

BHARAT HEAVY ELECTRICALS LIMITED			
RAM ACHANDRAPURAM :: HYDERABAD-502032			
M & S-P&C DEPARTMENT			
TENDER No.: M & S P&C/ 2020/ 74, DT.: 12.12.2020			
WORK: "Repair/ Rectification of Faults in Lightning accessories, Fans, wiring installations, Kitchen Equipment of Works Canteen/ 02 Canteen/ Staff Canteen and all Canteen Dining Halls including Preventive Maintenance."			
SCOPE OF WORK			
Annexure - I (Electrical Repair Work )			
Sl. No.	Description of Work	Unit	Qty.
1	Replacement of 5A/ 15A, 230 V Piano Type or Similar Switches or 5/ 15 Amps 230 V 3 pin plug socket or 5/ 15 Amps 3 Pin Top on existing boards for fans and lights including checking of loose connections	Nos.	410
2	Replacement of 5/ 15A, 250V Switches/ switch cum sockets on existing board	Nos.	78
3	Replacement of ceiling rose 5A, 250V including checking of loose connections	Nos.	58
4	Fixing of TW Board with decolam top cover wherever required of sizes 4 " x 4" / 7" x 4" / 8" x 10" / 10" x 12"	Nos.	50
5	Fixing of 3mm thick hyalam cut sheet on existing MS boxes including fixing of old accessories on it & screws, washers etc.	Sq. Mtrs.	4
6	Laying of 1.5/2.5/4 sq.mm PVC insulated PVC sheathed single core multistranded aluminium /copper conductor cable run on existing pipe /reaper for light and power points.	Mtrs.	500
7	Fixing of PVC reaper of 3/4"/1" size run on wall/partitions with screws etc for drawl copper/Al. conductor cable.	Mtrs.	22
8	Replacement of 16A , 240V sheet steel double pole switches	Nos.	28
9	Replacement of MCBS of various current rating	Nos.	46
10	Rectification & replacement of faults in tube light fittings of various capacities.		
a)	Chokes	Nos.	150
b)	tubes	Nos.	300
c)	Starter / Starter holder	Nos.	300
d)	Tube light rotary / lock type holder	Nos.	150
11	Rectification of loose connection in switch boards , cleaning of neutral and earth points etc. also hanging boards to be fixed	Points	400
12	Cleaning and applying of one coat of red-oxide paint and two coats Admiral grey paint on switch board and distribution boards.	Sq. Mtrs.	65
13	Cleaning with solvent and brushing and applying petroleum jelly for effective electrical contact and smooth operation in the following		
a)	Switch Boards	Nos.	73
b)	FDB's	Nos.	17
c)	MD Boards	Nos.	4
14	Fixing of Tube light fittings of various capacities	Nos.	60
15	Cleaning and washing of Tube light Fittings of various capacities including metal reflector with washing powder	Nos.	420
16	Removal of existing enamel paint and spray painting of one coat primary and two coats of final with enamel white paint on existing Tube Light fittings.	Nos.	150
17	Fixing of PVC pipe of 19mm /25mm with suitable clamps, screws etc. to run on wall 2.5sq.mm PVC Insulated Copper Cable	Meters	65
18	Installation of Power points of 5/15 Amps, 250 V, 3 Pin sockets for Aircooler, Computers and other accessories from nearest FDB /ICTP	Points	20
19	Replacement of 9KW Heater element in steam generator	Nos.	36
20	Replacement of 32/63Amps fuse / base in ICTP switches of sigrees / coffee boiler / chapathi plates		
a)	Fuses	Nos.	70
b)	Base of fuse	Nos.	40
21	Repair of control wiring and replacement of the following placement of 32 / 63Amps contactors and control wiring wherever required.		
a)	32 / 63 Amps Contactors	Nos.	30
b)	Starter	Nos.	7
22	Replacement / Repair of following in the sigrees, Coffee boilers and Chapathi Plates		
a)	Asbestos sheets	Nos.	45
b)	Cement bricks	Nos.	450
c)	Cottor pins	Nos.	450
d)	connectors	Nos.	60
23	Replacement of 18 SWG heating element with required accessories		

