

	PROJECT TECHNICAL DATA	Nomor	:
		Halaman	:
	KADIRAT OPS	Tanggal	:
	KETENAGA LISTRIKAN		

NAMA PROYEK	: PLTU TIMOR-1 CFSPP 2X50 MW
PEMILIK	: PT. PLN Unit Induk Pembangkitan Nusa Tenggara
JENIS PROYEK	: EPC
LOKASI	: DESA PANAF KEC KUPANG BARAT,KUPANG, PROPINSI NUSA TENGGARA TIMUR
PERIODE PELAKSANAAN	: 36 bulan untuk unit 1 dan 39 bulan untuk unit 2

NO	DESCRIPTION			
1	DESIGN SPESIFICATION	VALUE	UNIT	KETERANGAN
	LUAS LAHAN	: 50	Ha	
	BIAYA KONSTRUKSI	: Rp 2.180.948.325.102		
	<i>EPC Works</i>			
	<i>O&M Works</i>	: Rp 556.121.045.722		
	Luas Penyimpanan Batubara	: 207.030	m3 / 2 unit	
	Luas Pembuangan Abu Batubara	: 10,4	Ha	
	Tinggi Chimney	: 100	m	
	Diameter Bawah Chimney	: 3120	mm	
	Diameter Atas Chimney	: 2500	mm	
2	BOILER			
	Perusahaan Pembuat	: Sumitomo Haevy industries Ltd		
	Type	: Circulating Fluidized Bed (CFB)		
	Kapasitas	: 237,0816	ton/hour	
	Heat to steam	: 160	MW/th	
	Main steam pressure	: 135,5	bar (a)	
	Maximum working pressure	: 165	bar (g)	
	Main steam temperatur	: 541,8	°C	
3	TURBINE			
	Perusahaan Pembuat	: Siemens		
	Type	: SST600, Enhanced Platform,		
	Speed (Rpm)	: 3000		
	Inlet Steam Pressure	: 130	bar	
	Inlet Steam Temperature	: 540	°C	
	Head (H) Meter	: 237,08	kg/cm2	
	Debit (M3/Detik)	: 0,0738	ton/hour	
	Condenser Vacuum	: 132,5	bar	
	Boiler Feed Pump Capacity	: 10081,44	m3/hour	
	Condenser Pump Capacity			
4	GENERATOR			
	Perusahaan Pembuat	: SIEMENS		
	Rated Capacity	: 74,118	MVA	
	Rated Voltage	: 15	KV	
	Rated Nominal Range (RPM)	: 3000		
	Rated H2 Pressure	: N/A		
	Rated Gross Output	: 63	MVA	
	Insulation Class Stator	: F		
	No. Of Phase	: 3		
	Power factor/lagging	: 0,85		
	Power factor/leading	: 0,9		
	Frequency	: 48,5 to 51	Hz	
	Insulation Class Rotor	: A		
	Cooling Method	: Closed Air Cooling		
	Stator Winding	: 109	°C	
	Rotor Winding	: 107	°C	
	Stator Core	:		
	Standard	: IEC 60034		
5	GENERATOR TRANSFORMER			
	Perusahaan Pembuat	: UNINDO		
	Rated Capacity	: 52/73	MVA	
	Rated Voltage	: 11/150	KV	
	Voltage tap	: ±8x1,25%	step	
	Grounding	: 240	mm2	
	Insulation Level			
	- HV Side	: 750	Kv	
	- LV Side	: 95	Kv	
	Cooling Method	: ONAN/ONAF		
	Speed	: N/A		
	Frequency	: 50	HZ	
	Connection	: YNd1		
6	ELECTRO STATIC PRECIPITATOR			
	Company	:		

