

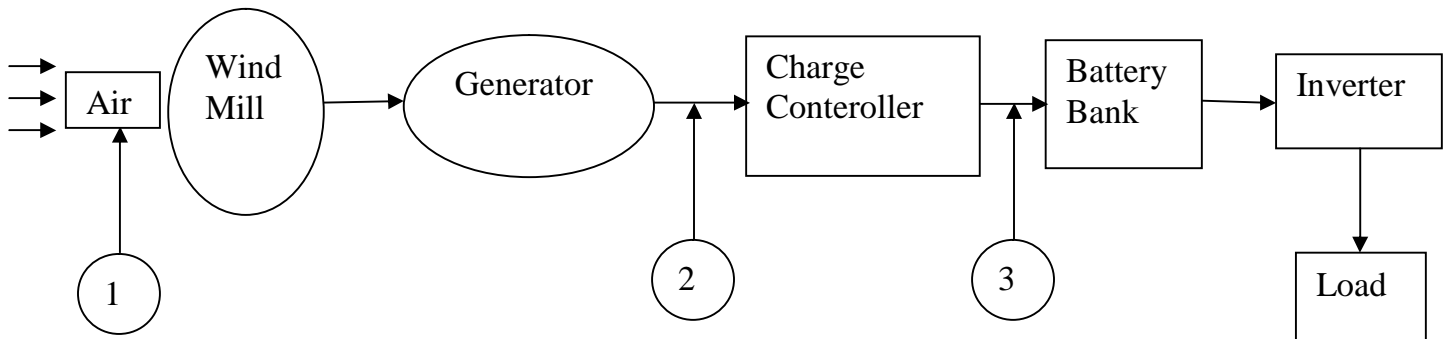
TEST REPORT

Sheet No. 1 of 4

NAME AND ADDRESS OF CUSTOMER : M/s Ohm Green Renewable Energy, 302, Aatish Annexe, Gukbai Tekra, Nr. IDBI Bank, Opp. C.G. Road, Ahmadabad-380015	REPORT NO : TC/NPT/12-13/70 DATE : 06/08/2012	
	CUSTOMER REF.:- E-Mail Dated: 07/07/2012	
	DATE OF TESTING 21/07/2012	
SAMPLE DESCRIPTION 1) Vertical Wind Turbine – 1 no. of 5kW, having 5 nos. of blades as per Fig: 2 2) Generator -1 no. of 5kW, 3 Phase, 250V, 11.5 Amp, having outer rotor 3) Charge controller- 1 no. having rating 5kW, 110V DC 4) Battery: each having 2*55 V, 200Ah capacity 5) Inverter: 6.250 KVA capacity		
TEST DETAILS Measurement of Generator Output Power at different Wind Speed	TEST SPECIFICATION As mentioned above	
RESULTS: As per Sheet no. 3 & 4		
PREPARED BY	CHECKED BY	APPROVED BY

Note:

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3. Publication of this report required prior permission in writing from Director, ERDA.
4. Only the measurements asked for by the customer have been carried out.

1. TEST SETUP:**Figure: 1 - Single Line Diagram of Schametic test setup**

Note: Measurements are taken at 1,2 & 3 as shown in above figure.

Figure: 1 shows schametic view of test setup. Vertical type Wind turbine is connected with the three phase generator, from which AC Power goes to charge controller. The charge controller is connected to the Battery Bank. The Anemometer is placed near to Vertical wind turbine blades. The Techometer is placed at in front side of vertical wind turbine generator. Power Analyzer is connected to the output of three phase generator to measure the generator output power. The DC input of battery is also measured by connecting power analyzer.

2. TEST PROCEDURE:

The objective of the setup is to measure power produced by the generator which is driven by the vertical wind turbine. The Tachometer was placed infront of wind mill & with revolution of generator, the speed was observed. The Anemometer was placed in a direction of wind, to measure the wind speed. At different wind speed the turbine was rotating & accordingly the generator rotates at different revolution. At every measured wind speed the AC voltage, current & Power were measured at generator output & at the same time DC Input to the battery were measured. The measurement readings are shown as per below table.



Figure 2: Vertical Wind Turbine Generator Setup Figure 3: Generator output connection



Figure 4 : Charge Controller setup

Figure 5: Power Analyzer setup

3. TEST RESULTS:

Sr. No.	Wind Speed (m/s)	RPM	Generator o/p (AC)							Battery i/p (DC)		Time
			Voltage (V)			AC Current (mA)			Power	Voltage	Current (mA)	
			R	Y	B	R	Y	B	Watt	V	I	
1	1.33	07	77	77	77	2.7	2.7	0.0	0.48	113.1	60.6	15:51
2	2.57	39	100	101	101	336.0	334.3	319.7	42.0	119.7	85.0	17:05
3	2.75	40	107	107	107	450.0	450.0	450.0	65.0	119.8	80.0	17:13
4	3.00	40	127	127	127	1.43	1.43	1.43	283.1	121.8	2200.0	18:16
5	3.59	58	130	129	129	1.96	1.96	1.96	404.2	123.7	3100.0	18:17
6	4.02	58	127	125	127	1.95	1.95	1.94	405.2	125.6	3110.0	19:15
7	4.20	56	127	126	126	1.96	1.95	1.96	405.1	125.2	3150.0	19:17

4. Graph of Generator Output Power V/s Wind Speed:

