Deposit is to be mentioned (If applicable)

2.4. Part II (PRICE- BID)

This part should contain the schedule of price particulars co-related to the technical details provided in Part I.

3.0 Earnest Money Deposit:

- 3.1 Bidder has to furnish Earnest Money Deposit (EMD) along with the Techno-commercial Bid of their offer for **as indicated in NIT** in form of Demand Draft or Pay order only in favour of **Bharat Heavy Electricals Limited, Jhansi** payable at BHEL Jhansi.

However, the EMD may be waived in following cases:

a) Central / State - PSUs / Government departments.

b) Micro and Small Enterprises.

For seeking EMD waiver, Bidder has to furnish the latest self certified copy of the relevant certificate as the case may be along with techno-commercial offer.

- For Central and State PSU's self certified copy of certificate of incorporation is required.
- For Micro & Small industries copy of MSMED certificate along with certificate of CA certifying present status of MSMED as of Annexure-V is required.

It may be noted that for bidders other than (a) & (b) above, EMD is an essential requirement and waiver of this will not be given. However in very exceptional cases for justified reasons EMD may be waived. Such request should reach us 10 days before due date. Request received beyond the time specified shall not be entertained.

- 3.2 EMD by the Tenderer will be forfeited as per Tender Documents if, the successful bidder/vendor refuses to honour the Order after award of the same on him and/or withdraws his bid and for unilaterally changes the offer and/or any of its terms & conditions within the validity period.
- 3.3 EMD given by all unsuccessful Tenderers shall be refunded on acceptance of award/LOI/PO by successful Tenderer. The EMD of successful bidder shall be returned after submission of Contract Execution Bank Guarantee (CEBG).
- 3.4 EMD shall not carry any interest.

4. OPENING OF TENDERS

- 4.1. The offer should reach our office on or before 13.15 hrs on the due date. The tender can also be dropped in the Tender Box kept at Administrative Building Gate. The tenders will be opened after 14.00 hrs on the due date in presence of all bidders who will be present.
- 4.2. Authorised officer of BHEL at his office shall open tenders at the time and date as specified in the tender notice in the presence of such of those Tenderers or their authorised representative who may be present. However, The Purchaser reserves the right to open the tenders in-camera.
- 4.3. The Part I - Technical & commercial bid alone would be opened on the Tender opening date.
- 4.4. The Part II - Price bid of only those Bidders who have been found to be techno-commercially suitable would be opened at a later date. These Bidders would be informed about the tender opening date.
- 4.5. Clarifications, if any, required by BHEL for technical and commercial evaluation may be sought from Bidders before opening of Part II - price bid.
- 4.6. In case it becomes necessary for the Tenderer to make any changes in his original price bid (Part-II) on account of technical/commercial confirmations/clarifications, against the changes advised by the purchaser to bring the offer in line with the requirement of the specifications, the impact of such changes on price shall be submitted in the form of a revised price bid, if asked for by the Purchaser.
- 4.7. If a revised price bid has been submitted, normally only the final revised price bid shall be opened. However, BHEL reserves the right to open the earlier price bids, if required.
- 4.8. Unsolicited price bids shall not be entertained.

- 4.9. Any revision or changes in quoted prices and/or conditions of offer made after tender opening, which will give benefit to the Tenderer over others, may result in rejection of the tender.

5. QUALIFICATION OF TENDERERS

- 5.1. Details of Qualification Requirements are given in Technical Specifications if any.
- 5.2. Only Tenderer who has previous experience in the work of this nature and description detailed in this tender specification are expected to quote for this work. Offer from Tenderer who does not have proven and established experience in the field is not likely to be considered.
- 5.3. **Details on Capacity / Supply and E & C performance of Bidder (Applicable for Estimated value more than 2.5 Crore):**

Please furnish the specific details of company performance in the enclosed **Annexure-IV** (A. Capacity details; B. Performance of supplies to BHEL). These data furnished regarding performance of the vendors and meeting commitments shall be considered during bid evaluation / finalization of tenders.

- (a) Capacity details in Part (A) are about the Manufacturing Capacity (Major Machine: category-wise & number-wise), No. of Machines supplied during last 5 years, Outstanding Order Book position, Liquidation Plan of all machines including BHEL machines under consideration for ordering.
- (b) The Performance details of supplies to BHEL are to be given in Part (B) for the POs placed by BHEL. Submission of these informations by vendors is mandatory. BHEL reserves the right to reject-the offer, if past performance of the bidder is evaluated to be unsatisfactory and / or false information is given by the bidder.
- (i) We shall make use of the information on past performance of the bidders during technical evaluation of the offers. If Delivery Index of any bidder is ≥ 0.20 , then his offer shall be liable for rejection. However, offer of bidder with Delivery Index ≥ 0.20 can also be accepted for further evaluation on exception basis with justified recorded reasons & provided the bidder fulfils the requirement of proven experience of supplying similar machines & have adequate available capacity to meet BHEL tender requirement.
- (ii) The actual/likely Supply and E&C period vis-a-vis scheduled Supply and E&C period (delay for reasons attributable to vendor. only to be considered) shall be considered for all the machines against the POs placed by BHEL during last 5 years (limited to 5 latest executed POs) and all POs overdue for Supply and/or E&C.

For purpose of calculation of Delivery Index in case of overdue POs, the delay period for Supply and/or E&C will be reckoned from the date of bid opening of the tender under evaluation. In case of two part bid, part-I (i.e. Techno-Commercial Bid) shall be considered as date of bid opening.

Early Supply and/or E&C vis-a-vis scheduled dates will not be entitled for any consideration for calculation of Delivery Index.

Delay in E&C shall be applicable only in such cases where E&C period has been mentioned in the Purchase Order.

In case a PO includes more than one machine, then all the machines of the PO shall be considered, for calculation of Delivery Index.

- (v) Illustration for calculation of Delivery Index is given as under:

$$\text{Delivery Index} = \sum_{i=1}^n \left\{ \frac{(\Delta X_i + \Delta Y_i)}{(X_i + Y_i)} \right\} / n$$

i = No. of Machines; Where, i= 1 to n (n = no. of m/cs.)

X_i = Scheduled Delivery (no. of days)

ΔX_i = Supply delay (no. of days)

Y_i = Scheduled E&C (no. of .days)

ΔY_i = E&C delay (no. of days)

6. VALIDITY OF OFFER

- 6.1. The offer should be valid for a period of 6 Months from the date of opening of tender i.e part - I. In case the Purchaser calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the original offer, which shall be binding on the Tenderer.

7. REJECTION OF TENDER AND OTHER CONDITIONS

- 7.1. The acceptance of Tender will rest with BHEL which does not bind itself to accept the lowest tender or any tender and reserves to itself full rights to reject any or all the Tenders without assigning any reason whatsoever.
- 7.2. Conditional and unsigned tenders, tenders containing absurd or unworkable rates and amounts, tenders which are incomplete or otherwise considered defective and tenders not in accordance with the tender conditions, specifications, etc., are liable to be rejected.
- 7.3. If the Tenderer deliberately gives wrong information in his tender, Purchaser reserves the right to reject such tender at any stage or to cancel the Contract, if awarded and forfeit the Security Deposit.
- 7.4. Canvassing in any form in connection with the tender is strictly prohibited and the tenders submitted by the Tenderer who resorts to canvassing are liable to be rejected.
- 7.5. The offer received in single bid instead of two bid will be bypassed.

8. EVALUATION OF OFFERS

- 8.1. The bidder required to quote charges for 'Supply' and 'Erection' & Commissioning' separately.
- 8.2. The evaluation of tender shall be on the basis of "total cost to BHEL" including Supply and Erection & Commissioning. For-evaluation, exchange rate (TT selling rate of SBI) as on scheduled date, of tender opening (part-I in case of two part bid) shall be considered.
- 8.3. Erection & Commissioning (E&C) value will include services to be rendered at BHEL like erection, commissioning, job proving, performance tests, training to operators etc.
- 8.4. E&C value should be quoted separately by bidders. Only in case where quoted value is less than the value (in %) specified in the NIT or separate E&C values are not mentioned in the offer, value for E&C portion shall be deemed to be considered as the value indicated in NIT & accordingly supply value will be adjusted from that quoted value and balance will be released as E&C payment as per clause 14 (Payment Terms).
- 8.5. Evaluation of offers shall be on the basis of delivered cost at BHEL Jhansi i.e. total cost to the Purchaser, taking into consideration loadings, if any, and all available financial advantages.
- 8.6. Deviations (Commercial as well as Technical) from the Tender Specifications are generally not acceptable. However, if any deviation is considered by the Purchaser, the same shall be loaded for comparison, while evaluating the offer.
- 8.7. Loading criteria in respect of the deviations shall generally be on the principle of time and value of

money in respect of commercial deviations, and similar quantification – as may be decided by the Purchaser – in respect of technical deviations.

- 8.8. Loading criteria in respect of the deviation(s) shall be communicated to the concerned Bidder(s) before Price Bid opening. If a Bidder unconditionally withdraws any deviation before Price Bid opening, the same shall not be loaded.
- 8.9. Rates of Exchange taken for conversion of foreign currency to Indian Rupees for the comparison of bids shall be the inter bank TT selling rates of State Bank of India as at the close of business on the date of opening of Price Bid.
- 8.10. The Purchaser reserves its right to negotiate with the Bidder and / or go for reverse auction.
- 8.11. The Purchaser reserves its right to allow to the Public Sector Enterprises ordering and price preference facilities as admissible under the existing policy of the Govt. of India.

9. EFFECTIVE DATE OF CONTRACT

- 9.1. The responsibility of successful Tenderer under this Contract commences from the date of issue of the Purchase Order.
- 9.2. The Effective Date of Contract shall be the date of issue of the Purchase Order.

10. PRICES

- 10.1. The prices shall be firm and shall be quoted as per format given in Annexure-I or II.
- 10.2. The price for foreign supplies shall on CIF (as per INCOTERM), JNPT Mumbai port basis.
- 10.3. The price for Indian supplies shall be on FOR, BHEL, Jhansi basis inclusive of Packing, Forwarding, Freight & transit insurance.
- 10.4. The excise duty and sales tax/ VAT for Indian supplies will be paid at the rate applicable on the day of dispatch. However, if the Equipment is delayed and amount of excise duty, sales tax/ VAT on the day of dispatch is higher than the amount applicable on the scheduled delivery date, the differential amount (if any) will be in supplier's account.
- 10.5. The price for installation and commissioning shall be inclusive of all taxes and duties except Service Tax. Installation and commissioning charges should be quoted on Lump sum basis. No such variables should be used due to which offer value can't be determined. Service tax on installation and commissioning, if applicable, will be payable extra.
- 10.6. Any other taxes and duties payable as extra to the quoted price shall be specifically stated in the Offer. The Purchaser will not be liable for payment of taxes and duties not specifically mentioned in the Offer.
- 10.7. No free conveyance or accommodation to erection staff for site job will be provided by BHEL.

10.8. Fixed price

- 10.8.1. Prices quoted by the bidder shall be fixed and not subject to any variation whatsoever during the period of Bid validity and execution of the Purchase Order. A Bid submitted with an adjustable price will be treated as non -responsive and rejected.
- 10.8.2. Prices shall be written in words and figures. The discrepancy in quoted price, if any, shall be corrected as follows:

- If there is a discrepancy between words and figures, the amount given in words shall prevail.
- If there is a discrepancy between the unit price and total price which is obtained by multiplying the unit price and quantity, the unit price shall prevail.
- If there is a discrepancy between the sub-total price and total price which is obtained by adding the various sub-total prices, the sub-total price shall prevail.
- The Order will be issued on the corrected price or the quoted prices for the complete scope of work (whichever is lower).

10.9. Bid currency

10.9.1. Indian bidders should quote the prices only in Indian Rupees.

10.9.2. Foreign bidders may quote the prices in their home currency, US Dollars or Euros (any one) and Indian Rupees.

11. Delivery Time Period for 'SUPPLY' and 'E&C':

11.1. Bidder should quote delivery period separately for 'Supply' and 'E&C' of equipment.

11.2. Indian Bidders should submit their offer on FOR Jhansi basis including packing, forwarding , freight & transit insurance. Date of receipt of material (CISF date of entry at BHEL Jhansi) shall be taken as delivery date for Indian suppliers for LD Purpose.

11.3. Foreign Bidders should submit their offer on CIF Mumbai Port/ Mumbai Airport as per INCOTERM 2012 basis. Date of Bill of Lading /HAWB shall be considered as date of delivery for Foreign suppliers for LD purpose.

11.4. Delivery period shall be counted from the date of Purchase order.

11.5. "The bidders should quote their earliest schedule for Supply and E&C against the schedule indicated in the NIT". BHEL, however, reserves the right to accept an offer not meeting the NIT schedule.

12. COMPLETENESS OF THE EQUIPMENT

12.1. The Equipment shall be complete in every respect with all mountings and testing and fixtures and standard accessories, which are normally supplied. The Supplier shall not be eligible for extra payment in respect of such mountings, fittings, fixtures and accessories which are needed for efficient and safe operation of the Equipment.

