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LAMPIRAN

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Lampiran 1 : Tabel konsumsi daya boiler pipa air

No.	Name Of Machinery Water Tube Boiler	Power	
		KW	HP
3	<i>Induced Draft Fan</i>	55	73
4	<i>Forced Draft Fan</i>	50	67
5	<i>Dust Collector</i>	45	60
6	<i>Deashing Nozzle</i>	20	26
8	<i>Vibrating Grates</i>	30	40
9	<i>Fuel Ironeder Fan</i>	25	33
10	<i>Sonic Soot Blower</i>	40	53
8	<i>Fuel Distribution Conveyor</i>	18.5	30
9	<i>Fiber Shell Conveyor</i>	18.5	25
10	<i>Fiber Shell Conveyor Inclined</i>	18.5	25
11	<i>Deaerator Pump No. 1</i>	15	30
12	<i>Deaerator Pump No. 2</i>	15	30
13	<i>Fuel Retrievel Scrapper</i>	12	18
14	<i>Fuel Distribution Scrapper</i>	12	18
15	<i>Air Compressor No. 1</i>	7.5	10
16	<i>Air Compressor No. 2</i>	7.5	10
17	<i>Smart Hopper Scrapper</i>	6.5	8
18	<i>Rotary Hopper/Auto Ironeder</i>	5	6
19	<i>Airlock Dust Hopper</i>	3	4
20	<i>Dust Conveyor</i>	3	4
21	<i>Cooling pump No. 1</i>	3	4
22	<i>Cooling pump No. 2</i>	3	4
23	<i>Modulating damper/Puffing no. 1</i>	1.5	2
24	<i>Modulating damper/Puffing no. 2</i>	1.5	2
25	<i>Chemical Dosing pump No.1</i>	0.38	0.5
26	<i>Chemical Dosing pump No.2</i>	0.38	0.5
27	<i>Chemical Dosing pump No.3</i>	0.38	0.5
28	<i>Air Dryer</i>	0.19	0.25
Total		336	582

Sumber : Data Primer 2022

Lampiran 2 : Tabel pemakaian air boiler pipa air bulan september 2022

Tanggal	TBS Olah		Air	Ratio std	Ratio aktual
	kg	Ton	Olah (M3)	M3/ton FFB	M3/ton FFB
1	639,240	639,24	528,52	0,70	0,50
2	861,330	861,33	531,01	0,70	0,52
3	950,900	950,90	444,84	0,70	0,41
4	-	-	-	0,70	-
5	783,260	783,26	662,64	0,70	0,52
6	845.410	845.41	561,51	0,70	0,47
7	1,210,420	1,210,42	551,95	0,70	0,45
8	1,206,800	1,206,80	254,53	0,70	0,29
9	1,324,660	1,324,66	436,78	0,70	0,48
10	1,331,050	1,331,05	618,78	0,70	0,56
11	1,224,660	1,224,66	318,52	0,70	0,51
12	1,128,030	1,128,03	923,06	0,70	0,68
13	1,124,460	1,124,46	280,96	0,70	0,34
14	1,128,300	1,128,30	509,33	0,70	0,49
15	854,490	854,49	450,53	0,70	0,44
16	979,240	979,24	762,33	0,70	0,54
17	896,950	896,95	468,57	0,70	0,46
18	932,580	932,58	251,74	0,70	0,31
19	893,320	893,32	149,97	0,70	0,21
20	1,129,050	1,129,05	278,09	0,70	0,31
21	1,123,030	1,123,03	369,60	0,70	0,38
22	994.520	994.52	366,94	0,70	0,38
23	999,970	999,97	314,17	0,70	0,38
24	998,820	998,82	328,24	0,70	0,43
TOTAL		10716,13	10362,61		
Rata-rata				0,70	0,420

