

TENDER SPECIFICATION

BHEL: PSSR: SCT: 1454

FOR

Handling at Site Stores / Storage yard, Transportation to Site of Work, Pre assy., Erection, Testing and Commissioning of HT Electrical Package of Unit- 1&2, Supply & Applications of touch-up, preservation and final painting of above package of NCTPS Stage-II 2x600 MW

at

**North Chennai Thermal Power Station,
Atthipattu,
Chennai – 120, Tamil Nadu.**

VOLUME –II

PRICE BID



BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)

Power Sector – Southern Region

690, Anna Salai, Nandanam, Chennai – 600 035.

BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)
Power Sector, Southern Region
690, Anna Salai, Nandanam, Chennai – 35

Tender Specification No. BHEL: PSSR: SCT: 1454

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Handling at Site Stores / Storage yard, Transportation to Site of Work, Pre assy., Erection, Testing and Commissioning of HT Electrical Package of Unit- 1&2, Supply & Applications of touch-up, preservation and final painting of above package of NCTPS Stage-II 2x600 MW at North Chennai Thermal Power Station, Atthipattu, Chennai – 120, Tamil Nadu.

One set of Tender documents consisting of

- 1) TECHNOCOMMERCIAL BID - 2 copies
- 2) PRICE BID - 2 copies

Book Sl no

Issued to
M/s

Refer NIT for Last date of submission

Please note this tender document is not transferable

For and on behalf of
BHARAT HEAVY ELECTRICALS LIMITED

ADDL GENERAL MANAGER / CONTRACTS

Place: Chennai -35
Date:

NORTH CHENNAI THERMAL POWER STATION - STAGE-II - 2x600 MW**BHEL: PSSR: SCT 1454 RATE SCHEDULE - HT ELECTRICAL PACKAGE**

Sl. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
		TRANSFORMERS						
1	A.1.1	240 MVA Generator Transformers	Set*	7				
2	B.1.1	40/50 MVA Unit Transformers	Set*	4				
3	B.1.2	40/50 MVA Standby Transformer	Set*	1				
4	B.1.3	16 MVA Unit Aux. Transformers	Set*	4				
5	B.1.4	2500 KVA Dry Type Transformers	Set*	8				
6	C.1.1	3500 KVA Service Transformers	Set*	4				
7	C.1.2	2500 KVA Service Transformer	Set*	2				
8	C.1.3	2000 KVA Service Transformers	Set*	5				

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Sl. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
9	C.1.4	1600 KVA Service Transformers	Set*	22				
10	E.2.1	5000 KVA VFD Transformers	Set*	8				
		HT BUSDUCT :						
11	D.1.1	21 KV IP Busduct	Set*	2				
12	D.2.1, D.2.2, D.2.3, D.2.4	SP Bus Duct - 11KV, 3150 A	Mtr.	540				
13	D.2.5, D.2.6	SP Bus Duct - 3.3KV, 3150 A	Mtr.	165				
14	D.2.7	SP Bus Duct - 3.3KV, 630 A	Mtr.	40				
		HT SWITCHGEAR						
15	A.2.1 , A.2.2	11KV Unit Switchboard # 1 BA & 2BA	Set*	2				
16	A.2.3 , A.2.4	11KV Unit Switchboard # 1BB & 2BB	Set*	2				

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Sl. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
17	A.2.5	11KV Standby Switchboard # 0BA	Set*	1				
18	A.2.6 , A.2.7	3.3KV Unit auxillary Switchboard # 1CA & 2CA	Set*	2				
19	A.2.8	3.3KV Plant water auxillary Switchboard # 0CA	Set*	1				
20	A.2.9	3.3KV AHP auxillary Switchboard 0CB	Set*	1				
21	A.5.0	Earthing Truck/Breakers	No.	18				
22	A.4.0	Data Concentrator	Set*	2				
		GENERATOR , GT & UT CONTROL / PROTECTION & METERING PANELS						
23	A.3.1	Generator Relay Panel	Set*	2				

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SI. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
24	A.3.2	Bus Transfer Panel	Set*	2				
25	B.2.1	Transformer Remote Tap Changer Control Panel	Set*	5				
		VFD FOR ID FANS						
26	E.3.1	11 KV VFD Switchgear Panel	Set*	8				
27	E.3.2	LCI Drive Panel	Set*	8				
28	E.3.3	CLC Panel (Cable Length Compensation Panel)	Set	8				
29	E.3.4	Common Control Panel for VFD Drives, including PC System for MMI	Set*	4				
30	E.3.5	Air core DC link Reactor	Set	8				

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Sl. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
		LAYING OF LT POWER CABLES						
31	E.4.1	3C X 25 Sq.mm	Mtr.	10900				
32	E.4.2	3C X 120 Sq.mm	Mtr.	1400				
		TERMINATION OF LT POWER CABLES						
33	E.5.1	3C X 25 sq. mm, Al, Armoured	No.	32				
34	E.5.2	3 C X 120 sq. mm, Al, Armoured	No.	12				
		LAYING AND TERMINATION OF OF LT POWER /CONTROL CABLES						
35	E.6.1	2C X 2.5 Sq.mm	Mtr.	2300				

