STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Petition of BNE Energy Inc. for a Declaratory Ruling for the Location, Construction and Operation of a 4.8 MW Wind Renewable Generating Project on Flagg Hill Road in Colebrook, Connecticut ("Wind Colebrook South")s	**Petition No. 983**
	March 15, 2011

PETITIONER BNE ENERGY INC.'S INTERROGATORY RESPONSES TO FAIRWINDCT, INC.'S SECOND SET OF INTERROGATORIES

Petitioner BNE Energy Inc. ("BNE") submits the following responses to the First Set of Interrogatories issued by FairwindCT, Inc. dated March 8, 2001:

1. Please provide copies of any documents related to your Scoping Meeting with CL&P.

A1. BNE objects to this interrogatory because the requested documents are confidential. BNE further objects to this interrogatory because the information requested is irrelevant to this proceeding.

2. Please provide copies of any documents related to your Application Request and Application Review with CL&P.

A2. BNE objects to this interrogatory because the requested documents are confidential. BNE further objects to this interrogatory because the information requested is irrelevant to this proceeding.

3. Has the Feasibility Study with CL&P been completed? If so, please provide a copy of that study. If not, when do you expect it to be completed?

A3. The Feasibility Study has not been fully completed. The Feasibility Study is expected to be completed by early to mid 2011.

4. Has the System Impact Study with CL&P been completed? If so, please provide a copy of that study. If not, when do you expect it to be completed?

A4. The System Impact Study has not been completed. It is expected to be completed by mid 2011.

5. Has the Transmission Study with CL&P been completed? If so, please provide a copy of that study. If not, when do you expect it to be completed?

A5. The Transmission Study has not been completed. It is expected to be completed by mid 2011.

6. Has the final report on bat acoustic studies been completed? If so, please provide a copy. If not, when do you expect it to be completed?

A6. The final bat acoustic study is attached to the pre-filed testimony of David Tidhar.

7. Please provide a shadow flicker analysis that analyzes the cumulative effects of both Wind Colebrook South and Wind Colebrook North on "receptors" in the surrounding area.

A7. BNE objects to this interrogatory because the information requested is already available. Specifically, BNE has submitted a shadow flicker report in this petition and separately in petition 984. BNE further objects to this interrogatory because petitions 983 and 984 have not been consolidated and therefore this request is inappropriate.

8. Please provide a noise evaluation that analyzes the cumulative effects of both Wind Colebrook South and Wind Colebrook North on noise levels in the surrounding area.

A8. BNE objects to this interrogatory because the information requested is already available. Specifically, BNE has submitted a noise evaluation in this petition and separately in petition 984. BNE further objects to this interrogatory because petitions 983 and 984 have not been consolidated and therefore this request is inappropriate.

9. Do you plan to revise any of the site plans provided with your petition? If so, please provide a copy.

A9. Revised site plans are attached to the pre-filed testimony of Melvin Cline.

10. If you plan to revise site plans but have not yet completed those plans, please describe the anticipated revisions.

A10. Not applicable. See response to Q9.

11. Have you offered to compensate any abutting property owners for the risk that your turbines may fall onto their property? If so, please provide the property owners' names and addresses and state when the offer was made.

A11. BNE objects to this interrogatory because the information requested is irrelevant to this proceeding.

12. In Exhibit B to your petition, dated September 30, 2010, your consultant VHB states that it "reviewed historic and cultural resources" and determined that no "historic resources listed or eligible for listing on the National Register of Historic Places, or Archeological Sensitive Areas [exist] at or within 1.5-mile of the proposed wind

turbines." Please describe the "review" done by VHB that resulted in that erroneous conclusion.

A12. BNE objects to this interrogatory because the conclusory statements contained in this interrogatory are not accurate. Specifically, no "erroneous conclusion" was reached. The State Historic Preservation Office has issued a no adverse effect letter relating to this proceeding. Subject to this objection and without waiving the same, BNE responds as follows:

BNE corresponded with the Connecticut State Historic Preservation Office (SHPO) regarding the Project in September 2010. As part of that submission, a Cultural Resources Map (depicting known historic/archaeological resources within one mile of the Project, based on data obtained from publicly-available sources) was included as a courtesy. That data was initially compiled in December 2009 during a preliminary due diligence phase of the Project. Prior to submitting this courtesy information to the SHPO in September 2010, VHB reviewed the National Register of Historic Places (NRHP) records that were available online to determine what, if any, new additions may have been made to the list; at that time, the Rock Hall property in Colebrook had not been added to the list.

