

Bharat Heavy Electricals Limited
Ramachandrapuram : : Hyderabad – 502032

M&S - DIVISION

SCOPE OF WORK (ANNEXURE – I)

TENDER No.M&S/P&C/2022/91, dt. 18.03.2023

NAME OF WORK: Assistance in Repair and Maintenance of Foundry Machines in 04, 05 Blocks & Pattern Shop.

Sl.No	WORK DESCRIPTION	Unit	Qty
NON-FERROUS FOUNDRY & FETTLING SHOP [05 BLOCK]			
30Ton Annealing Furnace			
1	i) Butterfly gas valves cleaning	Nos.	35
	ii) Air valves cleaning	Nos.	28
	iii) HUDCO gas valves cleaning	Nos.	55
	iv) Pipeline Tar cleaning (12" dia)	Mtrs.	95
	v) Pipeline Tar cleaning (6" dia)	Mtrs.	75
	vi) Trolley wire rope annual replacement	Mtrs.	150
	vii) Ceramic hole & trolley lining repair	Sq.Mtrs.	25
	viii) Flue channel cleaning (Once/yr)	Mtrs.	12
	ix) Door ceiling checking & replacement, if any	Mtrs.	25
	x) Refractory activity removal & relining activity	Sq.Mtrs.	44
Shot Blasting			
2	i) Rubber lining replacement (Once/yr)	Mtrs.	24
	ii) Pipeline cleaning (20" dia) (Thrice/yr)	Mtrs.	27
	iii) Shots collecting chambers (4 Times/yr)	Nos.	3
	iv) Shots conveyor belts repair & cleaning (3 Times/yr)	Mtrs.	55
Induction Furnace			
3	i) heat exchanger plates acid cleaning, Assembly (2 Times)	Nos.	250
	ii) Cooling Tower cleaning	No. of Occasions	6
	iii) Coil cleaning [chemical] (3 Nos.)	No. of Occasions	6
	iv) Raw water & DM water tank cleaning	No. of Occasions	10
	v) Bus bar trench cleaning from panel to furnace	No. of Occasions	15
Khandelwala Furnace			
4	i) Water tank cleaning (Once/yr)	Cu.Mtrs.	72
	ii) Furnace pit cleaning (4 Times/yr)	Cu.Mtrs.	80
	iii)Refractory activity removal & relining activity	Sq.Mtrs.	41
Gas Fired Furnace			
5	i) Flue channel cleaning (1/2mx1m size)(Once/yr)	Mtrs.	198
Swing Frame Grinder			
6	i) Exhaust pipeline cleaning (20" dia)	Mtrs.	398
FERROUS FOUNDRY [04 BLOCK]			
Induction Furnace			
7	i) in case of furnace coil repair or replacement, the furnace accessories such as hose pipes, power leads, shunts etc.[inclusive of the coil] need to be shifted to a distance of 0.5 KM	No. of Occasions	52
	ii) In case of heat exchanger failure, the heat exchange plates need to be cleaned after pichling activity for which they need to be transported to a distance os 0.6 KM up and down.	No. of Occasions	100
	iii) Cleaning of jammed non return valves of all the induction furnace.	Nos.	250
Continuous Core Sand mixers			
8	i) In case of replacement or repair of screws [approx. 4m length] they need to be dismantled and shifted to the 10Rs and again brought back to for refixing [approx. 1.5 KM up&down]	No. of Occasions	16

