



भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल  
Bharat Heavy Electricals Limited Bhopal

"उत्कृष्टता की ओर अग्रसर"

"Marching Towards Business Excellence"



## **SCOPE OF WORK**

**Tender Enquiry No.:-** FDX/TGM/18-19/PM/02  
**Due Date:-** 22.06.2018

**Date:-** 02.06.2018

**Time:-** 2:00 PM

**Sub.:-** Preventive /Breakdown Maintenance, Servicing work of other important 51 no's machines of TGM Division for 12<sup>th</sup> Months in I / II Shift.

### **Mechanical**

1. Check oil level in Hydraulic & Lubrication tanks in frequency (once in a week/machine), in case of low level, top up oil.
2. Clean air filters/ oil filters by kerosene, compressed air.
3. Clean Telescopic covers, provide on column guide ways, table guide ways and bed guide ways.
4. Check for oil leakages on machine, arrest oil leakages if any.
5. Clean coolant tank surface, coolant filter etc.
6. To inspect parts of the disassembled units. To make out the defect list.
7. Clean machine Guide ways of Ram & spindle by marking cloth and apply low viscosity oil by oil can.
8. Clean air filter pad, provided on oil chilling AC units and panel AC with compressed air.
9. Clean cable trenches and remove oil/coolant from cable trenches of machines.
10. Remove rain water/seepage water from machine pits.
11. Check electrical control panel and tighten loose connection/wiring if any in electrical control panel. Clean contactors with contact cleaners.
12. Check the electrical motor surface temperature and check for abnormal sound from motor if any.
13. Maintenance of all chip conveyors.
14. Repair and maintenance of drag chain, telescopic covers, magnetic dust collector.
15. Preventive of all attachments & repair.
16. Dismantling of rotary Table, Headstock Assemble, Pendant or any other sub-assemble if need be.
17. To replace all worn out bushes and damaged bearings.

18. To replace worn out gears and worn/worn wheels.
19. To restore / replace worn out lead screw and nuts of longitudinal and transverse feeds.
20. To replace worn out fasteners and clean the remaining ones.
21. To replace / restore and scrape regulating wedges and clamping plates.
22. To restore accuracy of lead screws by machining threads (machining by BHEL)
23. To check and clean unworn -out parts left out in the mechanism of the machine.
24. To repair coolant pumps and pipe fittings.
25. To repair oil pumps and lubricating/hydraulic systems. To replace oil.
26. Check & rectify complete gear box of the machine.
27. To replace damaged pipes and fittings.
28. To scrape guide surface of slides, carriages, traverses, slide blocks a etc. (if the wear exceeds the permissible limits.)
29. To scrap guide /surface guards and fencing (provided for proper safety) and also the arrangements for protecting the machine parts form metal chips and abrasive dust (covers on belt drive, casings, shields, screens).
30. To assemble the repaired units, check proper inter-operation of the units and all the mechanisms of the machine.
31. To run the machine on no-load at all speeds and feeds. To check for noise and heating.
32. To check for accuracy of repaired unit.

### **Electrical**

33. To disassemble the motor completely and to rectify the winding damages or replace with new motor (winding and New motor in BHEL scope).
34. To clean units and parts of the electric motor and to change the defective insulating bushes.
35. To wash and grease the ball /roller bearings and change the damaged ones.
36. To wash the bush bearings and if necessary, metalize the same.
37. To weld and machine the end covers, if necessary.
38. To Change the ventilation fan and the flanges.
39. To repair brush mechanisms and commutator.
40. To assemble and check the motor on no-load and also on load after repair.

