

Major Capital Expenditure

Annexure : II

Annexure 2.1: Boiler & Auxiliaries

Sr. No.	Equipment Name	Status	Required spares
1	Rotary Feeder U#1 & 2	Running	Gland leakage. Shaft build up work required.
2	HP Dosing pump1A/2A	Running	
3	HP Dosing pump1B/2B	Running	
4	HP tank agitators U#1	Running	
5	HP tank agitators U#2	Running	
6	LP tank agitators U#1	Running	
7	LP tank agitators U#2	Running	
8	LP Dosing pump1A/2A	Running	New pump required (2 Nos.)
9	LP Dosing pump1B/2B	Running	
10	ID fan 1A & 2A	Running	Coupling required, filter assembly, Oil replacement.
11	ID Fan 2A & 2B	Running	Coupling required, filter assembly, oil replacement required.
12	PA Fan 1A, 2A, 1B & 2B	Running	Coupling, canopy with suction filter
13	SA Fan 1A, 1B, 2A & 2B	Running	Suction filter with canopy & 01 set bearing as spare
14	FA Fan 1A, 1B, 1C, 2A, 2B & 2C	Running	2A new blower assembly required.
15	Bed Ash Cooler Fan1A, 1B, 2A & 2B	Running	Impeller & shaft as spare
16	SWAS panel1	Running	Not in operation
17	SWAS panel 2	Running	Not in operation
18	ESP 02 nos.	Running	Performance is not as per new norms
19	Ash Cooler Unit 1A	In operation	Cooling coil, nozzle, refractory & anchors etc.
20	Ash Cooler Unit 1B	In operation	Cooling coil, nozzle, refractory & anchors etc.
21	Ash Cooler Unit 2A	In operation	Cooling coil, nozzle, refractory & anchors etc.
22	Ash Cooler Unit 2B	In operation	Cooling coil, nozzle, refractory & anchors etc.
23	Dampers of Boiler areas U#1 & 2	In operation	Complete assembly ID fan O/L and at other areas spares required
24	Cyclone of both boilers (04 nos.)	In operation	During last one year frequent leakages observed.
24	Flue gas duct repair & insulation works in boilers includes steam line insulation.	In operation	Most of the areas condition of duct is very poor, insulation damage.
26	PHE of Ash cooler	In operation	Gasket, stud, Plates etc.

Sr. No.	Equipment Name	Status	Required spares
27	Ash draglink conveyor 04 nos. of Unit 1&2	1B & 2B not available	Required spares like chain, guide plates, gear box spares, etc.
28	Loop seal bellow of both boilers total 08 nos.	In operation	Spare bellow required to avoid loss of generation
29	Gravimetric feeder 1A, 1B, 2A & 2B	Running	2A & 2B - new belt, 01 no. Repair
30	COC 1A/1B/2A/2B	Running	Chain link assembly required
31	Lignite drag link conveyor 1A, 1B, 2A & 2B	Running	Chain link assembly required
32	Nozzle for furnace & loop seal	In operation	Nozzle assembly
33	Hot water pump U#1&2	Running	Pump#2C not available
34	Refractory work during overhauling boiler 1&2	In operation	
35	Nonmetallic expansion joint boiler 1&2	In operation	ID fan discharge, outlet duct, cyclone down comer, cyclone inlet, L-valve metallic bellow needs to be replaced
36	IBR valve for unit 1&2	In operation	IBD MOV, startup vent, ring header drain valve, main steam drain.
37	TAPH tube replacement of both boilers	In operation	Considering two blocks
38	Second pass hydro jet cleaning	In operation	Soot blower condition is not up to mark. So we may carry out this work
39	Unit #1 Soot blower spares		
40	Unit#2 soot blower spares		

Unit # 1 Soot Blower Status

Second Pass SH, RH, ECO soot blowers

Sr. No	SB. No.	Status	Observation	Spares
1	111	Available	50% OK, lance bend and abnormal sound coming	Lance required
2	112	Available	Running okay	
3	113	Available	Running okay	
4	121	Available	Running okay	
5	122	Available	Running okay	
6	123	Available	Running okay	
7	131	Available	Running okay	Lance required
8	132	Available	Running okay	
9	133	Available	Running okay	
10	141	Available	Running okay	
11	142	Available	Running okay	

Sr. No	SB. No.	Status	Observation	Spares
12	143	Not Available	Lance and Gearbox required	Lance and Gearbox required
13	151	Available	Running okay	
14	152	Available	Running okay	
15	153	Not Available	Lance and Gearbox required	Lance and Gearbox required

TAPH Soot Blower

1	211	Available	Running okay	
2	212	Not Available	Lance and Gearbox required	Gooseneck and lance required
3	213	Available	Running okay	
4	221	Available	Running okay	
5	222	Available	Running okay	
6	223	Available	Running okay	
7	231	Available	Running okay	
8	232	Available	Running okay	
9	233	Available	Running okay	

Unit # 2 Soot Blower Status

Second Pass SH, RH, ECO soot blowers

Sr. No	SB. No.	Status	Observation	Spares
1	111	Available	Running okay	
2	112	Available	Running okay	
3	113	Not Available	Lance and Gearbox required	Lance and Gearbox required
4	121	Available	Running okay	
5	122	Available	Running okay	
6	123	Available	Running okay	
7	131	Available	Running okay	
8	132	Available	Running okay	
9	133	Available	Running okay	
10	141	Not Available	Lance and Gearbox required	Lance and Gearbox required
11	142	Available	Running okay	

Sr. No	SB. No.	Status	Observation	Spares
12	143	Available	Running okay	Lance required due to bend
13	151	Available	Running okay	Lance required due to bend
14	152	Available	Running okay	
15	153	Not Available	Lance and Gearbox required	Lance and Gearbox required

TAPH Soot Blower

1	211	Not Available	Gooseneck damage	Gooseneck and lance required
2	212	Available	Running okay	
3	213	Available	Running okay	
4	221	Available	Running okay	
5	222	Not Available	Gooseneck damage	Gooseneck and lance required
6	223	Available	Running okay	
7	231	Not Available	Gooseneck damage	Gooseneck and lance required
8	232	Not Available	Gooseneck damage	Gooseneck and lance required
9	233	Not Available	Gooseneck damage	Gooseneck and lance required

Annexure 2.2: Turbine & Auxiliaries

Sr. No.	Equipment Name	Status	Spares required
1	Turbine & Generator Unit 1&2	Running	Overhauling required
2	Condenser Unit 1&2	Running	Chemical Cleaning & Hydro jetting Required Through Outside Agency, than Water box Inside Coating also Needed
3	Condenser Pass A Inlet (U#1)	Rubber Bellow Leakage (already Box Made & No Leakage Running)	Rubber Bellow Replacement
4	Condenser Pass A Outlet 1500 NB Valve (U#2)	In Operation	Complete 1500nb BFV Replacement
5	Inlet & Outlet BFV (1500 NB)	Not Operative Since Long & Passing	Service Agency With Valves & Gearbox Spares Required
6	Hanger Support of Both Condenser Outlet 1500 NB Pipe	08 Nos. are heavily corroded	Complete Replacement Required. Outside Agency Required
7	Cep-1B & 2A	Running	Complete Pump Spares, Bush Bearings, Suction & Discharge Wear Ring Set, Suction Impeller, Stage Impeller, Diffuser, O Ring Set etc.
8	BFP#2A/1B Discharge NRV (200 NB Class 2500 Check Valve)	Complete NRV Replacement	NRV OEM - NIDA -Italy Or Service Agency Required
9	BFP-1A VEHS	Running With VEHS DE Bearing Vibration & Some Abnormal Sound	Spares & Voith Service Engineer Required
10	GSC Blower-2A & 1A	Running With Some Vibration High	Complete Blower Assembly Required
12	COT/DOT Centrifuge	Not Available / Dismantle Condition.	Spares Required
13	BFP-1A,1B,1C Centrifuge	Not Operative Since Long	Spares & Service Engineer Required
14	BFP-2A,2B,2C Centrifuge	Not Operative Since Long	Spares & Service Engineer Required
15	Main Steam/HRH/CRH Drain MOV U#1 & 2		
16	MS MOV (2" 2500 Class)	Passing (04 Nos.)	Complete Valve Replacement
17	HRH MOV (2" 1500 Class)	Passing (04 Nos.)	Complete Valve Replacement
18	CRH MOV (2" 1500 Class)	Passing (04 Nos.)	Complete Valve Replacement
19	MS MOV (1" 2500 Class)	Passing (4 Nos.)	Complete Valve Replacement
20	BFP Vapour Extraction Fan		
21	BFP-1A,1B,1C	Not Available Since Long	Complete Fan Assembly Required
22	BFP-2A,2B,2C	Not Available Since Long	Complete Fan Assembly Required