a)	Sigrees	Nos.	80
b)	Uthappa plate	Nos.	16
c)	Chapathi plate	Nos.	16
24	Repair of 18 SWG heating elements by proper joining with connectors / cottor pins etc.	Nos.	900
25	Replacement of 4 core, 10/16/25 sq. mm Cu/Al cables for sigree, rice boilers, chapathi plates	Mtrs.	300
26	Removal of old ICTP switches of following capacity and fixing new switches, giving connection by crimping new lugs.		
a)	32 Amps ICTP	Nos.	10
b)	63 Amps ICTP	Nos.	5
27	Earth pit Maintenance (Once in a year)	Nos.	6
28	Earth flat cleaning & earthing checking	Mtrs.	225
29	Removal of Burnt motor and refixing of motor after rewinding in Grinder/ Alu Peeler / Floor mill / Dough Kneeding M/C etc.	Nos.	10
30	Laying of new 3½ core x95/120 Sq. mm LT PVC cables at works canteen area including removal of old damaged cable	Mtrs.	85
31	Preparation of end joints for 3½ core 95/120 Sq. mm LT cable with copper lugs using crimping tools.	Nos.	12
32	Cleaning of ceiling / exhaust / wall and pedestal fans body and blades with VIM powder by duly bringing down and Refixing	Nos.	160
33 a)	Complete Overhauling of 1200mm/1400mm sweep ceiling fan and refixing the same.	Nos.	45
b)	Complete Overhauling of exhaust fans 300/400 mm sweep and refixing the same	Nos.	16
c)	Complete Overhauling of wall mounting fans and refixing the same	Nos.	4
34	Removal of the paints of Ceiling / exhaust / pedestal / wall mounting fans and repainting the same with one coat of primer & two coats of good quality white enamel paint and painting BHEL serial number	Nos.	80
35	Removal of old damaged Ball bearing / Bush bearing of required size from ceiling / exhaust / wall mounting / pedestal fans and assembling new bearings	Nos.	60
36	Rectification of faults in Ceiling / Exhaust / Pedestal / Wall mounting Fan by replacing faulty condenser / damaged oil seal / twin core wire / rubber bush / split pin / lock nut / down rod spindle / Fan Blades / One side threaded GI Pipe/ Fan Regulator etc.	Times	195
37	Rectification of faults in Air Cooler like Pump repair, Bearing replacement, khash mat replacement, connection problem etc.	Times	28
38	Dismantling of AC ceiling / pedestal / wall mounting fans from various Canteens & transporting the same to workshop for rewinding / for attending to major repairs / overhauling and refixing after repair	Nos.	65
39	Maintenance of uninterrupted Power supply to canteen equipments from both the source (at Works Canteen , 02 Canteen and staff canteen) and changing the supply in case of failure of supply from one substation. This also includes maintaining uninterrupted power supply to all the equipments, dining rooms, FDB, Main switches etc. (Any emergency cable replacement work/ CF switch / Main switch replacement work for maintaining power supply to equipments is included in this.)	Operations	1634
40	Laying of Armoured , PVC insulated , Sheathed Aluminum cables of size 3 ½ Core X 300 / 185 Sq. mm in cable trenches and including Cable termination with suitable Copper/Aluminum lugs to meet any emergency requirement.	R.Meters	80
41	Repair and Fixing of Combinational Fuse Switches of rating 100A / 200A / 300A / 500A to meet any emergency requirement.	Nos.	3
42	Carrying of Aluminium Step Ladder to carry out fan fault rectification and Tube light fitting repair , transporting damaged part / New spare parts etc. <b>Suitable Ladder to be provided by the contractor</b>	Times	1500