12.2. All similar components or parts of similar equipment supplied by the Seller shall be interchangeable with one another.

13. TOOLS, CONSUMABLES AND SPARE PARTS

13.1. The Tenderer shall provide installation, commissioning and maintenance tools and tackles at no additional cost, unless otherwise stated in the Tender Documents.

13.2. The Tenderer shall provide commissioning spares and consumables at no extra cost to the Purchaser.

13.3. Mandatory/ recommended spares for two years operation shall be quoted item wise.

14. PAYMENT TERMS

14.1 Payment through L/C (in case of Foreign Bidders only):

Where the payments are through L/C, payment of Supply value shall be 80% payment through irrevocable & unconfirmed LC with 120 days usance period from HAWB/Bill of lading date and balance 20% and E&C charges on satisfactory completion of E&C and issue of E&C Certificate. E&C certificate shall be issued on satisfactory completion of erection, commissioning, job proving, performance tests, and training to operators etc. as envisaged in PO. The L/C shall be opened by BHEL as per following:

- (i) On receipt of acceptable CEBG but not earlier than 60 days of shipment date, an irrevocable unconfirmed L/C will be opened for 80% of the payment towards supply, due on shipment. L/C opening charges shall be in respective account. LC confirmation charges if any shall be on supplier accounts.

The above L/C can be negotiated after the Shipment against submission of B/L or AWB and such other documents as mentioned in the PO. The above L/C will be valid for a period extending 14 days beyond the shipment date for negotiation of documents.

- (ii) 15 days prior to the scheduled & confirmed arrival of the technicians of supplier with their names, an irrevocable unconfirmed L/C will be opened for a value equal to 20% of the Supply value of PO plus 100% of the E&C value of PO. The validity of L/C would be sufficient to cover the period required for the completion of E&C plus 14 days as negotiation period.

This L/C can be negotiated after: (a) Completion of E&C of the equipment in BHEL and against E&C certificate issued by BHEL and (b) Submission of Performance Bank Guarantee (PBG) by Supplier in the prescribed Format valid for 30 days beyond the Guarantee period, from one of the Nationalised Banks in India or from a reputed Bank and confirmed by Consortium Bank of BHEL for 10% of total PO value. The PBG confirmation charges shall be borne by vendor.

Under all circumstances, CEBG shall be kept valid till the PBG becomes operational.

14.2 Direct Payment (For Indigenous Bidder) :

80% of supply value plus 100 % taxes & duties shall be made within 90 days from the date of receipt of the equipment at BHEL Jhansi works and submission of clear and admissible bill, subject to the acceptance of material at BHEL Jhansi ,on direct presentation of the documents. Balance 20% of supply value plus 100% of the E&C charges will be paid against E&C certificate issued by BHEL after successful commissioning of the equipment at BHEL Jhansi and submission of Performance Bank Guarantee of 10% basic order value valid for 24 months from commissioning with a further claim period of 3 months.

In case Erection & Commissioning is not required by us then 100% payment of Supply value shall be made within 90 days from the date of receipt of the equipment at BHEL Jhansi works and submission of clear and admissible bill, subject to the acceptance of material at BHEL Jhansi ,on direct presentation of the documents and submission of Performance Bank Guarantee (PBG) valid for 3 months (Claim period) beyond the Guarantee period by Supplier from any of the Nationalised Banks or from a reputed Bank and confirmed by Consortium Bank of BHEL for 10% of total PO Value in the prescribed Format.

FOR MSME SUPPLIERS:- The bidders who are registered under micro & small categories (Refer MSMED Act 2006), Payment for 80 % of supply value plus 100 % taxes and duties shall be paid within 45 days (in place of 90 days as above) from the date of receipt of the equipment at BHEL Jhansi works and submission of clear and admissible bill, subject to the acceptance of material at

BHEL Jhansi ,on direct presentation of the documents.Balance 20% of Supply value plus 100% of the E&C portion of PO value will be paid against E&C certificate issued by BHEL and submission of Performance Bank Guarantee (PBG) valid for 3 months (claim period) beyond the Guarantee period by Supplier from any of the Nationalised Banks in India or from a reputed Bank and confirmed by Consortium Bank of BHEL for 10% of total PO Value in the prescribed Format. The PBG confirmation charges shall be borne by vendor.

Vendor has to submit the Udyog aadhar certificate along with their offer.

For Indian Suppliers, no LC payment will be done.

- 14.3 Installation and commissioning charges will be released after deduction of Income Tax as per the Govt. of India rules in force and after deduction of Works Contract Tax as per Govt of UP rules, if applicable. The Tax Deduction at Source (TDS) certificate will be issued by BHEL. Applicable service tax on Installation & Commissioning charges, if any, will be payable extra.

14.4 Bank Guarantee and Loading against non acceptance of BHEL's Payment Terms:

If payments terms as mentioned by BHEL are not agreed by bidder, such bidder have to submit Bank Guarantee at the time of payment / opening of L/C in the prescribed Format of the amount, exceeding 80% of the PO value, valid till issue of E&C Certificate for the equipment. However, in no case, payment against dispatch shall exceed 90% of the PO Value.

Additionally, for any deviation sought including as mentioned *above*, in Payment Terms by bidder w.r.t. tender conditions, following loading shall be followed:

- (a) Base Rate of SBI as applicable on the scheduled date of tender opening + 6%, for the amount & period of relaxation sought by bidder.
- (b) On account of payment through LC (for foreign suppliers), if insisted by bidder, Bank charges shall also be loaded for the deviation in. (i) opening of LC by BHEL and (ii) period and amount of LC w.r.t. NIT norms, as per the prevailing bank rates.

15. TAXES AND DUTIES ON INSTALLATION & COMMISSIONING:

15.1. Service Tax

- 15.1.1. The Service Tax on installation & commissioning services as applicable for this Contract will be paid by Purchaser separately. Therefore, contractor's price/ rates shall be exclusive of service tax on output services.
- 15.1.2. The Indian Contractor shall submit to Purchaser documentary evidence of service tax registration and remittance records of such tax immediately after depositing the tax with the concerned authorities. Contractor shall obtain prior written consent from Purchaser before billing the amount towards such taxes.
- 15.1.3. In case the Purchaser is asked to deduct any such tax and deposit the same with the appropriate authorities, the proof of such payment shall be provided to the Contractor. However, any penalty etc for any default by the Contractor imposed by the authorities shall be the sole responsibility of the Contractor.

15.2. Works Contract Tax

15.2.1. Although it is expected that the works contract tax will not be applicable as per laws in force in UP state, the Contractor shall make himself fully aware of the taxation requirements and take appropriate steps for complying with the regulations such as registering with the sales tax authorities of the state and paying the required tax, if applicable. Deduction of tax at source shall be made by the Purchaser, if required by law.

15.2.2. Contractor has to make his own arrangement at his cost for completing the formalities, if required, with Sales Tax Authorities, for bringing their materials, plants, and equipment at site for the execution of the work under this Contract and their return after execution of the work to the satisfaction of the Purchaser.

15.3. Income Tax

15.4. Income Tax at the prevailing rate on gross value of work done and applicable surcharge/ cess shall be deducted from the bills as per relevant rules unless exempted by the Income Tax Authorities.

16. NEW TAXES/ LEVIES

16.1. In case the Indian Government (Central/ State) imposes any new tax/ levy on the output services/ goods / work after the award of work, the same shall be reimbursed by BHEL at actuals. All necessary documents as required by BHEL shall have to be provided by the Contractor. However, in the event of delay in work execution attributable to the Contractor, the new taxes/ levies imposed during the delay period shall not be reimbursed to the Contractor.

16.2. In case any tax/levy/duty etc becomes applicable after the date of Bidder's offer, the Bidder/ Contractor must convey it's impact on his price duly substantiated by documentary evidence in support of the same before opening of the Price Bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.

16.3. No reimbursement on account of increase/ decrease in the rate of taxes, levies, duties etc on input (goods/ services/ work) shall be made. Bidder has to make his own assessment of the impact of future variation if any, in rates/ duties/ levies etc in his price bid.

16.4. Tax Deduction at Source

16.5. Installation and commissioning charges will be released after deduction of Income Tax as per the Govt. of India rules in force. The Tax Deduction at Source (TDS) certificate will be issued by BHEL. Service Tax on E&C charges will be payable extra, if applicable. The liability of depositing the same to the Govt. will be of the Supplier.

16.6. GST credit (for Indian Bidders only)

16.7. The price bid must indicate Tariff item number and rate of GST applicable. GST, ITC benefit shall be as per GST rules.

16.8. Bank Charges

16.9. All bank charges for negotiation of documents through bank shall be to the account of the Seller.

16.10. No interest, whatsoever, shall be payable by Purchaser on the CEBG/PBG deposit, any bank guarantee submitted or any amount due to the Seller by the Purchaser.

17. INVOICES AND PAYMENT DOCUMENTATION

17.1. Invoices shall be issued by the Supplier in the name of the Purchaser i.e. BHEL Jhansi.

17.2. The invoices shall contain the following information:

- i) Item Description

- ii) Item no & quantity as per Purchase Order.
- iii) Gross amount payable and net amount payable.

17.3. The following documents shall be presented by the Supplier to the Purchaser for drawing payment:

- i) Signed Commercial invoice in quadruplicate.
- ii) Clean on board Bill of Lading/ Airway Bill (for foreign Suppliers)/ LR (or equivalent document for Indian Suppliers)
- iii) Packing list indicating dimensions of each case / bundle / piece shipped, with weight and number of items it contains.
- iv) Manufacturer's Inspection / Test certificate
- v) Certificate of Country of Origin, issued by an independent third party like Chamber of Commerce (for foreign Suppliers).
- vi) Manufacturer's Guarantee / Warrantee certificate as per Purchase Order.
- vii) Declaration by the Supplier certifying that the contents in each case are not less than those entered in the invoices / packing list and that the invoicing for the supplies effected is strictly in accordance with agreed rates as stipulated in the Purchase Order.
- viii) Certificate from shipping company or its agent that the vessel is seaworthy and approved by Lloyds / Classification Societies / General Insurance Corporation of India (for foreign Suppliers).

17.4. For foreign supplies, all documents shall show Purchase Order No and date, Import License No and date (if any) and Letter of Credit No and date. Loading on deck and trans-shipment will not be allowed.

17.5. The complete equipment shall be despatched in one lot. If, for any reason, a Vendor wants to despatch the equipment in more than one lot, it shall be only after written approval of the Purchaser. For this purpose, the Vendor shall submit to Purchaser a detailed list of items proposed to be despatched in various lots with price break-up for approval of the Purchaser.

17.6. Detailed procedure for preparation and submission of payment documentation will be provided by the Purchaser at a later stage.

18.0 Contract Execution Bank Guarantee (CEBG)

Bidder has to furnish CEBG for all POs where value (Supply + E&C) of each P.O. is estimated to be more than Rs. 10 lakhs.

The successful vendor shall have to furnish a Contract Execution Bank Guarantee (CEBG) for 10% of the Total PO value in the prescribed format within 30 days from the date of P.O. In case of payment made through LC for Foreign Supplier CEBG has to be furnished within 30 days but before L/C opening. CEBG shall be from one of the Nationalised Banks in India or from a reputed Bank and confirmed by any Consortium Bank of BHEL. All bank charges on account of issuance and confirmation of CEBG whether incurred in India or outside India will have to be borne by the vendor.

CEBG shall be kept valid until 30 days after the date of E&C Certificate, which will be issued on completion of Erection & Commissioning of equipment which includes erection, commissioning, job proving, performance tests, and training to operators etc. as prescribed in PO.

If the supplier fails to submit the CEBG even within 60 days from the date of PO, BHEL reserves the right to cancel PO & forfeit the EMD given by the supplier. In addition, in such case, action will be initiated in line with extant guidelines for Suspension of Business dealings with Suppliers.

This BG requirement is mandatory. If it is not accepted, the offer may be bypassed without any further intimation

19. PERFORMANCE BANK GUARANTEE (for order value more than Rs. ONE Lakh):

Performance Bank Guarantee (PBG) for 10% of basic value (Supply+ E&C) of the order (excluding taxes & duties) for satisfactory Performance of the equipment up to Guarantee period of 24 months with a further claim period of 3 months. This BG is to be submitted within 15 days of commissioning and CEBG will be released after receipt of PBG only. In case of failure of its submission within 15 days, we may encash the CEBG. The PBG shall be submitted as per Performa given in attached file. The BGs shall be established through a nationalised bank in India acceptable to the Purchaser. Co operative Bank guarantee is not acceptable to us. All charges for establishing and amending the BGs, if necessary, shall be to Vendor's account.

If vendor has submitted CEBG of 10% value (Supply +E&C) covering delivery, Erection, commissioning, 24 months Guarantee period from commissioning plus 30 days claim period after placement of PO then no separate PBG will be taken.

This BG requirement is mandatory. If it is not accepted, the offer may be bypassed without any further intimation.

