

Annexure 1 – Steam Turbine Generator

Asset 1

Description: Shin Nippon Machinery Co Ltd C10-R16-EX 44.5MeKW Steam Turbine.

Operating Conditions:

Speed (turbine/generator)	3000/3000 rpm
Inlet steam pressure	68.06 barA
Inlet steam temperature	447 deg C
Exhaust steam pressure	0.136 barA
Max. 1st Extraction pressure	6.78 barA
Un-controlled extraction	At turbine nozzle
Max. 2nd Extraction pressure	1.94 barA
Un-controlled Extraction	At turbine nozzle
Max. Inlet flow	194600 kg/hr
Max. 1st Extraction flow	25880 kg/hr
Max. 2nd Extraction flow	9870 kg/hr
Max. Exhaust steam flow	158750 kg/hr at 0.253 barA

Asset 2

Description: Meidensha Corporation EK-AFT Synchronous Generator.

Prime Mover	Steam Turbine
Standard	IEC 60034
Rating	Continuous / 56,250kVA-2P-11kV-50Hz-2,952A-0.8pf

Site Operating Conditions

Altitude: Not exceed 1,000m above sea level

Ambient temperature: Maximum 41 Degrees Celsius

Installation: Indoor, Non-hazardous area

Excitation System Brushless type with AC exciter and PMG

Construction

Type of Rotor: Cylindrical

Winding connection: Star

Number of poles: 2

Rated speed: 3,000min

Over speed: 120%

Noise Level (at Vent discharge) 85dB at no load.

Insulation Class of Winding F

Temperature Rise of Winding F

Cooling System	Cooling air is drawn from the atmosphere through the duct and exhausted to the atmosphere through the other duct with filters and vermin proof and weather proof inlet and outlet provided by others. Terminal point is at the inlet and outlet side of silencers on the generator.
Lubricating Oil System	Lubricating oil is fed from the common lubricating oil unit provided by the prime mover supplier.
Lubrication:	Forced lubrication

Asset 3

Description: Daihen Electric Co Ltd Transformer

Type	3 phase, Oil immersed, Outdoor
Standard	IEC 60076
Installation	Outdoor
Type of cooling	ONAN/ONAF
Capacity	45,000/56,250kVA
Frequency	50Hz
Voltage	Primary (Low tension) side: 11kV Secondary (High tension) side: 132kV
Connection	Primary side: Delta Secondary side: Star and neutral solidly grounded
Insulation class	A
Insulation level	11kV 132kV
Lighting impulse withstand voltage	75kV 650/-kV
Power frequency withstand voltage	28kV 275/38kV
Site Operating Conditions	
Altitude	Not exceed 1,000m above sea level
Ambient temperature	Maximum 41 degrees Celsius
Installation	Outdoor, Non-hazardous area
Type of termination	11kV Cable box 132kV Outdoor
Tap changing device	On load tap changer