<b>ANNEXURE - II ( Mechanical Works )</b>			
<b>Item</b>	<b>Description of Work</b>	<b>Unit</b>	<b>Qty</b>
<b>1</b>	<b>Wet Grinder</b>		
a)	Replacement of Belts ( Once in a month )	Nos.	108
b)	Top Stone Handle Bearing Replacement ( Once In a Month )	Nos.	108
c)	Gear Box Bearing – Total replacement ( Once In six month )	Nos.	18
d)	Gear Oil Changing ( Once in 3Months )	Times	36
e)	Bottom stone drum set replacement(once in a year )	Sets	9
f)	Guard cover Repair / Replacement (once in a year)	Nos.	9
g)	Gear oil level checking and filling the shortage (once in a 15 days)	Times	216
h)	Electrical motor servicing and replacement of motor bearing (once in 6 months)	Times	18
<b>2</b>	<b>Alu Peeler</b>		
a)	Replacement of belts (once in two months)	Nos.	18
b)	Replacement of bearings (once in 6 months)	Nos.	6
c)	Grinding wheel replacement (once in a year)	Nos.	3
d)	Single phase motor servicing (once in a year)	Nos.	3
<b>3</b>	<b>Idly plant (each plant with 4 chambers)</b>		
a)	Doors rubber lining to be changed (once in 6months)	Sets	42
b)	Doors handles replacement (once in a year)	Nos.	21
c)	Overhauling of idly plants (once in year): opening the chambers, cleaning the valves	Times	6
<b>4</b>	<b>Dough Kneeding Machine</b>		
a)	Replacement of belts (once in 6months)	Nos.	6
b)	Motor servicing (once in a year)	Nos.	3
c)	Greasing & oiling (once in 6months)	Nos.	6
<b>5</b>	<b>Steam generator</b>		
a)	Water scaling to be cleaned – to open top cover, clean generator and fix the cover (once in month)	Times	96
b)	Cleaning and re-fixing of float valve and ball (once in 15 days)	Times	192
c)	Top cover packing replacement (once in 3 months)	Nos.	20
d)	Replacement of damaged nuts and bolts of top cover (once in 3 months)	Fastener Sets	20
e)	Daily maintenance of all Steam generators of weeks canteen / 02 canteen and Staff canteen(08 No's). To check and rectify whenever necessary: 1) Gate valve, 2) Unions, 3) Steam pipe line, 4) Drain valve operation, 5) Water level checking and control.	Operations	365
<b>6</b>	<b>De-stoning machine:</b>		
a)	Replacement of belts (once in 6 months)	Nos.	2
b)	Mech removal, cleaning and fixing (weekly once)	Times	52
c)	Vibrator shaft bearings replacement ( once in a year )	Nos.	1
d)	Greasing & oiling (once in a month)	Times	12
<b>7</b>	<b>Rice boilers</b>		
a)	3/4" gate valve to be replaced (once in three month)	Nos.	48
b)	Tilting handle replacement (once in a year)	Nos.	16
c)	Boiler check-nut maintenance replacement of packing rope (once in a month)	Nos.	192
d)	'u' clamp checking and refixing (once in a month)	Nos.	192
e)	Boiler steam line cleaning (monthly once)	Nos.	192
f)	Daily maintenance – checking and corrective action: Steam leakage checking ; Gate valve	Operations	678
<b>8</b>	<b>Flouring machine:</b>		
a)	Grinding stones cleaning (once in 15days)	Nos.	24
b)	Replacement of belts (once in 6 months)	Nos.	2
c)	Vertical shaft bearing replacement (once in 6 months)	Nos.	2
d)	Motor servicing and replacement of bearings (once in 6 months)	Nos.	2
f)	Replacement of stones (once in a year)	Nos.	1
<b>9</b>	<b>Sigrees</b>		
a)	Sigree MSsheet round shape cutting drilling and welding	Nos.	8
<b>10</b>	<b>Salad Cutting Machine</b>		
a)	Replacement of belts (once in 6 months)	Nos.	2
b)	Motor servicing and replacement of bearings (once in 6 months)	Nos.	2
c)	Greasing & oiling (once in 6months)	Nos.	2