Annexure 2.3: Material Handling Plant (Lignite Handling)

Sr. No.	Equipment name	Status	Spare required
1	APRON FEEDER	Running	Drive sprocket
2			PAN
3			CHAIN(RHS)
4			CHAIN (LHS)
5			HT Hex Bolt
6			Pin
7			Solid Cotter Pin
8			GUIDE ROLLER BEARING
9			GUIDE ROLLER BOLTS M16
10			GUIDE ROLLER BOLTS M10
11	DRIBBLE CONVEYOR	Running	Drive sprocket
12			Tail sprocket
13			DRIVE BEARING
14			TAIL BEARING
15			SUPPORT CHANNEL
16	SIZER-1	Running	PICKS AND SLEEVES
17			ROTOR BEARING
18			OIL SEAL
19	CBF1	Running	
20	CBF2		
21	CBF3		
22	C - 1A		
23	C- 1B		
24	SIZER-2&3	Running	7 TOOTH SCROLLING SEGMENT ASSY
25			7 TOOTH SIDE COMB
26			ROTOR BEARING
27			OIL SEAL
28	C2A	Running	
29	C-2B		
30	RPG1		
31	RPG2		
32	UFF 1&2	Running	GEAR PAIR
33	IMPACTOR-1&2	Impactor 1 - Running, Impactor 2 (Running emergency)	Beater Head Hammer with pin
34			MS Washer
35			HT Bolt
36			Grinding plate
37			Grinding gib
38			CSK Bolt
39			GRINDLING WALL ASSY
40			DISC ROTOR ASSEMBLY
41			BODY LINER & Input liner
42			DRIVE BELT
44			ROTOR BEARING WITH

Sr. No.	Equipment name	Status	Spare required
			SLEEVE
45			PULLEY BEARING WITH SLEEVE
46			BASE BOLT WITH NUT
47			Welding Electrodes
48	C 3A	Running	
49	C 3B		
50	RSC 1		
51	RSC 2		
52	BF1		
53	BF2		
54	BF3		
55	BF4		
56	BF5		
57	BF6		
58	BF7		
59	BF8		
60	RPG3		
61	RPG4		
62	RPG5		
63	RPG6		
64	RPG7		
65	RPG8		
66	RPG 9		
67	RPG 10		
68	UBF 1 to 10	Running (UBF 5 & 10 not in operation)	Motor repairing required of 5 & 10
76	SCREEN	Screen 1,2,5,6 running Screen No. 3, 4, 7 & 8 not running	sieve mat
77			bearing with sleeve (22216)
78			V BELT
79			RUBBER BLOCKS
80			UNIVERSAL JOINT CROSS
81			M12 HT BOLT
82	C 4A	Running	
83	C 4B		
84	C 5A		
85	C 5B		
86	ILMS	ILMS 1,2,7,8 not running	Endless Belt
87			V BELT
88			BEARING 40TF
89			BEARING 50TF
90	RSC	Running	BEARING WITH SLEEVE (22226)
91			TYRE COUPLING
92			DUPLEX CHAIN

Sr. No.	Equipment name	Status	Spare required
93			PIN BUSH FOR COUPLING
94			BRAKE SHOE
95	CONVEYOR BOOM&RSC		CONVEYOR BELT 1200
96	CONVEYOR C-2B,C-4A		CONVEYOR BELT 1000
97	CONVEYOR CBF-3,C-1A	Spares required	CONVEYOR BELT 1000
98	BUNKER AND RSC HOPPER		CONVEYOR BELT 800
99	CONVEYOR BF 9,10,11 CR-1		CONVEYOR BELT 600
100			Flat return Idler 1200mm
101			Flat return Idler 1000mm
102			Flat return Idler 600mm
103			Impact Idlers 1200
104			Impact Idlers 1000
105			Troughing idler 1200mm
106			Troughing idler 1000mm
107			Troughing idler 600mm
108			Troughingidler(transition 580)
109			Garland type Impact Idler
110	CONVEYORS BELT	Spares required	Bearing
111			Sleeve
112			Bearing
113			Sleeve
114			GEAR COUPLING
115			GEAR COUPLING
116			Diamond Grooved Rubber Lagging
117			Diamond Grooved Rubber Lagging
118			Plain Rubber Lagging Sheet
119			MS Angle
120			MS Angle
121			MS Chaqured Plate
122	CHUTE REPAIR	In operation	MS Plain Plate
123			MS Plate
124			SS-304 Plate
125			SS-304 Plate
126	DS Pump 1A, 1B	running	Pipe line corroded condition (taping taken from DWP)
128	DWP 1A, 1B	running	
	FLAP Gate 1 to 8	Running	
131	Stacker reclaimers	Running	
132	Dry fog system (DS pump)	Not in operation	Pipe line corroded condition
133	MCC ventilation system	Running but required maintenance	Fins required
134	Tunnel air ventilation system	Not in operation	Belt, blower, duct repair, etc.
135	chaindozzer	not in operation	chain, roller, sprocket, hydraulic cylinder
136	Hitachi	running	Chain, guide roller, hydraulic

Sr. No.	Equipment name	Status	Spare required
			cylinder, transmission system repair.
137	Dumper	running	body repair, engine side overhauling
138	Hydra	running	rope, transmission system repair, boom repair
139	Belt weigher	not available	beltweigher assembly required
140	Lignite impactor vibration system on line monitoring	not available	system required

Annexure 2.4: Air Conditioning System

Sr. No	Equipment Name	Status	Spares required
1	Air Handling Unit No-3	Running With Vibration High; Emergency Available	Complete Blower Assembly Required
2	U#1 ESP Package A.C No: 1 & 2	03 Nos. Compressor Failure Not Working Condition	Complete Compressor Replacement Required
3	U#2 ESP Package A.C No:2	01 Nos. Compressor & Blower Failure Not Working Condition	Complete Compressor Replacement Required
4	LMCC Control Room Package A.C	Since Long Not Available	Complete Assembly Replacement & Servicing Required
5	U#1 Excitation CCR Package Ac No:1	01 Compressor Failure	Compressor Required
6	MHP CCR Package Ac No.1	01 Compressor Failure; Outdoor Motor & Fan (out of 6)	Compressor; Motor Fan & Required
7	SWTP CCR Package A.C		
8	Package A.C No:1	Outdoor Unit & Compressor Also Failure Corroded; Not Working Condition (out of 2)	Complete Outdoor Unit Replacement Required
9	SWTP Laboratory	01 Nos. Outdoor Unit Corroded (out of 03)	Complete Outdoor Unit -2 Nos. & One Compressor Replacement Required
10	ECR Panel Room	1.5 TR Split Ac-02 Nos. Not Working/3 TR One Normal (out of 3 Nos.)	3 TR Complete Ac Required

Annexure 2.5: Plate Heat Exchanger (IDMC)

Sr. No.	Equipment Name	Status	Spares required
1	CCW In & Out BFV (450 NB)	Internal Passing Found	Complete Valve Assembly Replacement Required
2	Sea Water In & Out BFV (450 NB)	Internal Passing Found	Complete Valve Assembly Replacement Required
3	Main PHE - A,B,C	Eccentric Reducer Corroded & Leakage	Reducer (06 Nos.) replacement Required / One PHE Spare 461 Nos. Gasket - 1 Set & End Plate-02 Nos. for future

Annexure 2.6: Electrical System Spares, Repairing of Switchyard, HT, LT line etc.

