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TENDER NO. BHEL/ NR/SCT/ MSIL-MANE/EW/ 795

TENDER SPECIFICATIONS

FOR

“Construction & Development of Closed Storage Shed & Open Storage Yard at 20 MW GT + 75 TPH HRSG, MSIL Manesar, Gurgaon, Haryana”

PART II – PRICE BID



Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301 (INDIA)

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ISO 9001, ISO 14001 and
OHSAS 18001 certified
company
SubContract and Purchase
Deptt.

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(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
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THIS TENDER SPECIFICATION ISSUED TO:

M/S-----

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RATE SCHEDULE

SI No	CODE	DESCRIPTION OF ITEM	UNIT	Total Quantity	Rate (Rs)	Amount (Rs)
		(A) CIVIL WORKS				
		EARTHWORK/SITE CLEARANCE/ROADWORK				
1	C1	Clearing jungle including uprooting of rank vegetation, grass, brushwood, trees and saplings of girth upto 30 cm measured at a height of 1 m above ground level and removal of rubbish upto a distance of 200 m outside the periphery of the area cleared.	sqm	10700.00		
2	C2	Surface dressing of the ground including removing vegetation and in-equalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50m and lift upto 1.5m in all kinds of soil.	sqm	10600.00		
3	C3	Earth work in excavation in all types of ordinary and hard soil by mechanical means (Hydraulic excavator)/manual means including stacking the excavated soil, dressing of sides and ramming of bottom, dewatering of accumulated water from any source and keeping the surface dry for subsequent works such as concreting form work etc. and disposal of surplus excavated soil as directed, disposed soil to be neatly levelled and dressed lead upto 50 meters and lift upto 1.5meter complete.	Cu.M	180.00		
4	C4	Back filling available excavated earth in trenches, plinth, slides of foundations etc., including re-excavating the deposited soil excavated earlier, breaking clods, laying at all depths and heights in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering complete lead upto 50 Metre and lift upto 1.5 Meter.	Cu.M	75.00		
5	C5	Disposal of surplus excavated earth and debris including re-excavating the deposited soil earlier, transportation, loading, unloading, laying at all depths and heights, leveling and dressing both the area (viz. From where earth is transported and where it is deposited) to required levels and slopes, complete with all lifts as directed.				
	a)	Out side Plant premises	Cu.M	50.00		
6	C6	Preparation and consolidation of site area with power road roller of 8 to 12 tonne capacity after levelling, grading, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the subgrade and disposal of surplus earth lead upto 50 Mtrs	sqm	10000.00		
7	C8	Supply and Laying water bound macadam with specified stone aggregate stone screening and binding material including screening, sorting, spreading to template and consolidation with power road roller of 8 to 10 tonne capacity etc. complete with supply for stone aggregate, screenings, kankar, moorum and red bajri etc.				

	a)	Base course with 63 mm to 45 mm size including stone screening 13.2mm size.	cum	1500.00		
8	C9	Providing and tilling of quarry dust as levelling course compacting the same with 8 to 10 ton road roller complete in all respects as directed by Engineer-in Charge	cum	250.00		
9	C10	Providing and tilling of murrum as levelling course compacting the same with 8 to 10 ton road roller complete in all respects as directed by Engineer-in Charge	cum	250.00		
10	C11	Supplying the good earth from outside the site including the cost of filling the same within the site in layer not exceeding 20cm in depth & consolidating each deposited layer by ramming and watering including all leads & lifts etc. complete.	cum	120.00		
11	C12	Providing approved quality Yellow/silver sand as levelling course and filling the same where required under floors etc., watering, ramming, consolidating, grading and finishing to final levels and slopes for all lifts and leads involved, complete as directed (Payment to be made for solid measure of the consolidated filling).	Cu.M	30.00		
		PCC				
12	C14	Plain cement concrete of mix 1:3:6 (1 cement : 3 coarse sand and 6, 20 mm down graded stone aggregate) for column footing, levelling, floors etc., including cost of all materials, lead, lift, labour charges, consolidation, shuttering, curing etc. complete.	Cu. M	85.00		
13	C 15	Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75 mm bed of dry brick ballast 40 mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth	Sqm	75.00		
		BRICKWORK				
14	C18	Brick work with class designation 75 in cement mortar 1:6 (1 cement : 6 coarse sand) in foundation, plinth and super structure in thickness of 230 mm including cost of all materials, lead lifts, labour charges, mixing mortar, laying bricks, racking joints, curing etc. all complete as per drawing and specification and direction of Engineer In-charge.	Cu. M	53.00		
15	C19	Brick work with brick of class designation 75 in cement mortar 1:4 (1 cement : 4 coarse sand) in super structure in thickness of 115 mm including cost of all materials, lead lifts, labour charges, mixing mortar, laying bricks, racking joints, curing etc. all complete as per drawing and specification. 2 nos. MS rods of 6 mm dia are to be provided after every 3rd layer for which no additional payment will be made.	Sq. M	550.00		
		RCC				
16	C20	Reinforced cement concrete of mix 1:1.5:3 (1 cement, 1.5 coarse sand and ,3 :20 mm down graded aggregate) for column footing, sunshades, shelves, lintels etc. including cost of materials, lead lift, labour charges for concreting, curing etc. complete.	Cu. M.	45.00		

