



Renewable Energy Research Laboratory

Department of Mechanical and Industrial Engineering
University of Massachusetts
160 Governor's Drive
Amherst, MA 01003-9265

Phone: 413-545-4359
Fax: 413-577-1301
www.ceere.org/rerl
rerl@ecs.umass.edu



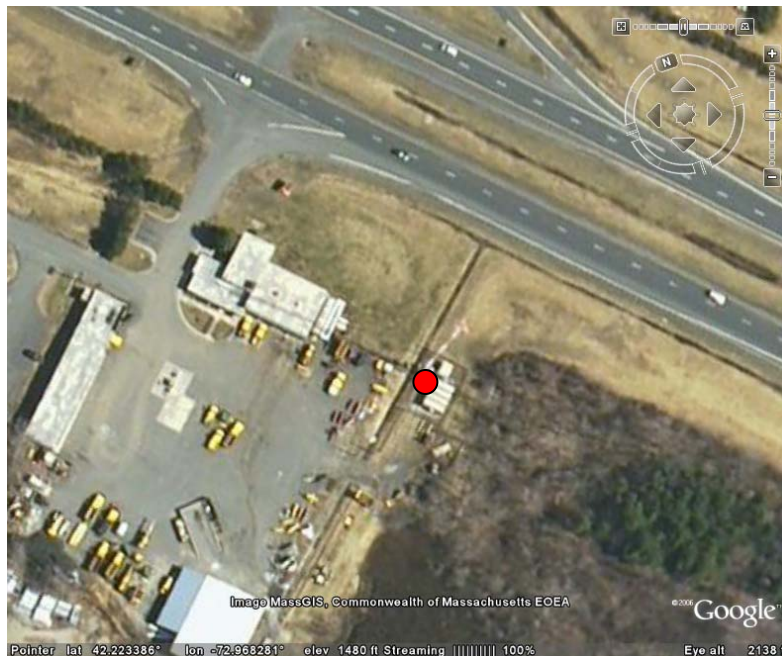
Data Update for Blandford, MA April, 2007

Prepared for
Massachusetts Technology Collaborative, 75 North Drive, Westborough, MA 01581
By Matthew Lackner

Monthly Data Summary for April, 2007

Site Description

This update summarizes the monthly data results for the Blandford monitoring site in Blandford, MA, at 42.223° N, 72.968° W (NAD 27). The site is located on the MTA tower in Blandford, MA. The picture below shows the location of the tower, with the red circle indicating the location of the tower base.



Tower and Sensors

Two anemometers and one wind vane are mounted at both 60 m (197 ft) and 40 m (131 ft) on the tower. More information on the sensors and site can be found at http://www.ceere.org/rerl/rerl_resourcedata.html.

Data Summary Statistics

A summary of the data during the reporting period are included in the following table. The wind shear power law exponent is based on the mean wind speeds during the measurement period. For more information on wind shear and turbulence intensity, see:

<http://www.ceere.org/rerl/publications/published/communityWindFactSheets/>. These statistics are included, despite the lower than normal data recovery due to issues with the logger. See “Maintenance Issues and Changes to Site Configuration” below for more information.

Height	Wind Speed			Prevailing Wind Direction	Wind Shear Power Law Exponent
	Mean [m/s]	Max [m/s]	Mean Turbulence Intensity at 10 m/s		
60 m	5.10	15.8	0.21	292.5, WNW	0.38
40 m	4.37	13.9	0.25	292.5, WNW	

The data can be found at the Renewable Energy Research Laboratory web site: http://www.ceere.org/rerl/rerl_resourcedata.html.

Data Recovery

All raw wind data are subjected to a series of tests and filters to identify data that are faulty or corrupted. The gross percentage of data recovered (ratio of the number of raw data points received to data points expected) and net data recovered (ratio of raw data points which passed all QA control tests to data points expected) are shown below.

Gross Data Recovered [%]	41.8
Net Data Recovered [%]	41.5

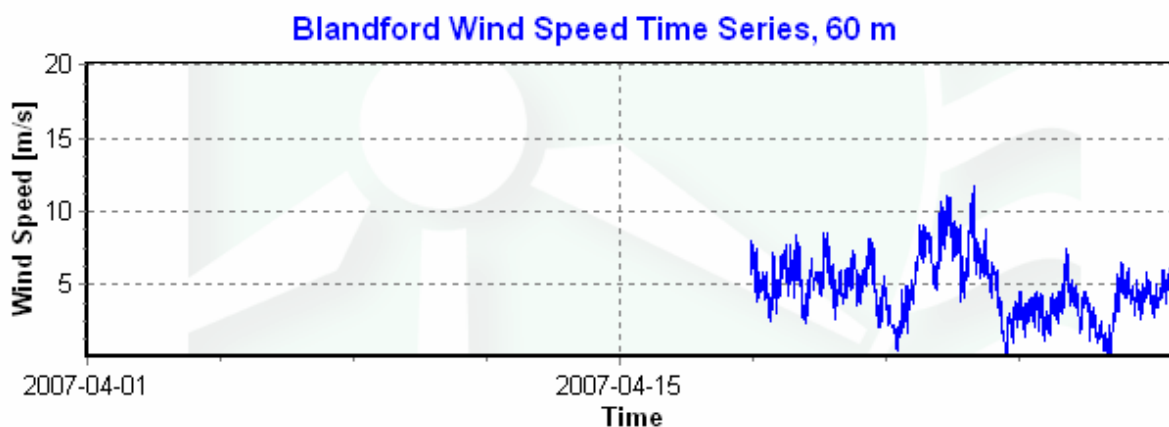
Information on the tests and filters used can be found at the Renewable Energy Research Laboratory web site: http://www.ceere.org/rerl/rerl_resourcedata.html.

Maintenance Issues and Changes to Site Configuration

The logger at the Blandford site began to experience problems at the end of January, 2007, resulting in lower data recovery percentages than normal. The problem with the logger was not completely fixed until April, 2007.

Monthly Data Time Series

Below is a graph of wind speed at Blandford for the month of April 2007, at the anemometer height of 60 m.



Plot by DQMS3 - dqms@dqms.com