

TENDER SPECIFICATION

NO: BHE/PW/PUR/DHLI-ELE U-1&2/1300

FOR HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, COMPLETE ERECTION, CHECKING OF CALIBRATION, TESTING, COMMISSIONING AND HANDING OVER OF GENERATOR TRANSFORMER, UNIT AUX. TRANSFORMER, STATION AUX. TRANSFORMER, DAVR, ELECTROSTATIC PRECIPITATOR, SOOT BLOWER SYSTEM, ELECTRICAL HOIST, VALVE ACTUATOR, HT/LT DRIVES COMMISSIONING, CABLING PACKAGE, EQUIPMENT EARTHING AND ASSOCIATED EQUIPMENTS FOR 2X150 MW SINTEX INFRA DHULE Project.

AT

SINTEX INFRA PROJECT LTD

2x150 MW

WAGHODE, SHINDKHEDA

MAHARASHTRA

Volume-II Price Bid-Rev 01 dated 08/08/2014



BHARAT HEAVY ELECTRICALS LIMITED

(A GOVERNMENT OF INDIA UNDERTAKING)

POWER SECTOR - WESTERN REGION

SHREEMOHINI COMPLEX

345, KINGSWAY - NAGPUR 440 001

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EARNEST MONEY DEPOSIT: Please see Notice Inviting Tender.

LAST DATE FOR: Please see Notice Inviting Tender.

TENDER SUBMISSION:

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING VOLUME- II-**Revised Price Bid** Rev-01 dated 08/08/2014 ARE ISSUED TO:

M/s.

PLEASE NOTE:

THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

AGM (Purchase)

Place: Nagpur

Date:

PRICE SCHEDULE FOR:							
Job: Handling at Storage Yard/ Stores, Transportation to Site, Calibration, Erection, Testing, Commissioning, Final Painting and Handing over of Generator Transformer,UAT,SAT,Generator Bus Duct and associated equipment (IPBD,LAVT,CTs/PTs),Crane& Hoist,ESP (EC,PMCC,RCP,ACP,ALI),SBMCC,GRP,STRP,RCTP,AVR/DAVR,JB,ACDB,DCStarter Panel,Cable Tray,Cable Laying, Equipment/Above Ground Earthing Works of SINTEX INFRA PROJECTS LTD, Unit # 1&2 and their Auxiliaries etc.							
Sl.no	Description of items	UOM	Quantity	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
SECTION-E1: CABLE TRAYS AND ACCESSORIES							I.1
E1.1	Ladder type 900 (W) , 140 (H)Cable Tray	Mtrs.	60				
E1.2	Perforated type 900 (W) ,140 (H)Cable Tray	Mtrs.	625				
E1.3	Ladder type 600 (W) x120(H) mm	Mtrs.	1935				
E1.4	Ladder type 450(W) x 140 (H) mm	Mtrs.	2000				
E1.5	Perforated type 450(W) x 140 (H) mm	Mtrs.	60				
E1.6	Ladder type 300(W) x 140 (H) mm	Mtrs.	410				
E1.7	Perforated type 300(W) x 140 (H) mm With Tray Cover	Mtrs.	1290				
E1.8	Ladder type 150(W) x 140 (H) mm	Mtrs.	2590				
E1.9	Peforated type 150(W) x 140 (H) mm With Tray Cover	Mtrs.	3600				
SECTION-E2A : LT POWER CABLES (XLPE Armoured/unarmoured)							I.2
E2A.1	3.5C X 120sqmm Aluminium	Mtrs.	400				
E2A.2	3C X 35sqmm Aluminium	Mtrs.	1000				
E2A.3	3C X 10 sqmm Aluminium	Mtrs.	4600				
E2A.4	2C X 120sqmm Aluminium	Mtrs.	16200				

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E2A.5	3C X 2.5sqmm Copper	Mtrs.	70000				
E2A.6	2C X 2.5sqmm Copper	Mtrs.	5200				
E2A.7	3C X 50 Sq. mm Copper Cable	Mtrs.	800				
E2A.8	1C X 70 Sq. mm Copper Cable	Mtrs.	200				
SECTION-E2B : LT CONTROL CABLES (Generally PVC Sheath, XLPE Insulated Unarmoured/Armoured, Screened/Unscreened)							1.2
E2B.1	24C x 2.5 sqmm Copper,	Mtrs.	1000				
E2B.2	19C x 2.5 sqmm Copper,	Mtrs.	2000				
E2B.3	16C x 2.5 sqmm Copper,	Mtrs.	2400				
E2B.4	12C x 2.5 sqmm Copper,	Mtrs.	5400				
E2B.5	10C x 2.5 sqmm Copper,	Mtrs.	10400				
E2B.6	7Cx2.5 sqmm Copper ,	Mtrs.	6600				
E2B.7	5Cx2.5 sqmm Copper ,	Mtrs.	10200				
E2B.8	3C,x2.5 sqmm Copper ,	Mtrs.	15000				

