



TETRA TECH EC, INC.

August 19, 2011

Mr. Andy Novey
Project Manager
Spruce Mountain Wind, LLC
549 South Street
Quincy, Massachusetts 02169

Subject: Spruce Mountain Wind Project – Revised Acoustic Assessment
Due to Property Acquisition
DEP File Numbers: L-24838-24-A-N and L-24838-2G-B-N

Dear Mr. Novey,

This letter report serves as an addendum to the acoustic assessment performed by Tetra Tech EC, Inc. (Tetra Tech) for the Spruce Mountain Wind Project (Project) under construction in Woodstock, Maine. Tetra Tech's acoustic assessment was part of the Project's above-referenced Site Location of Development Act (SLODA) permit application filed with the Maine Department of Environmental Protection (DEP). The DEP issued an order approving the Project on October 5, 2010.

Based on the conservative modeling assumptions used to predict the Project's sound emissions, the DEP order approving the Project required a number of the Project's turbines to operate in noise reduced operation (NRO) mode during certain nighttime hours in order to comply with local and state sound limits at one abutting property. The NRO requirement is described in Section 5 Table 1 of the Project's above-referenced permit.

This addendum is based on Spruce Mountain Wind, LLC's (SMW's) recent acquisition of a lease on adjacent property that was not in place at the time the Project was reviewed and approved by the DEP. Specifically, this addendum concludes that, given SMW's property acquisition, the DEP condition contained in the above-referenced permit requiring several of the Project's turbines to operate in NRO mode during certain nighttime hours is no longer needed to comply with local and state noise regulations.

Property Acquisition and Acoustical Assessment

On July 1, 2011, Western Maine Realty, LLC (an affiliate of SMW) acquired property, identified in Town of Woodstock tax records as parcels 9-8-0, 9-9-0, and 9-10-0 (the "Property"), that abuts the Project boundary. On August 18, 2011, SMW entered into a lease agreement with the new owner. Therefore, the Property is now a Project participant not subject to the Town of Woodstock or DEP sound level limits. The Property contained Receptor 12 in Tetra Tech's sound level assessments submitted during the DEP's review of the Project. Receptor 12 represents the protected location at which the Project's highest sound emissions were predicted. Modeled sound levels at Receptor 12 and at the boundary between the Project and the Property were the sole basis for the required use of NRO to demonstrate compliance with DEP and Woodstock sound limits.



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Consequently, the analysis presented in this addendum excludes Receptor 12 and uses a Project property boundary that incorporates the additional parcels that SMW has under agreement. Table 1 summarizes the results of the revised analysis with a direct comparison to the DEP 45 dBA nighttime sound limit. Figure 1 depicts the sound contour map with all turbines operating at full sound power (i.e. without NRO) that was reviewed and approved by the DEP in SMW’s permit as overlaid on the revised Project boundary. The sound contour plot includes the new Project property boundary, which is needed to determine compliance with the 50 dBA nighttime (10:00 pm – 7:00 am) sound limit imposed by the Town of Woodstock applicable at all abutting residential property boundaries.

Table 1. Summary of Spruce Mountain Wind Turbine Acoustic Model Output at Receptors

Receptor ID	Receptor UTM Coordinates (m)		Closest Wind Turbine UTM Coordinates (m)		Closest Wind Turbine No.	Distance to 500 Feet from Receptor ¹	Maximum Sound Pressure Levels (dBA) within 500 Feet of Receptor	DEP Nighttime Sound Limit (dBA)
	Easting	Northing	Easting	Northing				
1	377,928	4,919,830	376,545	4,920,113	11	4137	40	45
2	378,076	4,919,730	376,545	4,920,113	11	4685	39	45
3	378,119	4,919,740	376,545	4,920,113	11	4813	40	45
4	378,032	4,919,741	376,545	4,920,113	11	4531	40	45
5	378,139	4,919,743	376,545	4,920,113	11	4879	39	45
6	378,003	4,919,752	376,545	4,920,113	11	4432	40	45
7	377,652	4,920,260	376,545	4,920,113	11	3169	40	45
8	377,510	4,919,923	376,545	4,920,113	11	2749	42	45
9	377,593	4,920,069	376,545	4,920,113	11	2940	41	45
10	377,336	4,920,174	376,545	4,920,113	11	2103	43	45
11	377,309	4,919,808	376,545	4,920,113	11	2195	44	45
13	377,864	4,920,027	376,545	4,920,113	11	3832	40	45
14	377,830	4,919,975	376,545	4,920,113	11	3740	40	45
15	378,022	4,920,404	376,545	4,920,113	11	4446	39	45
16	378,145	4,920,342	376,545	4,920,113	11	4806	39	45
17	377,579	4,920,348	376,545	4,920,113	11	2982	40	45
18	377,627	4,920,061	376,545	4,920,113	11	3081	41	45
19	378,098	4,919,738	376,545	4,920,113	11	3356	40	45
20	377,708	4,920,284	376,545	4,920,113	11	4003	39	45
21	377,902	4,919,961	376,545	4,920,113	11	4741	40	45
22	377,869	4,920,104	376,545	4,920,113	11	3845	40	45

¹ Receptor locations are an additional 500 ft from the closest turbine.

Conclusion

With all Project wind turbines operating at maximum rotational wind speed and maximum sound output (as predicted using the DEP/Enrad modeling methodology), the Project will operate in compliance with the applicable limits established by the DEP regulations on Control of Noise (*06-096 CMR 375.10*) and the Town of Woodstock noise ordinance and waivers. Based on this assessment, the acquisition of the Property containing Receptor 12 eliminates the need for any Project wind turbines to operate in NRO mode.

Please do not hesitate to contact me at 207.409.9738 or via email at Kathleen.miller@tetratech.com if you have questions or require additional information.

Respectfully Submitted,
TETRA TECH EC, INC.



Kathleen R. Miller
Project Manager

cc. Mr. Todd Presson, Patriot Chief Operating Officer
Ms. Lindsay Galbraith, Patriot Contracts Manager
Ms. Tricia Pellerin, Tetra Tech Acoustic Engineer

SPRUCE MOUNTAIN WIND, LLC
 SPRUCE MOUNTAIN WIND PROJECT
 OXFORD COUNTY, MAINE

FIGURE 1
 GAMESA G90 - 2.0 MW
 RECEIVED SOUND LEVELS:
 WTGS AT MAXIMUM ROTATION

NOTES: ALL TURBINES AT 110.0 DBA
 (INCLUDES ORIGINAL 2 DBA SAFETY FACTOR +
 ADDITIONAL 3 DBA ADDED TO NOISE OUTPUT)

MARCH 2011



Legend

- Turbine Location
(based on 10-26-09 layout)
- Receptor
- Maine DEP limit of 55 dBA
up to 500 feet from a residence
- Project Area (3-3-11)

Sound Level Ranges (dBA)

- 30 - 35
- 35 - 40
- 40 - 45
- 45 - 50
- >50
- 55 dBA Isopleth

0 0.125 0.25 0.5 Miles



TETRA TECH EC, INC.

REFERENCE MAP

