



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Govt. of India Undertaking)

**TCN - 02**

Ref: PSER:SCT:MRW-E1265:TCN-02

Date: 11-11-2011

Sub	Tender change notice (TCN) 02.	
Job	Erection, testing, commissioning etc of GT, ST, UAT, misc transformers, bus-duct, HT/ LT SWGR/ panels, misc panels, cabling work etc for 2x500 MW units at Marwa TPP, Chattisgarh.	
Ref	1.0	Tender no PSER:SCT:MRW-E1265:11
	2.0	BHEL's NIT vide reference no PSER:SCT:MRW-E1265:2573, dated 25-10-11.
	3.0	Tcn-01 issued vide ref. no. PSER:SCT:MRW-E1265:TCN-01 dated 27-10-2011
	4.0	Other references (if any).

With reference to above, following points, relevant to tender, may please be noted and complied with while submitting offer.

- 1.0 Revised Rate/Price Schedule (Vol-III,Rev.01) is as per enclosed.
- 2.0 Revised 'No deviation certificate' as per enclosed Annexure-2. Bidder to submit 'No deviation certificate' as per attached format only.
- 3.0 All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,  
for BHARAT HEAVY ELECTRICALS LTD

ENGR (SCT)

Encl  
As above.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960

फोन/Phone : बोर्ड/EPABX : 23211798/ 1691

**FORMAT FOR NO DEVIATION CERTIFICATE**  
**(To be submitted in the bidder's letter head)**

BHARAT HEAVY ELECTRICALS LIMITED,  
Power Sector - Eastern Region,  
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,  
Kolkata – 700 091

Sub	No Deviation Certificate.	
Job	Erection, testing, commissioning etc of GT, ST, UAT, misc transformers, bus-duct, HT/ LT SWGR/ panels, misc panels, cabling work etc for 2x500 MW units at Marwa TPP, Chattisgarh.	
Ref	01	Tender no PSER:SCT:MRW-E1265:11
	02	BHEL's NIT vide reference no PSER:SCT:MRW-E1265:2573, dated 25-10-11.
	03	BHEL's TCN-01, vide reference no PSER:SCT:MRW-E1265:TCN-01, dated 27-10-11.
	04	BHEL's TCN-02, vide reference no PSER:SCT:MRW-E1265:TCN-02, dated 11-11-11.
	05	Other references (if any).

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification, integrity pact (if applicable) and acceptance to reverse auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized representative of the bidder)

**VOLUME-III  
PRICE SCHEDULE, REV-1**

**Erection, testing, commissioning etc of GT, ST, UAT, misc transformers, bus-duct, HT/ LT SWGR/  
panels, misc panels, cabling work etc for 2x500 MW units at Marwa, Chattisgarh.**

**TENDER NO - PSER:SCT:MRW-E1265:11**

**PREAMBLE**

1.0	This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully in rates for various items. Clauses under this preamble shall be read in conjunction with other volumes of tender as applicable.
2.0	The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions.
3.0	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
4.0	Unless specifically mentioned otherwise in the tender, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc. equipment, strengthening of roads/culverts/bridges etc. including arranging all clearances etc. required for carrying out different activities & tests, materials, levies, taxes, transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the tender document and this schedule.
5.0	Unless otherwise specified and in case of item rate based price schedule and not on lumpsum basis, the quantities of the various items mentioned in this schedule of items are approximate, based on very preliminary information and may vary to any extent or to be deleted altogether. The quoted/ accepted rates shall remain firm and valid as long as variation in total value of work executed under this contract including extra items, but excluding any price escalation, remains within +/- 15% (Fifteen percent) of the contract price given in the LOI/WO.
6.0	The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing and leveling etc. including fixing of grid pillars, benchmarks etc. required for commencement of site activities. No separate payment will be made towards the same.
7.0	Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English language.
8.0	All works item wise shall be measured upon completion and paid for at the rates quoted & accepted.
9.0	The tender shall be deemed to have studied the specifications, details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.
10.0	Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract.
11.0	Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract.