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E2B.9	2C x2.5 sqmm Copper	Mtrs.	1800				
E2B.10	4Cx 1.5 Sq. mm LT Screened Copper	Mtrs.	8600				
E2B.11	2C x1.5 sqmm Copper	Mtrs.	3200				
SECTION-E3 : JUNCTION BOXES AND PUSH BUTTON							I.3
E3.1	Junction Boxes 24 way for SB Drain valve	Nos.	6				
E3.2	Start Stop Push Button Station Approx. Dimension (ESP , SB- APH ,All Drives in Plant area)180(L)X100(D)X250(H)mm Weight -2 Kg/ and PB(LCS-300Lx150Wx450H)-Weight-5Kg/LCS	Nos.	264				
E3.3	Junction box for Hopper Heater ,Support& Shaft insulator Heater Approx. Dimension 450(L)X150(D)X300(H) mm approx. weight- 12 kg/JB	Nos.	44				
E3.4	Junction box for Hopper Thermostat ,Ali-High&Low,Hopper Heater feedback,Opacity Monitor, JB for Start /Stop PB. Approx. Dimension 250(L)X150(D)X400(H) mm approx. Weight 12kg/JB	Nos.	16				
SECTION-E4 : STRUCTURAL STEEL							I.4
E.4.1	Structural Steel fabrication & installation (MS angle, Channel, Plate etc)	MT	141				
SECTION-E5 A:SWITCHGEARS / MCC /PCC							I.5

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E5A.1	ESP LT main Switch Board,Single front, Draw out Type Approx overall dimension 9000(L)x1600(W)x2400(H) mm, approx WT 15.0T, shall be supplied in eight to ten loose shipping sections.	set	2				
E5A.2	ESP Auxiliary Control Panel(ACP),Single front, Draw out Type Approx overall dimension 7200(L)x450(W)x2400(H) mm, approx WT 8.0T per panel, shall be supplied in eight to ten loose shipping sections.	set	4				
E5A.3	Soot Blower Motor control Center, double front, Approx overall dimension 11500(L)x2400(H)x1000(W) mm,Approx weight 10.0MT. shall be supplied in eight to ten loose shipping sections	set	2				
SECTION-E5 B : STARTER PANEL/BOXES/POWER DISTRIBUTION BOX/MARSHALLING BOXES/NGR/NGT							1.5
E5B.1	Electronic Control Panel, Overall Dimensions Approx.600(L)X550(W)X1940(H)mm, Approx.Weight of each panel 0.25MT.	Nos	28				
E5B.2	RAPPER CONTROL PANEL Overall dimension approx.1000(L) X 500(W) X 2050(H) mm, approx.Weight of each panel 0.30 MT. 28 Nos. RAPCON Electronic modules for each panel (along with cables connectors) size 280 x 210 x 210 mm shall be supplied loose for mounting in the panel at site.	Nos	4				
E5B.3	IOS PANEL overall dimension approx.1000(L)x500(W)x2050(H) mm,approx. Weight of panel 0.3 MT along with loose accessories such as IOS PC, Computer Furniture, Data Logger PC, Printer -1 Nos. PC termination box, peripheral cables etc.	set	2				

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E5B.4	DC motor starter panels, etc (DC JOP, DC EOP, DC Scanner Fan,FTP local Starter), including resistance boxes. Approx weight 0.5 MT and approx. dimension 1000x800x2200 mm each.	Nos	8				
SECTION-E5C: PANELS							
E5C.1	Generator, Generator Transformer, UAT Transformer,SAT Transformer- Control ,Transducer Panel,protection & Metering panels. Approx dimension of each panel 1000(L)x1000(W)x2300(H), approx weight 1000kg per panel	set	2				
E5C.2	RTCC Panel. Approx.Overall dimension of each panel - 600(W)x2355(H)x660(D) mm, weight of each panel is approximately 0.7 MT.	Nos.	6				
SECTION-E5F : DIGITAL AUTOMATIC VOLTAGE REGULATOR FOR BRUSHLESS EXCITAION SYSTEM							1.5
E.5F.1	Transportation from store / storage yard to erection site , Erection, Assembly, Testing & Commissioning of Digital Excitation Equipments / System , System consist of DAVR panels & accessories as per tender specification.4056(W)X2415(H)X800(D)	Set	2				
SECTION-E5G : MISCELLANEOUS EQUIPMENT							1.5
E5G.1	Ash Level Indicator comprising of level probe with extension lagging pipe, Electronic Unit, Interconnecting Cabling, Conduit, etc.	Nos	56				
SECTION-E 6 : EQUIPMENT EARTHING MATERIALS							
E6.1	70 x 10 mm GI earthing flat	Mtrs.	1800				
E6.2	75 x 10 mm GI earthing flat	Mtrs.	1000				
E6.3	50 x 6 mm GI earthing flat	Mtrs.	5600				