Regardless, the Cultural Resources Map is provided solely as a courtesy to the SHPO and does not constitute a regulatory determination of any kind. It is the responsibility of the SHPO, which maintains its own records of NRHP properties in the state, to determine whether there will be an adverse effect on cultural resources. Its review resulted in the issuance of a "no effect" letter. It is noted that representatives of Rock Hall have demanded that the "no effect" letter be revoked; however, to date, no such action has been taken by the SHPO.

13. Please provide AUTOCAD dwg files for all site plans included in the petition.

A13. BNE objects to this interrogatory because the information requested is confidential work product.

14. Please provide a list of all property lines, residences and related structures, roads, driveways, located within 984 feet of each proposed turbine location.

A14.

Map/Block/Lot	*Address*	*Town*	*Residence within 984-feet*	*Residence Driveway within 984-feet*	*Related Structures within 984-feet*	*Roads within 984-feet*
4-08 6	Nature Conservatory Property	Norfolk	No	No	No	No
4-08 7	Nature Conservatory Property	Norfolk	No	No	No	No
1-2	45 Flagg Hill Rd	Colebrook	No	No	No	No
1-15	8 Flagg Hill Road	Colebrook	No	No	No	Flagg Hill Road
1-14	State of CT	Colebrook	No	No	No	Flagg Hill Road
1-7	Northwestern CT Sportsmen Club	Colebrook	No	No	No	Flagg Hill Road
1-1	47 Flagg Hill Road	Colebrook	No	No	No	No
1-4	29A Flagg Hill Road	Colebrook	No	Yes	No	No
1-5	33 Flagg Hill Road	Colebrook	No	No	No	No
001/155/019C	Skinner Road	Winchester	No	No	No	No

15. Please provide a list of all property lines and residences located within 0.5 mile of each proposed turbine location.

A15. Please see table attached hereto as Exhibit 1.

16. Please provide a list of all property lines and residences located within 1 mile of each proposed turbine location.

A16. BNE objects to this interrogatory because the interrogatory is overly broad and unduly burdensome.

17. Please provide a list of all property lines and residences located within 1.25 miles of each proposed turbine location.

A17. BNE objects to this interrogatory because the interrogatory is overly broad and unduly burdensome.

18. Please provide a list of all property lines and residences located within 1.5 miles of each proposed turbine location.

A18. BNE objects to this interrogatory because the interrogatory is overly broad and unduly burdensome.

19. Please provide a copy of the noise emission characteristics of the GE 1.6 MW turbines you reference in your responses to the Council's first set of interrogatories.

A19. The requested document is being filed separately pursuant to a motion for protective order and under seal.

20. Please provide a copy of any other GE materials relevant to the proper siting of its 1.6 MW turbines, guidelines and policies, including but not limited to materials regarding ice and blade throw, fire safety, noise, wildlife impacts, fall zones and proper siting to avoid turbulence.

A20. BNE objects to this interrogatory because the interrogatory is overly broad and unduly burdensome.

21. Please provide GPS coordinates of each noise monitoring location identified in your Noise Evaluation.

A21. Colebrook South Noise Monitoring Location Coordinates

Monitoring Location		
M1 – Flagg Hill Road	41° 57' 36.76" N	73° 08' 28.48" W
M2 – Beckley Road	41° 57' 27.75" N	73° 09' 14.31" W

22. If your consultant monitored noise at any other location, please provide GPS coordinates of each additional location and provide the data collected.

A22. Not applicable.

23. As we heard on March 3, 2011 during the Evidentiary Hearing before the Connecticut Siting Council in Petition 980, GE may have performed more than one Mechanical Loads Assessment ("MLA") for siting the turbines in the petition. Please provide a copy of any MLA performed by GE with respect to this site.

A23. BNE objects to this interrogatory because the information requested is irrelevant. Subject to this objection and without waiving the same, BNE responds as follows: a copy of the MLA performed for the proposed turbine locations will be filed separately pursuant to a motion for protective order and under seal.

24. Please provide the name(s) of GE personnel with whom you have been in contact in the course of preparing the instant petition, including, but not limited to, the author of any MLA prepared by GE.

A24. BNE objects to this interrogatory because the information requested is irrelevant to this proceeding.

25. Please identify the expected production time for turbines once a contract is signed.

A25. BNE objects to this interrogatory because the information requested is irrelevant to this proceeding.

26. Please provide a copy of any contract or agreement between you and GE that requires that you maintain the confidentiality of certain information produced or owned by GE that you have filed under seal in Petition 980. (In the alternative, provide the portion of any such contract or agreement containing those provisions.)

A26. BNE objects to this interrogatory because the information requested is irrelevant to this proceeding. Subject to this objection and without waiving the same, the requested confidentiality agreement is being filed separately pursuant to a motion for protective order and under seal.