17	C21	Centring and shuttering including providing all shuttering material , strutting, propping etc. and removal of form work for : Lintels, beams, plinth beams, girders, bressumers and cantilevers.	sqm	195.00		
18	C22	Providing and placing mild steel/ tor steel reinforcement for RCC work including cost of all materials, labour for cutting, bending, binding and placing in position complete as per drawing and instruction of Engineer.	MT	2.00		
19	C23	Supplying,Fabricating and fixing in position, M.S.Holding down bolts with sleeves and washers, nuts and lock nuts etc. including threading of required length and type as per instructions of Engineer I/C				
	a)	Upto 20 mm dia. bolt	kg	200.00		
		ROOFING				
20	C24	Dismantling, transporting, stacking, minor fabrication & erection of existing structural steel beams,channels,plates,steel tubular trusses, purlines,gates, wind ties, base plates, gusset plates, bolts, nuts etc. complete as per drawings, specifications & instructions of engineer including cost of all materials leads within plant premises, lifts labour charges etc. and two coats of approved enamel paint for finished products at site complete as per technical specifiction and direction of engineer.				
	a)	Trusses (medium grade pipes),Purlins side ties, bottom ties	MT	5.00		
	b)	structural steel for columns, crane girders,etc	MT	4.00		
	c)	Wind ties (Flats) 50 x 6 mm thick, angles,box sections,soild bars for rails etc	MT	0.50		
21	C24 A	Supply fabrication and erection of new structural steel beams,channels,plates,steel tubular trusses, purlines,gates, wind ties, base plates, gusset plates, bolts, nuts etc. complete as per drawings, specifications & instructions of engineer including cost of all materials leads, lifts labour charges etc. and one coat of primer and two coats of approved enamel paint for finished products at site complete as per technical specifiction and direction of engineer.				
	a)	Trusses (medium grade pipes),Purlins side ties, bottom ties	MT	10.00		
	b)	structural steel for columns, crane girders,etc	MT	5.00		
	c)	Wind ties (Flats) 50 x 6 mm thick, angles,box sections,soild bars for rails etc	MT	0.50		
22	C25	Steel work in built up section/framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel for gates, railings, frames,gratings etc.	kg	500.00		
23	C26	Supplying , fitting & fixing steel rolling shutter , profile type in 18 B.G of approved type of steel lathe section 75 mm wide fitted with coil wire spring to necessitate the fitting of required nos of C.J pulley's on heavy type solid drawn gearless steel tube complete with locking arrangements bothside and outside specially built up side guide channels including,providing a hood for the				