EMD -1 Unavailable materials list and estimation

Sr. No.	Location	NOT Available Material Description
1	SY	CT/CVT/IVT spare for 220 kV switchyard
2	SY	GT#2 repairing
3	SY	Gantry of N1,N2,P1
4	SY	ABT meter
5	SY	220 kV breaker pole assembly
6	SY	RTV coating on all porcelain insulators is needed
7	KBL, WTP, UPS-1,2, Main DC-1, 2	Battery bank of each area of plant
8	6.6 kV switchgear panel	1.7SJ62 Relay front facia (SPIROTEC) SIEMENS Make
11	6.6 kV switchgear panel	1. 7SJ61 SPIROTEC SIEMENS Make Relay
12	6.6 kV switchgear panel	1. 7SJ61 SPIROTEC SIEMENS Make Relay Module N/A
13	6.6 kV switchgear panel	1. 7SJ61 SPIROTEC SIEMENS Make Relay Module N/A
14	6.6 kV switchgear panel	1. 7SJ61 SPIROTEC SIEMENS Make Relay Module N/A
15	Lignite draglink	1 no VFD
16	LM-2	VIBRO FEEDER-2 B -A, IC baur, 3KW
17	Cooling Tower -U 1 & 2	Earthing plate of all CT fan motor
18	Vatech Plant	Electro chlorination rectifier -1no
19	Balance of plant MCC	CGL MAKE F25, F50, F75, F125 SFU HANDLE. Total quantity is 100 no
20	CW Pump House CT-MCC	CT FAN MCC- SPARE FEEDER Qty-2 No
21	Balance of plant Motors	Missing and damaged motor as per list: [SBS dosing D, Lime system motor, Alum dosing agitator). Total Qty-5 No
22	SWTP	Spare feeder SWTP- Qty-5 No.
23	SEA INTAKE PUMP HOUSE	Intake CT traveling Break with motor Qty.-1 No.
24	CW Pump House CT-MCC	CT fan Space heater cable- Qty-9
25	CW Pump House CT-MCC	CT Fan control cable-Qty-9
26	CW Pump House CT-MCC	CT Fan power cable Qty-2
27	Cooling Tower -U 1 & 2	CT Fan spare motor, Qty-1 no
28	Vatech Plant	0.37 kW VFD - Qty-3 No
29	Vatech Plant	0.75 kW VFD – Qty – 1 No
30	SWTP	Marline gerrine breaker (SWTP MCC B/C)- Qty-1
31	SEA INTAKE MCC	GE 800 LT Breaker Qty-1 no
32	SEA INTAKE MCC	Relay front facia SJ64-Qty-4 no
33	SEA INTAKE MCC	Relay front facia SJ61-Qty-3 no
34	SEA INTAKE MCC	Bus coupler relay 7rw6400-Qty-3 no
35	Screen House	Motor of UBF - 5 Right-
36	Screen House	Motor -UBF - 5 Left
37	Screen House	Motor-UBF - 10 Right
38	Screen House	Motor-UBF - 10 Left
39	Screen House	Metal Detector - 7 & 8
40	Lime Tripper 2	Cable Rolling Drum Motor
41	MHP MCC	Dust Exhaust Fan Breaker

Sr. No.	Location	NOT Available Material Description
42	MHP MCC	Spare HT Breaker
43	MHP MCC	Lime / Lignite LT MCC Feeders
44	MHP MCC	Battery Charger
45	MHP MCC	Battery Bank
46	TP - 2	MD - 1 & 2
47	All Area	Cables and lighting materials, spares
48	6.6 kV Board	Auto Bus transfer system
49	BOP/TG	Cathodic protection system

Annexure 2.7: Instrumentation & Control

Sr. No.	Equipment Name	Status	Spares
1	ABB DCS system	working	Upgradation required
2	ABB boiler side networking cards	not working	cards required 14 nos. (07 set)
3	stand by server not available for data acquisition U#1&2	not available	Server available
4	History server required at Unit 1	not available	Upgradation required
5	U#2 ALSTOM client server require	not available	server require
6	Field safe control system make Honeywell	available	up gradation require
7	Sea water treatment plant	available	Upgradation required
8	MHP PLC system make ABB	available	Upgradation required
9	Analog input card require		spare for DCS system
10	Profibus input card require		spare for DCS system

Annexure 2.8: Details of Instrument defect spares required

U 1 Defects (IMD) (UNIT#1 IMD spares required)

Sr. No.	Description of Material required	Status & Spare
1	Temperature over fluidized bed Tx in furnace - 1HHC11CT021,1HHC13CT021 showing bed value	Spare T/c
2	Inter connecting line flue gas pressure before ID fan - 1HNA80CP001 showing wrong value.	Impulse line available in store but erection require during opp.
3	BFP - 1B R.C control valve very slow response due to its positioner problem and remain open (30%)	Spares available but replace during opportunity
4	MOT lube oil filter local DP gauge not available since long time	Spare
5	Burner - 3,5,8 bed temperature not working	Spare T/C
6	Burner - 6 over fire control air damper not working (positioner NA)	positioner
7	Condenser tank level Transmitter 1MAG01CL003 showing bad value.	level transmitter
8	Boiler & turbine side DCS trend not coming.	Capex
9	Lime feeding both ball valve not operative	seal kit
10	HP Turbine CVs and IPT CVs suspected passing. When TG reset at that time TG barring RPM observed fast increasing trend.	Jointly inspection by MMD & Operation require
11	HP Differential expansion not showing on ANSALDO DCS (showing Over Range).	Sensor require
12	Ash cooler B vessel valve and 2nd chamber drain valve feedback problem	
13	SA fan 1A & 1B dis Pressure Tx. 1HLA12CT001 bad value.	Transmitter
14	FRS lo-lo DP transmitter not available.	Transmitter
15	Hotwell temp (road side) showing higher value 70C	Done.
16	Gravimetric feeder B display Not available.	Spares received
17	CW-B flow not showing.	Spare sent for repair
18	SH3 to SH4 flow X'meter 1LAE11CF001 and 123CF001 showing wrong value.	Transmitter
19	Lignite drag link -A and B speed not showing on DCS	Sensor require
20	LPH-2 level X'meter 1LCC20CL003 showing bad value.	level transmitter
21	LPH-3 level X'meter 1LCC30CL003 showing bad value	level transmitter
22	LPH-3 level X'meter 1LCC30CL002 showing higher value (386 mmwc)	level transmitter
23	BFP-1A lub oil cool water flow x'meter 1LAC10CF011/012 showing bad value.	Flow Transmitter
24	BFP-1B lub oil cool water flow x'meter 1LAC20CF011/012 showing bad value.	Flow Transmitter
25	BFP-1C lub oil cool water flow x'meter 1LAC30CF011/012 showing bad value.	Flow Transmitter
26	All TAPH metal temp showing wrong value.	Thermocouple
27	Stack analysis all parameter showing bad value.	Data require from Analyser to DCS
28	O2 analyzer local and DCS value not matching.	No spare require
29	HPH 5 TTD value not showing OK	Done.

Sr. No.	Description of Material required	Status & Spare
30	Ash Cooler-A zero chamber air flow showing wrong value.	Done.
31	Ash cooler A vessel valve and 1st chamber drain valve feedback problem	Done.
32	LCC 1A Local air temp gauge NA	Spare
33	LCC 1A Local Oil temp gauge NA	Spare
34	LCC 1A Local Air pressure gauge hunting.	Spare
35	Chiller Compressor 1 &4, chilling water out temp sensor not working/NA.	Spare
36	Purging SOV A2 and B2 feedback not coming	Spare awaited
37	RH 2 O/L RHS pressure transmitter N/W (1LBB01CP003)	Transmitter
38	RALF AA Amp. Not showing in DCS	IMD OK

UNIT #2 IMD Spares required

Sr.no	Description	Status
1	HP turbine 3rd CV malfunctioned, 100% opened. (Vicker card removed by IMD)	Problem exact not identify
2	CRH NRV not operative	Seal kit (PO done)
3	CEP 2C discharge pressure lo-lo switch not working. (forced condition)	Switch
4	CEP 2B discharge pressure transmitter not working.	Transmitter
5	Syphon seal B flow transmitter 2HHS20CF002,003 showing wrong value on DCS.	Done
6	Syphon seal A 2HDF10CT002/2HDF20CT002 showing bad value on DCS.	Thermocouple
7	Burner no. 6, 7 temp showing bad value on DCS.	Thermocouple
8	Ash cooler A temp 2HDA10CT002 and 006 showing wrong value on DCS.	Thermocouple
9	Ash cooler B temp 2HDA20CT005/2HDA20CT001 and 006 showing wrong value on DCS.	Thermocouple
10	Syphon seal B outlet temp 2HDA20CT002 and 003 showing bad value on DCS.	Thermocouple
11	HP Differential expansion value not showing on DCS.	Sensor
12	IP/LP differential expansion value hunting on DCS.	Sensor
13	Burner air flow control damper 6 not operative.	Positioner
14	Hotwell conductivity & Temp. LHS showing less value compare to RHS	Analyser
15	L valve A1, A2, B1, B2 purging SOV open/close feedback not coming.	PO done Limit Switch
16	M.S. & HRH steam temp not showing on Ansaldo DCS.	Problem not identify & ABB help require
17	LHP 3 all level transmitter not working.	Level Transmitter
18	Condenser Pass A and B inlet and outlet temp not changing.	Fiber optic cable checking require, Outside Agency require
19	Ash cooler A & B all drain valve feedback problem.	Limit switch & cables

Sr.no	Description	Status
20	HPH 5 extraction line NRV 2LBQ01AA151 not operative.	Seal kit (PO done)
21	MOT centrifuge flow lack switch not available.	Flow Switch
22	Ash cooler A side make up SOV coil problem	Coil (PO done)
23	HPH 6 level transmitter 2LAD20CL001 not working.	Transmitter
24	Gr. Feeder 2A and 2B flow not showing on DCS.	Spare received
25	RALF 2BA On feedback forced condition in ALSTOM DCS.	Melody Server require
26	IP inlet first stage pressure showing less on DCS.	DONE
27	PRDS high pressure side PrTx 2LBG10CP002 removed	No where indicated on graphics nor taken in tripping or alarm so use in BFP 2C.
28	PRDS 30% CV not close below 25%. (Diaphragm passing)	Diaphragm
29	Condenser Level TX. 2MAG01CL002 showing less value	Level Transmitter
30	CEP 2B motor DE side vibration showing high. (actually OK)	checking
31	L valve A1 & B2 temp. 2HDA10CT003,2HDA20CT003 not showing OK	Thermocouple & cable