20. EQUIPMENT GUARANTEE

The Equipment shall be guaranteed by the Vendor for a period of 24 (twenty four) months from the date of acceptance of the Equipment by the Purchaser. If order is to be splitted on Foreign supplier as well as Indian supplier then Total Guarantee of Equipment from design, manufacturing to erection & commissioning will be of foreign supplier only.

This requirement is mandatory, if it is not accepted, the offer may be bypassed without any further intimation.

21. Penalty for Delay in 'SUPPLY' and 'E&C':

21.1 Penalty on delay in 'Supply' and/or 'E&C' will be applicable to the delays attributed to vendor. Penalty will be considered separately for 'Supply' and 'E&C'.

The rate of penalty for delayed Supply shall be @ 0.5% per week of delay of total PO value (Supply + E&C) in supply subject to a maximum of 10% of total PO value (Supply +E&C).

The rate of penalty for delayed E&C shall be @ 0.5% per week of delay of total PO value (Supply + E&C) in E&C subject to a maximum of 10% of total PO value (Supply + E&C).

21.2 For the purpose of penalty for delay E&C of the equipment the duration will be reckoned from the date of intimation by BHEL to vendor for readiness of site.

Maximum penalty for delay in Supply and E&C together shall be limited to 15% of total PO value (Supply + E&C).

In case PO includes more than one machine, the penalty shall be @ 0.5% per week of delay on total PO value (Supply + E&C) for the delayed machine.

21.3 Loading on account of non-acceptance of Penalty for delayed Supply and/or E&C shall be as under:

In case any bidder is not accepting the above penalty for delayed' Supply and/or E&C, the offer of bidder shall be loaded to the extent to which it is not agreed by the bidder upto maximum 15% of Basic Price + E&C charges.

21.4 In case, any shortage is noticed viz-a-viz PO requirement in the main equipment /spares, such shortages shall be replenished by supplier on FOR destination basis without any cost implication to BHEL i.e. Custom Duty and freight charges etc. up to destination for such short supplies shall be borne by the supplier.

21.5 Supply period indicated by bidder should include reasonable time required for approval of drawings and other inputs from BHEL. In the Techno-Commercial Bid, the bidder shall submit milestones for various activities in co-relation with Supply and E&C period quoted by him

22. RISK PURCHASE

If the Vendor is found to be not in a position to execute the Order in time, the Purchaser, at his option, will be entitled to terminate the Contract and to purchase and/or complete the work from elsewhere at the risk and cost of the Vendor either the whole of the goods or any part which the supplier has failed to deliver/ despatch or complete the work within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefore.

23. PURCHASER'S RIGHT OF REJECTION

- a. Notwithstanding any approval which Purchaser or the Engineer may have given in respect of the Equipment or any materials or other particulars or the work or workmanship involved in the performance of the Contract (whether with or without any test carried out by Seller or the Inspection Agency or under the direction of the Contract Engineer), and notwithstanding delivery of the Equipment where so provided to the Purchaser, the Purchaser shall be entitled to reject the Equipment or any part, portion or consignment thereof, if such Equipment or part, portion of consignments thereof is not in all respects in conformity with the terms and conditions of the Contract whether on account of any loss, storage, deterioration or damage before dispatch or delivery or during transit or otherwise, whatsoever.
- b. Rejected goods or materials shall be removed by the Seller from the Site. The expenses to be incurred in respect thereof shall entirely be borne by the Seller.

24. INSURANCE

- a. Transit insurance for all supplies shall be arranged by the Supplier. In case Insurance is not covered under scope of supplier than Insurance shall be arranged by Purchaser and bid will be loaded suitably. However Vendor shall inform the Purchaser well in advance the despatch details before despatch of Equipment to enable Purchaser to arrange the insurance.
- b. Purchaser shall also arrange for insurance of the Equipment and materials covering the risk during storage, installation and commissioning at Site.

25. SHORT SHIPMENT / GUARANTEE REPLACEMENT

- a. Any shortages or damages during transit, transportation or handling at site, including at the time of installation and commissioning, shall be made good by the Seller/Contractor at his risk and costs, to meet the project schedule. In case of faults/discrepancies in any material, component, sub-assembly, assembly, etc., the same shall be supplied/ replenished free of cost to enable the equipment to be put in service. Shortages in sound cases shall also be replenished free of cost.
- b. In case of foreign supplies, customs duty (including any other duties and surcharges) levied in India on such supplies shall be borne by the Vendor. All such supplies shall be on FOR, BHEL Works basis and all taxes and duties shall be borne by the Vendor.
- c. Any replacements during the guarantee period shall be on FOR, BHEL Works basis and all

taxes and duties (including customs duty) shall be borne by the Vendor.

26. INSPECTION AND TESTING

- a. The Engineer/Inspector shall have at all reasonable time, access to the Supplier's premises or Works and shall have the power at all reasonable times to inspect drawings or any portion of the plant or examine the materials and workmanship of the power plant during its manufacture and if parts of the plant is being manufactured in other premises, the Supplier shall obtain permission for the Engineer/Inspector permission to inspect such equipment.
- b. The Supplier shall give the Engineer/Inspector 21 day's written notice of Equipment being ready for testing. Such tests shall be to the Supplier's account except for the expense of the Inspector and the Engineer/Inspector. Unless the inspection of the tests is virtually waived, the Inspector /Engineer shall attend such tests within 21 days of the date on which the plant is notified as being ready, failing which visit, the Supplier may proceed with the tests which shall be deemed to have been made in the Inspector's presence and he shall forthwith forward to the Inspector duly certified copies of the tests in triplicate. The equipment on which witnessing of tests is required, shall be mutually identified and agreed.
- c. When the factory tests have been completed at the works of the Vendor or Sub-Vendor, the Engineer/Inspector shall issue a certificate to this effect within fifteen days after completion of tests. If the tests are not witnessed by the Engineer/Inspector, the certificate shall be issued after receipt of the Supplier's test certificate by the Engineer/Inspector. The completion of these tests or issue of the certificate shall not bind the Purchaser to accept the equipment should it, on further tests after installation, be found not to comply with the Contract.

27. PACKING

- a. The Supplier shall include and provide for secure protection and packing for the Equipment so as to avoid damages in transit to Site under proper conditions and he shall be responsible for all losses or damages caused or occasioned by any defect in packing.
- b. The Equipment shall be packed in suitable strong cases wherever essential. Large article such as bed plates which are not packed in cases, shall have all screwed holes plugged suitably and machined surfaced properly protected.
- c. Weight and dimension limitation for transport shall be followed.

28. QUALITY OF MATERIALS

- a. The plant shall be manufactured and constructed in the best workman like manner and with materials of the best or of approved qualities for their respective uses.
- b. A Quality Assurance Plan shall be submitted by the Vendor to the Purchaser giving details of manufacturing and testing standards and procedures for major equipment for his approval.
- c. Vendor shall purchase the bought out items only from vendors of repute and indicate the same to the Purchaser at the time of approval of drawings. Purchaser reserves the right to approve/ reject such vendors and visit / inspect the works of vendors and that of their sub-contractors before or after placement of order.

29. DESIGN IMPROVEMENT

- a. The Inspector or the Supplier may propose changes in the specification of the Equipment or quality thereof and if the parties agree upon any such changes the specifications shall be modified accordingly.
- b. If any such agreed upon change is such that it affects the price or delivery, the parties shall agree in writing as to the extent of any change in the price and/or delivery or both, before the Supplier proceeds with the change.

30. DRAWING / DATA APPROVAL

Any drawing / data approval required from BHEL after placement of order shall be the responsibility of the Vendor and any delay on account of the same shall be the responsibility of the Vendor and will have no bearing on delay in delivery or applicable penalty.

31. ACCEPTANCE OF EQUIPMENT

- a. The Equipment will be accepted by the Purchaser after installation, testing and commissioning of the Equipment at Site and after completion of following activities.
 - i. All components and sub-assemblies of the Equipment have been properly assembled and tested.
 - ii. All facilities necessary for the safe and reliable operation of the Equipment have been properly installed and adjusted.
 - iii. The equipment can be safely placed in operation for its intended use.
 - iv. Spares, service tools and manuals have been delivered to the Purchaser.
 - v. On site training of the Purchaser's personnel have been completed as per Contract.
- b. A letter of Acceptance of Equipment shall be issued by the Site Engineer after acceptance of the Equipment.
- c. The guarantee period of the Equipment will start from the date of acceptance of Equipment by the Purchaser.

32. USE OF DRAWING/ DESIGN INFORMATION

- a. The Vendor shall undertake that the drawings / design / Information enclosed with the Tender / Order or sent to him subsequently is the property of BHEL and it will not be parted to any other agency and will also not be used for any purpose detrimental to the interests of BHEL.

33. PERFORMANCE GUARANTEE

- a. The Supplier guarantees that the Equipment will be new and in accordance with the specifications; that the Equipment will be free from defects in material and workmanship; and that the Equipment will meet the specified performance parameters
- b. For the guarantee period the Supplier shall be liable to repair or replace any defective parts that may develop in the Equipment of his own manufacture or those of his sub-Suppliers under conditions arising from faulty design, materials or workmanship; provided that notice of any such defects or failure to conform to the specifications is promptly

given within 30 days by the Purchaser to the Supplier.

- c. The acceptance of the plant by the Engineer shall, in no way, relieve the Supplier of his obligation under this clause.
- d. In the case of defective parts not repairable at site but essential in the meantime for commercial operation of the plant, the Supplier and Purchaser shall mutually agree to a programme of replacement or renewal which will minimise, to the maximum extent, interruption in the operation of the Equipment.
- e. If it becomes necessary to replace or renew any defective parts under this clause, the provisions of this clause shall apply to replaced part until 6 months from the date of replacement or until the expiration of original guarantee, whichever is later.
- f. Guarantee period for the Equipment shall be as specified in the Special Conditions of Contract.

34. PROGRESS REPORTS

- a. The Supplier shall furnish to the Purchaser Progress Reports of the equipment manufactured at the end of every months as per mutually agreed format.

35. REVERSE AUCTION (RA)

BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on www.bhel.com) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non consideration of their bids, in case BHEL decides to go for RA. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'Process compliance form' (to the designated service provider) as well as 'Online sealed bid' in the Reverse Auction. Non-submission of 'Process compliance form' or 'Online sealed bid' by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).

Information and general terms and conditions governing RA are given below.

1. For the proposed Reverse Auction, Only technically and commercially acceptable bidders shall be legible to participate.
2. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit "online sealed bid" in the reverse auction. Non-submission of "online sealed bid" by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
3. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of online bidding on internet.
4. In case of Reverse Auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax/email the Reverse Auction Process Compliance form (Annexure IV)

provided before Reverse Auction along with Business Rules by the Service provider. This compliance Form shall be sent to the Service Provider well before the Reverse Auction in order to get the Log in ID and Password for participating in the RA. Without the submission of Reverse Auction Process Compliance Form, the bidder will not be eligible to participate in the event.

7. In line with the NIT terms, BHEL has to provide the calculation sheets (e.g. Excel Sheets) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.

8. Reverse auction will be conducted on scheduled date & time.

9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.

10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (Annexure VII) as provided on case-to-case basis to Service provider within two working days of Auction without fail.

11. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and Price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.

12. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the "Business Rules of Reverse Auction", which will be communicated before the Reverse Auction.

13. If the Bidder or any of his representatives are found to be involved in Price manipulation / cartel formation of any kind, directly or indirectly by communicating with other bidders, action *as per extant BHEL guidelines*, shall be initiated by BHEL and the results of the RA scrapped / aborted.

14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.

15. In case BHEL decides to go for Reverse Auction, the H1 bidder (s) (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

36. HEALTH SAFETY & ENVIRONMENT (HSE)

- a. Consumption benchmarks related to output shall be provided wherever applicable for key input resources (energy/fuel/chemicals)
- b. Competency requirements for operation, maintenance and calibration, if any, shall be communicated
- c. If any hazardous chemicals as per MSIHC (Manufacturing, storage and import of Hazardous Chemicals) Rules 2000 are used, the MSDS shall be provided, along with On site & Off site emergency plan (as applicable)
- d. The noise level at operator level shall be within acceptable range and shall be specified.
- e. OH&S (Occupational Health and Safety) control measures for safe working of machine as applicable shall be specified.
- f. The machine / equipment shall be fitted with guard for rolling and moving parts and shall

comply with applicable OH&S legislations and Factories Act 1948

- g. The supplier shall submit the layout drawing of operating controls, displays etc. and operating instructions to enable ergonomics evaluation and approval
- h. The recommended PPE (Personal Protective Equipment) for the equipment shall be furnished.
- i. Alarm system (both visual and audible) and Automatic switch off of the equipment shall be provided for any intrusion, overloading, short circuiting or any malfunctioning of the equipment
- j. Details of all hazardous / harmful substances discharged as by-products / wastes during operations of the machine / equipment, such as fumes, gases, dust particles, aerosols UV./IR (Ultra violet / infra red) radiations, etc. shall be furnished, along with their concentrations and their TL V, (Threshold Limit Value).
- k. Appropriate pollution control measures shall be proposed to keep the emissions from the machinery / processes within the prescribed limit as stated in Environment Protection Rules 1986.
- l. All furnaces, process units, DG sets, paint booths, shot blasting chambers, etc. shall be provided with stack(s) of sufficient height as per guidelines laid down in the Environment Protection Rules 1986.
- m. Wherever industry specific standards are not available for control of pollutants, general emission standards shall be used.
- n. Chemicals banned due to their negative impact on the environment shall not be used in the process.
- o. Fuels with sulphur content less than 0.05% shall be proposed.
- p. Details regarding nature of waste generated and appropriate disposal practices available shall be provided, along with the operation procedure of the plant / process.
- q. Hazardous chemicals and flammable substances shall be transported only through authorized transporters and all safety practices as laid down in applicable legislative requirements such as Central Motor Vehicle Rules, Manufacture, storage and Import of Hazardous Chemical 1989, etc. shall be followed
- r. Primary materials used in the equipment shall be specified and they shall be eco – friendly.

