

TENDER SPECIFICATION

NO: BHE/PW/PUR/ MSWRH-CLE/741

FOR

**HANDLING AT SITE STORES/STORAGE YARD, TRANSPORTATION FROM
STORES/STORAGE TO SITE OF WORK, CALIBRATION TESTING AND
COMMISSIONING OF ELECTRICAL AND CONTROL & INSTRUMENTATION
WORKS FOR UNIT # 3, 4 & 5 OF 10X40MW**

SHREE MAHESHWAR HYDRO POWER CORPORATION LTD.

MAHESHWAR

Distt. KHARGONE (MADHYA PRADESH)

PART II - PRICE BID



BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

POWER SECTOR - WESTERN REGION

345, KINGS WAY - NAGPUR 440 001

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SHREE MAHESHWAR HYDRO POWER CORPORATION LTD.

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EARNEST MONEY DEPOSIT: RS. : 1, 50,000.00 (Rs. ONE LAKH AND FIFTY THOUSAND ONLY)

LAST DATE AND TIME FOR: Please refer Notice Inviting Tender

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING PART-I AND PART-II ARE ISSUED
TO:

M/s.....

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(TENDER DOCUMENTS ARE NOT TRANSFERABLE)

FOR BHARAT HEAVY ELECTRICALS LIMITED

Sr.Dy. GENERAL MANAGER (PURCHASE)

PLACE: NAGPUR

DATE :

BHARAT HEAVY ELECTRICALS LIMITED : PSWR : NAGPUR
TENDER SPECIFICATION No. BHE/PW/PUR/MSWRH-CLE/741

BHARAT HEAVY ELECTRICALS LIMITED: PSWR: Nagpur
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RATE SCHEDULE (Page 1 of 8)

Sl. No.	DESCRIPTION OF WORK <u>for unit # 3, 4 & 5</u>	UOM	QTY	UNIT RATE Rs.	TOTAL AMOUNT (Rs)
AA	PANELS				
1	STATIC EXCITATION EQUIPMENT				
1.1	Regulation & Field Flash Cubicle, Dimension & wt. of Each Panel-1150(W) x 1200 (D) x 2295 (H) & 1.3 MT(Approx). (01no per set), Field suppression, Dimension & wt. of Each Panel-1150 (W) x 1200(D) x 2295 (H) mm, 3.0MT(Approx.), (01 no. per set), Thyristor, Dimension & wt. of Each Panel- 680 (W) x 1200(D) x 2295 (H) mm, 2.4.0MT(Approx.), (02 no. per set), Transformer Cubicle, Dimension & wt. of Each Panel-1950 (W) x 1450 (D) x 2350 (H) mm, Wt 1.2 MT(Approx.) (01 no per set)	Set	3		
2	AUTO SEQUENCER FOR UNITS FEEDERS & GATES				
2.1	Unit control board Panel, consist of suite of 4 panel each size 760 (W) x 800 (D) x 2320(H), Total WT 2.5 MT of each panel	No.	3		
2.2	Temperature Measurement Panel 1000 (W) x 800 (D) x 2320 (H) mm, Wt. 0.75 MT each panel	No.	3		
2.3	Generator Gauge panel, 1000(W) x 800(D) x 2320 (H) mm, Wt 0.75 MT	No.	3		
2.4	Unit Annunciator Panel, 1000(W) x 800(D) x 2320 (H) mm, Wt 1.0 MT	No.	3		
2.5	Micro Processor Based Digital Governor Control panel L= 800xW= 1000 xH= 2400 MM.WT.-0.9MT	No.	3		
2.6	Runner Control Mechanism Panel, L=800 xW= 600 xH=1800 mm.WT-0.4MT	No.	3		

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2.7	Marshalling Box, 1500 (W) x 200(D) x 1200 (H) WT-100kg (600point)	No.	3		
2.8	Marshalling Box, 1200 (W) x 200(D) x 1200 (H)WT-80KG (450 point)	No.	3		
2.9	Marshalling Box, 1000 (W) x 200(D) x 1100 (H) WT.- 60KG (350 point)	No.	3		
2.10	Marshalling Box, 815 (W) x 200(D) x 1000 (H) WT.- 40 KG (250 point)	No.	3		
2.11	HMC 1200x1050x2300	no	3		
2.12	Brake & Jacking Control Panel, 1100(W) x 350(D) x 1200(H)	No.	3		
BB	PROTECTION EQUIPMENT FOR ENERATORS, TRANSFORMER				
1	Generator protection panels- each size 2400 (H) x 1100 (W) x 1100(D), Total WT 1 MT of each panel	No.	6		
CC	CABLE TRAY,SUPPOTING STRUCTURE FOR CABLE TRAYS & ACCESSORIES (Elbow, Tee, Cross, Reducers, jointing plates , hardware etc.				
1	Perforated Type Aluminum Cable Tray 600(W) x 75 (H) x 2500 (L) mm	mtrs	2000		
2	Perforated Type Aluminum Cable Tray 450(W) x 75 (H) x 2500 (L) mm	mtrs	2000		
3	Perforated Type Aluminum Cable Tray 300(W) x 75 (H) x 2500 (L) mm	mtrs	2000		
4	Perforated Type Aluminum Cable Tray 150(W) x 75 (H) x 2500 (L) mm	mtrs	2250		
5	Ladder Type Aluminum Cable Tray 600(W) x 75 (H) x 2500 (L) mm	mtrs	2000		