Annexure 2.9: AHP ESTIMATION

SR NO	SPARES NAME	EQUIPMENT NAME					
		1BATR-01			1BATR-02		
Present Situation		Installed Qty.	Required Spares	Present Situation	Installed Qty.	Required Spares	
1	ASH INLET VALVE-200NB	Ok	1	0	Damaged	1	1
2	VENT VALVE-65NB	Ok	1	0	Damaged	1	1
3	TRANSPORTER-1100LTR	Thickness Less	1	1	Bottom Disc Weak	1	1
4	AIR KINIFE VALVE-80NB	Not Available	1	1	Not Available	1	1
5	ASH DISCHARGE VALVE-80NB	Not Available	1	1	Not Available	1	1
6	AIR INLET VALVE-50NB	Ok	1	0	Not Available	1	1
7	AIR KINIFE VALVE(PNEMATIC)-40NB	Ok	1	0	Not Available	1	1
8	50 NB NRV	Not Ok	2	2	Not Available	2	2
9	40 NB NRV	Ok	3	0	Not Available	3	3
10	50NB PIPE (AIR LINE)	Weak	36	36	Not Available	36	36
11	40 NB PIPE (AIR LINE)	Weak	36	36	Weak	36	36
12	80 NB MS PIPE(DISCHARGE)	Thickness Less	100	100	Thickness Less	100	100
13	80NB BASALT BEND	Weak	13	13	Weak	13	13
14	80 NB BASALT SPOOL PIECE	Weak	4	4	Weak	4	4
15	65 NB MS PIPE	Weal	10	10	Weal	10	10

B	COMMON SPARES	Present Situation	Installe d Qty	Require d Spares
1	BAG FILTER HOUSE	DAMAGED	1	1
2	FLUIDISING PANNEL	DAMAGED	2	2

BUFFER HOPPER-02

SR NO	SPARES NAME	EQUIPMENT NAME					
		1BATR-03			1BATR-04		
Present Situation		Installed Qty	Required Spares	Present Situation	Installed Qty	Required Spares	
1	Ash inlet valve	Ok	1	0	Damaged	1	1
2	Vent valve	Ok	1	0	Not Available	1	1
3	Transporter	Thickness less	1	1	Bottom Disc Weak	1	1
4	Air kinife valve	Not	1	1	Not	1	1

SR NO		EQUIPMENT NAME					
A	SPARES NAME	1BATR-03			1BATR-04		
		Present Situation	Installed Qty	Required Spares	Present Situation	Installed Qty	Required Spares
		available			Available		
5	Ash discharge valve	Not available	1	1	Not Available	1	1
6	Air inlet valve	Ok	1	0	Not Available	1	1
7	Air kinifevalve(pnematic)	Ok	1	0	Not Available	1	1
8	50 NB NRV	Not ok	2	2	Not Available	2	2
9	40 NB NRV	Ok	3	0	Not Available	3	3
10	50NB PIPE (AIR LINE)	Weak	36	36	Not Available	36	36
11	40 NB PIPE (AIR LINE)	Weak	36	36	Weak	36	36
12	80 NB MS PIPE(DISCHARGE)	Thickness less	90	100	Thickness Less	90	100
13	80NB BASALT BEND	Weak	13	13	Weak	13	13
14	80 NB BASALT SPOOL PIECE	Weak	4	4	Weak	4	4
15	65 NB MS PIPE	Weal	10	10	Weal	10	10

B	COMMON SPARES	Present Situation	Installed Qty	Required Spares
1	BAG FILTER HOUSE	DAMAGED	1	1
2	FLUIDISING PANNEL	DAMAGED	2	2

BUFFER HOPPER-03

SR NO		EQUIPMENT NAME					
A	SPARES NAME	2BATR-01			2BATR-02		
		Present Situation	Installed Qty.	Required Spares	Present Situation	Installed Qty.	Required Spares
1	Ash Inlet Valve	Ok	1	0	Not Available	1	1
2	Vent Valve	Ok	1	0	Not Available	1	1
3	Transporter	Thickness Less	1	1	Damaged	1	1
4	Air Kinife Valve	Not Available	1	1	Not Available	1	1
5	Ash Discharge Valve	Not Available	1	1	Not Available	1	1
6	Air Inlet Valve	Ok	1	0	Not Available	1	1
7	Air KinifeValve(Pnematic)	Ok	1	0	Not Available	1	1
8	50 NB NRV	Not Ok	2	2	Not Available	2	2
9	40 NB NRV	Ok	3	0	Not Available	3	3

SR NO		EQUIPMENT NAME					
A	SPARES NAME	2BATR-01			2BATR-02		
		Present Situation	Installed Qty.	Required Spares	Present Situation	Installed Qty.	Required Spares
10	50NB PIPE (AIR LINE)	Weak	36	36	Not Available	36	36
11	40 NB PIPE (AIR LINE)	Weak	36	36	Not Available	36	36
12	80 NB MS PIPE(DISCHARGE)	Thickness Less	60	60	Not Available	60	60
13	80NB BASALT BEND	Weak	14	14	Not Available	13	13
14	80 NB BASALT SPOOL PIECE	Weak	4	4	Not Available	4	4
15	65 NB MS PIPE	Weak	10	10	Weak	10	10

B	COMMON SPARES	Present situation	Installed Qty.	Required Spares
1	BAG FILTER HOUSE	DAMAGED	1	1
2	FLUIDISING PANNEL	DAMAGED	2	2

BUFFER HOPPER-04

SR NO		EQUIPMENT NAME					
A	SPARES NAME	2BATR-03			2BATR-04		
		Present situation	Installed Qty.	Required Spares	Present situation	Installed Qty.	Required Spares
1	Ash Inlet Valve	Ok	1	0	Not Available	1	1
2	Vent Valve	Ok	1	0	Not Available	1	1
3	Transporter	Thickness Less	1	1	Not Available	1	1
4	Air Kinife Valve	Not Available	1	1	Not Available	1	1
5	Ash Discharge Valve	Not Available	1	1	Not Available	1	1
6	Air Inlet Valve	Ok	1	0	Not Available	1	1
7	Air KinifeValve(Pneumatic)	Ok	1	0	Not Available	1	1
8	50 NB NRV	Not Ok	2	2	Not Available	2	2
9	40 NB NRV	Ok	3	0	Not Available	3	3
10	50NB PIPE (AIR LINE)	Weak	36	36	Not Available	36	36
11	40 NB PIPE (AIR LINE)	Weak	36	36	Not Available	36	36
12	80 NB MS PIPE(DISCHARGE)	Thickness Less	75	75	Weak	75	75
13	80NB BASALT BEND	Weak	13	13	Weak	13	13
14	80 NB BASALT SPOOL PIECE	Weak	4	4	Weak	4	4

SR NO		EQUIPMENT NAME					
A	SPARES NAME	2BATR-03			2BATR-04		
		Present situation	Installed Qty.	Required Spares	Present situation	Installed Qty.	Required Spares
15	65 NB MS PIPE	Weak	10	10	Weak	10	10
B	COMMON SPARES		Present situation		Installed Qty.		Required Spares
1	Buffer Hopper With Vent House		Damaged		1		1
2	Fluidising Pannel		Damaged		2		2