37. COOPERATION WITH OTHER VENDORS

- a. The Supplier shall agree to co-operate with the Purchaser's other suppliers and consulting engineers for associated equipment and freely exchange with them such technical information as is necessary to obtain the most efficient and economical design and to avoid unnecessary duplication of equipment. No remuneration shall be claimed from the Purchaser for such technical co-operation. The inspector shall be provided with two copies of all correspondence addressed by the Supplier to other Suppliers in respect of such exchange of technical information

38. FORCE MAJEURE

- a. Notwithstanding anything contained in this Contract, neither the Supplier and nor the Purchaser shall be held responsible for total or partial non-execution of any of the contractual obligations, should the obligation be made impossible due to concurrence of a Force Majeure which will include war, military operations of any nature, blockages, revolutions, insurrections, riots, civil commotion's, insurgency, sabotage, act of public enemy, acts of god, epidemics and act of Govt. over which the Supplier or Purchaser has no control.

39. ARBITRATION

- a. The Purchaser and Supplier shall settle the disputes and differences arising out of this agreement in good faith. In the event that a dispute can not be resolved within reasonable time, the parties agree that the agreement shall be subject to arbitration under the Indian Arbitration & Conciliation Act 1996. Notwithstanding anything to the contrary in such rules there shall be three arbitrators, one appointed by the Purchaser, one appointed by the Supplier and the third appointed by the other two arbitrators. No aspect of any arbitration proceedings shall be made public by either party. The arbitration tribunal shall give reasonable award in writing. The award of the arbitration tribunal shall be final and binding on the parties. Any disputes under this order shall be under jurisdiction of Jhansi Courts only.

40. CONTRACT LAW AND JURISDICTION

- a. This Contract shall be governed by the laws of India.
- b. No court shall entertain or try any suit or legal proceedings to enforce any claim arising out of the Contract except in a court of law having jurisdiction at New Delhi.

41. GUIDELINES REGARDING DEALINGS WITH INDIAN AGENTS OF FOREIGN SUPPLIERS

- 41.1 BHEL shall deal directly with the foreign original equipment manufacturers (OEM) Foreign Principal, for all its purchases which are imported.
- 41.2 Wherever the foreign OEM / Principal desires to avail the services of an Indian Agent, the dealings with Indian Agents are to be regulated.

DEFINITION OF INDIAN AGENT

41.3 An Indian Agent of foreign principal is an individual, a partnership, an association of persons, a private or public Company, that carries out specific obligation(s) towards processing of BHEL tender or finalization or execution of BHEL's contract on behalf of the foreign supplier.

41.4 TERMS REGARDING INDIAN AGENTS OF FOREIGN PRINCIPALS:

- i. BHEL shall deal directly with foreign vendors, wherever required, for procurement of goods. However, if the foreign principal desires to avail of the services of an Indian agent, then the foreign principal should ensure compliance to regulatory guidelines which require mandatory submission of an Agency Agreement.
- ii. It shall be incumbent on the Indian agent and the foreign principal to adhere to the relevant guidelines of Government of India, issued from time to time.
- iii. The Agency Agreement should specify the precise relationship between the foreign OEM Foreign principal and their Indian agent and their mutual interest in the business. All services to be rendered by agent associate, whether of general nature or in relation to the particular contract, must be clearly stated by the foreign supplier! Indian agent. Any payment, which the agent or associate receives in India or abroad from the OEM, whether as commission or as a general retainer fee should be brought on record in the Agreement and be made explicit in order to ensure compliance to laws of the country.

- iv. Any agency commission to be paid by BHEL to the Indian agent shall be in Indian currency only.
- v. Tax deduction at source is applicable to the agency commission paid to the Indian agent as per the prevailing rules.
- vi. In the absence of any agency agreement, BHEL shall not deal with any Indian agent (authorized representatives! associate! consultant, or by whatever name called) and shall deal directly with the foreign principal only for all correspondence and business purposes.
- vii. The "Guidelines for Indian Agents of Foreign Suppliers" enclosed at annexure -'A' shall apply in all such cases.

viii. The supply and execution of the Purchase Order (including indigenous supplies/service) shall be in the scope of the OEM/ foreign principal. The OEM/ foreign principal should submit their offer inclusive of all indigenous supplies/ services and evaluation will be based on 'total cost to BHEL'. In case OEM/ foreign principal recommends placement of order(s) towards indigenous portion of supplies/ services on Indian supplier(s)/ agent on their behalf, the credentials/ capacity/ capability of the Indian supplier(s)/ agent to make the supplies/ services shall be checked by BHEL as per the extant guidelines of 'Supplier Evaluation', Approval & Review Procedure (SEARP), before opening of price bids. In this regard, details may be checked as per Annexure-B (copy enclosed). It will be the responsibility of the OEM/ foreign principal to get acquainted with the evaluation requirements of Indian supplier/ agent as per SEARP available on www.bhel.com.

The responsibility for successful execution of the contract (including indigenous supplies/ services) lies with the OEM/ foreign principal. All bank guarantees to this effect shall be in the scope of the OEM/ foreign principal.

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Annexure-A

Guidelines for Indian Agents of Foreign Suppliers

1.0 There shall be compulsory registration of agents for all Global (Open) Tender and Limited Tender. An agent who is not registered with BHEL shall apply for registration in the registration form in line with SEARP.

1.1 Registered agents will file an authenticated Photostat copy duly attested by a Notary Public/Original certificate of the Principal confirming the agency agreement and giving the status being enjoyed by the agent and the commission/ remuneration/ salary/ retainership being paid by the principal to the agent before the placement of order by BHEL.

1.2 Wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representative is working on the basis of salary or as retainer, a written declaration to this effect should be submitted by the party (i.e. Principal) before finalizing the order.

2.0 Disclosure of particulars of agents representatives in India, if any.

2.1 Tenderers of Foreign nationality shall furnish the following details in their offers:

2.1.1 The Bidder(s)/ Contractor(s) of foreign origin shall disclose the name and address of the agents/ representatives in India if any and the extent of authorization and authority given to commit the Principals. In case the agent representative be a foreign Company, it shall be confirmed whether it is existing Company and details of the same shall be furnished.

2.1.2 The amount of commission/ remuneration included in the quoted price(s) for such agents/representatives in India.

2.1.3 Confirmation of the Tenderer that the commission/remuneration, if any, payable to his agents/representatives in India, may be paid by BHEL in Indian Rupees only.

2.2 Tenderers of Indian Nationality shall furnish the following details in their offers:

2.2.1 The Bidder(s)/Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any, indicating their nationality as well as their status, i.e. whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal specifically authorizing the agent to make an offer in India in response to tender either directly or through the agents/ representatives.

2.2.2 The amount of commission! remuneration included in the price (s) quoted by the Tenderer for himself.

2.2.3 Confirmation of the foreign principals of the Tenderer that the commission/ remuneration, if any, reserved for the Tenderer in the quoted price(s), may be paid by BHEL in India in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Stores and Spares in case of operation items.

2.3 In either case, in the event of contract materializing, the terms of payment will provide for payment of the commission/ remuneration, if any payable to the agents/representatives in India in Indian Rupees on expiry of 90 days after the discharge of the obligations under the contract.

2.4 Failure to furnish correct and detailed information as called for in paragraph 2.0 above will render the concerned tender liable to rejection or in the event of a contract materializing, the same liable to termination by BHEL. Besides this there would be a penalty of banning business dealings with BHEL or damage or payment of a named sum.

Annexure-B

This format is applicable only to Indian Suppliers/Agents supplying indigenous portion of Foreign Purchases.

* In all other cases, extent guidelines of SEARP, 2010 are to be followed.

SEARP (SRF) Clause No.	Detail
	Name & address of the firm
1.0	Products/Systems/Services being considered for
2.0	General Information
2.1	Name of the chief Executive
2.3	Details of authorized signatory
3.0	Ownership Information
3.1	Type of firm
3.2	Nature of Business <ul style="list-style-type: none"> • Attach authorization letter and agency agreement from Principal (from whom capital equipment is procured) • Attach copy of declaration from Foreign Principal for total guarantee/warranty of indigenous supplies
3.3	Year of establishment
3.4	Year of commencement of business
4.0	Registration particulars
4.1	Permanent Account No.
4.2/4.3	Sales Tax/Tin No.
4.6	Service Tax No. (incase of E&C)
5.0	Organization strength
6.0	Other particulars
6.1	If the company is already registered with other units
6.2	Directors/Partners, if related to any BHEL Employee
6.9	If any Ex BHEL personnel employed by the company
6.12	Details of pending legal issues with BHEL
6.13	Bank Account information
9.0	Financial information
9.6	Sales/Turnover details of last 3 years (or from the date of incorporation whichever is less).

Annexure-I
Price Bid to be submitted on the Letter Head of Bidder for Indian Suppliers

Sl.	Description	Qty Offered	Nos/ Sets	Price Per Unit in Rs.	Total Price In Rs.
A1	Basic Price of equipment offered (description of item details to be typed) including packing, forwarding, freight & insurance charges on FOR BHEL Jhansi basis				
A2	Price of Mandatory/ O&M Spares (if any)/ Tooling etc required as per our specifications (Item wise details may be given in separate sheet) including packing, forwarding, freight & insurance charges on FOR BHEL Jhansi basis				
A	TOTAL A1 + A2				
B	Present rate of applicable GST on A1+A2				
C	Erection / Installation and commissioning charges (if any) including services to be rendered at BHEL like erection, commissioning, job proving, performance tests, training to operators etc.				
D	Present rate of applicable GST on C				
E	Total cost to BHEL (A+B+C+D)				
F	Less Input Tax credit (B+D)				
G	Total landed cost to BHEL {E-F}				

**Signature and Seal of
Authorised signatory**

Note : The above format is also to be used for submission of Blank price bid (After erasing prices), which has to be submitted along with technical offer.

Annexure-II
Price Bid to be submitted on the Letter Head of Bidder for Foreign Suppliers

Sl.	Description	Qty Offered	Nos/ Sets	Price Per Unit in-----(name of currency)	Total Price In -----(name of currency)
A1.	Basic Price of equipment offered (description of item and details to be typed) including packing, forwarding, Sea/Air Freight & Insurance up to Mumbai port i.e CIF Mumbai basis (including Indigenous portion of supply, if any)				
A2	Price of Mandatory/ O&M Spares (if any)/ Tooling etc required as per our specifications (Item wise details may be given in separate sheet) including packing, forwarding, freight & insurance charges on FOR BHEL Jhansi basis				
A	TOTAL A1+A2				
B	Erection / Installation and commissioning charges (if any) including services to be rendered at BHEL like erection, commissioning, job proving, performance tests, training to operators etc.				
C	Present rate of applicable service tax (if any)				
D	Total cost to BHEL (A+B+C)				

**Signature and Seal of
Authorised signatory**

Note :

1. The above format is also to be used for submission of Blank price bid (After erasing prices), which has to be submitted along with technical offer.
2. Custom Duty , GST and Freight & Insurance charges from Mumbai Port to BHEL Jhansi will be added by BHEL to arrive the L1 Status.

