

# Wotje Wind Mast Site Installation and Commissioning Report

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For: MEC/ADMIRE



Site Number	8207 (datalogger serial number)
Site Name	Wotje
Latitude	9.465 degrees north (UTM)
Longitude	170.238 degrees east (UTM)
Elevation	4m
Magnetic Declination	8.4 degrees East of True North
Prevailing Winds	East
Installation Crew	William Thorp (Leader), Billy Shutz, Burman, Peterson and local labourers
Site description	Flat coastal topography near sandy beach. 10m to 15m trees located east, north and southwest of the mast. Low vegetation otherwise. Recommended removal of the 15m coconut tree 20m east of the mast base.
Terrain features	8m buildings 60m to the southeast and 100m to the south. Large excavated holes either side of the west anchor point.
Soil type	Sandy, stony, dry
Installation Date	9/20/2012 (approx 11am completion of commissioning)
Removal date	-
Installation Leader Name	William Thorp
Company	SPC-NorthREP Energy Specialist (Palau)
Email Address	<a href="mailto:williamt@spc.int">williamt@spc.int</a>

Logger Channel	1	2	3	7	9	10	11	12
Sensor	Anemometer 1	Anemometer 2	Anemometer 3	Vane	Temperature	Pyranometer	Pressure	Battery
Monitoring Height	34.32m	33.71m	20.09m	33.15m	3m	3m	3m	2m
Serial Number	9854	9851	9799					
Mounting Orientation (relative to True North)	northeast	southeast	northeast	353 degrees	South	South	South	South
Boom	Standard NRG	Standard NRG	Standard NRG	Standard NRG	None	Standard NRG	None	None
Slope (applied)	0.770	0.768	0.770	0.351	0.136	1.32	0.4255	0.021
Offset(applied)	0.34	0.32	0.33	173	-86.38	0	650	0
Comments				North point on vane (deadband) was orientated towards the mast. 8 degrees magnetic declination was added to the measurement.		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")
<b>Comments</b>	
Anchors	Supplied screw anchors were used (with some difficulty due to the stony soil).

Gin pole	Gin pole was removed from the site after use and stored at the MEC compound.
Base plate	Care should be taken when lowering the mast as the rebar used to pin the mast base down may have corroded.
Guy Shackles	Four shackles were missing. Two spares had been brought and two other replacements were found at the MEC compound.
Installation	There were no major difficulties although the mast had to be laid out over two large excavated holes. The heat of the sun increased the time taken to install the mast.
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, the wind resource is expected to be quite good!

It was recommended that the coconut tree 20m to the east should be removed as soon as possible as it may interfere with wind readings, particularly at the 20m level.

Clearing vegetation from the site and installing anchors took almost two days. 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 lead the installation or lowering of 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 Glenn of MEC in Wotje and a local school teacher. Walter Myazoe should supply a site inspection checklist to Glenn.

It was recommended that the site should be inspected after one week and adjustments made to the guy wires if necessary. It was recommended that data should be collected once a month and emailed to MEC/ADMIRE.

Tower straightness:



Mast location looking North:



Mast location looking East:



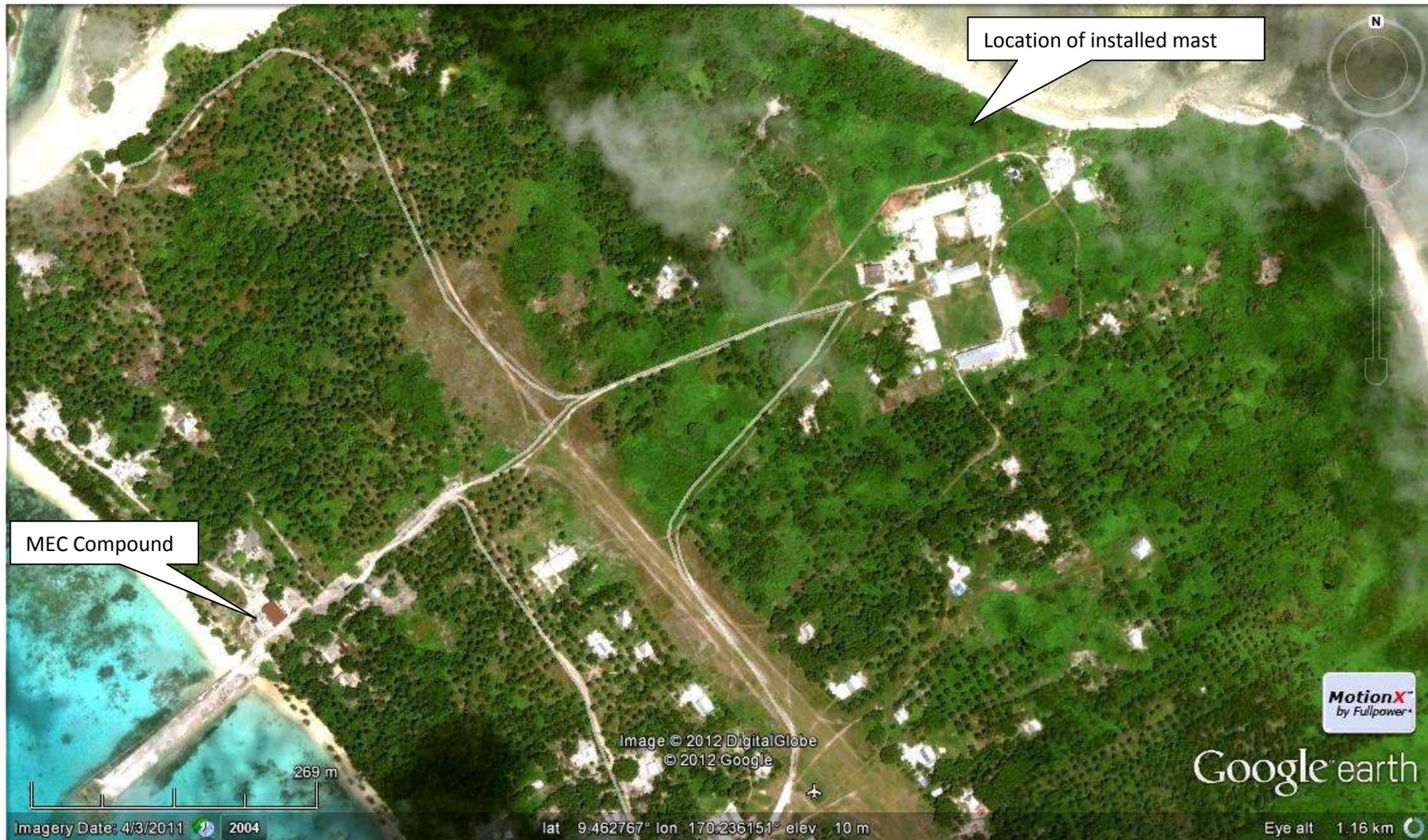
Mast location looking South:



Mast location looking West:



Google Earth image showing location of installed mast and MEC compound



# ANEMOMETERS 1.

NRG #40C Anemometer Calibrated  
P/N: 4350  
S/N: 179500169799  
Cal Date: 3/19/2011 7:19:00 AM  
Slope: 0.770 m/s per Hz  
Offset: 0.34 m/s  
3/20/2011 8:20:15 AM



Measnet

NRG #40C Anemometer Calibrated  
P/N: 4350  
S/N: 179500169851  
Cal Date: 3/19/2011 10:24:00 PM  
Slope: 0.768 m/s per Hz  
Offset: 0.32 m/s  
3/25/2011 8:21:21 AM



Measnet

NRG #40C Anemometer Calibrated  
P/N: 4350  
S/N: 179500169854  
Cal Date: 3/19/2011 8:55:00 PM  
Slope: 0.770 m/s per Hz  
Offset: 0.33 m/s  
3/25/2011 8:21:42 AM



Measnet