**Annexure- III**  
**Technical Points**

Sl. No.	Technical points	Contractor's comment
1.	Contractor Shall ensure for Uninterrupted power supply to all the kitchen facilities of works canteen, 02 canteen and staff canteen. This also includes maintaining uninterrupted power supply to all the equipments, dining rooms, FBD, Main switches etc.	
2.	Works are both of preventive maintenance and breakdown maintenance nature. Preventive maintenance activity shall be carried out daily and Breakdown maintenance work shall be attended immediately. The priority of works to be carried out shall be as per the instructions of contract executing officer.	
3.	Contractor shall be able to attend to maintenance works any time of the day including night shifts, through out the year including Sundays and holidays. The contractor shall be able to complete all the works as per the time schedule given by the contract executing officer. The contractor shall be able to organize resources including men to meet the time schedules as required by the contract executing officer or the nominated persons of BHEL.	
4.	Contractor shall engage ITI Qualified Electricians / Wire men certificate with fitting knowledge for the repair of electrical nature and related mechanical works also. Contractor shall provide all the necessary safety equipments for carrying out electrical repairs.	
5.	<b><i>Necessary tools for carrying out repairs for both electrical and mechanical works shall be provided by the contractor. The other auxiliaries like ladder, welding generator, multi meters, Tong tester , Line Tester , ropes etc for carrying out maintenance works shall be provided by the contractor.</i></b>	
6.	The scope of work is enclosed vide Annexure-I and Annexure II. The works that are detailed is not an exhaustive list. Any other works as and when is identified by the contract executing officer shall also be carried out by the contractor.	
7.	Spares will be provided by BHEL and handed over the contractor. In case of breakage/ damage of such spares during erection, the cost of such spares will be deducted from contractor's bill.	
8.	Contractor shall keep a record of work carried out every day and duly get it certified by the contract executing officer.	

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9.	BHEL shall not be responsible for any accident to the employees of the contractor/ the contractor's personnel. The contractor and his employees shall follow all the safety guidelines as laid out by AP Factory rules and other relevant rules.	
10.	All the works carried out by the contractor shall be to the satisfaction of the contract executing officer.	
11.	BHEL reserves the right to terminate the contract if in it's opinion the contractor is not meeting the BHEL requirements	
12.	Contractor shall provide on all working days Six Semi skilled Electricians with fitting knowledge and one Unskilled Worker and on Sundays and holidays he shall provide three Semi skilled electricians with fitting knowledge, also When emergency work / Complaints comes extra man power have to be provided.	
13.	Contractor shall have valid Electrical License (LT) from the competent authority.	
14.	All dismantled material shall be returned to BHEL.	
15.	Safety permit working at height for attending work above 10' from ground level shall be obtained before starting the work.	
16.	Necessary checks shall be carried out throughout the year for ensuring proper earthing of all the equipments.	
17.	The Contractor shall not employ any person below the age of 18 Years .Proof of the age shall be provided.	
18.	The Contractor shall follow all the guidelines laid in Model Contracts of BHEL.	
19.	Contractor shall attend the Breakdown in all the canteens as and when instructed by Contract executing officer.	
20.	Breakdown and Preventive maintenance Works shall be undertaken in all the Canteens inside the factory e.g. 02 canteen , 03 Canteen , 04 Canteen , 51 Canteen , Works canteen , Staff Canteen, Staff Canteen dining halls etc.	
21.	Contractor shall monitor the day to day activities of the workforce deployed by him and ensure they are punctual on duty.	
22.	Contractor shall arrange <b>one bicycle</b> for movement of workforce from one canteen to another canteen.	

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