		rolling shutter painting with two coats of approved brand of aluminium paint over a coat of red lead primer complete.				
	a)	Mechanically and manually Operated	Sq.M	50.00		
24	C27 a)	Providing and fixing corrugated asbestos cement sheet 6 mm thick roofing and side cladding fixed with polymer coated J or L hooks bolts and nuts 8mm diameter with bitumen and GI limpet washer complete (upto a pitch of 60 degrees) including steel primer and 2 coats of approved paint at overlaps. as per tech. specification.	Sq.M	15.00		
25	C27 b)	Providing and fixing permanently colour coated profiled GS sheet min 0.5 mm thk roofing including ridges of approved colour, shade and profile and side cladding fixed with polymer coated J or L hooks bolts and nuts 8mm diameter with bitumen and GI limpet washer complete (upto a pitch of 60 degrees) including steel primer and 2 coats of approved paint at overlaps. as per tech. specification.	Sq.M	800.00		
26	C27 c)	Dismantling, transporting, stacking and refixing of existing corrugated AC/GS sheet roofing and side cladding fixed with polymer coated J or L hooks bolts and nuts 8mm diameter with bitumen and GI limpet washer complete (upto a pitch of 60 degrees) including steel primer and 2 coats of approved paint at overlaps. as per tech. specification.	Sq.M	300.00		
27	C28	Providing and fixing 2mm thick corrugated Translucent FRP sheet roofing fixed with GI J or L hooks bolts and nuts 8mm diameter with bitumen and GI limpet washer complete (upto a pitch of 60 degrees) including steel primer and 2 coats of approved paint at overlaps. as per tech. specification.	Sq.M	60.00		
28	C29	Providing and fixing non-asbestos high impact Polypropylene reinforced cement ridges and hips including supply and fixing J or L bolts and nuts bitumen & GI washers etc. complete as per Technical Specification including Bitumen coating at all joints	RM	3.00		
29	C30	Providing and fixing PVC pipe (2.5 kg/cm ²) of 110 mm dia. as rain water pipe in above item complete in all respect including required shoes, bends, etc	RM	5.00		
		FINISHING				
30	C32	50 mm thk. Ironc Topping Cement Concrete flooring consisting(1-admixture:1 coarse sand: 2-stone aggregate 6mm nominal size) by volume with metallic hardening compound of approved quality is mixed in the ratio(4:1) (4 cement : 1 metallic floor) hardening compound of approved quality by weight including cement slurry rounding off edges and strips etc. but excluding the cost of nose of steps etc. complete.	Sq. M	610.00		
31	C33	Providing and fixing glass strips in joints of terrazo / cement concrete floors 40mm wide and 4mm thick	RM	800.00		
32	C38	Plastering work with cement mortar 1:6 (1 cement : 6 fine sand) 12 mm thick after scrapping and cleaning the masoary joints including scaffolding, cost of materials, labour, mixing , leads & lifts, curing etc. complete.	Sq. M	800.00		

33	C39	Plastering work with cement mortar 1:6 (1 cement : 6 fine sand) 15 mm thick after scrapping and cleaning the masoary joints including scaffolding, cost of materials, labour, mixing , leads & lifts, curing etc. complete.	Sq. M	200.00		
34	C44	Providing and fixing steel glazed windows and ventilators of operable standard rolled steel section joints mitred and welded with 15 x 3 mm lugs, 10 cm long, with steel lugs embedded in cement concrete blocks 15 x 10 x 10 cm of 1:3:6 (1 cement : 3 coarse sand : 6 approved graded hard stone aggregate 20 mm nominal size) or with wooden plugs and screws or raw plugs and screws or with fixing clips or with bolts and nuts as required including providing and fixing of glass panels with glazing clips and special metal sash putty of approved make complete including painting with two coats of approved quality synthetic enamel paint over a base coat of red oxide zinc chromate primer including the cost of minor repair work, if required. Windows and ventilators will be provided with horizontal steel bars (8 mm x 8 mm), welded to the frame @ 150 mm ncluding supply of MS frames, bars glazing etc. all complete	Sq. M	1.08		
35	C46	Providing and fixing ISI marked flush door shutters non decorative type , core of block baord construction with frame of ist class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters 30 mm thick including ISI marked stainless steel butt hinges, handle,tower and slide bolts, complete with necessary screws and other accessories	Sq. M	2.00		
36	C49	Providing three coats of white wash to give a smooth and even shade including cost of materials, cleaning and preparation of surface, scaffolding etc. complete.	sqm	570.00		
37	C52	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade in two or more coats on new work	sqm	20.00		
		FENCING				
38	F1	1.5 m high fencing with 2.0 m angle iron 50 x 50 x 6 mm posts placed every 3 m centre to centre embedded in cement concrete block, every 15th post last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with 8 horizontal lines and two diagonals inter woven with horizontalwires of barbed wire 9.38 Kg per 100 m (min) between the two posts and fixed with GI stapies, turn buckles etc. complete. including providing and laying earth work and concrete (1:3:6)				
		With G.I. Barbed wire (Payment to be made for per metre of complete fencing)	Metre	395.00		
39	F2	Supplying at site Angle iron post & strut of required size including bottom to be split and bent at right angle in opposite directionfor 10 cm length and drilling holes upto 10 mm dia. Etc. complete including a priming coat and two coats of enamel paint.	kg	1250.00		