Annexure-III
Commercial Terms & Conditions Format - PART-I

Sl	Terms and Conditions	Bidder's Response <small>Please tick whichever is applicable</small>
1.	Packing & Forwarding Charges inclusive in the basic price.	Accepted / Not accepted
2.	Present rate of applicable tax, GST (Not applicable for foreign suppliers)	
3	Shortest Delivery period in number of Weeks from date of Purchase Order for supply of equipment. (PI note after expiry of this period, penalty due to late delivery will be applicable)	
4	Erection/ Installation and commissioning period from the date of call of commissioning by BHEL for readiness of SITE (PI note after expiry of this period, penalty due to late delivery will be applicable)	Please indicate number of days or weeks
5	Drawing submission time if drawing approval is linked with delivery period	Please indicate number of days or weeks
6	Erection & Commissioning Charges (refer Clause 8) (to be quoted separately)	Accepted/Not Accepted
7	Present rate of GST on Labour charges (if any)	
8	Payment of Erection & Commissioning charges shall be done after deduction of TDS as per Govt. of India Income tax rule.	Accepted / Not accepted
9	Erection & commissioning charges (as mentioned in enquiry) will be as per clause 8.4	Accepted / Not accepted
10	Penalty clause 21 of terms and conditions	Accepted / Not accepted
11	Risk & cost purchase clause 22 as well as other conditions given in general Terms & conditions are acceptable to us.	Accepted / Not accepted
12	Rates quoted in the price bid are on F.O.R. BHEL, Jhansi for Indian suppliers.	Accepted / Not accepted
13	Validity of the rates quoted is 6 months from the date of opening of Tender	Accepted / Not accepted
14	Prices have been quoted on "FIRM PRICE" basis only.	Accepted / Not accepted
15	EMD , as per clause 3 of Capital T&C, is attached in original with Techno-commercial bid.	Yes/No
16	Contract Execution Bank Guarantee (CEBG) as per clause 18 will be submitted in case of order is placed on you.	Accepted / Not accepted
17	Performance Bank Guarantee (PBG) as per clause 19 will be submitted in case of order is placed on you.	Accepted / Not accepted
18	The equipment shall be guaranteed for 24 months from the date of Commissioning at BHEL irrespective of date of supply or installation.	Accepted / Not accepted
19	<p><u>Our Standard terms of payment:</u></p> <p><u>1.For Indigenous supplier:-</u></p> <p>A.80% of supply value plus 100 % taxes & duties shall be made within 90 days from the date of receipt of the equipment at BHEL Jhansi works and submission of clear and admissible bill, subject to the acceptance of material at BHEL Jhansi ,on direct presentation of the documents.</p> <p>Balance 20% of supply value plus 100% of the E&C charges will be paid against E&C certificate issued by BHEL after successful commissioning of the equipment at BHEL Jhansi and submission of Performance Bank Guarantee of 10% basic order value valid for 24 months from commissioning with a further claim period of 3 months.</p>	Accepted/ Not accepted

	<p style="text-align: center;">OR</p> <p>B. The bidders who are registered under micro & small categories (Refer MSMED Act 2006), 80% of supply value plus 100 % taxes & duties shall be made within 45 days from the date of receipt of the equipment at BHEL Jhansi works and submission of clear and admissible bill, subject to the acceptance of material at BHEL Jhansi , on direct presentation of the documents.</p> <p>Balance 20% of supply value plus 100% of the E&C charges will be paid against E&C certificate issued by BHEL after successful commissioning of the equipment at BHEL Jhansi and submission of Performance Bank Guarantee of 10% basic order value valid for 24 months from commissioning with a further claim period of 3 months.</p> <p style="text-align: center;">OR</p> <p>C.As mentioned in the Enquiry remark.</p>	<p>Accepted/Not Accepted</p> <p>Accepted/Not Accepted</p>
<u>20</u>	Price Bid & Copy of Unpriced Price Bid (As per Annexure-I) are submitted as per BHEL formats.	Yes/ No
<u>21</u>	Order finalization through Reverse auction (as per clause 35) is accepted	Accepted / Not accepted
<u>22</u>	It may be noted that, as per GST law, it is supplier's responsibility, to classify the products under correct HSN classification and pay GST as per applicable rates. Any liability arising due to incorrect HSN classification leading to incorrect payment of GST rests with you.	Accepted/Not Accepted
<u>23</u>	Input credit of GST will be available to BHEL Jhansi only after correct filling of return and payment of applicable GST by supplier. Reimbursement of GST shall be made by BHEL Jhansi on matching of vendor inputs at GST portal and after ensuring availability of Input credit to BHEL Jhansi.	Accepted/Not Accepted
<u>24</u>	It is confirmed that all the Capital terms & Conditions Rev-05 Dt 04.09.19 attached along with enquiry have been read by us and we confirm acceptance of the same.	Confirmed
<u>25</u>	All the General Terms & Conditions of Enquiry which have been uploaded at https://www.bheljhs.co.in/index_en.php have been read by us and we confirm acceptance of all the General Terms & Conditions of Enquiry.	Confirmed
<u>26</u>	FOR THIS PROCUREMENT, THE LOCAL CONTENT TO CATEGORIZE A SUPPLIER AS A CLASS I LOCAL SUPPLIER/ CLASS II LOCAL SUPPLIER/ NON LOCAL SUPPLIER AND PURCHASE PREFERENCE TO CLASS I LOCAL SUPPLIER, IS AS DEFINED IN PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), ORDER 2017 DATED 04.06.2020 ISSUED BY DPIIT. IN CASE OF SUBSEQUENT ORDERS ISSUED BY THE NODAL MINISTRY, CHANGING THE DEFINITION OF LOCAL CONTENT	Confirmed and provide the details as per SI 26 A , B , C.

	<p>FOR THE ITEMS OF THE NIT, THE SAME SHALL BE APPLICABLE EVEN IF ISSUED AFTER ISSUE OF THIS NIT,BUT BEFORE OPENING OF PART-II BIDS AGAINST THIS NIT. VENDORS SHALL HAVE TO DECLARE FOLLOWING DETAILS IN THEIR OFFER-</p> <p>(A.)PERCENTAGE OF LOCAL CONTENT</p> <p>(B.)SELF CERTIFICATION OF LOCAL CONTENT.</p> <p>(C.)DETAILS OF LOCATION (s) OF LOCAL VALUE ADDITION.</p> <p><i>This will supersede all other conditions attached in NIT.</i></p>	
<p>Note-1 If Condition No. 15,16,17 ,18 & 26 are not accepted, the offer may be bypassed without any further intimation</p>		
<p>Note-2: Commercial terms and conditions mentioned in above format will be considered as final. If these conditions are given elsewhere then they will not be considered. In case of ambiguity, conditions mentioned in this sheet will be final.</p>		

Signature and Seal of Authorised Signatory

ANNEXURE-IV**A. CAPACITY DETAILS:**

Manufacturing Capacity (Major machines with Qty.)	Type of Major Machines	Qty.
Machines supplied during last 5 years (Year-wise with Qty.)	Scheduled Supply Period	Actual Supply Period
Outstanding Order Book position (Type of Machine with Qty. & Name of Customer*)		
Liquidation Plan of all machines including BHEL Machine		

*If any bidder is unable to give name of ALL customer (s) due to confidentiality restriction, they may give details without disclosing such customer's identity.

B. DETAILS OF COMPANY PERFORMANCE

Details of Purchase Orders to be considered in last 5 years shall include (i) Last 5 years POs fully executed and (ii) All Pos overdue for supply and /or E&C details of all machines in the PO to be given.

Sl.No.	Name of M/c with broad specs.	Name of BHEL Unit	P.O. No. & Date	P.O Value	Supply Date		Erection & Commissioning		Reason of delay, if any
					As per P.O.	Actual / Likely	E&C period incl. job prove out as agreed (in days)	Actual / Likely period of E&C completion (in days)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1.									
2.									
3.									
4.									

Note:

1. In case bidder has not received any Purchase Order-in the last 5 years from any of the Units of BHEL, then 'NIL' should be indicated.
2. Reasons for delay to be explained in details.
3. BHEL reserves the right to reject the offer, if past performance of the bidder is evaluated to be unsatisfactory and/or false information is given by the bidder

ANNEXURE-V
Format for Review & Recertification of present MSMED status

This is to Certify that M/s.....
....., having its registration office at
..... is registered under MSMED Act
2006 (Regn No:....., dtd:....., Category:.....
(Micro/Small/Medium)). (Enclose MSMED Registration Certificate)

Further certified that the investment of the company as on date..... as per MSMED Act 2006 is as follows:

- 1. For Manufacture Enterprises:** Investment in plant and machinery i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O.1722(E) dated October 5, 2006 (Annexure I):

Rs.....Lacs

- 2. For Service Enterprises:** Investment in equipment i.e original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006:

Rs.....Lacs

The above investment of Rs.....Lacs is within permissible limit of Rs.....Lacs for (Micro/Small/Medium) Category under MSMED Act 2006. Company will intimate to BHEL Jhansi in case change of investment if any exceeds the above permissible limit, in future with proper supporting documents.

Category of the Owner/ Director of company is: (SC/ST/OBC/Minor/Others)

(Submit proof in case of SC/ST/OBC)

Date :

Verified by

Name & Signature
Of Company authorized Signatory

Name & Signature
of Chartered Accountant

Permissible Limit As per MSMED Act 2006:

Manufacture Enterprise		Service Enterprise	
	Plant & Machineries Limit		Equipment Limit
Micro	< 25.0 Lakhs	Micro	< 10.0 Lakhs
Small	>= 25.0 Lakhs < 5.0 Crores	Small	>= 10.0 Lakhs < 2.0 Crores
Medium	>= 5.0 Crores < 10.0 Crores	Medium	>= 2.0 Crores < 5.0 Crores

As per Ministry of small scale industries notification dated 5th October,2006, the investment in Plant & Machinery to in respective limits is the original price, irrespective of whether the plant & machinery are **new or second hand**. In respect of imported machinery, the following is to be *included* in calculating the value:

- import duty (excluding miscellaneous expenses such as transportation from the port to the site of the factory, demurrage paid at the port);
- shipping charges;
- customs clearance charges and
- sales tax or value added tax.



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SN	Description
1	General:
A	These general terms & conditions shall apply to all enquiries, notice inviting tenders, request for quotations concerning the supply of goods and / or rendering of services to Bharat Heavy Electricals Ltd., Jhansi (hereinafter referred to as BHEL or the Purchaser) or its Projects / Customers.
B	Special / supplementary enquiry conditions & Mandatory Sheet requirements, if any, covered in the respective enquiry, will override the relevant conditions mentioned in this document.
C	Commercial Conditions quoted by the vendor in any place including as stated in bidder's 'General Terms and Conditions' if any, shall not be binding on the Purchaser. Only the conditions contained in this document, including special conditions, if any, for this enquiry shall prevail.
2	General Instructions - Common for Indigenous & Foreign enquiries
A	Sealed bids are invited for scope of Supply / Services as detailed in the enquiry. The quotation should be neatly typed and free from over writing/ erasures. Any correction or addition must be authenticated.. Relevant enclosures, supporting documents, catalogue, samples, if any, as required as per Notice Inviting Tender (NIT) conditions shall be sent along with technical offer. Rate should be quoted in the units asked for in the enquiry. The rates should be quoted both in figures and words. In case of discrepancy in figures and words, the rates quoted in words shall be considered.
	Bids shall be submitted in a Sealed cover with Enquiry No., Due date and Bidder's name indicated on the Cover. The Cover should contain both Part-I and Part –II bids, as the case may be.
	<u>Part – I bid</u>
	In case of Two part Bid, Part – I bid i.e. Technical bid containing (i) technical offer, (ii) Mandatory Sheet, (iii) un-priced copy of the Price Bid, (iv) EMD (if called in NIT), and (v) Relevant documents of PQR (if called in NIT), all duly filled-in & signed; should be kept in one envelope. The Part – I bid Cover items should have Enquiry No., Part I Bid, Due date, and Bidder's name indicated on the Cover
	<u>Part –II Bid wherever Reverse Auction is not called for</u>
	Part – II bid i.e. Price Bid containing only the price (as called for in the price format where required), duly filled-in & signed; should be kept in a separate envelope . The Price bid Cover items should have Enquiry No., Part II Bid, and Bidder's name indicated on the Cover
	<u>Part –II Bid wherever Reverse Auction is called for</u>
B	Part – II bid i.e. Price Bid containing only the price (as called for in the price format where required), duly filled-in & signed; should be kept in a separate envelope . Wherever, BHEL informs that it proposes to conduct Reverse Auction for many items in the tender and where evaluation of the tender is on individual item basis, separate Part – II bids are to be submitted for each of the item. The Price bid Cover for each of the items should have Enquiry No., Part II Bid, Item no of Enquiry, and Bidder's name indicated on the Cover
	The envelopes indicating Part –I or Part-II, as the case may be, to be put in a bigger envelope, which should be addressed to In-charge, Tender Room, Bharat Heavy Electricals Ltd., Administration Building, Jhansi 284120. Enquiry No., due date and bidder's name must be mentioned on the bigger envelope. Offer must reach tender room of BHEL Jhansi latest by 13.15 hrs of the enquiry due date.
	In case, the bids are not submitted in the manner stated above, the offer of the bidder(s) are liable to be rejected.
	It is preferred that offers are sent in sealed envelope. However, if the bidder chooses to send the offer through E-mail, offers received through E-mail shall be considered only when such offers are complete in all respects.. In cases of offers through E-mail, the offers shall be sent to tenderbox.jhs@bhel.in , wherein the Subject of the Email should mention the Enquiry Number. E mail offers sent to any other E mail ID shall not be entertained. BHEL shall not take any responsibility if the offers are incomplete or if the Enquiry number is not mentioned in the subject of the E-mail.
C	Wherever BHEL proposes to issue tender through e –procurement, the same philosophy as mentioned in 2B above is ensured through suitable system locks.
D	Offer received after 13.15 hrs of the due date will be termed as "Late" and shall not be considered