<p style="text-align: center;"><b>VOLUME-III A</b> <b>PRICE SCHEDULE, REV-1</b></p>		
<p style="text-align: center;">Erection, testing, commissioning etc of GT, ST, UAT, misc transformers, bus-duct, HT/ LT SWGR/ TENDER NO - PSER:SCT:MRW-E1265:11</p>		
<p style="text-align: center;"><b>SCH-1 - SUMMARY</b></p>		
SL NO	ITEM	AMOUNT (Rs)
1.0	TOTAL PRICE FOR SCH-2.	0
2.0	TOTAL PRICE FOR SCH-3	0
3.0	TOTAL PRICE (1.0 + 2.0)	0

**VOLUME-III  
PRICE SCHEDULE, REV-1**

**Erection, testing, commissioning etc of GT, ST, UAT, misc transformers, bus-duct, HT/ LT SWGR/ panels, misc**

**TENDER NO - PSER:SCT:MRW-E1265:11**

**SCH-2 - TRANSFORMER, BUSDUCT ETC**

SL NO	ITEM DESCRIPTION	QUANTITY	UNIT RATE (Rs)	AMOUNT (Rs)
1.0	Transformer.			
1.1	Oil filled transformer.			
1.1.1	Single Phase, 200MVA, 21kV/ (420/√3) kV, Mineral oil filled ONAN/ONAF/OFAP cooled with Off Circuit Tap changer. Step up Generator Transformer with spare unit shall be charged by 11 kV feeder	7	NO	
1.1.2	Station transformers (one rated for 80/45/35 MVA, 400/11.5/6.9 kV and second rated for 80/45/35 MVA, 220/11.5/6.9 kV)	2	SET	
1.1.3	20/25 MVA, 21 kV / 6.9 kV Unit Transformers – Two Winding. Vector group as per SLD-Dyn1. Mineral Oil Filled ONAN/ONAF (ONAN rating 80%) with OLTC and three phase.	4	SET	
2.0	Busduct.			
2.1	IP busduct (21KV, 19KA) (with all galvanised supporting structures, CTs, marshalling box and accessories, etc).			
2.1.1	Main bus duct (Encloser 1500 OD, 8 thk conductor 800 OD, 16 thk approx.).	400	MTR	
2.1.2	Tap-off Bus Duct as required like for UT, NGT, LAVT	100	MTR	
2.1.3	SPVT cubical.	2	SET	
2.1.4	Hot air blowing equipment with piping and pipe support.	2	SET	
2.1.5	Delta busduct (Encloser 1000 OD, 8 thk conductor 450 OD, 15 thick).	220	MTR	
2.1.6	Top chamber.	2	NO	
2.1.7	Neutral grounding transformer with resistance.	2	NO	
2.2	SP busduct (with all supporting structures, space heater arrangement, etc complete).			
2.2.1	2500A SP busduct of approx. size 1350 x 450 mm conductor 2 x 127.2 x 48 x 8 thk Al channel box formation).	500	MTR	
3.0	Items of VFD.			
3.1	LCI channel - dimensions (LxDxH): 3700 x 1450 x 2400, wt 3000 kg (Consisting of sections - control & excitation, fan & filter panel and bridge panel).	8	SET (EACH SET IS OF 3 PANELS)	
3.2	Adaptor panel - dimensions (LxDxH) - 600 x 1450 x 2400, wt 200 kg.	8	SET (EACH SET IS OF SINGLE PANEL)	
3.3	Common control panel - dimensions (LxDxH), 800 x 1450 x 2400, wt 400 kg.	4	SET (EACH SET IS OF SINGLE PANEL)	
3.4	Onan transformer - dimensions (LxDxH) 5000 x 2550 x 3200.	8	NO	
3.5	Air core DC reactor - dimensions (LxDxH) 2000 x 2000 x 3000.	8	NO	
3.6	Vacuum ckt breaker - dimensions (LxDxH) 1640 x 2400 x 2300.	8	NO	
3.7	Flexible coupling-of approx. dimensions (LxDxH) 700 x 400 x 1000	2	NO	
3.8	O&M panel of approx. dimensions 600 x 600 x 2400.	2	NO	
3.9	NGRs for UT	4	NO	
3.10	NGRs for ST	8	NO	
3.11	Relay and Protection panel for Station Transformer	2	SET	
3.12	SPECIALISED COMMISSIONING SERVICES			

RATE SCHEDULE

SL NO	ITEM DESCRIPTION	QUANTITY		UNIT RATE (Rs)	AMOUNT (Rs)
4.0	COMMISSIONING SERVICES FOR TESTING & COMMISSIONING OF PROTECTION RELAYS, CTs, PTs ETC OF ELECTRICAL EQUIPMENTS BY DEPLOYING SPECIALISED TECHNICAL MANPOWER (including special testing kits for the purpose) AT BHEL KORBA SITE IN MAN-MONTHS (MM)	20	MAN-MONTH		
TOTAL					