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6	Ladder Type Aluminium Cable Tray 450(W) x 75 (H) x 2500 (L) mm	mtrs	2000		
7	Ladder Type Aluminium Cable Tray 300(W) x 75 (H) x 2500 (L) mm	mtrs	750		
8	Ladder Type Aluminium Cable Tray 150(W) x 75 (H) x 2500 (L) mm	mtrs	500		
DD	LT POWER CABLES, ALUMINIUM CONDUCTOR, 600/1100V PVC INSULATED, UNARMoured/ARMoured.				
1	4 Core x 16 sqmm	Mtrs	500		
2	4 Core x 10 sqmm	Mtrs	500		
3	4 Core x 4 sqmm	Mtrs	5000		
4	2 Core x 25 sqmm	Mtrs	500		
5	3 1/2 Core x 25 Sqmm	Mtrs	750		
6	3-1/2 Core x 35 Sqmm	Mtrs	1350		
7	3-1/2 Core x 50 Sqmm	Mtrs	500		
8	3-1/2 Core x 120 Sqmm	Mtrs	1000		
9	1 Core x 185 Sqmm	Mtrs	3000		
10	1 Core x 400 Sqmm	Mtrs	5000		
11	1 Core x 500Sqmm	Mtrs	500		
12	1 Core x 630 Sqmm	Mtrs	2000		
13	1 Core x 1000 Sqmm	Mtrs	3000		
14	1 Core x 150 Sqmm	Mtrs	2500		
15	1 Core x 50 Sqmm	Mtrs	800		
16	1 Core x 120 Sqmm	Mtrs	600		
17	1 Core x 240 Sqmm	Mtrs	2000		

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EE	LT POWER CABLES,COPPER CONDUCTOR, 600/1100V PVC INSULATED , UNARMoured/ARMoured.				
1	2/4 Core x 6 Sqmm	Mtrs	12000		
2	1 Core x 300 Sqmm	Mtrs	3000		
FF	CONTROL CABLE, COPPER CONDUCTOR, PVC INSULATED, UNARMoured/ARMoured				
1	2 Core x 2.5 Sqmm	Mtrs	5500		
2	4 Core x 2.5 Sqmm	Mtrs	5500		
3	7 Core x 2.5 Sqmm	Mtrs	8000		
4	12 Core x 2.5 Sqmm	Mtrs	3500		
GG	INSTRUMENTATION CABLE, COPPER CONDUCTOR, OVERALL SHIELDED/ SREENED, UNARMoured/ARMoured.				
1	2 Pair x 0.5 Sqmm Twisted pair	Mtrs	4000		
2	4 Pair x 0.5 Sqmm Twisted pair	Mtrs	3000		
3	8 Pair X 0.5 Sqmm Twisted pair	Mtrs	2000		
4	16 Pair x 0.5 Sqmm Twisted pair	Mtrs	2000		
5	6 Triplet (Traid) 0.5 sqmm	Mtrs	1200		
6	2 Triplet (Traid) / 4 Triplet (Traid) 0.5 sqmm	Mtrs	1800		
HH	TELEPHONE CABLE				
1	2P/5P/10P/20P	Mtrs	3000		
II	CABLE FOR PAS				
1	Signal cable	Mtrs	3500		
2	Power cable	Mtrs	3500		
JJ	11 KV HT CABLE				
1	11KV,1Core,300 Sqmm,XLPE	Mtrs	10000		

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2	Cable termination jointing kit for 1C 300Sqmm	nos	50		
KK	UP Grounding earthing system(Loose MS & GS flats/rod)				
1	GI strip 65 x10 mm	Mtrs	750		
2	GI strip 50x 6 mm	Mtrs	750		
3	GI strip 25 x 6 mm	Mtrs	900		
4	GI Wire 8 SWG	Mtrs	3000		
LL	POWER TRANSFORMER				
1	Erection, Assembly, Testing & Commissioning of main Step-up Transformer 11kv/220kv, 50 MVA Overall dimension 6000 x 4000 x 5000 mm, Total weight 75 MT. All accessories like oil , radiators bushing, marshalling box etc shall be supplied loose.	No.	3		
2	Erection, Assembly, Testing & Commissioning of station service. Transformer 220kv/11kv, 7.5 MVA Overall dimension 5000 x 3000 x 4000 mm, Total weight per transformer 25 MT. All accessories like oil , radiators bushing, marshalling box etc shall be supplied loose.	No.	1		
3	Erection ,Assembly, Testing & Commissioning of distribution(cast resin dry type) . Transformer 11kv/433v, 1.6 MVA Overall dimension 2600 x 2400 x 2800 mm, Total weight 6.0 MT. All accessories like oil , radiators bushing, marshalling box etc shall be supplied loose.	No.	1		
4	Erection ,Assembly, Testing & Commissioning of distribution(cast resin dry type) . Transformer 11kv/433v 630 kVA Overall dimension 2400 x 2200 x 2600 mm, Total weight 3.7 MT. All accessories like oil , radiators bushing, marshalling box etc shall be supplied loose.	No.	1		