Sumber : Data Primer 2022

Lampiran 3 : Tabel hasil analisis air boiler pipa air bulan september 2022

TGL	WATER TUBE BOILER										
	pH Unit	P.Alk Ppm	M.Alk Ppm	O.Alk Ppm	TH Ppm	TDS Ppm	Silica Ppm	Sulfite Ppm	Phosp Ppm	Iron Ppm	Cond μ hos/cm
No	10.5-11.5	300-500	Max 700	2.5 X SiO ₂	Trace	1000 –2000	max<150	30-50	30-70	Max. 2	1493 – 2985
1	11,03	400.00	535.00	355.00	Trace	1200	135	33,7	50	1,13	2089
2	10,27	320.00	730.00	535.00	Trace	1700	113	49,9	37,5	0,79	1984
3	10	278.00	770.00	585.00	Trace	950	102	32,5	55,1	0,43	1486
4	-	-	-	-	-	-	-	-	-	-	-
5	12,45	422.00	925.00	745.00	Trace	1850	115	50,25	52,5	1,98	2883
6	12,42	451.00	895.00	750.00	Trace	2150	15	51,25	62,5	2,03	2984
7	10	300.00	370.00	230.00	Trace	967	12	29,7	32,5	0,51	1504
8	11,4	280.00	655.00	495.00	Trace	2050	12	43,25	35,4	1,31	2197
9	10,83	545.00	620.00	470.00	Trace	1400	127	40,5	35,5	0,93	1733
10	10,38	160.00	735.00	545.00	Trace	1980	135	41,25	42,5	0,64	1562
11	11,34	675.00	765.00	585.00	Trace	1850	75	38,7	42,5	0,92	1882
12	10	585.00	680.00	485.00	Trace	1550	120	40,7	40,9	0,41	1433
13	12,39	475.00	560.00	390.00	Trace	1250	120	33,7	51,8	1,72	1794
14	11,37	445.00	525.00	365.00	Trace	1150	120	31,25	47,6	0,87	1493
15	10	550.00	630.00	470.00	Trace	825	100	32,5	30,2	0,53	1498
16	10,26	565.00	650.00	255.00	Trace	990	12	35,3	35,3	0,77	1502
17	12,39	395.00	485.00	305.00	Trace	1100	12	33,7	40,5	1,94	1995
18	11,42	276.00	370.50	510.00	Trace	1600	127	31,25	30,9	0,76	1467
19	12,41	520.00	570.00	460.00	Trace	2400	127,5	50,7	32,5	0,64	1492
20	10,44	690.00	770.00	610.00	Trace	1750	120	30,1	35,6	2,11	2792
21	11,12	520.00	590.00	450.00	Trace	1450	120	32,5	37,5	0,65	1520
22	12,13	435.00	272.50	350.00	Trace	1250	112,5	50,25	72,5	2,02	2892
23	9,77	585.00	670.00	500.00	Trace	1650	110	36,25	29,8	0,36	1397
24	11,39	285.00	785.00	625.00	Trace	2250	127,5	36,25	45,7	0,57	1402
Rata-rata	10,63	567.31	627.62	473.08	Trace	1461	90,40	38,50	40,70	1,00	1791

Sumber : Data Primer 2022

Lampiran 4 : Tabel temperatur Deaerator *boiler* pipa air.

Water Tube Boiler	
SEPTEMBER 2022	
Tanggal	Temp. (°C)
1	105,0
2	105,0
3	103,3
4	0
5	104,7
6	105,0
7	104,1
8	104,9
9	104,4
10	105,0
11	104,8
12	104,1
13	104,7
14	104,8
15	105,0
16	104,7
17	105,0
18	104,7
19	104,4
20	104,7
21	104,2
22	104,8
23	104,5
24	104,9
Rata-rata	100,3

Sumber : Data Primer 2022

Lampiran 5 : Tabel tekanan kerja *boiler* pipa air

Water Tube Boiler	
SEPTEMBER 2022	
tanggal	Tekanan (Bar)
1	23,0
2	24,4
3	25,2
4	0
5	25,9
6	24,9
7	23,0
8	22,6
9	23,9
10	23,7
11	22,3
12	23,8
13	24,1
14	22,0
15	22,1
16	22,1
17	22,0
18	23,7
19	24,0
20	24,0
21	23,0
22	24,0
23	22,0
24	23,9
Rata rata	22,48

Sumber : Data Primer 2022

Lampiran 6 : Tabel daya yang dibangkitkan turbin selama proses.

Water Tube Boiler	
September 2022	
Tanggal	Total Load Turbin
	kWh
1	1.171
2	1.249
3	1.264
4	0
5	1.289
6	1.210
7	1.294
8	1.250
9	1.253
10	1.326
11	1.234
12	1.101
13	1.200
14	1.295
15	1.310
16	1.287
17	1.275
18	1.120
19	1.379
20	1.110
21	1.274
22	1.248
23	1.175
24	1.281
Rata-rata	1,191

Sumber : Data Primer 2022

Lampiran 7 : Tabel daya listrik pabrik

Instrumen	Ampere	Kwatt
Boiler	373	245
Boiler House	54	34
Loading Ramp	13	8.5
Sterillizer	88	57
Threshing	36	23
Pressing & Digester	367	241
Nut Plant & Kernel	281	184
Clarification	185	121
Dispatch	32	21
Raw Water Treatment	97	63
Lighting Machinery Area	34	22
Lighting and Power Point	11	7.2
Effluent	20	13
Depricarpering	183	120
Workshop & Store Mill	12	7.8
Office, Canteen, Guard House	6	3.9
Domestic	284	186
Total	2076	1330

Sumber : Data Primer 2022