(B) ELECTRICAL WORKS						
40	E1	Providing and fixing 1 x 40 Watt Batten type fluorescent tube fitting (Crompton / Philips / Bajaj/ equivalent make),fabricated from CRCA sheet steel and finished with stove enamel paint complete with Accessories like fluorescent lamp,copper wound polyster choke, starter, seat, rotor holder and terminal block duly pre-wired with copper conductor, including connections, fixing on wall, false ceiling or under roof tusties with clamps as required	Nos.	20.00		
41	E4	Providing and fixing 1 x 250 W HPSV out door type fittings (Crompton / Philips/Bajaj/ equivalent) , complete with lamp, ballast control gear box, fixing clamp etc.	Nos.	4.00		
42	E5	Providing and fixing of following sweep exhaust fan/ceiling fan/wall mounted fan (Khaitan / Crompton / equivalent make) single phase alongwith gravity louvers, frame / tripod for holding the motor including making necessary opening in wall, supply & fixing of assembly with grouting bolts, making connections, loop earthing etc.				
	a)	230 mm sweep	Nos.	1.00		
43	E8	Providing & fixing of 240 V, 5 / 15 Amp 6 Pin Power socket outlet point (with 15 A switch). Switch / socket to be fitted in suitable size 20 SWG metal type box with 3mm sunmica sheet.	Nos.	2.00		
44	E9	Providing & fixing of 240 V, 5A 3 Pin Power socket outlet point (with switch). Switch / socket to be fitted in suitable size 20 SWG metal type box with 3mm sunmica sheet along with the piano switches and fan regulator.	Nos.	2.00		
45	E10	Providing & fixing 5A piano type switch for Light / Fan Control (Anchor make)	Nos.	15.00		
46	E14	Providing & fixing of 240 V, 20 Amp INDUSTRIAL Power socket outlet point (with 20 A MCB). Switch / socket to be fitted in suitable size 20 SWG metal type box .	Nos.	1.00		
47	E15	Wiring of above power sockets with 4 Sq. mm PVC insulated Copper Conductor wires as per IS, 650 / 1100 V grade including 20 SWG GI earthing wire in PVC medium grade conduit including supply of items.				
	a)	Length per point upto 10 m	Points	1.00		
	b)	Length per point upto 15 m	Points	1.00		
48	E20	Wiring of the following points (including supply of Wires, conduits, clamps, boards, other misc. items) with 2.5 sq.mm colour coated PVC insulated copper conductor wires as per IS-650/1100 volts grade in surface PVC conduits (medium grade) including laying of 20 SWG GI wire, conduit fitting.__(Fixing of piano type control switches (Anchor make) in suitable sized 20 SWG metal box with 3 mm sunmica sheet having provision for fan regulator, 5 Amp switch socket (supplied above) included in scope)				
	a)	Long Point (Panel to Switch Box)	Points	5.00		
	b)	Medium Point (Switch Box - first Point / Socket)	Points	5.00		
	c)	Short Point (among points)	Points	5.00		

	d)	Wiring for exhaust fan.	Points	1.00		
	e)	1 x 250 W HPSV out door type fitting. One number 10 A DP switch to be used for controlling 2 fittings. D.P Switches to be fixed on outside of the store shed wall	Points	4.00		
49	E21	Providing and fixing of 32 Amp TPN with HRC fuses along with earth wire. The TPN to be provided on one side of the central shed with rain protection cover.	Nos.	1.00		
50	E22	Supply and burying of earths electrodes 40mm dia 3 mtrs. Long including earthing upto switch board with 8 SWG GI wire.	Nos.	1.00		
51	E23	Providing , Installation and commissioning of 18 W Lighting Panel with 18 nos 16 A MCB with 63 A SFU incomer in Sheet metal housing with double door arrangement , including all earthing and statutory requirements .	Nos.	1.00		
52	E24	Supplying and laying of following type of PVC Insulated, PVC armoured standard aluminium conductor cable confirming to IS:1554-1976 (part 1), glanding with single compression gland, termination of both end in DB & SFU. The cable has to be laid underground on sand cushion including backfilling, susitable clamp, clamping on surface including all materials etc. complete.This includes road crossing for which suitable GI Pipe to be provided by the contractor.				
	a)	2c/3c/4c upto 16 sq.mm armoured cable	RM	50.00		
53	E26	Earthing Flat 30 x 6 for Earthing	RM	50.00		
		TOTAL				

NOTES:

1. The quantities indicated above are tentative and are liable to vary depending upon the site requirement. The contractor has to handle / erect / commission all the items indicated by BHEL for achieving the milestones and completion of work.
2. Evaluation of the bids shall be done based on total price against this BOQ.
3. In case of mismatch in Rate and amount on price discrepancy, the same will be dealt as per clause no. 1.4 of GCC.