<b>NOTE</b>	<b>WHILE QUOTING ITEM VIDE SL NOS 1.1.2, 1.1.3, 2.1.3, 2.1.4, 3.1, 3.2 ,3.3 AND 3.11 , BIDDER MUST NOTE THE DEFINITION OF SET GIVEN IN COLUMN NO.4 UNDER UNIT AGAINST ABOVE ITEMS AND</b>
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<b>VOLUME-III A</b>				
<b>PRICE SCHEDULE, REV-1</b>				
<b>Erection, testing, commissioning etc of GT, ST, UAT, misc transformers, bus-duct, HT/ LT SWGR/ panels,</b>				
<b>TENDER NO - PSER:SCT:MRW-E1265:11</b>				
<b>SCH-3 - CABLING ETC</b>				
<b>SL NO</b>	<b>ITEM DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT RATE (Rs)</b>	<b>AMOUNT (Rs)</b>
1.0	Hot dip galvanised ladder type cable tray complete with coupler plates, fasteners, clamps and fixing hardwares etc.			
1.1	600 mm wide.	2000	MTR	
1.2	300 mm wide.	1000	MTR	
1.3	150 mm wide.	3000	MTR	
2.0	Hot dip galvanised perforated type cable tray complete with coupler plates, fasteners, clamps and fixing hardwares etc.			
2.1	300 mm wide.	200	MTR	
2.2	150 mm wide.	1200	MTR	
3.0	Hot dip galvanised cable tray accessories including fixing of GI flats.			
3.1	Ladder type horizontal 90 deg bend-600 mm radius.			
3.1.1	600 mm wide.	500	NO	
3.1.2	300 mm wide.	250	NO	
3.1.3	150 mm wide.	30	NO	
3.2	Ladder type vertical 90 deg bend-600 mm radius (inside).			
3.2.1	600 mm wide.	30	NO	
3.2.2	300 mm wide.	75	NO	
3.2.3	150 mm wide.	20	NO	
3.3	Ladder type vertical 90 deg bend-600 mm radius (outside).			
3.3.1	600 mm wide.	20	NO	
3.3.2	300 mm wide.	30	NO	
3.3.3	150 mm wide.	10	NO	
3.4	Ladder type tees-600 mm radius.			
3.4.1	600 mm wide.	20	NO	
3.4.2	300 mm wide.	40	NO	
3.4.3	150 mm wide.	12	NO	
3.5	Ladder type cross-600 mm radius.			
3.5.1	600 mm wide.	16	NO	
3.5.2	300 mm wide.	10	NO	
3.6	Ladder type reducers LHS.			
3.6.1	600-300 mm wide.	10	NO	
3.6.2	300-150 mm wide.	6	NO	
3.7	Ladder type reducers RHS.			
3.7.1	600-300 mm wide.	10	NO	
3.7.2	300-150 mm wide.	6	NO	
3.8	Perforated type horizontal 90 deg bend 600 mm radius.			
3.8.1	300 mm wide.	20	NO	
3.8.2	150 mm wide.	40	NO	
3.9	Perforated type vertical 90 deg bend-600 mm radius (inside).			
3.9.1	300 mm wide.	20	NO	
3.9.2	150 mm wide.	40	NO	
3.10	Perforated type vertical 90 deg bend-600 mm radius (outside).			
3.10.1	300 mm wide.	20	NO	
3.10.2	150 mm wide.	16	NO	
3.11	Perforated type tees-600 mm radius.			
3.11.1	300 mm wide.	6	NO	
3.11.2	150 mm wide.	6	NO	
3.12	Perforated type cross-600 mm radius.			