**Description of work**

S.N	MACHINE No.	DESCRIPTION	SECTION	PM Schedule Week No			
				I	II	III	IV
1	14/A/48	MASTER MILLING M/C.	MASTER MILLING	1	14	27	40
2	14/A/60	HOR. MILLING M/C.	MILLING	1	14	27	40
3	14/A/44	MASTER MILLING M/C.	MASTER MILLING	1	14	27	40
4	14/A/06	SURFACE GRINDING M/C	GAUGE SECTION	1	14	27	40
5	14/A/49	MASTER MILLING M/C.	MASTER MILLING	2	15	28	41
6	14/A/179	SURFACE GRINDING M/C.	GAUGE SECTION	2	15	28	41
7	14/A/51	MASTER MILLING M/C.	MASTER MILLING	2	15	28	41
8	14/A/54	MASTER MILLING M/C.	MASTER MILLING	2	15	28	41
9	14/A/119	LATHE M/C.	TURNING	3	16	29	42
10	14/A/120	LATHE M/C.	TURNING	3	16	29	42
11	14/A/121	LATHE M/C.	TURNING	3	16	29	42
12	14/A/115	LATHE M/C.	TURNING	3	16	29	42
13	23/A/2011	LATHE M/C.	TURNING	4	17	30	43
14	23/A/2012	LATHE M/C.	TURNING	4	17	30	43
15	14/A/1002	HOR. MILLING M/C.	BABITTING	4	17	30	43
16	14/A/30	HOR. MILLING M/C.	MILLING	4	17	30	43
17	14/A/168	HOR. MILLING M/C.	MILLING	5	18	31	44
18	14/A/2018	VERT. MILLING M/C.	MILLING	5	18	31	44
19	14/A/2010	VERT. MILLING M/C.	MILLING	5	18	31	44
20	14/A/2027	VERT. MILLING M/C.	MILLING	5	18	31	44
21	14/A/149	CYL. GRINDING M/C.	GRINDING	6	19	32	45
22	14/A/43	VERT. MILLING M/C.	MILLING	6	19	32	45
23	23/A/2001	RADIAL DRILLING M/C.	ECC	6	19	32	45
24	14/A/2065	POWER HACK SAW M/C.	BAR STORES	6	19	32	45
25	14/A/2076	CIRCULAR SAW M/C.	BAR STORES	7	20	33	46
26	14/A/77	HORIZONTAL BORING M/C.	MACHINE SHOP	7	20	33	46
27	14/A/89	RADIAL DRILLING M/C.	HEAVE FITTING	7	20	33	46
28	14/A/87	JIG BORING M/C.	JIG BORING SEC.	7	20	33	46
29	23/A/2002	RADIAL DRILLING M/C.	BABITTING	8	21	34	47
30	14/A/406	RADIAL DRILLING M/C.	BABITTING	8	21	34	47
31	14/A/104	JIG BORING M/C.	JIG BORING	8	21	34	47
32	14/A/74	RADIAL PLANER M/C.	MACHINE SHOP	8	21	34	47
33	14/A/130	LATHE M/C.	GEAR SHOP	9	22	35	48
34	5/A/107	SURFACE GRINDING M/C.	GEAR SHOP	9	22	35	48
35	14/A/131	LATHE M/C.	GEAR SHOP	9	22	35	48
36	14/A/92	RADIAL DRILLING M/C.	GEAR SHOP	9	22	35	48
37	14/A/516	RADIAL DRILLING M/C.	GEAR SHOP	10	23	36	49
38	14/A/91	RADIAL DRILLING M/C.	FITTING	10	23	36	49
39	14/A/107	BAND SAW M/C.	FITTING	10	23	36	49
40	14/A/106	BAND SAW M/C.	GAUGE SECTION	10	23	36	49
41	14/A/160	GAP GRINDING M/C.	GAUGE SECTION	11	24	37	50
42	14/A/08	SURFACE GRINDING M/C.	GAUGE SECTION	11	24	37	50
43	14/A/138	CUTTER GRINDING M/C.	GRINDING	11	24	37	50
44	14/A/2044	SURFACE GRINDING M/C.	GRINDING	11	24	37	50
45	14/A/163	CYL. GRINDING M/C.	GRINDING	12	25	38	51
46	14/B/2114	SHOT BLASTING M/C.	HEAT TREATMENT	12	25	38	51
47	14/A/2042	SURFACE GRINDING M/C.	GRINDING	12	25	38	51
48	14/A/2043	SURFACE GRINDING M/C.	GRINDING	12	25	38	51
49	14/A/07	SURFACE GRINDING M/C.	GAUGE SECTION	13	26	39	52
50	14/A/50	MASTER MILLING M/C.	MASTER MILLING	13	26	39	52
51	14/A/2003A	VERTICAL BORING M/C.	MACHINE SHOP	13	26	39	52