IMBASILO

SR NO		EQUIPMENT NAME = IMBASILO		
A	SPARES NAME	Present situation	Installed Qty.	Required Spares
1	FILTER BAG	WEAK	28	28
2	MS CAGE FOR FILTER BAG	WEAK	28	28
3	VIBRATING SCREEN -01 SCREEN NET	NOT AVAILABLE	1	1
4	VIBRATING SCREEN -02 SCREEN NET	NOT AVAILABLE	1	1
5	VIBRATING SCREEN -03 SCREEN NET	NOT AVAILABLE	1	1
6	VIBRATING SCREEN -04 SCREEN NET	NOT AVAILABLE	1	1
7	OTR-01 BOTTOM DISC FELT	WEAK	1	1
8	OTR-01 PERFORATED BOTTOM DISC PLATE	WEAK	1	1
9	OTR-01 VENT VALVE-80 NB	NOT AVAILABLE	1	1
10	OTR-01 ASH DISCHARGE VALVE -125NB	NOT AVAILABLE	1	1
11	OTR-01 DISCHARGE LINE-125NB	WEAK	275	150
12	OTR-01 DISCHARGE LINE-150NB	WEAK	120	50
13	OTR-01 BASALT BEND-125 NB	WEAK	17	6
14	OTR-01 BASALT BEND-150 NB	WEAK	7	5
15	OTR-02 BOTTOM DISC FELT	WEAK	1	1
	OTR-02 PERFORATED BOTTOM DISC PLATE	WEAK	1	1
	OTR-02 VENT VALVE-80 NB	NOT AVAILABLE	1	1
	OTR-02 ASH DISCHARGE VALVE -125NB	NOT AVAILABLE	1	1
	OTR-02 DISCHARGE LINE-125NB	WEAK	275	150
	OTR-02 DISCHARGE LINE-150NB	WEAK	120	50
	OTR-02 BASALT BEND-125 NB	WEAK	15	6
	OTR-02 BASALT BEND-150 NB	WEAK	7	5
	OTR-03 BOTTOM DISC FELT	WEAK	1	1
	OTR-03 PERFORATED BOTTOM DISC PLATE	WEAK	1	1
	OTR-03 DISCHARGE LINE-65NB	WEAK	130	100
	OTR-03 BASALT BEND-65NB	WEAK	14	10
	OTR-05 BOTTOM DISC FELT	WEAK	1	1
	OTR-05 PERFORATED BOTTOM DISC PLATE	WEAK	1	1
	OTR-05 DISCHARGE LINE-65NB	WEAK	110	80

SR NO		EQUIPMENT NAME = IMBASILO		
A	SPARES NAME	Present situation	Installed Qty.	Required Spares
	0TR-05 BASALT BEND-65NB	WEAK	14	10

BASILO

SR NO		EQUIPMENT NAME		
A	SPARES NAME	BASILO		
		Present situation	Installed Qty.	Required Spares
1	FILTER BAG	WEAK	56	56
2	MS CAGE FOR FILTER BAG	WEAK	56	56
3	RAC-01 DRIVE CHAIN	WEAK	1	1
4	RAC-01 WATER INLET VALVE	NOT AVAILABLE	1	1

Annexure 2.10: Hoists & Cranes

MHP HOIST WORKING STATUS

S.N	Location	Capacity (Tons)	Status of Hoist	Electrical Observation	Required Spares
1	Dump Hopper	7.5	Working normal	N.A	N.A
2	S/R Drive house	2	Working normal	N.A	N.A
3	TP-1	2	Working normal	N.A	N.A
4	TP-2	2	Working normal	N.A	N.A
5	PCH (ILMS FLOOR)	15	Not Working	Brake Coil burnt in Impactor Hoist. So replace from PCH ILMS Floor Hoist.	Brake Coil
6	SCH (IMPACTOR HOIST)	7.5	Working normal	N.A	N.A
7	SCH (ROTOR HOIST)	15	Working normal	N.A	N.A
8	SCH (CR-1 FLOOR)	2	Not Working	MCB Problem and hoist not in working since long	4 POLE 63 AMP MCB & other switchgear spares
9	SCH (ILMS FLOOR)	15	Working normal	Incoming Power Cable problem. Temporary made available by laying power cable from ILMS - 3 in January 2018 for ILMS - 3 job	Power Cable -16 sq.mm x 3 core, Aluminum Armored - approx.. 250 meter
10	SCREEN House (ILMS FLOOR)	15	Working normal	N.A	N.A
11	SCREEN House (B.F-9)	2	Not Working	Power Cable burn since long	Power Cable & other switchgear spares
12	SCREEN House (B.F-10)	2	Working normal	Not working since last 6 months. Replace 32 amp, 4 pole MCB & other defects attended.	N.A
13	SCREEN House (SCREEN MOTOR TOP)	10	Not Working	Due to approach last 4 yrs. not checked.	Proper approach required for checking & switchgear spares
14	SCREEN House (SCREEN FLOOR)	2	Not Working	power and control cable and box not available Since long.	Power / Control Cable & Control Panel
15	TP-3	2	Not Working	Power and control cable and Pendulum box not available Since long.	Power / Control Cable & Control Panel
16	Lg. Bunker	3	Not Working	panel side no material so required all material (Panel Burnt).	Power cable, control cable, switchgear spares, pendulum etc.
17	Lime Bunker	3	Not Working	Power cable not available control available Since	Power Cable & other switchgear

S.N	Location	Capacity (Tons)	Status of Hoist	Electrical Observation	Required Spares
				long	spares
18	Lime Crusher House (ILMS)	10	Not Working	24 volt not coming panel side. for checking work approach required.	switchgear spares
19	Lime Crusher House (UBF Plant)	5	Not Working	Power and control cable and box not available since long.	Power / Control Cable & Control Panel
20	Lime Crusher House (UBF MHP) IMPACTOR	10	Not Working	power cable not available ,control available since long	Power Cable & other switchgear spares
21	LM-2 Drive House	2	Working normal	N.A	N.A
22	LM TP-4	2	Working normal	N.A	N.A
23	Lime Dump Hopper (SIZER)	15	Not Working	power cable not available, control available	Power Cable & other switchgear spares

ATPS EOT crane status

Sr no	Certificate no.	Description	Tag No.	Capacity	Location	Status	Required Spares
1	GMDC/E OT/01	REVA	TMD/EO T/01	10.0 tons	Work shop	Working with Abnormal Sound	GEAR BOX O/H REQUIRED
2	GMDC/E OT/01A	REVA	TMD/EO T/01A	2.0 tons	Work shop	Not Working	O/H REQUIRED
3	GMDC/E OT/03	CENTURY	TMD/EO T/03	5.0 tons	compresser house	Running Normal	O/H REQUIRED
4	GMDC/E OT/04	CENTURY	TMD/EO T/04	3.0 tons	ccw pump house(Ash cooler pump side)	Running Normal	O/H REQUIRED
5	GMDC/E OT/02	CENTURY	GMDC/E OT/02	3.0 tons	ccw pump house(ccw pump side)	Running Normal	O/H REQUIRED
6	GMDC/E OT/05	INDEEF	TMD/EO T/05	2.0 tons	Chemical house	Running Normal	O/H REQUIRED
7	GMDC/E OT/06	INDEEF	TMD/EO T/06	5.0 tons	Pump house(VATECH)	Running Normal	O/H REQUIRED
8	GMDC/E OT/07	INDEEF	TMD/EO T/07	25.0 tons	CW Pump house	Running Normal	O/H REQUIRED
9	GMDC/E OT/16	ANUPAM INDUSTRIES-VIDHYANAGAR	TMD/EO T/16	5Tons	CW Pump house GANTRI CRANE	Not Available	COMPLETE CRANE INSTALLATION REQUIRED
10	GMDC/E OT/09	REVA	TMD/EO T/09	5.0 tons	At Work shop	Not Working	Proper approach required for checking and O/H required.
11	GMDC/E OT/10	WMI CRANES	TMD/EO T/10	70.0 tons	At Turbine floor	Running Normal	O/H REQD THROUGH WMI SERVICE

Sr no.	Certificate no.	Description	Tag No.	Capacity	Location	Status	Required Spares
		LTD.					ENGR
12	GMDC/EOT/10A	WMI CRANES LTD.	TMD/EOT/10A	20.0 tons	At Turbine floor	Running Normal	O/H REQD THROUGH WMI SERVICE ENGR
13	GMDC/EOT/11	GLOBE	TMD/EOT/11	5.0 tons	FOPH Pump house	Not Usable Condition	NEW CRANE REQUIRED
14	GMDC/EOT/12	EOT CRANE sr no.2	TMD/EOT/12	2.0 tons	ESP Area (Unit-1)	Not Usable Condition	NEW CRANE REQUIRED
15	GMDC/EOT/13	EOT CRANE sr no.1	TMD/EOT/13	2.0 tons	ESP Area (Unit-1)	Not Usable Condition	NEW CRANE REQUIRED
16	GMDC/EOT/14	EOT CRANE sr no.2	TMD/EOT/14	2.0 tons	ESP Area (Unit-2)	Not Usable Condition	NEW CRANE REQUIRED
17	GMDC/EOT/15	EOT CRANE sr no.1	TMD/EOT/15	2.0 tons	ESP Area (Unit-2)	Not Usable Condition	NEW CRANE REQUIRED
18	GMDC/EOT/08A	CENTURY	TMD/EOT/8A	3.0 tons	Sea water intake pump house	Running But O/H Required	FREQUENTLY PROBLEM COMING
19	GMDC/EOT/08	CENTURY	TMD/EOT/08	5.0 tons	sea water intake pump house(TWS side)	Not Working	O/H REQD THROUGH OUTSIDE AGENCY

