Evaluation of Noise Data from WIND-1 Turbine
Falmouth, Massachusetts

Prepared by
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For the Falmouth Residents Group
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General Approach

• Larson Davis Model 831 Type 1 Sound Level Meter

• 1/8-second samples to measure time history

• Attended measurements between 7PM – 12 AM
WIND-1 Sound Pressure Measurements

- Set 1 -

• Sound Pressure Measurements of WIND-1:
  • July 3, 2010 @ 11:00PM

• Ground Wind Speed:
  • 3.5-4.6 m/s, (8-10 mph)

• Location:
  • 211 Blacksmith Shop Road

• The wind turbine was moderately audible. Resident rated severity 4 out of 10.

• Reference measured at Brick Kiln Road.
Reference is same distance from Route 28 at 211 Blacksmith Shop Rd.
Sound Pressure Level, dB re 20 micro-Pa, A-Wtd

Wind Turbine Noise @ 1300ft
Wind Speed: 4.65 m/s WSW
Reference Measurement @ 1 mile

1-sec Amplitude Modulation
WIND-1 Sound Pressure Measurements  
- Set 2 -

• Sound Pressure Measurements of WIND-1:
  • September 7, 2010 @ 7:30 PM

• Ground Wind Speed:
  • 4.5-7 m/s, (10-15 mph) SW at OTIS AFB

• Location:
  • 211 Blacksmith Shop Road

• Residents: “wind turbine very audible”

• Reference measured at Summit Lane.
Reference is same distance from Route 28 at 211 Blacksmith Shop Rd.
1/3 Octave Band Sound Pressure Levels
July vs. September

Sound Pressure Level, dB re 20 micro-Pa

Frequency (Hz)

9/7/2010 @ 0.3 s
From 7/3/2010
Sep. 7, 2010 Time History for Octave Bands

315 & 500 Hz

Sound Pressure Level, dB re 20 micro-Pa, A-Wtd

Time (s)

315 Hz

500 Hz
Time History for Octave Band 500 Hz
July vs. Sep

Sound Pressure Level, dB re 20 micro-Pa, A-Wtd

Time (s)
09/07/10 500Hz
07/03/10 500 Hz