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Sl.no	Description of items	UOM	Quantity	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)	APPLICABLE for Terms of Payment
E6.4	30 X 5 mm GI earthing flat	Mtrs.	6100				
E6.5	35 X 6 mm GI earthing flat	Mtrs.	2500				
E6.6	25 X 6 mm GI earthing flat	Mtrs.	2500				
E6.7	GI earthing wire Diameter 3.15mm or 8 SWG	Mtrs.	7200				
E6.8	8 SWG GI Wire(Stranded)	Mtrs.	5500				
E6.9	16 SWG GI Wire (Stranded)	Mtrs.	1500				
SECTION -E7 :IPBD BUS DUCTS							1.7
E7.1	Isolated Phase Bus Duct (16.5 KV) for interconnection of Generator, Generator Circuit Breaker, Generator Transformers, UAT ,SAT,along with all accessories & auxiliaries as described in the Tender Specification.As per Drg. (Approx. Length 65 Mtr Per Phase main and Tape Off Duct 4.7 Mx3 for VT,4.7 Mx3 for LA, 5 M for Neutral, 1.8 Mx3 for GT) for each Unit	set	2				
SECTION- E8 :OIL FILLED TRANSFORMERS(GT,SAT,UAT)							1.8
E8.1.A	3-phase 188 MVA, 15.75/235 KV, ONAN/ONAF/OFAF, Cooled Generator Transformer (GT) including all accessories, piping, cabling etc. as described in Tender Specification for Unit# 1 (Placement on foundation and alignment is not applicable. Terms of payment shall be as per SI No AA of Corrigendum 03 dated 08/08/2014)	No	1				
E8.1.B	3-phase 188 MVA, 15.75/235 KV, ONAN/ONAF/OFAF, Cooled Generator Transformer (GT) including all accessories, piping, cabling etc. as described in Tender Specification for Unit # 2 (Terms of payment shall be as per SI No 8.0 of Chapter VII Terms of Payment of Volume I A TCC)	No	1				

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E8.2	20MVA, 3-phase 15.75/6.9 kV Unit Auxiliary Transformer (UAT) including all accessories, piping, cabling etc as described in tender specification. Also including One No each. Neutral Grounding Transformer (NGR) for each UAT.	Nos.	2				
E8.3	27 MVA, 3-phase 15.75/6.9 kV Station Auxiliary Transformer (SAT) , OLTC , ONAF/ONAN including all accessories, piping, cabling etc as described in tender specification. Also including One No. each Neutral Grounding Transformer (NGR) for each ST.	Nos.	2				
SECTION-E 9 : ONLY TESTING & COMMISSIONING							1.9
E9.1	Heating elements for Hopper Heater(Tubler Type) of ESP	Nos.	672				
E9.2	Heating elements for Support Insulator Heater, Shaft Insulator Heaters of ESP	Nos.	140				
E9.3	High Voltage Rectifier Transformers (95 KV peak, 1200 mA) including oil filtration.	Nos.	28				
E9.4	Testing & Commissioning of Collecting, Emitting, GD Screen Motor	Nos.	60				
E9.5	Testing and commissioning of 6.6 & 11KV HT motors, including dryout.	Nos.	30				
E9.6	Testing and commissioning of 415 V LT motors including dry out.	Nos.	174				
E9.7	Generator system testing	Set	2				
E9.8	Testing & Commissioning of Wall, Long Retractable, Air Heater Soot Blower	Nos.	148				
E9.9	Testing commissioning of Electrical Hoist in power plant area	Nos.	36				

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E9.10	Testing & Commissioning of Furnace temperature probe (including solenoids, thermocouple,JB etc)	Nos.	2				
E9.11	Thermostats including Calibration for Hopper & Suppo	Nos.	32				
E9.12	Electrically (LT) Operated Valves, Dampers and Gates with Actuators, Limit Switches etc. (Regulating & ON/OFF Type).	Nos.	446				
SECTION-E 10 : Other Items		Nos.					
E10.1.1	CO2 fire alarm system instalaaion of censer ,JBs,EPBs,Control Panel,PC,Including UPS battery ,cabling termination and assistance for commissioning with supplier for TG.	set	2				
E10.1.2	10Triad X 0.5 SQ MM Cable	Mtrs.	1000				
E10.2.0	PVC PIPE SLEEVE						
E10.2.1	150 mm Dia	Mtrs.	380				
E10.2.2	100 mm Dia	Mtrs.	90				
E10.2.3	50 mm Dia	Mtrs.	40				
Grand Total in figures (In Rs)							
Grand Total in Words Rs.....							