SL NO	ITEM DESCRIPTION	QUANTITY	UNIT RATE (Rs)	AMOUNT (Rs)
3.12.1	300 mm wide.	6	NO	
3.12.2	150 mm wide.	6	NO	
3.13	Perforated type reducers LHS.			
3.13.1	300-150 mm wide.	4	NO	
3.14	Perforated type reducers RHS.			
3.14.1	300-150 mm wide.	4	NO	
<b>Note</b>				
Irregular accessories to be fabricated out of straight run to suit layout as required. No additional payment is admissible for such fabrication.				
4.0	Hot dip galvanised cable tray cover- complete with formed channel, pipe, GI flat, bolts with nuts & washers & fixing hardware etc (1.7 mm thick sheet).			
4.1	600 mm wide.	80	MTR	
4.2	300 mm wide.	60	MTR	
4.3	150 mm wide.	40	MTR	
5.0	Cable tray support (hot dip galvanised structural steel) material (cutting, fabrication, painting and erection of angles, chanel, beams etc for above).	65	MT	
6.0	Cutting, fabrication, erection of rigid galvanised MS conduit/ pipes.			
6.1	20-30 mm diameter.	30	MTR	
6.2	75 mm diameter.	250	MTR	
6.3	50 mm diameter.	300	MTR	
6.4	100-125 mm diameter.	100	MTR	
7.0	Flexible conduits made of cold rolled annealed electro galvanised MS strip.			
7.1	20-25 mm diameter.	1000	MTR	
7.2	40-50 mm diameter.	400	MTR	
7.3	75-100 mm diameter.	200	MTR	
8.0	<b>Cable laying &amp; associated work.</b>			
8.1	1.1KV LT Aluminium. XLPE power cable.			
8.1.1	1C-35 Sqmm	14	KM	
8.1.2	1C-120 Sqmm	30	KM	
8.1.3	1C-630 Sqmm	2	KM	
8.1.4	2C-6 Sqmm	35	KM	
8.1.5	2C-70 sqmm.	115	KM	
8.1.6	3C-6 sqmm.	5	KM	
8.1.7	3C-16 sqmm.	2	KM	
8.1.8	3C-25 sq mm	36	KM	
8.1.9	3C-70 sqmm.	5	KM	
8.1.10	3C-50 sqmm.	1	KM	
8.1.11	3.5C-120 sqmm.	2	KM	
8.2	1.1 KV LT Copper PVC FRLS control cable.			
8.2.1	2C-1.5 sqmm.	1	KM	
8.2.2	2C-2.5 sqmm.	15	KM	
8.2.3	3C-1.5 sqmm.	52	KM	
8.2.4	3C-2.5 sqmm.	74	KM	
8.2.5	4C-1.5 sqmm.	102	KM	
8.2.6	12C-1.5 sqmm.	62	KM	
8.3	Above ground earthing and lightning protection material for equipment/ building (laying, fixing etc).			
8.3.1	Galvanised MS flat 50 x 6.	15	MT	
8.3.2	Galvanised MS flat 25 x 3.	2	MT	
8.3.3	Galvanised MS flat 30 x 5.	8	MT	
8.3.4	8 SWG hot dipped galvanized GI stranded wire.	40000	Mtr	
9.0	Cable termination.			

SL NO	ITEM DESCRIPTION	QUANTITY	UNIT RATE (Rs)	AMOUNT (Rs)
9.1	1.1 KV LT Aluminium XLPE power cable.			
9.1.1	1C-35 Sqmm	80	NO	
9.1.2	1C-120 Sqmm	300	NO	
9.1.3	1C-630 Sqmm	10	NO	
9.1.4	2C-6 Sqmm	350	NO	
9.1.5	2C-70 sqmm.	1000	NO	
9.1.6	3C-6 sqmm.	100	NO	
9.1.7	3C-16 sqmm.	40	NO	
9.1.8	3C-25 sqmm.	650	NO	
9.1.9	3C-50 sq mm	20	NO	
9.1.10	3C-70 sqmm.	70	NO	
9.1.11	3.5C-120 sqmm.	10	NO	
9.2	1.1 KV LT Copper PVC FRLS control cable (for cable sizes 0.5 sqmm, 1.5 sqmm and 2.5 sqmm, cable termination rate shall be inclusive of supply of heavy duty Copper lugs suitable to terminal box also).			
9.2.1	2C-1.5 sqmm.	200	NO	
9.2.2	2C-2.5 sqmm.	4000	NO	
9.2.3	3C-1.5 sqmm.	3500	NO	
9.2.4	3C-2.5 sqmm.	5000	NO	
9.2.5	4C-1.5 sqmm.	2000	NO	
9.2.6	12C-1.5 sqmm.	1000	NO	
10.0	Minor civil work .			
10.1	Minor civil work (chipping).	20	SQM	
10.2	Earth excavation & back filling.	50	CUM	
10.3	Breaking of break/ concrete walls/ floors.			
10.3.1	Breaking of concrete walls/ floors including finishing.	8	CUM	
10.3.2	Breaking of brick walls including finishing.	50	SQM	
11.0	HT switchgear & accessories.			
11.1	6.6 KV Unit switch board, 1CA - 26 panels.	1	NO OF BOARD	
11.2	6.6 KV Unit switch board, 1CB - 27 panels.	1	NO OF BOARD	
11.3	6.6 KV Station switch board, OCA - 30 panels.	1	NO OF BOARD	
11.4	11 KV Station switch board, OBA - 12 panels.	1	NO OF BOARD	
11.5	6.6 KV Unit switch board, 2CA - 26 panels.	1	NO OF BOARD	
11.6	6.6 KV Unit switch board, 2CB - 27 panels.	1	NO OF BOARD	
11.7	6.6 KV Station switch board, OCB - 28 panels.	1	NO OF BOARD	
11.8	11 KV Station switch board, OBB - 12 panels.	1	NO OF BOARD	
11.9	6.6 KV CHP Switch board, OCC - 36 panels.	1	NO OF BOARD	
11.10	6.6 KV AHP Switch board, OCD - 41 panels.	1	NO OF BOARD	
11.11	6.6 KV RW Switchboard OBE - 16 Panels	1	NO OF BOARD	
11.12	Bus bar & feeder earthing trucks.	8	NO	
11.13	Bus transfer panel.	4	NO	

