

Wind Resource Site Commissioning Form

Site Description

Site Location :	Clifton, Maine		
Client Project & Site Designation :	Pisgah Mountain, north knoll	AWST Project Number :	TBD
Site Name :	Pisgah Mountain	AWST Project Name :	TBD
Installation Date :	07/02/09	Site ID Number :	0166
Easting :	68-31-25	Time Zone :	EST
Northing :	44-46-38	Magnetic Declination :	16°56' West
Altitude : MSL elevation ref.	773 ft	Expected Prevailing Wind Direction :	NNW
Map datum & units :	NAD83	GPS type & serial # :	Trimble R8, 4809145992
Site Description : (tree types and heights, terrain details, etc.)	Heavily harvested timberland with few mature trees. Height of tallest trees about 30', undergrowth consisting of native saplings, shrubs and grasses.		
Obstruction Features: (physical and electro-magnetic, with distances)	No wind obstructions higher than 30' trees exist anywhere within 2,000' of the met tower in any direction. The nearest electromagnetic emitter is a 115kV powerline that lies 2,350' to the NNE.		
Comments :			

Client Information

	<u>Client Contact</u>	<u>Equipment Installer</u>
Company :	Pisgah Mountain LLC	SGC Engineering, LLC
Contact Person :	Paul Fuller	Greg Perkins
Address :	129 7 th St, Bangor, ME 04401	20 Godfrey Dr, STE 200
Phone Number(s) :	207-942-7097	207-866-6534
Cell & Fax Number :	207-941-9891	207-991-2245
E-mail Address :	Paulfuller1@myfairpoint.net	gperkins@sgceng.com

Logger Information

Logger Info		Logger Interface Card Info	
Logger Manufacturer :	NRG Systems	iPack Type & rev :	Symphonie iPack for CDMA rev 024
Logger type & model :	Symphonie Plus Data Logger 4280	iPack S/N :	35312282
Logger S/N :	428000166	Service Provider :	Verizon
Logger Firmware ver.:	023-022-000	iPack ID (ESN/IMEI) :	#3532
Programmer :	Greg Perkins	iPack ID (MIN/IMSI) :	
Date Programmed :	6/23/09	iPack ID (MSISDN/C) :	
		Programmer :	Greg Perkins
		Date Programmed :	6/23/09

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Sensor Information

Wind Speed Sensors (Anemometers) –

Sensor Description :	Anemo 1	Anemo 2	Anemo 3	Anemo 4	Anemo 5	Anemo 6
Instrument Type :	NRG #40C	NRG #40C	NRG #40C	NRG #40C	NRG #40C	NRG #40C
Monitoring Height (AGL) :	60m	60m	50m	50m	40m	40m
Serial Number :	179500101617	179500109087	179500109075	179500101620	179500101614	179500101612
Horizontal Length along boom from face of tower :	8ft	8ft	8ft	8ft	8ft	8ft
Tower Diameter at monitoring height:	8"	8"	8"	8"	8"	8"
Vertical Height above top of supporting boom arm :	6"	6"	6"	6"	6"	6"
Boom Arm Orientation (from tower to sensor):	North	West	North	West	East	west
Calibration Date:	2/18/2009	5/5/2009	5/5/2009	2/18/2009	2/18/2009	2/18/2009
Slope (m/s/Hz) :	.759	.759	.759	.758	.754	.754
Offset (m/s) :	.36	.36	.37	.34	.34	.38
Logger Channel Number :	1	2	3	13	14	15
Comments :						

Additional Sensors –

	Vane 1	Vane 2	Temp	I-pack		
Instrument Type :	#200P	#200P	#110S	#3532		
Monitoring Height (AGL) :	50m	60m	2m	1.5m		
Serial Number :	N/A	N/A	N/A	35312282		
Horizontal Length along boom from face of tower :	8ft	8ft	N/A	N/A		
Vertical Height above top of supporting boom arm :	8"	8"	N/A	N/A		
Boom Arm Orientation (from tower to sensor):	East	East	N/A	N/A		
Deadband Orientation : (vanes only)	North	north	N/A	N/A		
Calibration Date:	N/A	N/A	N/A	N/A		
Slope :	.351	.351	0.136	.021		
Offset :	9	0	-86.383	0		
Logger Channel Number :	7	8	11	12		
Comments:	Offset is to correct alignment of boom arm following tower erection.			Voltmeter		

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Tower & Boom Diagram - The diagrams below shows the respective boom orientations (not to scale).

Tower Type :	NRG 60m XHD Tall Tower
Overall Tower Height :	60m
Tower Diameter :	8-10"
Comments :	

Site Photographs

Pictures were taken looking in 8 different directions (N, NE, E, SE, S, SW, W, & NW) from behind the base of the tower (looking through the tower) showing the surrounding terrain features. Zoomed in photos of the anemometry equipment at each level were also taken.

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Equipment History Log					
Site ID #	Dates -->	6/23/09			
	Logger Type	Symphonie Plus			
	Logger S/N	428000166			
	Logger time				
	Units				
	Tower Total Height	60m			
Counter					
Channel 1	Sensor – S/N	179500101617			
	Height	60m			
	Boom Arm Orientation	North			
	Slope	.759			
	Offset	.36			
Channel 2	Sensor – S/N	179500109087			
	Height	60m			
	Boom Arm Orientation	West			
	Slope	.759			
	Offset	.36			
Channel 3	Sensor – S/N	179500109075			
	Height	50m			
	Boom Arm Orientation	North			
	Slope	.759			
	Offset	.37			
Channel 13	Sensor – S/N	179500101620			
	Height	50m			
	Boom Arm Orientation	West			
	Slope	.754			
	Offset	.34			
Channel 14	Sensor – S/N	179500101614			
	Height	40m			
	Boom Arm Orientation	East			
	Slope	.754			
	Offset	.34			
Channel 15	Sensor – S/N	179500101612			
	Height	40m			
	Boom Arm Orientation	West			
	Slope	.754			
	Offset	.38			
Analogue					
Channel 7	Sensor – S/N	n/a			
	Height	50m			
	Sensor orient./mast	East			
	Vane deadband ref.	North			
	Slope	.351			
	Offset	9			
Channel 8	Sensor – S/N	n/a			
	Height	60m			
	Sensor orient./mast	East			
	Vane deadband ref.	north			
	Slope	.351			
	Final Logger Offset	0			
Channel 9	Sensor – S/N				
	Height				
	Slope				
	Offset				
Channel 10	Sensor – S/N				
	Height				
	Slope				
	Offset				
Channel 11	Sensor – S/N	n/a			
	Height	2m			
	Slope	0.136			
	Offset	-86.383			
Channel 12	Sensor – S/N	35312282			
	Height	1.5m			
	Slope	.021			
	Offset	0			

Scans of Calibration Documentation -

See attached calibration reports from the manufacturer.