Jaluit Wind Mast Site Installation and Commissioning Report

For: MEC/ADMIRE

Site Number	8208 (datalogger serial number)
Site Name	Jaluit
Latitude	5.92 degrees north (UTM)
Longitude	169.64 degrees east (UTM)
Elevation	4m
Magnetic Declination	8.4 degrees East of True North
Prevailing Winds	East
Installation Crew	William Thorp (Leader), Billy Shutz, Walter Myazoe, Burman and local labourers
Site description	Flat coastal topography, 12m – 15m coconut trees 30m distant to the southeast
Terrain features	5m buildings 20m (nearest) to the southwest, 5m and 8m buildings 35m to the west
Soil type	Stony, dry, garbage. Rough, stony surface
Installation Date	6/19/2012 (approx 1pm completion of commissioning)
Removal date	-
Installation Leader Name	William Thorp
Company	SPC-NorthREP Energy Specialist (Palau)
Email Address	williamt@spc.int

Logger Channel	1	2	3	7	9	10	11	12
Sensor	Anemometer 1	Anemometer 2	Anemometer 3	Vane	Temperature	Pyranometer	Pressure	Battery
Monitoring Height	34.64m	approx 33m	approx 20m	approx 32m	3m	3m	2m	2m
Serial Number	9858	9859	9855					
Mounting Orientation (relative to True North)	east	northeast	east	180 degrees	north	south	east	South
Boom	Standard NRG	Standard NRG	Standard NRG	Standard NRG	none	Standard NRG	none	None
Slope (applied)	0.770	0.768	0.768	0.351	0.136	1.32	0.4255	0.021
Offset(applied)	0.34	0.34	0.31	0	-86.38	0	650	0
Comments		Recommend more precise measurement of these monitoring heights when the mast is lowered		Deadband orientation to True North		Shading will occur from mast during northern hemisphere summer (sensor cable was not long enough to separate sensor from mast sufficiently)		

Tower Type	NRG 34m
Height	34m
Diameter	152 mm (6”)
Comments	
Anchors	Supplied screw anchors could not be screwed into the stony soil. Therefore holes were dug at the 5 anchor points so that the screw

	anchors could be placed in them with 6” protruding and angled 45-degrees towards the tower. In each hole, 2 cement bags, aggregate, water were mixed and placed on top of and around the positioned screw anchors. This was allowed to set overnight and a mound of soil and rocks was placed on top of the concrete anchors.
Gin pole	Two tubes noticeably dented prior to first observation by Installation leader. Gin pole left on site. May be removed by MEC if desired for safe storage and lowering in future
Base plate	Two pieces of the six were found to be missing. It was possible to make do without these by using extra stabilisation to pin the base plate down. Care should be taken when lowering as the rebar used may have corroded.
Guy rings	Originally found to be missing but eventually found scattered in the MEC compound
Guy Shackles	Two found to be missing and suitable replacements could not be found. Alternative method of attachment of guys to guy rings was required and was agreed with installation crew. The alternative method was used on less critical guy wires.
Earth connector	Missing. Suitable replacement found in MEC Jaluit equipment store
Installation	Due to space availability limitation, the mast needed to be installed close to a water tank and a building. This meant that special care was required to manoeuvre the guy wires around the obstacle while lifting the tower.
Removal	Due to the tropical marine corrosion environment it is recommended that there is periodic inspection of the equipment and that the mast is lowered after two years
Wind exposure	The location is well-exposed to the predominant wind direction. Based on observations over the installation period, the wind resource is expected to be quite good!

Preparation of the concrete anchors took one day. Assembly and lifting of the tower took one day. Fine-tuning and commissioning took half a day.

Installation training was provided to Billy Shutz. Given capable assistance and sufficient time available, it is the considered opinion of the installation leader that he has the capacity to install and lower a similar mast. Since he does not have a wind energy background, he would need to take particular care over the commissioning phase.

Site inspection and data downloading training was provided to Tommy of MEC in Jaluit. Walter Myazoe will supply a site inspection checklist to Tommy.

Additional photographs and Anemometer Calibration Certificates and dates can be supplied by Walter Myazoe.

Tower straightness:

Mast location looking North:

Mast location looking East:

Mast location looking South:

Mast location looking West:

Approximate location of installed mast circled below:

ANEMOMETERS 2.