NO	DESCRIPTION			
1	DESIGN SPESIFICATION	VALUE	UNIT	KETERANGAN
	Efficiency	: 99.7 %		
	Capacity	: 360,144	ton/hour	
		:		
7	BAG FILTER			
	Company	: N/A		
	Efficiency	: N/A		
	Capacity	: N/A	ton/hour	
		:		
8	Flue Gas Desulphurization (Boiler tipe CFB tidak menggunakan peralatan ini, melainkan dengan injeksi limestone ke furnace secara langsung dengan merespon pendeteksian flue gas continous emission monitoring system (CEMS) terhadap nilai SOX flue gas)			
8.1	Absorber Module			
	Capacity	: N/A		
	Reagent	: N/A		
	Number of Absorber Modules	: N/A		
	Absorber Inlet Gas Flow	: N/A		
	Mass Flow Rate	: N/A		
	Volumetric Flow Rate	: N/A		
	Temperature	: N/A		
	SO ₂ Concentration	: N/A		
	Absorber Outlet Gas Flow	: N/A		
	Mass Flow Rate	: N/A		
	Volumetric Flow Rate	: N/A		
	Temperature at Absorber Outlet	: N/A		
	Saturated Gas Velocity	: N/A		
9	WATER TREATMENT PLANT			
	Company	: FARMEL		
	Type WTP	: Reverse Osmosis		
	Capacity WTP	: 120	m3/hour	
	Volume Demin Water Tank	: 500	m3 (2 Unit tank)	
	Volume Service Water Tank	: 5548	m3 (2 Unit tank)	
10	WASTE WATER TREATMENT PLANT			
	Company	: FARMEL		
	Capacity	: 150	m3/hour	
	Detail of water to be treated	: -		
	a. T/G & Aux Oily drain	: N/A		
	b. T/G & Aux drain (incl chem. lab)	: N/A		
	c. Demin Reagen Waste	:	m3/hour	
	d. FGD	: N/A		
	e. Boiler Chemical Cleaning	: 119	m3	
	f. All washing drain	: N/A		
	g. EP washing drain	: N/A		
	h. Boiler blow down	: 5,85	m3	
	i. Coal storage yard run off	:	m3	
	j. SSC overflow	: N/A		
	k. Ash setting pond	:	m3	
11	COAL HANDLING PLANT			
	Company	: PADESHI		
	Capacity Shipment	: 12000	DWT	
	Jumlah & Capacity Trucking	: 2	Unit	
	Capacity Ship Un-loader	: 750/825	ton/hour (1 UNIT)	
	Capacity Belt Conveyor	: 750/825	ton/hour	
	Belt Scale	:		
	Capacity Stacker Reclaimer	: 1200	kg/m3	
	Capacity Coal Crushers	: 150	ton/hour	
	Coal Conveyor Capacity	: 750/825	ton/hour	
	Coal Handling Capacity from Ship Unloader to Coal Yard	: 1100	ton/hour (1 UNIT)	
	Coal Handling Capacity from Coal Yard to Coal Bunker	: 150/165	ton/hour	
	Jumlah Metal Detector at Conveyor	:		
	Capacity Dust Collector at Crusher House	:		
	Type Magnetic Separator	: Disc Type		
	Type Dust Suppression System	: Water Spray		
12	ASH DISPOSAL AREA			
	VOLUME	:	m3	
13	CONDUCTOR OF TRANSMISSION			
	Type & Ukuran Conductor	:		
	Type & Ukuran Isolator	:		
14	SWITCH YARD			
	Company	:		
	Type (Open, Close)	:		
	Voltage	: 150	KV	
15	COOLING SYSTEM			

NO	DESCRIPTION			
1	DESIGN SPESIFICATION	VALUE	UNIT	KETERANGAN
	Type	: Once Through and Close Cooling		
	Capacity	: 5750 (2800,4)	m3/hour (kg/s)	
	Jumlah Unit	: 2	unit	
	Temperature inlet / outlet	: 30 / 37	°C	
	Cooling Tower (Type)	: N/A		
16	PERFORMANCE GUARANTEE			
	Contract value EPC	: 5.379.159	\$	
		: 239.904.315.762	Rp	
	Contract value O&M	: 61.173.315.030	Rp	
	Power plant capacity (gross)	: 2 x 63.000	kW	
	Auxiliary power consumption	: 6.377	kW	
	Power plant capacity (net)	2x63000	kW	
	Operation days per year	365	days (except for	
	Plant economical lifetime	40	Years	
	Availability factor	10	%	
	Capacity factor	80	%	
	Plant power generated	kWh	
	Plant power sale	kWh	
	Boiler Type	CIRCULATING FLUIDIZED BED		
	FWH Configuration			
	Main Steam Pressure	132.563	kg/cm2	
	(100%, T-MCR, B-MCR)			
	Main Steam Temperature	540	C	
	(100%, T-MCR, B-MCR)			
	Coal calorific value (HHV)	4200	kcal/kg	
	Coal price (3% per tahun)	60 ton	\$/ton	
	Boiler efficiency (% HHV)	84,4	% (HHV)	
	(% LHV)	-	% (LHV)	
	Coal flow rate	Ton/hr	
	Gross plant heat rate	1983	kcal/kWh	
	Net plant heat rate	2634	kcal/kwh	