RATE SCHEDULE

SL NO	ITEM DESCRIPTION	QUANTITY	UNIT RATE (Rs)	AMOUNT (Rs)
12.0	LT SWBD and DCDB.			
12.1	415V Soot Blower MCC - 1000A.	2	NO OF BOARD	
12.2	415V ESP MCC .	8	NO OF BOARD	
12.3	415VHydrogen Generation Plant MCC.	2	NO OF BOARD	
12.4	415V Starter Panel for Oil purification system	2	NO OF BOARD	
13.0	Panels for ESP.			
13.1	ESP auxiliary control panels	8	NO	
13.2	ESP rapper control panel (with rapcon)	8	NO	
13.3	ESP Statcon control panel (with Statcon)	8	NO	
14.0	Generator relay panel and unit control & aux control board, various control panels and other panels.			
14.1	Genenerator/ GT relay & protection panel with neumerical relays, transducers, etc.	8	NO	
14.2	Digital autotomatic voltage regulator board (comprising of regulation, thyristor & field suppression cubicle).	2	NO OF BOARD	
14.3	Generator vapour exhauster panel.	2	NO	
14.4	Stroboscope system.	2	NO	
15.0	Only commissioning rate to be quoted for following items.			
15.1	Thermostat for hopper heater of ESP.	144	NO	
15.2	Thermostat for support insulator heater of ESP.	16	NO	
15.3	Electrically operated hoist 3T (EOH).	8	NO	
15.4	Geared motor for collecting electrode rapping.	144	NO	
15.5	Geared motor for GD screen rapping motor.	16	NO	
15.6	Geared motor for emitting electrode rapping motor.	144	NO	
15.7	Control panel erected by other agency.	10	NO	
16.0	Misc local panels.			
16.1	Starter cabinet for DC jacking oil motor with resistance box & all ACC.	2	NO	
16.2	Starter cabinet for DC emergency lub oil motor with resistance box & all ACC.	2	NO	
16.3	Starter cabinet for DC seal oil motor with resistance box & all ACC.	2	NO	
16.4	Starter cabinet for DC TD BFP motor with resistance box & all ACC.	2	NO	
16.5	Dry air system.	2	NO	
16.6	Alkalysier panel.	2	NO	
16.7	DC scanner air starter box with resistance box & all ACC.	2	NO	
17.0	Junction box, push button etc.			
17.1	Junction box.			
17.1.1	Junction box -6 way.	10	NO	
17.1.2	Junction box -12 way.	10	NO	
17.1.3	Junction box -24 way.	160	NO	
17.1.4	Junction box -36 way.	20	NO	
17.1.5	Junction box -48 way.	60	NO	
17.1.6	Junction box -75 way.	30	NO	
17.1.7	Junction box -96 way.	30	NO	
17.2	Junction box for ESP.			
17.2.1	Junction box for hopper heaters.	144	NO	
17.2.2	Junction box for support insulator heaters.	32	NO	