Annexure 2.11: Fire Fighting System

Sr. No.	Description	Location	Status
1	Fire tender GJ-12-G1529	Fire Station	OK
2	Fire Multipurpose tender GJ-12-AN-1720	Fire Station	Not Ok
3	Deluge Valve-601	Generator transformer unit 1	OK(Manual operation)
	Deluge Valve-602	Auxiliary transformer unit 1	
	Deluge Valve-603	Main oil tank unit 1	
	Deluge Valve-604	Dirty oil tank	
	Deluge Valve-605	Generator transformer unit 2	
	DelugeValve-606	Auxiliary transformer unit 2	
	Deluge Valve-607	Main oil tank unit 2	
	Deluge Valve-608	Diesel generator set	
4	Alarm valve (water sprinkler system) (7 nos.)	Various Location	Not Ok
5	Co2 fixed flooding Turbine (Unit-1)	Unit 1	Manual operation (OK)
	Co2 fixed flooding Turbine (Unit-2))	Unit2	Manual operation (OK)
6	Fix foam system (2nos HFO & 1 no LDO tank)	HFO and LDO tank	Not Ok (manual)
7	Emulsifier Jockey pump-101	Fire Pump house	Ok (Manual Mode)
8	Emulsifier Jockey pump-102		
9	Emulsifier spray pump-201		
10	Emulsifier Diesel driven spray pump-202		
12	Fire hydrant pump-301		
13	Fire hydrant pump-302		
14	Fire diesel driven pump-303		
15	Fire booster pump- 2 nos.	B/w unit 1 & 2 0 meter	Ok (Manual Mode)
16	Fire hydrant line network, Fire risers, fire water monitor	All plant area	At few location fire pipe line is kept isolated due to leakages and heavy corrosion of hydrant pipe.
17	Fire Extinguishers - DCP, Water type, Foam type,Co2	All plant area	All ok (Spares Required)
18	Fire delivery hose	Various Location	All ok
19	Fire alarm and detection system	Control room, MHP, fire station. Eight loops in 1st panel and five loops in 2nd panel across plant premises.	Silent Mode

Annexure 2.12: Air Compressors (ELGI)

Sr No.	IAC / SAC Status On Dated 21092018		Remarks
1	IAC#A	Running Normal	Available
2	IAC#B	Running Normal	Available
3	IAC#C	Running Normal	Available
4	IAC#D	HP Stage Abnormal Sound	NA
5	SAC#A	Vibration High Up 13 Mm/Sec; LP Stage Having Abnormal Sound	Emergency Available
6	SAC#B	HP Stage Abnormal Sound	NA
7	SAC#C	HP Stage & LP Stage Abnormal Sound/ Dismantled Condition	NA
8	SAC#D	Running Normal	Available
9	SAC#E	Since Long Not Available (HP & LP Stage)	NA
Note:	1. Suction Air Filter needs to be replaced as per DP Alarm (Design-0.04)		
	2. Lub Oil Filter needs to be cleaned Or replaced as per DP Alarm		
	3. Lubricating Oil needs to be replaced as Per OEM		
	4. Discharge NRV Servicing; If damaged than needs to be replaced.		

Annexure 2.13: BOP/CT fan/Water treatment plant

SR NO	EQUIPMENT NAME	CONDITION	SPARES
1	CCW PUMPS		
	CCW PUMP-A,B,C	03 NOS.SUCTION(500 NB BFV) & 03 NOS.DISCHARGE VALVE(450 NB BFV) FOUND PASSING	COMPLETE VALVE ASSEMBLY REPLACEMENT REQD
	CCW PUMP-A,B,C	SUCTION & DISCHARGE HEADER IN TRENCH AREA CORRODED	MS/ERW OR SS 304 PIPE REQUIRED
2	ACW PUMP		
	ACW PUMP-A,B,C	SUCTION(500 NB BFV-03 NOS) & DISCHARGE VALVE(450 NB BFV-03 NOS);NRV ALSO PASSING FOUND PASSING	COMPLETE VALVE ASSEMBLY REPLACEMENT REQD
	ACW PUMP-A,B,C	GLAND LEAKAGE & RUNNING WITH HIGH VIBRATION SO ;O/H REQUIRED	PUMP SPARES ;BEARING;SLEEVE;DISC PACK;OIL SEAL REQUIRED
	ACW PUMP-A,B,C	SUCTION & DISCHARGE HEADER IN TRENCH AREA CORRODED	SS316L PIPE OR MS INTERNAL CORO COATING PIPE
3	ASH COOLER PUMP		
	ASH COOLER PUMP-B	GLAND LEAKAGE & PUMP O/H REQUIRED	PUMP SPARES;SLEEVE;BEARING ;DISK PACK REQUIRED
	ASH COOLER PUMP-A,B,C	SUCTION(03 NOS 350 NB BFV) & DISCHARGE VALVE(03 NOS 350 NB BFV) & NRV FOUND PASSING	COMPLETE VALVE ASSEMBLY REPLACEMENT REQD
	ASH COOLER PUMP-A,B,C	SUCTION & DISCHARGE PIPE IN TRENCH AREA & UNDER GROUND CORRODED	SS316L PIPE OR MS INTERNAL COATING PIPE(450NB -200 MTR UNDER GROUND)
	BOP		
5	FLASH MIXTURE	NOT AVAILABLE SINCE LONG	COMPLETE ASSEMBLY REQUIRED
6	FLOCCULATOR		
	FLOCCULATOR-A TO H	BOTH BEVEL GEAR'S TEETH WORN OUT & GEAR BOX WITH ABNORMAL SOUND	COMPLETE ASSEMBLY REPLACEMENT REQUIRED
7	PTP AIR BLOWER		
	PTP AIR BLOWER-A,B,C	SUCTION AIR FILTER(03 NOS) & SILENSER (03 NOS)HEAVY CORRODED	OVERHAULING REQUIRED
8	HYPO BLOWER		

SR NO	EQUIPMENT NAME	CONDITION	SPARES
	HYPO BLOWER A & B	BLOWER ERODED & CORRODED;RUNNING WITH ABNORMAL SOUND	REPLACEMENT REQUIRED
9	SEA WATER INTAKE PUMPS		
	SEA WATER INTAKE PUMP-A,B,C	LESS FLOW AS PER DESIGN FLOW/PUMP A VIBRATION HIGH	COMPLETE O/H REQUIRED
10	DESAL FEED PUMP		
	DESAL FEED PUMP-A	RUNNING WITH HIGH VIBRATION	COMPLETE O/H REQUIRED
11	EC FEED PUMP		
	EC FEED PUMP#D	NOT AVAILABLE DUE TO VIBRATION HIGH	COMPLETE O/H REQUIRED
12	BACK WASH RECIRCULATION PUMP		
	BACK WASH RECIRCULATION PUMP-B	RUNNING WITH HEAVY GLAND LEAKAGE	COMPLETE O/H REQUIRED
13	CENTRIFUGE FEED PUMP		
	CENTRIFUGE FEED PUMP-B	LESS FLOW	GEAR BOX DAMAGED
	CENTRIFUGE FEED PUMP-A,C,D	NOT AVAILABLE	COMPLETE PUMP ASSEMBLY REPLACEMENT REQUIRED
14	LIME AGITATOR		
	LIME AGITATOR-A,B	NOT AVAILABLE SINCE LONG	COMPLETE ASSEMBLY REPLACEMENT REQUIRED
15	THICKNER MECHANISM		
	THICKNER MECHANISM-B	NOT AVAILABLE DUE TO BOTTOM SIDE SLUDGE ACCUMULATION	
16	EFFLUENT DISPOSABLE PUMP		
	EFFLUENT DISPOSABLE PUMP-A,B	NOT AVAILABLE SINCE LONG	COMPLETE ASSEMBLY REPLACEMENT REQUIRED
17	BRINE PUMP		
	BRINE PUMP-A,B,C,D	DISCHARGE NRV BADLY CORRODED; LEAKAGE & PASSING.	COMPLETE ASSEMBLY NRV REPLACEMENT REQUIRED
	BRINE PUMP-1A,2A	RUNNING WITH LESS FLOW	COMPLETE O/H REQUIRED WITH OEM SPARES
18	CW PUMP		
	CW PUMP-B	HEAVY GLAND LEAKAGE	OVERHAULING NEEDS;SLEEVE;PRESSURE REDUCING BUSH & THORNDEN BEARING ETC
	CW PUMP-E	RUNNING WITH VIBRATION HIGH	OVERHAULING NEEDS;SLEEVE;PRESSURE REDUCING BUSH;COOLING COIL;THRUST PAD ETC..