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E	<p>BHEL reserves the right to go for Reverse Auction (RA) (as per Guidelines available on www.bhel.com) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non consideration of their bids, in case BHEL decides to go for RA. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'Process compliance form' (to the designated service provider) as well as 'Online sealed bid' in the Reverse Auction. Non-submission of 'Process compliance form' or 'Online sealed bid' by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).</p> <p>The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with the offer. The envelope sealed price bid of successful L1 bidder in RA, if conducted, shall also be opened after RA and the order will be processed on lower of the two bids (RA closing price & envelope sealed price) thus obtained. The bidder having submitted this offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rates.</p> <p>If it is found that L1 bidder has quoted higher in online sealed bid in comparison to envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender in the unit, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com)</p>
F	<p>The goods offered shall conform to BHEL specifications / drawings and / or Indian / International standards as mentioned in the Enquiry and the bidder is required to confirm his unconditional acceptance to the same. Vendors, seeking deviations from the specifications and any other conditions, may indicate the same clearly on a separate sheet, with reasons for such deviations. BHEL reserves the right to reject the offer with deviations or load the deviations suitably for evaluation.</p>
G	<p>Offers shall be submitted directly by vendor or his authorized agent/representative only. Offers from any other sources shall be considered as unsolicited and shall be summarily rejected.</p>
H	<p>Bid in single part or techno-commercial bid in two part system (as the case may be) will be opened on the due date. In case of two part bid, price bids of techno-commercially acceptable bidder(s) only shall be opened on the assigned date, for which separate intimation will be sent to the acceptable bidders.</p>
I	<p>The bidder whose bid is technically not accepted will be informed & EMD wherever submitted shall be returned along with his price bid within <u>30 days</u> of contract finalization date. No interest will be payable on EMD amount. EMD shall however be forfeited in the event of bidder backing out after submission of the bid.</p>
J	<ol style="list-style-type: none">Any discount / revised offer submitted by a bidder on its own shall be considered, provided it is received on or before the due date and time of offer submission (Part-I). Conditional discounts shall not be considered for evaluation of tenders.Unsolicited discounts / revised offers given after Part-I bid opening shall not be accepted. No change in price will be permitted within the validity period asked for in the enquiry.In case of changes in scope and / or technical specification and / or commercial terms & conditions, having price implication, techno-commercially acceptable bidders shall be asked by BHEL to submit the impact of such changes on their price bids. A suitable cut-off date and time shall be given to all the techno-commercially acceptable bidders to submit the impact on their price bids. In case a bidder opts to submit revised price bid instead of impact called for, then their original price (i.e. previous bid) shall be necessarily opened to know the price impact. .
K	<p>The bidders will submit Integrity Pact, duly signed by its authorized signatory, if called for in the enquiry.</p>
L	<p>Wherever the enquiry is issued to unregistered vendor referred by BHEL Customer, the bidder shall submit the Supplier Registration Form (SRF) online at www.bhel.com and submit the signed copy of the duly filled-in SRF along with the bid. Price bids of such vendors, will be opened only on techno-commercial acceptance of bid and if allotted permanent code before the date of price bid opening.</p>
M	<p>BHEL expects that the bidder must respond to the enquiry. Regret letter, with valid reasons for not participating in the tender will be submitted where the bidder is unable to submit offer. Repeated lack of response on the part of vendor may lead to his deletion from BHEL's approved vendor list.</p>
N	<p>Goods shall be properly packed to avoid transit damage. Suitable markings shall be provided to identify the goods with that of the PO No, Item no. and the consignee details.</p>
O	<p>Goods shall be consigned to Manager , Stores (CRX), BHEL, Jhansi - 284120, India, unless otherwise specified in the PO.</p>
P	<p>Offers of the Bidders who are under HOLD or are under Interim Suspension or are on the banned list (as on date of Price bid opening) and / or those bidders who engage services of such suspended / banned firms, shall be rejected. The list of firms banned by BHEL is available on BHEL web site www.bhel.com. The list of firms suspended by BHEL, Jhansi is available on www.bheljhs.co.in. The " Guidelines for suspension of business dealings with Suppliers / Contractors" is uploaded on BHEL website http://www.bhel.com/vender_registration/vender.php</p>



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Q	In case of press tenders (i.e. those published in newspapers) all corrigenda, addenda, amendments, time extensions, clarifications etc. to the tender will be hosted on BHEL website. (www.bhel.com & www.bhejhs.co.in) only. Bidders responding to press tender should regularly visit website(s) to keep themselves updated.
R	In case the bidder decides to sub-contract part of his activity / work to some of his vendors, details of such intended subcontracting shall be mentioned in the bid. This will however not absolve the bidder from his contractual obligations and responsibilities.
S	In the course of evaluation, if more than one bidder happen to occupy L-1 status and the order is to be placed on a single vendor, effective L-1 will be decided by soliciting discounts from the respective L1 bidders.. In case more than one bidder happen to occupy the L1 status even after soliciting discounts, the L1 bidder shall be decided by, a toss / draw of lots, in the presence of the respective L1 bidder(s). BHEL's decision in such situations shall be final and binding.
T	Wherever the minimum reserved capacity is called for in the tender, the offers of such bidders, who do not quote for the minimum reserved capacity, are liable to be rejected.
U	<p>Due to large qty. requirement, we may finalize the tendered quantities among more than one bidder (after acceptance of L1 price by the other bidders), but limited to the capacity quoted by the bidder. Indicate your committed capacity for the item(s) tendered and confirm that capacity offered by you against our tender shall be available for us during the entire period of the Purchase Order / Contract.</p> <p>Where the number of qualified responses (N) are three or more, the distribution shall be limited to (N-1) responses. The manner and proportion of distribution shall be mentioned in the specific enquiry. Normally, the quantity distribution shall be generally as per quantities allocated to the bidder, but limited to the capacity quoted by the bidder.</p> <p>While the manner of distribution is mentioned in the enquiry, the absolute values of the unit of measurement shall be rounded off. For eg : If an allocation of 40% quantity results in 23.5 units, the quantity allocated shall be 24 units. If an allocation of 40% quantity results in 23.3 units, the quantity allocated shall be 23 units</p> <p>The distribution shall be based on the acceptance given by bidders to the L1 price counter offered to them. In case any or all of the bidders do not accept the counter offer, and a situation arises wherein bidder(s) who have agreed to the counter offer may have to be allotted more quantity than what has been proposed earlier, then the same shall be done, but limited to the capacity quoted by the bidder (s).</p> <p>Wherever, the number of techno commercially qualified responses (N) is two, BHEL reserves the right on whether or not to distribute the quantity on more than one bidder</p> <p>While the above pattern shall also be followed in long term framework agreements (FA), performance of the suppliers shall be monitored periodically, and the loading in FA will also be subject to factors like (a) Customer approval of suppliers in specific projects, (b) quality surveillance at Supplier works, (c) Suppliers delivery and quality performance during execution of FA, (c) Pendency of orders on the supplier and (d) responsiveness in addressing post order completion issues at BHEL. In view of these factors, the loading during execution of FA may vary with respect to allocated quantity. During execution of FA, if the performance of supplier is not upto the mark in respect of delivery / quality performance / quoted capacity of the bidder, BHEL reserves the right to either reduce further loading or stop loading till the execution of overdue orders. In such cases, action shall be taken against the defaulting supplier(s) as per guidelines of the Company, and the balance allocated full or part quantity of the defaulting supplier(s) may be re-distributed amongst other performing and willing vendors of the FA..</p>
V	The bidder shall submit price bid strictly in the price format, wherever provided for, in the enquiry. Any attempt on the part of the bidder to alter the contents of the price bid format in any manner, which in the opinion of BHEL can vitiate the tendering process, will lead to rejection of the bid, <u>besides BHEL taking appropriate punitive action as deemed fit.</u>
3	Vendor's particulars & logistics information
	Bidder to provide contact details and all logistical information as called for in the Mandatory Sheet enclosed to this enquiry
4	Delivery Schedule & Completion date
A	<ul style="list-style-type: none"> • Instead of writing specific date against delivery offered, Bidder shall commit delivery period in number of days / weeks/ months to suit the delivery period indicated in the enquiry. • Commencement of delivery period shall be reckoned from the date of PO / LOI or any other agreed milestone. • Seller shall deliver the goods in the manner and schedule agreed under the Purchase order. • Goods shall be delivered within contractual period or any extension thereof, if any, granted by the Purchaser.



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B.	In case of foreign supplies, bidders are to quote for CIF/CFR delivery terms .For CIF / CFR delivery terms, the date of bill of lading (BL) shall be taken as actual date of delivery.
C.	In case of Indigenous bidders, the date of delivery at named destination in India shall be taken as contractual delivery completion date where delivery terms are FOR destination. In case of 'Ex-works' delivery terms, the date of LR / RR shall be the contractual delivery completion date.
D	In case of unreasonable delivery quoted by the bidders, BHEL reserves the right to reject such offers.
5	Transit Insurance
	Except where delivery terms are agreed on CIF basis for Imports & FOR destination basis for indigenous purchases, transit insurance will be covered by BHEL under its open Marine Insurance Policy. Seller shall inform dispatch particulars with value of consignment to the Purchaser within 07 days of dispatch for BHEL to arrange insurance coverage in its policy. Failure on the part of seller to inform dispatch particulars will make him liable to pay for any transit damages / losses suffered by the Purchaser.
6	Delivery Terms
A	Indigenous Purchase
	Goods shall be delivered on 'FOR Destination' basis (with freight and insurance in bidder scope) to the named destination unless otherwise called for in the enquiry. In case the bidder quotes on Ex-Works, the offer of such bidder(s) is/are liable to be rejected. Wherever the PO terms mentions delivery terms as FOR Destination basis, and In the event of supplier having supplied the material by BHEL Truck / Vehicles as per BHEL transportation rate contract, thus causing BHEL to bear the freight charges, the corresponding amount ,incurred / estimated, shall be deducted from the bills of the Supplier.
B	Foreign Purchase – Imports
	<ol style="list-style-type: none"> 1. Goods shall be dispatched by sea on CIF/CFR basis, unless stated otherwise in the enquiry or purchase order. The destination shall at Navsheva, Mumbai for LCL/Breakbulk Cargo and ICD, Mandideep, Madhya Pradesh for FCL Cargo 2. If air freight is called for in the enquiry, the goods shall be delivered on FCA basis to the named Airport 3. Please visit BHEL Jhansi web site www.bheljhs.co.infor details of named Airports. . Name of the airport so chosen by the Seller shall be indicated by the Bidder in his offer. 4. Goods shall be handled for air freight by BHEL's freight forwarder only, under FCA contracts and HAWB issued by BHEL appointed forwarder or his authorized agent(s) shall only be accepted for negotiation.
C	<ul style="list-style-type: none"> • In the event of bidder offering CFR or CIF delivery terms for delivery in FCL(Full Container Load), the Bidder shall provide 14 days' time free of detention from the date of delivery at delivery port. Wherever the detention free period offered is less than 14 days, the bids shall be loaded for the period short of 14 days period. • <u>Port congestion charges or any additional charges claimed by shipping line till delivery at destination port shall be to the Seller's account.</u> •
7	Force Majeure
	Notwithstanding anything contained in the contract, neither the Seller nor the Purchaser shall be held responsible for total or partial non-execution of any of the contractual obligations, should the obligation become unreasonably onerous or impossible due to occurrence of a 'Force Majeure' which directly affects the obligations to be performed by the Purchaser or the Seller; Such events include war, military operations of any nature, blockages, revolutions, insurrections, riots, civil commotions, insurgency, sabotage, acts of public enemy, fires, explosion, epidemics, quarantine restrictions, floods, earthquake, or acts of God, restrictions by Govt. authorities; over which the Seller or the Purchaser has no control. The party claiming to be affected by force majeure shall notify the other party in writing without delay, within two weeks on the intervention and on the cessation of such circumstance. Extension of time sought by the Seller along with supporting evidence and so granted by the Purchaser for the supply/ work affected, if any, shall not be construed as waiver in respect of remaining deliveries. Rescheduling of deliveries on account of force majeure conditions, if so agreed by the Purchaser, will not entail the Seller to claim any increase in the price on whatsoever account.