RATE SCHEDULE

SL NO	ITEM DESCRIPTION	QUANTITY	UNIT RATE (Rs)	AMOUNT (Rs)
17.2.3	Junction box for shaft insulator heaters.	16	NO	
17.2.4	Junction box for start stop push button.	32	NO	
17.2.5	Junction box for hopper thermostat.	8	NO	
17.2.6	Junction box for all.	32	NO	
17.2.7	Junction box for opacity monitor.	8	NO	
17.3	Power junction box.			
17.3.1	Power junction box (type-1).	10	NO	
17.3.2	Power junction box (type-2).	20	NO	
17.3.3	Power junction box (type-3).	24	NO	
17.4	Push buttons.			
17.4.1	Local start stop push button for rapping motor.	144	NO	
17.4.2	Local push button station (type - a, b & c).	300	NO	
17.4.3	Local motor starter (0.37~3.7kw).	70	NO	
17.4.4	Local push button stations (flame proof).	5	NO	
18.0	Miscellaneous.			
18.1	Motors & actuators (Excluding erection, to be erected by other vendor).			
18.1.1	Drying out of HT motors.	62	NO	
18.1.2	Drying out of LT motors.	80	NO	
18.1.3	Testing/ commissioning of HT motors (including erection/ testing of loose supplied CTs and wiring, if required).	30	NO	
18.1.4	Testing/ commissioning of LT motors.	80	NO	
18.1.5	Oil filtration/ treatment of HVR of ESP.	144	NO	
18.1.6	Testing/ commissioning of HVR of ESP.	144	NO	
18.1.7	Testing/ commissioning of hydrogen drier.	2	NO	
18.1.8	Torque/ limit switches setting, position feedback calibration and operation/ commissioning of motor operated valves/ dampers/ probe (Actuator not to be erected).	200	NO	
18.1.9	Limit switch setting and operation/ commissioning of soot blower (Erection of soot blower & actuator is excluded).	200	NO	
18.2	Fabrication and erection.			
18.2.1	Fabrication & erection of foundation/ base frames for switchgear, control panel, JB/ IPB etc, from MS structural items (angle, channel etc MS structural material shall be issued by BHEL free of cost) including providing of all required consumables, paints etc.	15	MT	
18.3	Chequered plates.			
18.3.1	Fabrication & installation of MS chequered plates (material by BHEL as free issue) for covering up leftover floor cutout/ trench around switchgear/ panels (inclusive of all consumables, paints).	5	MT	
18.4	Insert plates/anchor fasteners.			
18.4.1	Fabrication of insert plates by gas cutting/ grinding, from 6-8 mm thick MS plates, angle/ flats etc (MS materials by BHEL as free issue) and its installation by grouting on wall.	0.4	MT	
18.4.2	Installation of heavy duty galvanised friction anchor fastener of HILTI/ BOSCH make of dia 16mm and 100mm length in concrete (minimum grade M20) including supply of anchor fasteners material, consumables and providing tools, scaffolding etc.	200	SET	
18.5	Canopies.			
18.5.1	Fabrication and installation of canopies from 2mm thick GI sheet (Supply by Vendor) for protection of outdoor IPBs/ starters/ motors/ actuators etc (inclusive of supply of all consumables/ paints).	40	SQM	
18.6	Rubber mat.			

RATE SCHEDULE

SL NO	ITEM DESCRIPTION	QUANTITY	UNIT RATE (Rs)	AMOUNT (Rs)
18.6.1	Supply and Installation of 6mm thick black chequered rubber mat of appropriate voltage classsize 1m (w) x 2m (l) each for laying in front of switchgears upto 6.6 KV & 11 KV (as required under ie rule).	200	PIECE	
18.7	Display board.			
18.7.1	Supply and installation of electric shock treatment display board as per IE rules, laminated on hardboard material (size: 2 ft x 3 ft) and mounted on wooden frame) for switchgear rooms/substations.	40	PIECE	
18.7.2	Supply and installation of MS threaded & hexagonal head cable gland adaptors/ gland hole plugs as per required size and shapes.	100	NO	
TOTAL				
<b>NOTE</b>	<b>WHILE QUOTING ITEM VIDE SL NOS 11.1 to 11.11 UNDER 11.0 and 12.1 to 12.4 UNDER 12.0, 14.2, BIDDER MUST NOTE THE NO OF PANELS AGAINST EACH BOARD AND QUOTE ACCORDINGLY.</b>			