

Annexure-3**Special Tools for Turbine****1. STEAM BLOWING TOOLS**

Sr No	Description	Qty
1	IP STOP VALVE DISK	2
2	IP STOP VALVE BLIND	2
3	IP STOP VALVE SEAL RING	2
4	IP STOP VALVE DISK LOCKING RING	2
5	HP STOP VALVE DISK	2
6	HP STOP VALVE BLIND	2
7	HP STOP VALVE SEAL RING	2
8	HP STOP VALVE DISK LOCKING RING	2

2.IP/HP STOP VALVES & IP CONTROL VALVE ASSEMBLING TOOLS

Sr No	Description	Qty
1	IP CONTROL VALVE SUPPORT PIPE	1
2	IP CONTROL VALVE COUNTER WEIGHT WITH EYE BOLT	1
3	IP CONTROL VALVE LOCKING WITH 4BOLTS	1
4	IP STOP VALVE SUPPORT PIPE	1
5	IP STOP VALVE COUNTER WEIGHT WITH EYE BOLT	1
6	IP STOP VALVE LOCKING	1
7	HP STOP VALVE SUPPORT PIPE	1
8	HP STOP VALVE COUNTER WEIGHT WITH EYE BOLT	1
9	HP STOP VALVE LOCKING	1
10	IP CONTROL VALVE JACKING PLATE	1
11	IP STOP VALVE JACKING PLATE	1
12	IP STOP VALVE JACKING PLATE LOCKS	4
13	IP STOP VALVE JACKING BOLT WITH NUT (M24)	4
14	IP STOP VALVE STEM SUPPORTING PIPE	2
15	HP STOP VALVE JACKING PLATE	1
16	HP STOP VALVE JACKING PLATE LOCKS	8
17	HP STOP VALVE JACKING BOLT WITH NUT (M16)	4
18	HP STOP VALVE STEM SUPPORTING PIPE	2
19	IP STRAINERS	4
20	IP STRAINERS	4
21	IP CONTROL VALVE SEAT ASSEMBLY PLATE	1
22	IP STOP VALVE SEAT ASSEMBLY PLATE	1
23	HP STOP VALVE ASSEMBLY PLATE	1
24	HP STOP VALVE FIXING PLATE	1
25	IP STOP VALVE FIXING PLATE	1
26	BOX SPANNER SIZE:36	2

3. HP CONTROL VALVE ASSEMBLING TOOLS

Sr No	Description	Qty
1	SEAT ASSEMBLY PLATE WITH 2 STUDS & 2 NUTS	1
2	SPRING REMOVING PLATE (SERVO VALVE)	1
3	STRAINER REMOVER WITH BOLT	1

4. LIFTING TOOLS

Sr No	Description	Qty
1	IP/LP ROTOR & INNER/OUTER CASING LIFTING DEVICE	1
2	HP ROTOR & CASING LIFTING DEVICE	1
3	BEARING-1 ROTOR RAISING DEVICE WITH BOLTS ASSEMBLY	1
4	BEARING-2 ROTOR RAISING DEVICE WITH BOLTS ASSEMBLY	1

5. WIRE ROPES

Sr No	Description	Qty
1	WIRE ROPE 15-30 TON x 40 mm Thk x 3070 mm Length	1
2	WIRE ROPE 13 TON x 32mm Thk x 4000mm Length	1
3	WIRE ROPE 1575-2755 kg x 36mm Thk x 4000 mm Length	1
4	WIRE ROPE 9930-2747 kg x 30mm Thk x 3270 mm Length	1
5	WIRE ROPE 9930-2758 kg x 30 mm Thk x 4500 mm Length	1
6	WIRE ROPE 8580-2749 kg x 30mm Thk x 3570 mm Length	1
7	WIRE ROPE 6330-2750 kg x 24 mm Thk x 3200 mm Length	1
8	WIRE ROPE 5360-2748 kg x 22 mm Thk x 2300 mm Length	1
9	WIRE ROPE 11300-2756 kg x 32mm Thk x 3400 mm Length	1
10	WIRE ROPE 15750-2757 kg x 38 mm Thk x 6000 mm Length	1

6. "D" CYCLES

Sr No	Description	Qty
1	17 TONS	3
2	9.5 TONS	4
3	6.5 TONS	3
4	8 TONS	2
5	12 TONS	3

7. EYE BOLTS

Sr No	Description	Qty
1	M 42	2

8. TURN BUCKLES

Sr No	Description	Qty
1	1 3/4" x 570 mm Length	1
2	1 1/4" x 380 mm Length	1
3	1 1/2" x 400 mm Length	1
4	2" x 740 mm Length	1

9. SCREW DRIVER

Sr No	Description	Qty
1	M 36 SCREW DRIVER	1
2	M 36 PUNCH	1
3	M 36 x 90 mm BOLTS	5
4	M 24 SCREW DRIVER	1
5	M 24 PUNCH	1
6	M 24 x 100 mm BOLTS	8
7	M 24 x 65 mm BOLTS	6
8	M 20 x 80 mm BOLTS	6
9	M 20 x 50 MM BOLTS	3

10. BOLT TIGHTENING DEVICE

Sr No	Description	Qty
1	M 48 BOLT TIGHT DEVICE	1
2	M 48 NUT SUPPORT RING	1
3	ROD	1
4	M 56 BOLT TIGHT DEVICE	1
5	M 56 NUT SUPPORT RING	1
6	ROD	1
7	M 64 BOLT TIGHT DEVICE	1
8	M 64 BNUT SUPPORT RING	1
9	ROD	1