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	Notwithstanding above provisions, Purchaser shall reserve the right to cancel the order/ Contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements. If deemed necessary, Purchaser may takeover partly processed material at a mutually agreed price.
8	LD / Penalty for delayed performance.
A	<p>I. Subject to force majeure conditions, LD shall be 0.5% of the total order value per week of delay or part thereof, subject a maximum of 10% of the total order value.</p> <p>II. In case of staggered delivery schedule, LD shall be 0.5% of the undelivered portion per week or part thereof subject to a maximum of 10% of the undelivered portion .</p> <p>III. However in case of Capital Machine / BOP where staggered deliveries may be applicable, the LD cap will be levied on total order value inclusive of E&C charges. (15%)</p> <p>IV. Wherever Erection & Commissioning (E& C) is called for, the vendor is provided a stipulated period from date of site readiness. LD shall be applicable for any delay beyond the stipulated period mentioned in the PO.</p> <p>V. In case of any amendment / revision, the LD shall be linked to the amended / revised PO value.</p> <p>VI. Any loading on LD clause shall be to the extent to which it is not agreed to by the bidder (at offered value)</p> <p>For the sake of clarity – Total order value means purchase order value (exclusive of taxes), Undelivered portion means , the delayed portion for the given lot.</p> <p>In case a supply is rejected and the same is replaced at a later date, the date of replacement of accepted supply shall be reckoned for calculation of LD</p>
B	In case the contractually agreed delivery date falls on a holiday in BHEL Jhansi, the next working day shall be taken as contractual delivery date for compliance and applicability of LD / penalty.
C	<p>In case of Ex works Delivery terms for Indigenous supplies, the date LR shall be reckoned for LD deduction.</p> <p>In case of FOR Delivery terms, the date of entry in BHEL Jhansi (CISF date) shall be reckoned for LD deduction.</p> <p>In case of FCA Delivery terms / Ex Works Delivery terms of Foreign supplies , the date Invoice / Packing List / Test Certificate, whichever date is later, shall be reckoned for LD deduction.</p> <p>In case of FOB / CIF / CFR / CIP Delivery terms, the date of Bill of Lading , shall be reckoned for LD deduction.</p>
	Risk Purchase.
C	If the material is not supplied within the agreed delivery period, BHEL reserves the right to cancel the order and purchase the material(of the undelivered portion) from alternate source(s) at the Risk and Cost of the Seller. In such an event, it shall be obligatory on the part of seller to make good any loss suffered by the purchaser. In such cases, BHEL shall withhold bills, bank guarantees, etc of the Supplier, which are pending either at BHEL, Jhansi or any other Unit of BHEL . Wherever Risk purchase is invoked attracting action as per guidelines of the Company, action shall be initiated to suspend business dealings with the Supplier. To know the implications of suspension, the bidder may see the “ Guidelines for suspension of business dealings with Suppliers / Contractors” which is uploaded on BHEL website http://www.bhel.com/vender registration/vender.php
9	Indian Agents and Agency commission
A	BHEL prefers to deal directly with Foreign vendor, wherever required, for procurement of Goods. However if the Foreign Principal desires to avail services of an Indian Agent, then the Principal should ensure compliance to “regulatory guidelines” which will require submission of an agency agreement. The agency agreement should specify the precise relationship between the foreign OEM / foreign Principal and their Indian Agent. Any payment which the Indian agent receives in India or abroad from the OEM, whether as commission or as a general retainer fee, should be brought on record in the agency agreement.
B	The CIF price quoted will be deemed to be inclusive of Indian Agency commission. Agency commission as disclosed by the bidder in his quoted CIF price will be paid in Indian Rupees on receipt & acceptance of Materials or it's installation at destination, as the case may be. The lower of the TT selling rate prevailing on the date of (a_ technical bid opening, or (b) price bid opening, or (c) date of invoice, shall be considered for computation of Agency commission.
C	Be it a case of a Foreign / Indigenous Principal or OEM, in a tender either the Indian Agent on behalf of Principal / OEM or the Principal / OEM itself can bid, but both cannot bid simultaneously for same item / product in the same Tender. In case both submit a bid in the tender, then the bid of OEM only shall be opened



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D	Be it a case of a Foreign / Indigenous Principal or OEM, If an agent submits Bid on behalf of the Principal / OEM, the same agent shall not submit bid on behalf of another Principal / OEM in the Tender, for the same Item / Product.										
10	Documentation:										
A	Indigenous Purchase										
	Immediately on despatch of Goods, the following documents shall be necessarily sent by the Seller to the respective address(es) mentioned below										
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	In case any other documents are required, the distribution of such documents will be specified in the Purchase order.										
	Further, if specified in the Purchase order, all the details and copies of documents have to be uploaded by Supplier on BHEL portal before despatch of Goods										
B	Foreign Purchase – Imports										
	<p>Seller shall send 1 set of following documents, in English, within 7 days of BL date by courier to the Purchaser</p> <ol style="list-style-type: none"> 1. Original Clean on board Bill of lading. 2. One set of Commercial Invoice, Packing list indicating container-wise Gross weight, net weight, CBM (cubic metre) volume, No. of packages with Dimensions of each package. 3. Original certificate of Country of Origin issued by Chamber of Commerce 4. One set of Original test certificates and O&M manual where called for. 5. Fumigation certificate wherever cargo is packed in wooden packing or packing of Plant origin material is used. <p>In case the Seller decides to negotiate all 3 originals of BL through negotiating Bank, non-negotiable documents (NND) consisting of copy of BL / HAWB & all originals at sl.no. 10-B2 to B5 will be couriered to Purchaser. Soft Copy of documents at sl. 10-B1 to B5 will also be sent by e-mail to the Purchaser at the e-mail address given in the PO. Other documents, as required, will be separately indicated in the Purchase Order. Additional expenditure, if any, incurred by the Purchaser by way of detention / demurrage, resulting out of delay attributable to the Seller in providing negotiable documents, will be recovered from the Seller.</p>										
C	In case of incomplete documentation, the communication shall be provided to supplier. The delays in submission of documentation by the supplier shall be reckoned while releasing payments to the Supplier										
11	Pricing Terms										
	Prices once quoted shall remain firm within the validity or any extension thereof for placement of order, till complete execution of the order, without any escalation/increase for any reason, whatsoever, unless specifically provided for in the Enquiry & PO. In case of foreign vendors, the quoted price shall be taken as inclusive of Third Party Inspection and testing charges as called for in the NIT.										



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12	Price Validity :
	<p>Unless stated otherwise in the enquiry, offer shall be valid for a period of 120 days from the date of Techno- commercial (Part-I) bid opening date.</p> <p>The prices quoted for spare parts of the main equipment shall be kept valid for a period of 180 days from the date of placement of PO for the main equipment.</p>
13	Taxes & Duties - Indigenous Purchase
A	<p>The Taxes and duties as applicable shall be payable extra which may include GST against Gate pass. The Seller shall clearly indicate extent of taxes as applicable in his techno commercial bid. In the event of vendor failing to furnish valid GST invoices with appropriate HSN Code , amount corresponding to GST will be disallowed by BHEL while making payments.</p> <p>Bidders to ensure applicability of IGST / CGST/SGST based on the Inter / Intrastate movement of goods.</p> <p>GST Registration Number (GSTIN) should be clearly mentioned on the vendor's quotation.</p> <p>Please quote our IGST registration number 09AAACB4146P2ZC in all invoices raised for supply of goods and services under GST regime and also ensure filing of timely return and payment of tax and compliance of other applicable provisions on supplier under GST regime.</p> <p>In the event of any disallowance of input credit or applicability of interest or any other financial liability arises on BHEL-Jhansi due to any default of supplier under GST such implication shall be to supplier's account.</p> <p>GST shall be levied on LD and the relevant tax invoice shall be provided to vendors for availing credit.</p> <p>In case of directly despatchable items to Customer's Site, Supplier to bill to BHEL Jhansi at its GST Account number 09AAACB4146P2ZC and ship to the respective Customer</p> <p>Since, input credit of GST will be available to BHEL-Jhansi only after correct filing of return and payment of applicable GST by supplier, reimbursement of GST shall be made by BHEL-Jhansi on matching of vendor inputs at GST portal and after ensuring availability of input credit to BHEL-Jhansi. Payment of tax shall be done only after availing matching ITC, in all cases where bills are submitted directly to BHEL-Jhansi or through bank or under LC or through any other mode.</p> <p>Other statutory declaration forms are also to be submitted in time, as mentioned in the relevant Laws. BHEL reserves the right to withhold the payment due to the vendor equivalent to BHEL's tax and related liability thereon.</p> <p>In case of any changes in statutory laws w.r.t. taxes and duties, the same shall be applicable at the given point of time.</p>
B	<p><i>Wherever GST is not applicable, the tax and duty structure , as applicable, is to be complied by the seller.</i></p>
14	Taxes & Duties - Foreign Purchase – Imports
A	<p>The offered prices shall be inclusive of all the Taxes and duties as applicable in the country of bidder / country of dispatch for the quoted FCA / CFR/CIF price.</p>
15	Payment Terms-
A	<p>Indigenous: 100 % payment within 90 days (45 days for MSE / NSIC registered suppliers as per relevant act in force) from the date of receipt of material and submission of clear and admissible bill, subject to acceptance of material at BHEL , on direct presentation of the documents..</p> <p>Payments to vendors who are seeking benefits under MSME act shall not be entertained if the Udyog Aadhar Memorandum (UAM) submitted by them is not valid on the date of Purchase Order and date of supply (SRV Date of BHEL) . It is hence in the interest of the vendor that they validate the status of UAM regularly with BHEL.</p> <p>In case of despatch of material to site directly, site certification for receipt of materials is required unless otherwise provided for in the PO. Any deviation from the above payment terms, if accepted (by BHEL), shall be loaded @ SBI base rate(as on date of Part I bid opening) + 6%, for the purpose of bid evaluation.</p>



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	<p>All documents as called for in the PO have to be submitted by the Supplier at the time of receipt of material and this should include the Invoice of the Supplier - Original copy of the Buyer and Duplicate for Transporter. On receipt of Invoice, the same shall be acknowledged by BHEL. Any clarifications on the bill submitted by the supplier shall be sought generally within 30 days (15 days for MSE / NSIC registered suppliers as per relevant act in force) of receipt of bill at BHEL. While it would be in the interest of the Supplier to provide the reply immediately to the clarifications sought , the Supplier is to respond at least within 7 days from the date of clarifications sought by BHEL. Wherever clarifications are sought by BHEL, the date of receipt of clarifications from the supplier shall be considered as date of submission of clear and admissible bill.</p>						
B	<p>Foreign: 100% against irrevocable, unconfirmed LC, payable within 120 days of the bill of lading (BL) date. In case BHEL considers any deviation in payment terms i.e. early payment based on vendor's request, then bids shall be evaluated with loading of State bank of India Base rate (as on date of Part I bid opening) plus 6%, for the credit period short of 120 days. The LC shall be established 2 month prior to shipment date, valid for period of 120 days, unless agreed otherwise. Payment terms of CAD payable on 120th day of BL / HAWB date shall be preferred.</p>						
C	<p>While there could be exceptional situations wherein the payment may be delayed beyond the stipulated time mentioned above, it is clarified that BHEL shall not pay any interest on such delays</p>						
D	<p>In case of any disagreement between BHEL and the Supplier on any part of the bill, such part shall be severed from the rest and payment against agreed and admissible part shall be processed as per laid down procedure, while the disputed part shall be dealt as per contract provisions viz. conciliation, dispute resolution, arbitration, etc</p>						
16	<p>Inspection of Goods</p>						
A	<p>The Seller shall give adequate notice, of 1 week or as mutually agreed period, in writing to the Purchaser about the date and place at which the goods will be ready for inspection/ testing, as provided for in the contract.</p>						
B	<p>Purchaser or his authorized representative shall be entitled to carry out inspection of material and workmanship at Seller's premises or at his sub-contractor's premises at all reasonable times during execution of contract; Such inspection, examination and testing, if made, shall not absolve the Seller from his obligations under the contract.</p>						
C	<p>All costs related to inspections and re-inspections shall be borne by the Seller. In case of foreign vendors, the cost of third party inspection, where called for, shall be deemed to be included in the quoted price. Seller shall be responsible to provide assistance such as labour, materials, electricity, fuels, stores, apparatus, instruments at his cost, as may be required and as may be reasonably demanded to carry out such tests effectively.</p>						
D	<p>Undertaking to be provided by Suppliers before despatch : The suppliers , before despatching the jobs, shall provide an undertaking on their letterhead, that the jobs have been made as per BHEL Specification / Drawings, that the test results meet the specified parameters of the drawing / specification, that the supplies have been inspected as per Quality Plan (if called for in the Purchase Order), that on receipt of supplies at BHEL, Jhansi; BHEL reserves the right to reject any supplies which are non compliant, that in case the material is accepted with deviationst wherever rectifications / rework is observed, that the Supplier shall be given seven days notice to attend to the work and if the Supplier does not attend the rectifications in the said period, BHEL shall reserve the right for suitable deductions. Despatch clearance shall be given when the Supplier provides the above undertaking (as per Annexure I) to BHEL</p>						
E	<p>Uploading despatch information on BHEL SIP</p> <p>The supplier has to upload despatch information details by logging in at 'Supplier Information Portal' of BHEL Jhansi website using their User name (Vendor Code) and Password. Subsequently, the supplier has to click at the link'Update Consignment details' provided therein.Submitting 'Despatch Intimation' is mandatory. All supplies arriving (reaching BHEL Jhansi) will be allowed inside CISF Material gate of BHEL Jhansi only if the supplier has submitted online Despatch Intimation.</p> <p>The following documents are necessary before entry of material at our Material Gate:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">1</td> <td>GST Invoice OR Delivery Challan (as per rule 55) OR Bill of entry for imports OR Excise Duty Invoice for Petroleum supplies</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Lorry Receipt (LR) OR Railway Receipt (RR) OR Door Delivery (Courier Docket..).</td> </tr> <tr> <td style="text-align: center;">3</td> <td>'Despatch Intimation' (Printout required).</td> </tr> </table>	1	GST Invoice OR Delivery Challan (as per rule 55) OR Bill of entry for imports OR Excise Duty Invoice for Petroleum supplies	2	Lorry Receipt (LR) OR Railway Receipt (RR) OR Door Delivery (Courier Docket..).	3	'Despatch Intimation' (Printout required).
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3	'Despatch Intimation' (Printout required).						

