

APPENDIX (A)

EXISTING PLANT SCHEDULE

The existing Port Moresby system consists of three-generation sources, namely Rouna Hydropower System, Moitaka Diesel Power Station and Kanudi Thermal Power Station, which are coupled to load centre zone substations of Waigani, Boroko, Konedobu and Bomana at 66kV.

Plant <u>Generation</u>	Year Commissioned	Units	Installed Capacity (MW)			
			Hydro		Thermal	
			Installed	Available	Installed	Available
Rouna 1 - Hydro	1957	3 x 1.0	3.0	2.55		
	1961	1 x 2.5	2.5	2.125		
Rouna 2 - Hydro	1969	2 x 6.0	12.0	12.0		
	2008	3 x 8.0	24.0	24.0		
Rouna 3 - Hydro	1975	2 x 6.0	12.0	10.2		
Rouna 4 - Hydro	1986	2 x 6.75	13.5	11.475		
Sirinumu – Hydro TOD	1973	1 x 1.5	1.5	1.275		
Moitaka – Thermal GT2	1982	1 x 20.0			20.0	13.34
Moitaka – Thermal DE 1 & 2	1985	2 x 7.5			15.0	12.4
Moitaka - Thermal DE 3 & 4	1990	2 x 8.0			16.0	13.8
Kanudi - IPP	1998	2 x 13.2			26.4	24.0
POM SYSTEM TOTAL CAPACITY (MW)			68.5	63.625	77.4	63.54

Plant <u>Transmission Lines</u>	Voltage kV	Rating in MVA		Line Length (km)+
		Installed	Limited	
Rouna 3 - Rouna 2 (D.C)	66	2 x 23	-	2x6
Rouna 2 - Boroko	66	1 x 34	-	24
Rouna 2 - Rouna 4	66	34	-	6
Rouna 4 - Boroko	66	34	-	20
Rouna 2 - Moitaka	66	30	-	23
Moitaka - Boroko	66	30	-	6
Moitaka - Boroko (D.C)	66	2 x 60	-	2x6
Moitaka - Kanudi (D.C)	66	2 x 34	-	2x10
Kanudi - Konedobu (D.C)	66	2 x 34	-	2x7
Boroko - Konedobu (D.C)	66	2 x 23	-	2x5
Rouna 2 - Rouna Auto	66	23	-	2
Rouna Auto - Rouna 1	33	11.4	-	2
Waigani - "T" Off (D.C)	66	2 x 60	-	2x1
Rouna 1 - Bomana	33	11.4	-	15
Total Line Length				168 km
<u>Zone Substations</u>				<u>Cooling</u>
Boroko	66/11	2x11.5/19	38 (46)	ONAN/OFDAF
Konedobu	66/11	2x 7.5/9	47	ONAN/ONAF
		1x10/14		ONAN/ONAF
		1x10/15		ONAN/ONAF
Waigani	66/11	2x15/20	40	ONAN/ONAF
Bomana	66/11	2x5/6.7	6.7++	ONAN
Spare	66/11	2x2.5	2.5++	ONAN/ONAF
Total Capacity			140.5 MVA	
<u>Gen. Transformers</u>				<u>Cooling</u>
Rouna 1	3.3/33	3x2.5	7.5	ONAN
Rouna 2	11/66	5x7.5	37.5	ONAN
Rouna 3	11/66	2x7.5	15.0	ONAN
Rouna 4	11/66	2x9.1	18.2	ONAN
Rouna Auto Trans.	33/66	2x5	10.0	ONAN
Moitaka 5 & 6	11/66	1x15/25	25.0	ONAN/OFDAF
Moitaka G.T. 2	11/69	1x19.5/25.5	25.0	ONAN/OFDAF
Moitaka 3 & 4	11/66	1x20	20.0	
Total Capacity			158.2 MVA	

Note: +Length to the nearest km.

++ One unit is out of service due to a failure

Cooling: 0 = Oil, A = Air, N = Natural, F-Forced, D-Direct