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Sl. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
36	E.6.2	2C X 1.5 Sq.mm	Mtr.	9000				
37	E.6.3	4C X 1.5 Sq.mm	Mtr.	850				
38	E.6.4	14C X 1.5 Sq.mm	Mtr.	850				
		Laying and Termination of Individual Pair & Overall Shielded / Overall Shielded, Twisted Pair Armoured cables						
39	E.7.1 , E.8.1	2 Pair x 0.5 mm2		8800				
40	E.7.2 , E.8.2,	4 Pair x 0.5 mm2		14800				
41	E.8.3	8 Pair x 0.5 mm2		6400				
42	E.7.3 , E.8.4	12 Pair x 0.5 mm2		5000				

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Sl. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
		EXCITATION EQUIPMENTS						
43	E.1.1	Digital Automatic Voltage Regulator (DAVR)	Set*	2				
44	E 1.2	Transformer Cubicle	No.	2				
45	C.2.0	24 KV, 21 kA Generator Circuit Breaker	Set*	2				
		LAYING OF HT CABLES						
		11KV/11KV (UE) grade Aluminium, XLPE insulated, armoured cables of the following sizes						
46	C.3.1.1	3C x 150 sq. mm	Mtr.	21000				
47	C.3.1.2	1C x 300 sq. mm	Mtr.	14000				

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SI. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
		3.3KV/3.3KV (UE) grade Aluminium, XLPE insulated, armoured cables of the following sizes						
48	C.3.2.1	3C x 150 sq. mm	Mtr.	10000				
49	C.3.2.2	1C x 150 sq. mm	Mtr.	8000				
		6.35KV/11KV (E) grade Aluminium , XLPE insulated, armoured cables of the following sizes						
50	C.3.3.1	3C x 300 sq. mm	Mtr.	3000				

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					In figures	In words	In figures	In words
		6.35KV/11KV (E) grade Aluminium, XLPE insulated, unarmoured cables of the following sizes						
51	C.3.4.1	1C x 630 sq. mm	Mtr.	4500				
		HT CABLE TERMINATION KITS / JOINT KITS						
		11KV/11KV (UE) Grade, Indoor type, XLPE insulated cable end termination kit						
52	C.4.1.1	3C x 150 Sq. mm, Armoured Al cable	No.	106				
53	C.4.1.2	1C x 300 Sq. mm, Armoured Al cable	No.	157				

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SI. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
		11KV/11KV (UE) Grade, Indoor type, XLPE insulated cable Straight Through Joining kit						
54	C.4.2.1	3C x 150 Sq.mm, Armoured Al cable	No.	6				
		6.35KV/11KV (E) Grade, Indoor type, XLPE insulated cable end termination kit						
55	C.4.3.1	3Cx 300 Sq. mm, Armoured Al cable	No.	68				
56	C.4.3.2	1C x 630 Sq. mm, Un-Armoured Al cable	No.	164				

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SI. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
		3.3KV/3.3KV (UE) Grade, Indoor type, XLPE insulated cable end termination kit						
57	C.4.4.1	1C x 150 Sq. mm, Armoured Al cable	No.	128				
58	C.4.4.2	3C x 150 Sq. mm, Armoured Al cable	No.	110				
		3.3KV/3.3KV (UE) Grade, Indoor type, XLPE insulated cable Straight Through Joining kit						
59	C.4.5.1	3C x 150 Sq. mm, Armoured Al cable	No.	6				

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SI. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
		ELECTRICAL COMMISSIONING OF THE FOLLOWING ERECTED BY MECHANICAL CONTRACTOR						
60	F.1.0	600 MW Generator	No. \$	2				
61	F.2.1	11 KV Motors	No. \$	22				
62	F.2.2	3.3 KV Motors	No. \$	71				

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SI. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
63	F.3.0	ESP Transformer	No. \$	160				
64	G.1.1	Fabrication and erection of frames and structures	MT#	20				
65	G.1.2	Filtration of transformer oil	kl#	60				
66	G.1.3	Aluminium Welding (up to 10mm thick)	m#	50				

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SI. No.	BOM Ref. No.	Description	UNIT	Total Qty for both unit	Unit Rate		Total Value	
					In figures	In words	In figures	In words
67	G.1.4	Aluminium Welding (11 to 20mm thick)	m [#]	50				

Note:

- 1) # - items are optional and will be operated if necessary. The quantity may vary to any extent.
 - 2) \$- Rate to be quoted for commissioning only
 - 3) Before filling the Rates in the rate schedule, the bidder shall go through the detailed specification of all items of BOM as well as Scope of Work as specified in relevant Clause of the tender specification.
 - 4) The quantity indicated in the BOQ / rate schedule is approximate only and is liable for variation. Payment will be as per actual qty erected / commissioned as certified by BHEL Engineer.
 - 5) * - LUMPSUM UNIT RATE
- Unit rate to be quoted on lump sum basis shall include installation of all loose items which are not explicitly mentioned, but comes as part of the system, integration of total system and commissioning. No separate rate shall be payable for loose items. The quantities of loose supplied items are approximate only. No proportional rate will be applicable for any variation in quantity or for any additional items supplied as part of equipments.

Signature of the bidder