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5	Erection ,Assembly, Testing & Commissioning of distribution(cast resin dry type) . Transformer 11kv/433v, 500 kVA (UAT) Overall dimension 2200 x 2000 x 2400 mm, Total weight 3.5 MT. All accessories like oil , radiators bushing, marshalling box etc shall be supplied loose.	No.	3		
6	Erection ,Assembly, Testing & Commissioning of Excitation Transformer 565 kVA, 11KV/280V. Overall dimensions 2200 x 2000 x 2400 mm, Total weight 3.5 MT. All accessories like oil, radiators bushing, marshalling box etc shall be supplied loose.	No.	3		
MM	LOCAL STARTERS BOX				
1	HP Lube oil, Stator Heater control, Brake dust collector panels. Box. Overall size W=1500xD=1000xH=1500 mm. WT-0.3 Ton each	Nos.	9		
2	Cooling water panel, Box. Overall size W=200xD=1000xH=3000 mm. WT-0.5 Ton each	Nos.	6		
3	Drainage panel, Box. Overall size W=2000xD=1000xH=3000 mm. WT-0.5 Ton each	Nos.	2		
4	Dewatering panel, Box. Overall size W=2000xD=1000xH=3000 mm. WT-0.5 Ton each	Nos.	3		
5	Top Cover Drainage Pump Starter & Control panel, 1500 (W) x 1000 (D) x 3000(H) ,	Nos.	6		
6	sludge pump panel, Size of Each Panel W=2000xD=1000xH=3000 mm. WT-0.75 Ton each	Nos.	3		
7	Local Starter Box, Size of Each Panel W=3000xD=1000xH=2500 mm. WT-0.9 Ton each	Nos.	2		
8	Local Starter Box, Size of Each Panel W=2000xD=1000xH=3000 mm. WT-0.9 Ton each	No.	3		

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NN	INTEGRATED ELECTRICAL TESTING/ COMMISSIONING OF GENERATOR CONTROLS AND PROTECTIONS RELAY PANELS & ASSOCIATED EQUIPMENTS GT BREAKERS ETC. (Scope of work as detailed in tender specification, which items as indicated in this rate schedule against the Head BB & LL.)	LS	1		
OO	TAN DELTA TEST ON GENERATOR.	SET	3		
PP	TAN DELTA TEST ON GT BUSHING & OTHER EQUIPMENT AS REQUIRED (BEFORE AND AFTER ERECTION)	SET	6		
QQ	FABRICATION /STRUCTURE STEEL(Hot dipped galvanized angle, channel, plate)	MT	16		
RR	TESTING OF BUS DUCT(segreated)TERMINAL CUBICLE	SET	3		
SS	TESTING OF ELECTRICAL MOTOR including dryout	NO	15		
TT	BELOW GROUND EARTHING				
1	Test pits of main power block as per drawing.	NO	15		
UU	TRANSFORMER RAILS				
1	Taking delivery of materials from stores/ store yard, loading , transporting, unloading at site and fixing transformer rails including guide, rails in concrete including jointing of rails, anchoring lugs etc. complete as per specification. (Rails and Guide channel shall be supplied by BHEL free of cost).	MT	20		
VV	FIELD & PANEL MOUNTED INSTRUMENTATION				
1	Vibration Monitor 4 Channel	No	3		
2	Rotor Temperature Recorder	No	3		
3	24 point temperature scanner Cum recorder	No	9		

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4	Dial Type thermometer capillary type	No	30		
5	12 Point temperature scanner	No	3		
6	LVDT Consist of Sensor, Proximeter, extension cables, Proximeter housing , Protective Flexible pipe etc.	Set	3		
7	Pressure Transmitters	Set	3		
8	Electrical Transducers	Set	3		
9	Junction Box	Set	3		
10	Toothed Wheel and magnetic pick up	Set	3		
WW	SCADA SYSTEM & MIMIC PANELS				
1	Operator Work Station Consist of Two set of VUDs, Key Boards, Mouse, Perperial cables , computer furniture etc.	set	1		
2	Engineering Station Consist of One set of VUDs, Key Boards, Mouse, Perperial cables , computer furniture etc.	Set	1		
3	Printer Console Consist of 2 Nos. Lasser Printer and 2 Nos. Ink Jet printer and accessories etc.	Set	1		
4	Event Recorder	No	1		
5	Mimic Panel	No	3		
6	Network Interface Panel with Ethernet switch	No	1		
7	Print Server	no.	2		
8	Network UTP Cables (special termination using UTP connectors involved)	Meter	3050		
9	Laying, etc of Optical fibre cables on cable trays, conduits etc with minor civil works	Meter	4000		
GRAND TOTAL Rs. (IN FIGURES)					
GRAND TOTAL Rs (IN WORDS)					

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