11. BOLT TIGHTENING DEVICE

Sr No	Description	Qty
1	M 72 BOLT TIGHT DEVICE	1
2	M 72 NUT SUPPORT RING	1
3	ROD	1
4	M 110 BOLT TIGHT DEVICE	1
5	M 110 NUT SUPPORT RING	1
6	ROD	1

12. BOLT TIGHTENING DEVICE

Sr No	Description	Qty
1	M 90 BOLT TIGHT DEVICE	1
2	M 90 NUT SUPPORT RING	1
3	ROD	1
4	M 100 BOLT TIGHT DEVICE	1
5	M 100 NUT SUPPORT RING	1
6	ROD	1

13. HYDRAULIC HAND PUMP

Sr No	Description	Qty
1	HYDRAULIC HAND PUMP WITH ELBOW FITTING	1

13 B. HYDRAULIC POWER UNIT

Sr No	Description	Qty
1	HYDRAULIC POWER UNIT ASSEMBLY	1

14. FOUNDATION BOLT TIGHTENING DEVICE

Sr No	Description	Qty
1	HYDRAULIC TORQUE WRENCH	1
2	OUTER HEXAGONAL NUT	1
3	INNER HEXAGONAL NUT	1
4	BODY SUPPORT	1
5	M-80 SUPPORT RING	1
6	M-80 HANDLE	1
7	M-80 HAYDRALIC JACK	1
8	M-64 SUPPORT RING	1
9	M-64 HANDLE	1
10	M-64 HYDRALIC JACK	1
11	HOOK SPANNER	1

15. COUPLING TIGHTENING DEVICE

Sr No	Description	Qty
1	M 33 TENSION BOLT	1
2	SPACER RING	1
3	CARRIER RING	1
4	SUPPORT RING	1
5	HYDRAULIC JACK	1
6	ROD	1
7	CENTERING SLEEVE	2
8	INTERMEDIATE RING	1
9	JACK SCREW	2

10	M 42 TENSION BOLT	1
11	SPACER RING	1
12	CARRIER RING	1
13	SUPPORT RING	1
14	HYDRAULIC JACK	1
15	ROD	1
16	CENTERING SLEEVE	2
17	INTERMEDIATE RING	1
18	JACK SCREW	4

16. AUXILIARY BEARING

Sr No	Description	Qty
1	AUXILIARY BEARING	4
2	KEY	4
3	HYDRAULIC JACK-100 TONS	1
4	EYE BOLTS MI6	2

17. IP/LP CASING CENTERING TOOLS

Sr No	Description	Qty
1	CENTERING TOOL (BIG SIZE)	8
2	CENTERING TOOL (SMALL SIZE)	8
3	INNER CASING CENTERING DEVICE	8
4	M 20 ALLEN BOLTS	32

18. GUIDE BOLTS

Sr No	Description	Qty
1	M 48	2
2	M 56	2
3	M 64	2
4	M 100	2

19. BURNER

Sr No	Description	Qty
1	BURNER ELEMENT ASSEMBLY	1
2	SUPPORT	1
3	ADJUSTING SCREW	4
4	MIXING DEVICE	1
5	BALL VALVE	1
6	HOSE	1
7	CONNECTOR-2 nos, PLATE-1 no.	1

20. IP/LP INNER/OUTER CASING LIFTING WIRE ROPES

Sr No	Description	Qty
1	WIRE ROPE 9930 KG x 30 mm THK	2
2	WIRE ROPE 16.32 TON x 30 mm THK	2
3	WIRE ROPE 13.62 TON x 30 mm THK	2
4	WIRE ROPE 3540 KG x 18 mm THK	2
5	WIRE ROPE 2820 KG x 16 mm THK	2
6	WIRE ROPE 4400 KG x 20 mm THK with 2 eye bolts	2
7	WIRE ROPE 5360 KG x 22 mm THK	2
8	WIRE ROPE 3540 KG x 18 mm THK	2

21. "D" CYCLES

Sr No	Description	Qty
1	10 TONS	4

22. EYE BOLTS

Sr No	Description	Qty
1	M 48	2
2	M 20	2
3	M 16	2
4	M 10	2

23. HP TURBINE SUPPORTS

Sr No	Description	Qty
1	ROTOR SUPPORT PLATES	8
2	ROTOR LOCKING PLATES	4

1. GENERATOR SPECIAL TOOLS

Sr No	Description	Qty
1	BEARING-3 ROTOR RAISING DEVICE	1
2	BEARING-4 ROTOR RAISING DEVICE	1
3	SKATING PAD WITH RUBBER	2
4	ROTOR SUPPORTING STOOL WITH 2 BELTS	1
5	BELT	2
6	MOTOR PROTECTION GASKET	4
7	FLEXIBLE HOSE	2
8	PROTECTION SHIELD CARTONE	1
9	ROTOR SUPPORTING STOOL WITH BOTTOM SUPPORT	2
10	GAS REGULATOR	1
11	PULLING DEVICE	2
12	M 42 'D' CYCLE WITH ROPE	2
13	EXTERNAL SLING SUPPORT (ROTOR PULLING)	1
14	ROTOR PROTECTION GASKET	1
15	M 16 x 70 BOLT WITH WASHER	8