SR NO	EQUIPMENT NAME	CONDITION	SPARES
	CW INTER CONNECTION VALVE	PASSING OBSERVED(1500 NB BFV)	VALVE SERVICING AGENCY WITH SPARES REQUIRED
	KINETIC ARV WITH ISOLATION VALVE	ISOLATING VALVE PASSING & NOT OPERATIVE;ARV LEAKAGE	ARV WITH VALVE REPLACEMENT REQUIRED
19	CW INTERCONNECTION VALVE PIT DEWATERING PUMP-A,B		
	CW DEWATERING PUMP-A,B	NOT AVAILABLE SINCE LONG	COMPLETE ASSEMBLY REPLAMENT REQUIRED
20	REJECT WATER PUMP		
	REJECT WATER PUMP-A	NOT AVAILABLE	PUMP SPARES REQUIRED
21	CT FAN U#1		
	FAN#6	NOT AVAILBLE DUE TO FRP BLADES & GEAR BOX REQUIRED	GEAR BOX SPARES & FRP BLADES REQUIRED
	FAN#4	NOT AVAILABLE DUE TO GEAR BOX SIDE ABNORMAL SOUND OBSERVED/FRP BLADES GOT DAMAGED	GEAR BOX O/H /FRP BLADES/DRIVE SHAFT REQD.COMPLETE ALL SPARES REQUIRED
	FAN #3	GEAR BOX,FRP BLADES & DRIVE SHAFT ASSEMBLY NOT AVAILABLE	GEAR BOX O/H /FRP BLADES/DRIVE SHAFT REQD.COMPLETE ALL SPARES REQUIRED
22	BOTH UNIT CT RISER PIPE WITH 750 NB BFV	PIPE CORRODED & VALVE SOME PASSING;	VALVE WITH GEAR BOX SERVICING REQUIRED
23	CT FAN U#2		
	FAN#6 & 1	GEAR BOX,FRP BLADES & DRIVE SHAFT ASSEMBLY NOT AVAILABLE	GEAR BOX O/H /FRP BLADES/DRIVE SHAFT REQD.COMPLETE ALL SPARES REQUIRED
	FAN#2		GEAR BOX O/H REQUIRED

Annexure 2.14: Lime Handling System

LIME MILL#1 STATUS

Sr. No	Equipment Name	Status	Defect	Spares
1	Lime bunker Niddle gate	Not Ok	Not operative & always open condition.	
2	Lime weigh feeder	Available	Running okay	
3	Lime Chain Conveyor	Available	Running okay	
4	Cyclone Rotary feeder-A	Available	Running okay	
5	Cyclone Rotary feeder-B	Available	Running okay	
6	Bag filer Rotary feeder-A	Available	Running okay	
7	Bag filer Rotary feeder-B	Available	Running okay	
8	Recirculation Fan	Available	Running okay	
9	Vibrating Screen -A	Available	Running okay	
10	Vibrating Screen -B	Available	Running okay	
11	Dilution blower	Available	Running okay	
12	Combustion blower	Available	Running okay	
13	Bag filter fan	Available	Running okay	
14	Bag filter System	Available	Running okay	Some Bag replacement required
15	Bag filter compressor	Available	Running okay	
16	Mill Gear box LOP-1	Available	Running okay	
17	Mill Gear box LOP-2	Available	Running okay	
18	Mill NDE LOP-1	Available	Running okay	
19	Mill NDE LOP-2	Not Available	Pump not develop pressure	New Pump required
20	Mill DE LOP-1	Available	Running okay	
21	Mill DE LOP-2	Available	Running okay	
22	Lime mill Gearbox	Available	Running okay	
23	Lime Mill ball	Available	Running okay but ball replacement required	Ball required
24	Lime mill coupling	Available	Running okay	
25	Pre-Jacking oil Pump	Available	Running okay	
26	Hot air Generator (HAG)	Available	Running okay	
27	Lime Compressor-1A	Available	Running okay	
28	Lime Compressor-1B	Not Available	All Body, piston, cylinder rusting condition	OEM Spares required
29	Screw Pump-1A	Available	Spare available for standby using	
30	Screw Pump-1B	Available	Running okay	
31	Day bin Rotary feeder-A	Not Available	Overhauling required	
32	Day bin Rotary feeder-B	Available	Running okay	
33	Day bin bag filter	Available	Running okay	
34	Day bin bag filter fan	Not ok	Overhauling required	
35	PG conveyor	Available	Running okay	
36	Lime ball valve System- A	Not Available	Ball valve not operative	New ball valve required
37	Lime ball valve System- B	Available	Running okay	

LIME MILL#2 STATUS

Sr. No	Equipment Name	Status	Defect	Spares
1	Lime bunker Niddle gate	Not Ok	Not operative & always open condition.	
2	Lime weigh feeder	Available	Running okay	
3	Lime Chain Conveyor	Not Available	Chain link assembly shifting lime mill-1	Chain link assembly required
4	Cyclone Rotary feeder-A	Available	Running okay	
5	Cyclone Rotary feeder-B	Available	Running okay	
6	Bag filer Rotary feeder-A	Available	Running okay	
7	Bag filer Rotary feeder-B	Available	Running okay	
8	Recirculation Fan	Available	Running okay	
9	Vibrating Screen -A	Available	Running okay	
10	Vibrating Screen -B	Available	Running okay	
11	Dilution blower	Available	Running okay	
12	Combustion blower	Available	Running okay	
13	Bag filter fan	Available	Running okay	
14	Bag filer System	Available	Bag filter bag some using in U#1	Bag with case required
15	Bag filter compressor	Not Available	Reconditioning required (pinion, distance piece filter)	OEM Spares required
16	Mill Gear box LOP-1	Not Available	pump shifting in Lime mill U#1	Pump required
17	Mill Gear box LOP-2	Available	Running okay	
18	Mill NDE LOP-1	Not Available	Pump shifting in U#1	Pump required
19	Mill NDE LOP-2	Not Available	Pump not develop pressure	overhaulingrequired
20	Mill DE LOP-1	Available	Running okay	
21	Mill DE LOP-2	Available	Running okay	
22	Lime mill Gearbox	Available	Running okay	
23	Lime Mill ball	Available	Mill not running so ball good condition	
24	Lime mill coupling	Not Available	Coupling shifting in U#1	Coupling required
25	Pre-Jacking oil Pump	Available	Running okay	
26	Hot air Generator (HAG)	Available	Burner not came in service	Burner required
27	Lime Compressor-2A	Not Available	All Body, piston, cylinder rusting condition	OEM Spares required
28	Lime Compressor-2B	Available	Running okay	
29	Screw Pump-2A	Not Available	Screw bend and barrel body required	
30	Screw Pump-1B	Available	Running okay	

Sr. No	Equipment Name	Status	Defect	Spares
31	Day bin Rotary feeder-A	Not Available	Overhauling required	
32	Day bin Rotary feeder-B	Available	Running okay	
33	Day bin bag filter	Available	Running okay	
34	Day bin bag filter fan	Not ok	Overhauling required	
35	PG conveyor	Available	Running okay	
36	Lime ball valve System- A	Not Available	Ball valve not operative	New ball valve required
37	Lime ball valve System- B	Available	Running okay	
38	Lub oil 320	Available	Need to replacement due to dusting	320 oil required

Spare planning for both lime system normalization

Sr. no.	Short Description of Spare	Detail Specification
1	Seal kit	make: elomatic, model:es1600
2	SOV	make: rotex, isolator (spitter) (one input-three output) type:30310-3,5-2G-M1 coil-220 vdc
3	level transmitter	make: kistler-morse automation (ultra wave) sr.no.63-1232,63-1240
4	Air filter regulator	Placka Make, 1/4 Inch.
5	DP gauge	make: H.GURU SOUTH 0-25 bar model:120-s-0-0-p-c
6	splitter	P & F make isolator one input two output require
7	PRESSURE SWITCH	make: SWITZER PRESSURE SWITCH, 0-4 BAR
8	ACTUATOR DOUBLE ACTING WITH SOV	make:elomatic, model:es1600,sov , make rotex,(one input-three output) type:30310-3,5-2G-M1 coil-220 vdc
9	Level Transmitter	make: kistler-morse automation (ultra wave) sr.no.63-1232,63-1240
10	LIME WEIGH FEEDER	TACHO SENSOR ASSEMBLY
11	LIME WEIGH FEEDER	TUC-4 CONTROLLER, Make :Transweigh India ltd.
12	MELODY SERVER	ABB MAKE MELODY SERVER
13	ANALOG INPUT CARD	AI 512,MAKE:ABB
14	PROFIBUS CARD	MAKE: ABB, MODEL: DX 502
15	DIGITAL INPUT CARD	MAKE: ABB, MODEL: DI 511
16	PULL CORD SWITCH	MAKE:ELECTRIC EQUIPMENT CORPORATION ,MODEL: EPC-1
17	BELTS SWAY SWITCH	MAKE:ELECTRIC EQUIPMENT CORPORATION ,MODEL: BSS-1
18	ZERO SPEED SWITCH	MAKE: JAYSHREE,PROBE 2 WIRE ,VOLTAGE 8 VDC,TYPE: SP 8.5S 30MM DIA X 65 MM LENGTH, PROBEL SIZE M 130 X 1.5 P X 65 L,ZSS CONTROLLER TYPE: RMP 211 / NITD /FP /, PROBE CONNCTION 2 CORE, SUPPLY: 240 VAC.RANGE : 20-200 RPM
19	BELT WEIGHER	MAKE: IPA,MODEL: BCW-32L9 ,COMPLETE SET,CAPACITY: 300 TPH
20	LIME COMPRESSOR	MAKE : K.G.KHOSLA COMPRESSOR LTD.,JOB NO. BNG-15064, MATERIAL REQUIRED LIST AS PER SHEET 3