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The following documents are additionally required for **SRV clearance** if they are called for in the Purchase Order (PO):

4	Complete Test certificates/Inspection reports
5	Guarantee certificates
6	Any other document as called for

Following may be required for **SRV preparation** depending on the nature of material being supplied:

7	Packing lists, wherever applicable.
8	Weighment slip.

A cost of one percent of the transaction value (not more than Rs 5000 per transaction but not less than Rs 500 per transaction) shall be deducted from supplier bills in case supplier has failed to upload the despatch information on Supplier Information Portal

E	Material despatched one month prior to the date of despatch shall not be permitted inside BHEL, unless there are instructions otherwise from BHEL. In all such cases, material will be allowed inside only if approved by Head MM Material despatched 10 weeks after date of despatch shall not be permitted inside BHEL, unless there are instructions otherwise from BHEL. In all such cases, material will be allowed inside only if approved by Head MM
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17	Warranty , Corresponding Repairs / Replacement of Goods, and Deductions
A	<p>Goods shall comply with the specifications for material, workmanship and performance.</p> <p>The warranty shall be for a period of 24 months from the date of receipt at BHEL, Jhansi</p> <p>However, wherever erection & commissioning also is in the scope of the bidder, the warranty shall be for a period of 24 months from the date of supply or 18 months from the date of commissioning, whichever is later.</p> <p>In case any other terms are to be specified for warranty, the same shall be specified in the specific enquiry Normally deviation shall not be accepted for the criteria of warranty period. The offers of bidders, who offer deviation to the warranty terms mentioned in the NIT, are liable to be rejected.</p> <p>If the item supplied is found non-compliant during the warranty period, leading to rejection, the Seller shall arrange free replacement / repair of goods, within one month from the date of intimation or any mutually agreed period. The rejected goods shall be taken away by the Seller at his cost and replaced on Delivered Duty Paid (DDP) (FOR - BHEL Stores/ designated destination basis) within such period. In the event of the Seller's failure to comply, Purchaser may take action as appropriate, including Repair / Replenish rejected goods & disposal of rejections, at the risk & cost of the Seller.</p> <p>In case the defects attributable to Seller are detected during processing of the goods at purchaser's/ his subcontractor's works, the Seller shall be responsible for free replacement/ repair of the goods as required by the purchaser.</p>

18	Evaluation and Loading Criteria:
A	<p>Evaluation of the tender shall be on the basis of delivered cost, i.e. 'total cost to BHEL' w.r.t the finalized technical scope and commercial conditions (after considering, inter alia, Customs Duty and CENVAT/ VAT/ CST/Service Tax/Entry Tax or any other tax as applicable). Exchange rate (TT selling rate of State Bank of India) applicable on the date of Part-I bid opening shall be considered for evaluation of foreign bids. If the relevant day happens to be a bank holiday in India, then the FOREX rate as on the previous bank working day shall be taken for evaluation.</p> <p>Foreign suppliers shall ensure that the benefits as applicable under Free Trade Agreement (FTA) with Government of India are disclosed in the bid & relevant documents such as Certificate of Country of Origin, issued by the appropriate authority in the country of Export, is provided by the vendor along with dispatch documents. Bids shall be evaluated with such applicable benefits. In the event of Seller failing to provide appropriate documents for Purchaser to avail disclosed</p>

**GENERAL TERMS AND CONDITIONS OF ENQUIRY**

	<p>concessional duty benefits in India, the cost incurred owing to consequent delays, detention and demurrage thereof, will be to the Seller's account.</p> <p>To arrive at the Delivered Cost, the quoted price shall be suitably loaded, the details of which are mentioned in this annexure / special remarks of the enquiry. In case of any additional techno commercial deviations, for which the loading criterion is required to be framed after opening of techno commercial bid, such criteria shall be communicated to all qualified bidders before price bid opening.</p>
19	Non-Disclosure Agreement
	<p>All Drawing and technical documents relating to the product or its manufacture submitted by one party to the other, prior or subsequent to the formation of contract, shall remain property of the submitting party. Drawing, technical documents or other technical information received by one party, shall not without the consent of the other party, be used for any other purpose than that, for which they were provided. Such technical information shall not without the consent of the submitting party, otherwise be used or copied, reproduced, transmitted or communicated to a third party. Patterns supplied by BHEL will remain BHEL's property which shall be returned by the bidder on demand to BHEL. Bidder shall in no way share or use such intellectual property of BHEL to promote his own business with others. <i><u>BHEL reserves the right to claim damages from the bidder, or take appropriate penal action as deemed fit against the bidder, for any infringement of the provisions contained herein.</u></i></p>
20	RIGHT OF REJECTION /NON- PLACEMENT OF PO/ SHORTCLOSURE OF PO: BHEL reserves the right to accept the offers in part or in full, or cancel the Tender enquiry without assigning any reason whatsoever / non placement of PO or contract / short closure of PO or contract.
21	Performance Bank Guarantee (PBG)/ Security Deposit (SD):
A	Bank Guarantee wherever called for, shall be in the BHEL prescribed format. In case the order is to be placed in foreign currency, the BG must normally be in Indian Currency from the Consortium Banks of BHEL / as specified in the specific Enquiry
B	Wherever the contract is for supply of Goods processed on labour basis from BHEL supplied materials, the materials shall be issued against a suitable security, preferably Bank guarantee.
22	Benefits earmarked for Purchase from Micro & Small Enterprises (MSEs) – Indigenous Purchase
A	MSE suppliers who are registered by bodies like MSMED, NSIC & DIC specified by Ministry of Micro, Small and Medium Enterprises (MoMSME) can avail the intended benefits only if they submit along with the offer, relevant documents including valid certificate as mentioned in " Format for Supplier MSME Status' on Supplier Information Portal of BHEL, Jhansi. In case the valid MSE registration of the bidder is already updated in SDC records of BHEL, Jhansi, it may not submit the details again. It is hence in the interest of the supplier that they validate the status of UAM regularly with BHEL, if they would like to avail intended benefits under MSME Act.
B	Tenders to MSE suppliers shall be issued free of cost & no EMD wherever called for will be insisted upon. Such MSE bidders shall submit along with bid, relevant documents including valid certificate. Date to be reckoned for determining the deemed validity will be the date of bid opening (Part I in case of two part bid). Non- submission of such document will lead to consideration of their bid, at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted Officer.
C	In tender, participating MSEs quoting price within price band of L1 (on total cost to BHEL) +15% shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a MSE and such MSE shall be allowed to supply up to 20% of total tendered quantity. In case of more than one such MSE within price band of L1 (on total cost to BHEL) +15%, the supply shall be shared proportionately (to tendered quantity, as per their tender ranking of the bidders and also their SC/ST status). However if there are more than one MSE vendor at the same price level, then the quantity shall be distributed equally. A quantum of 4% out of 20% quantity, so earmarked, will be reserved for MSE's owned by SC / ST entrepreneurs who submit their bid with relevant documents. However, such distribution shall be subject to the tender requirement in terms of Customer approval of vendors, divisibility of quantity, etc. While all efforts shall be made to ensure compliance to the stated distribution, the decision of BHEL in distribution stated in this clause shall be binding on all bidders.

	The above distribution is not applicable (a) where L1 vendor is MSE vendor and minimum 20% share is assured to the L1 bidder in the tender, or (b) where the MSE bidders qualified for distribution as per 'manner of splitting' clause in NIT already cater to 20% share in the tendered load.
D	In case it comes to notice that the bidder is found responsible for misconducts like, having submitted fake/false/forged documents/ certificates, has misrepresented the facts, has wilfully suppressed the facts, has resorted to unethical/ illegal means, etc., action shall be initiated against such bidders as per the extant guidelines of the Company for suspension of business dealings.
23	Benefits earmarked to suppliers for Purchase under 'MAKE IN INDIA'
	As part of minimizing import content, Government of India, vide order no P-45021/2/2017-B.E.-II dated 15.06.2017, under the subject – Public Procurement (Preference to Make in India) -- has set the initiatives to encourage and promote indigenously manufactured goods within India and services provided by sources within India. . In line with this, bidders who manufacture the goods and provide services within India (otherwise referred as local suppliers) are given purchase preference and are entitled to benefits in the tender
A	Definitions
(i)	Local content means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent. Presently, the minimum local content required is 50%. The nodal ministry may prescribe a higher or lower percentage in respect of any particular item and may also prescribe the manner of calculation of local content.
(ii)	Local supplier means a supplier or service provider whose product or service offered for procurement meets the minimum local content as prescribed
(iii)	Margin of Purchase Preference means the maximum extent to which the price quoted by a local supplier may be above the L1 for the purpose of purchase preference. Presently the margin of Purchase preference is 20%.
B	Conditions under which preference is given
(i)	In procurement of goods in respect of which the Nodal ministry has communicated that there is sufficient local capacity and local competition, and where the estimated value of procurement is Rs 50 lakhs or less, only local suppliers shall be eligible. If the estimated value of procurement of such goods is more than Rs 50 lakhs, provisions of 23(B) (ii) and 23(B)(iii) shall apply.
(ii)	If the procurement of goods are not covered by 23(B)(i) and are divisible in nature, the following procedure shall be followed :
a	If L1 is a local supplier, the order for full quantity shall be awarded to local supplier
b	If L1 bid is not from a local supplier, 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the local suppliers, shall be invited to match the L1 price for the remaining 50% quantity, subject to the local supplier's quoted price falling within the margin of purchase preference, and the order for that quantity shall be awarded to such local supplier subject to matching the L1 price. In case such lowest eligible local supplier fails to match the L1 price or accepts less than offered quantity, the next higher local supplier within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and the order shall be awarded accordingly. In case some quantity is still left uncovered on local suppliers, then such balance quantity may also be ordered on the L1 bidder.
iii	If the procurement of goods are not covered by 23(B)(ii) and are not divisible in nature, and in procurement of services where the bid is evaluated on the price alone, the following procedure shall be followed :
a	If L1 is a local supplier, the order shall be awarded to local supplier
b	If L1 bid is not from a local supplier, then the lowest bidder among the local suppliers, will be invited to match the L1 price, subject to the local supplier's quoted price falling within the margin of purchase preference, and the order shall be awarded to such local supplier subject to matching the L1 price. In case such lowest eligible local supplier fails to match the L1 price, the local supplier with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on, and the order shall be awarded accordingly. In case none of the local suppliers within the margin of preference match the L1 price, then the order may be awarded to the L1 bidder.
C	Exemption of small purchases
	Notwithstanding anything contained at clause 23B above, procurements where the estimated value of procurement is less than Rs 5 lakhs are exempt and purchase preference shall not be accorded in such cases.



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D	Verification of local content
(i)	The local supplier, at the time of tender, bidding or solicitation, shall be required to provide self certification that the item offered meets the minimum local content and shall give details of the location(s) at which the local value addition is made.
(ii)	In cases of procurement for a value in excess of Rs 10 crores, the local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
(iii)	False declarations shall be in breach of code of integrity and shall invite action as per guidelines for Suspension of Business dealings with Suppliers
E	In case of any disputes / clarifications, the extant guidelines of Government of India shall prevail.
24	Fraud Prevention
	The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice
25	Settlement of Disputes & Arbitration
A	All questions/interpretations regarding subject matter of the Contract shall be decided by the Purchaser on the request of the Seller and the decision of the Purchaser shall be final.
B	In case of dispute, steps shall be taken by the parties to the contract to settle the same through negotiations.
C	In case, dispute is not settled in negotiations, it shall be referred to Conciliator appointed by the competent authority of the Purchaser.
D	In case dispute is not settled in conciliation proceedings, the same shall be referred to Arbitration as per Corporate Guidelines of the Purchaser and the arbitration proceeding shall be conducted as per provisions of the Arbitration and Conciliation Act, 1996 read with Corporate guideline as amended from time to time.
E	The Seller shall continue to perform the contract, pending settlement of dispute(s).
26	Applicable Laws and Jurisdiction of Courts
	Indian laws both substantive and procedural, for the time being in force, including modifications thereto, shall govern the Contract including Arbitration proceedings. The competent Courts at Jhansi in the State of Uttar Pradesh, India shall have sole jurisdiction.
27	Conciliation
	BHEL and bidder agree that if at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the terms and conditions of order, which the Parties are unable to settle mutually), arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.
	Notes:
	1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.
	2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.
	The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof. The details of Conciliations shall be governed by the BHEL Conciliation scheme 2018.
28	General
	The Bidder shall keep a track of any changes by visiting the Supplier Information Portal of BHEL, Jhansi at https://www.bheljhs.co.in/apps/sip/index.php