	ii) The belt conveyor repair/replacement for CCSM No-3 when the conveyor need to be totally replaced by a new one, it has to be transported to a distance of 0.4 KM.	No. of Occasions	15
Sand Plant			
9	i) Repair/replacement of sand conveyors, both magnetic and non-magnetic [These conveyors are to be transported to a distance of 0.5 KM]	No. of Occasions	55
	ii) Assitance to belt joint experts while making joints and fixing of new conveyors	No. of Occasions	19
	iii) Removal of rotating table of the sand mixer for repair works, if any, to be transported to a distance of 0.3KM.	No. of Occasions	20
New Sand Plant [Liners Manufacture]			
10	i) Shifting of gear assembly along with accessories to a distance of 0.3KM	No. of Occasions	26
	ii) Repair/replacement of sand conveyor attached to the machinery.	No. of Occasions	21
Spinners			
11	i) Belt conveyor replacement/repair of the centrifugal machine [0.3KM]	No. of Occasions	2
	ii) Shifting of pipes, valves, spinner parts to a distance of 0.5KM.	No. of Occasions	7
	iii) Replacement of damaged hose pipes for die cooling.	No. of Occasions	5
	iv) Transport and replacement of gas pipelines [0.5Km] for die heating purpose.	No. of Occasions	5
Drying Ovens			
12	i) Removal and replacement of insulation material of quantity [10 Cu.m]	No. of Occasions	5
	ii) Cleaning of gas pipelines and valves, with replacement activity as and when required.	No. of Occasions	15
Moulding Activities			
13	i) Removal and replacement of piston rings	No. of Occasions	25
	ii) Lubrication and hose pipe replacement	No. of Occasions	25
	iii) Replacement of piston	No. of Occasions	5
	iv) Replacement of air valves	No. of Occasions	10
Welding In Production			
14	i) Welding and cutting of angulars for supporting the cores in mould boxes	No. of Occasions	35
	ii) Cutting, repair & weldiong of damaged parts of laddles	No. of Occasions	9
	iii)Furnaces Earths Probes Making and fixing[each furnace required 2 Nos.]	No. of Occasions	45
	iv) Repair of damaged furnaces spouts	No. of Occasions	10
	v) Continuos Core Sand Mixer Body Repairing Works	No. of Occasions	12
	vi) Core supports welding works	No. of Occasions	55
	vii) Excess metal removal from poured castings	No. of Occasions	54
	viii) Repair of damaged parts of sand plant or new sand plant	No. of Occasions	12

ELECTRICAL MAINTENANCE WORK			
15	Replacement of Modular Range of Switches, ICTPS, Fuses, sockets etc. in RM Boards, MCB Boards	Nos.	78
a	Routine preventive and electrical breakdown maintenance for pattern shop machineries (including cleaning & any replacement of contactors, fuses, starters, hose pipeline).	Nos.	78
b	Including necessary replacement (contactors, connectors, relays, indication lamps, electrical switches, any spare parts in the control panel board etc.)	Nos.	78
16	CEILING FANS/MAN COOLER/Pedestal FANS/EXHAUST FANS		
a	Attending all break downs of fans such as suspension arrangement in the concrete/slab/roof members., Fan box with MS hook (to be provided under civil works). Replacement of double ball bearing type, copper wound motor complete with canopy, down rod, blades etc. Maintenance of fan shall be provided with electronic regulator. Electronic Regulator shall be suitable for 240 volts A.C supply 50 Hz and shall be of continuous duty type.	Nos.	9
b	Attending all break downs of mancoolers such as suspension arrangement in members., Replacement of double ball bearing type, copper wound motor complete with canopy, down rod, blades etc. Maintenance of fan shall be provided with DOL starter. DOL starter shall be suitable for 240 volts A.C supply 50 Hz and shall be of continuous duty type	Nos.	32
c	Attending all breakdowns of Exhaust fans [heavy-duty type with double ball bearing and conforming to IS standard]. Exhaust fan shall be complete with copper wound motor, capacitor, Louver/shutter, frame and mounting bracket. Exhaust fan shall be suitable fan operation on 240 volts single phase A.C supply.	Nos.	3
17	Motors		
a	Periodic maintenance of AC/DC motor to be checked such as carbon brushes, commutator, terminal connection, DOL starters etc. for the machines.	Nos.	25
b	Motor wiring thoroughly checked.	Nos.	25
c	Replacement of fuse/breaker if it is blown off/tripped.	Nos.	25
18	Electrical insulated Rubber Mats		
	Rubber mats to be laid in front of all electrical MCB/RM Boards	Nos.	14
19	Providing Internal lighting		
a	The work includes installing replacement of blown off bulbs/new bulbs and lamps, ballasts, adjusting, focusing or refocusing or operation of any permanent or temporary flood lighting systems, including parking lighting at entrance point/cabins/ shop floor area.	Nos.	200
20	Cleaning		
	a. All the distribution boards in shop floor area should be thoroughly clean including interior parts of MCB & RM board.	Nos.	88
	b. Storing of all electrical materials is to be kept clean and to be stored in an specified area as per BHEL Engineer instruction.	Nos.	97
21	Protection		
	a. All material and work shall be securely fastened so that it cannot be easily removed or stolen	Nos.	58
	b. All unused materials will be stored away in secured area.	Nos.	26
22	Welding		
	Welding on electrical works shall be done wherever it is necessary at the time preventive maintenance work.	Nos.	78
23	Material Handling		
	The handling and moving of all electrical material, equipment and apparatus shall be performed by whenever the machine is under break down/ periodic maintenance stage.	Nos.	71
	Total Qty		3624

Note: The quantities mentioned in the scope of work is indicative only and any other related works within the purview of the aforesaid scope need to be fulfilled.