Sr. no.	Short Description of Spare	Detail Specification
21	LM-1B BELT	
22	LM-2A CARRING ROLLERS	
23	TRIPPER-2 DRIVE CHAIN	
24	TRIPPER-1 SEALING ROLLER	
25	LM RETURN ROLLAR	
26	LM DC CHAIN(RHS-30 MTR AND RHS 30 MTR)	
27	LM IMPACT PAD	

Spare planning for both lime system normalization (EMD)

Sr. no.	Short Description of Spare	Detail Specification
1	Siemens relay front facia	Siemens Siprotec relay front facia For : 7SJ622-5EB22-3HFO/EE, BF0303052996
2	Fan cover	Fan cover
3	VFD	Variable frequency drive, Type-Micro master-440
4	Motor	KW-0.12,415 volt,Type-MA12,Make-IC baur
5	Motor	KW-3,FLC-6 amp.,415 Volt,Type-SEK-700-6,Make-IC baur

Annexure 2.15: Fuel Oil System

Sr. No		Equipment Name	Status	Defect	Spares
1	U#1	HFO Transfer Pump-A	Available	Running Okay	
2		HFO Transfer Pump-B	Available	Running Okay	
3		Heater-1	Available	Running Okay	
4		Heater-2	Available	Running Okay	
5	U#2	HFO Transfer Pump-A	Available	Running Okay	
6		HFO Transfer Pump-B	Available	Running Okay	
7		Heater-1	Available	Running Okay	
8		Heater-2	Available	Running Okay	
9	Comm on	LDO transfer pump-1	Available	Running Okay	
10		LDO transfer pump-2	Available	Running Okay	
11		LDO transfer pump-3	Available	Condition poor	New pump required
12		LDO transfer pump-4	Available	Running Okay	
13		HFO unloading pump-1	Available	Running Okay	
14		HFO unloading pump-2	Available	Running Okay	
15		HFO unloading pump-3	Available	Running Okay	
16		LDO unloading -1	Available	Running Okay	
17		LDO unloading -2	Available	Running Okay	
18		Condensate Transfer pump-1	Available	Running Okay	
19		Condensate Transfer pump-2	Available	Running Okay	
20		Drain water pump-1	Not Available	Tank cleaning after trial possible	Coupling bolt required
21		Drain water pump-2	Not Available	Tank cleaning after trial possible	Coupling bolt required
22		Drain HFO pump-1	Not Available	Tank cleaning after trial possible	Coupling bolt required
23		Drain HFO pump-2	Not Available	Tank cleaning after trial possible	Coupling bolt required
24		Oil recovery pump-1	Available	Running Okay	
25		Oil recovery pump-2	Available	Running Okay	
26		HFO unloading hose	Available	2 unloading available	Hose required
27		LDO unloading hose	Available	1 unloading available	Hose required
28		LDO tank-1	Available	Painting or coating required	
29		HFO tank-1	Available	Suction heater not in service	Return line replacement required

Sr. No		Equipment Name	Status	Defect	Spares
30		HFO tank-2	Available	Suction heater not in service as tank inside coil damage	Coil replacement work

Annexure 2.16: Civil work in plant

Sr. No.	Civil		Details of structure & its condition	Corrective measure method
1	Main Plant Foundation	PETRON	Silo Column foundation/beam is in damaged condition & it requires retrofitting work to strengthening of column & beam.	M40 grade of micro concrete Poly grout or equivalent matching with the specification with approval, with addition of 25% by weight 10 mm down size crushed aggregate and bipolar corrosion inhibitor EPCO KP 200 with reinforcement.
			Plan stability certificate is exist and expired on 10.04.2022.	
2	Structural Steel	GMW	Boiler U#2 side steel structure is in corrosion condition and it requires anticorrosive coating/protection lining work. Actual requirement is consider based on severe corrosion of steel structure.	Application of Corrosion Protection Lining of 2000 Micron as per specifications to the steel structures.
			Vatech area Structural beam (MS) near walkway is in corrosive condition, which is required to be repaired /replacement/ anticorrosive coating.	
			Barrier of A.C. Sheet in front of Cooling tower U#1, MS Structure requires anticorrosive coating.	Application of Corrosion Protection Lining of 2000 Micron as per specifications to the steel structures.
			MS Structure supporting to Conveyor belt requires anticorrosive coating.	Application of Corrosion Protection Lining of 2000 Micron as per specifications to the steel structures.
			MHP- TP-3 (Near service building) top roof sheet & cladding (MS) is deteriorated and it requires replacement.	Providing & fixing A.C. Sheet for roof & cladding work
			Main gate tower is in corrosion condition and it requires replacement of structure. It is in unsafe condition.	New tower construction if requirement arise.
			Stacker roof sheet & structure (MS) deteriorated at several location need to replacement of sheet/repair, anticorrosive coating to MS structure.	Application of coating to the steel structures as guidance by consultant. Consider only corrosive portion of structure (Top middle & side portion).
				Replacement sheet with A.C. Sheet.
			Auxiliary boiler chimney outer area corroded , its require painting/coating work.	Providing and apply a high temperature aluminum paint with all necessary consumables
3	General Civil Work & Sea Water Intake Channel	SIMPLEX	In Vatech, CW Pump house, Intake pump house, for-bay channel, CCW Pump house etc. outer side plaster deteriorated and it requires repairing work.	Waterproof plaster work

Sr. No.	Civil		Details of structure & its condition	Corrective measure method
			In intake channel the supporting R.C.C. beam (tie beam) was damaged and cracks are observed requires to be replaced by ISMB beam with anticorrosive coating.	ISMB Section with anticorrosive coating
			The window glass (MS Window) damaged in intake pump house due to MS frame corrosion, which requires repairing/replacement.	Providing & fixing of new glass on window
			RO platform for water tanker is damaged requires repairing.	construction of platform with RCC Concrete
			Plant Canteen window / door damaged due to termite/weather effect. It requires repairing.	Repairing/replacement with new wooden frame/shutter with anti-termite treatment
			Main control room & service building false ceiling damaged/not available at various location. It requires replacement or repairing.	Providing with new false ceiling
			Main store, AHP – Shutter repairing/service is required at various location which was damaged due to weather effect.	Servicing & replacement of damaged part of shutters (MS) with new one (12 Nos. Shutter require repairing)
			DG House window glass is in damaged condition, which requires repairing work.	Providing & fixing of new glass on window
			FOPH MS Gate is damaged, it requires repairing.	Repairing with new RCC foundation, Hinge and welding work
4	Chimney	BYGGING	Chimney of Unit#1&2 ladder & Platform is in Deteriorated condition & it requires with to be replaced. Proposal is under process at HO.	Ladder & platform replacement with new one
			Chimney of Unit#1&2 - RCC Structure is in Deteriorated condition & it requires retrofitting work.	Retrofitting item wise estimate will decide by consultant based on testing of structure after completion of ladder & platform replacement work; however the approximate value/estimate prepared based on physical condition.
5	Sea Water Intake System	L & T	-	
6	Road and Culverts inside Plant	SHREEJI	The road from Main gate to Weighbridge & patchwork outside main gate the resurfacing work is awarded to agency and it will be repaired shortly.	The agency will start shortly, LOI Dispatched
			Front of service building road, canteen to chimney road, Cooling tower U#1 to canteen road, Vatech front side & KBL	Short patch work repairing by concrete patch work

Sr. No.	Civil		Details of structure & its condition	Corrective measure method
			road requires repairing of small patch work / potholes.	
7	Cooling Tower	BDT	Railing (MS) of cooling tower (U#1 & U#2) staircase is in corrosion condition due to saline atmosphere requires anticorrosive coating.	Application of Corrosion Protection Lining of 2000 Micron as per specifications to the steel structures.
			Cooling tower U#2, Cell-9, East side vertical wall outside repairing work require. The work was not completed due to heavy electrical cable on the same.	Short Crete work on wall with reinforcement & coating.
			For bay Gate (U#1&2) RCC & MS supporting structure deteriorated, it requires repairing.	Reconstruction with new RCC Column & beam with anticorrosive coating