27. In Exhibit L to your petition, "Breeding Bird Surveys for the Colebrook Wind Resource Area Litchfield County, Connecticut," Western EcoSystems Technology, Inc. ("WEST") reports results of summer breeding bird surveys and incidental wildlife observations at the Colebrook Wind Resource Area ("CWRA") (the "Bird Survey"). In the Bird Survey, were the breeding bird survey points located in the vicinity of the proposed turbines in a manner that would adequately collect data to analyze breeding bird use within 500 meters in all directions of each proposed turbine location?

A27. The study design used during the 2010 survey included sampling bird use and species composition at two of the proposed turbine locations and at points within 500-m of the proposed turbine locations. Sampling was not completed within all directions or within all distances of all turbines as such a study design would not have been practical or necessary given the small number of turbines, the small disturbance area and the homogeneity of bird habitats at the Site. The objectives of the study were to characterize bird species composition and use during the sampling period. The sampling design was adequate to address these objectives. The ratio of sampling points to turbines was extremely high compared with other studies we are aware of which have been completed at proposed wind energy facilities in the northeastern US and New York State. The 2010 study included 12 x 5-min/50-m radius sampling points for the proposed 3 turbines, while, for example, the 79 turbine High Sheldon Wind Farm pre-construction breeding bird study included 44 points (Woodlot Alternatives 2006). Point locations were chosen in order to ensure good spatial coverage of the Site, ensure proposed turbine locations were sampled and ensure that representative land cover types present at the Site were sampled. Major bird habitat types were targeted.

28. In the Bird Survey, how many survey points were located within 100m and 500m in all directions, of the southernmost turbine?

A28. At the time of implementation of the 2010 breeding bird study in June 2010, this turbine location was not being considered by BNE. A total of 3 sampling points were located within 500-m of the proposed turbine location. As stated in A27, the ratio of sampling points to turbines was extremely high, despite the fact that a breeding bird point was not arrayed at the southernmost turbine location.

29. Why was breeding bird data collected at only 12 points?

A29. Data included in the 2010 report described results of the sampling at the 12 survey points. Information on birds seen and heard incidentally while surveyors were at the Site was also collected and reported.

30. Why were no bird surveys conducted from late May to mid June?

A30. The objective was to sample during the season when the majority of breeding birds would be present. Some species (e.g. Scolopax minor) may breed earlier in the season, however, the majority of woodland passerines and other species with the potential to breed within available habitats at the Site are likely to occur during the survey period – June to mid-July. When BNE met with representatives of DEP on March 19, 2010, to discuss the proposed project, the DEP's primary concern was the potential impact of the turbines on the bat population given the overall impact of the White Nosed Syndrome (WNS) on bat populations. DEP indicated that WNS affects cave-hibernating bat species, which are not likely the type of bats that may be impacted by the wind turbines, but requested that acoustic bat surveys be completed at the Project site. BNE agreed to install acoustic bat surveys at the Site and to coordinate with DEP in using similar equipment, methods and metrics that DEP was planning to implement state-wide as part of a state and regional effort to understand the status of bat activity and bat populations given current information on the impact of WNS on bats. BNE contacted representatives of DEP over the next several months to determine the type of bat monitoring equipment that DEP was planning to install, but was unable to do so. As a result, BNE contacted WEST to implement bird and bat surveys for the Project and appropriate measures were implemented. Additional surveys will be completed at Colebrook South during the early breeding season (mid-April to mid-May) during 2011. Impacts to breeding birds will be determined through a post-construction fatality monitoring study. The objective of the monitoring study will be to determine the annual and seasonal estimated fatality rates to birds and bats.

31. Why were no data collected on spring and fall migratory bird use?

A31. This question is responded to in two parts as follows:

1. Based on existing information derived from several sources, the Site does not appear to be located in an area which would concentrate migratory birds, and impacts to migrating birds are not anticipated to be high relative to other wind energy projects.

a. The majority of waterfowl and waterbirds migrating through Connecticut are concentrated along coastal portions of the state. While open water wetlands, ponds and other waterbodies in the area may occasionally be used by migrating individuals or small groups, the town of Colebrook does not appear to provide significant stopover habitat for migratory waterfowl or other waterbirds. The area is several miles from the nearest major river system, does not contain extensive agricultural lands (which have been know to attract hungry migrant geese and ducks), and is nearly 50 miles inland from the Connecticut coast. The Colebrook area

is not included in the CTDEP Migratory Waterfowl GIS data layer that depicts areas with high concentrations of migratory waterfowl, and is not identified as a Waterfowl or Waterbird Focus Area by the Atlantic Coast Joint Venture (ACJV). The ACJV is a partnership of 18 state and federal agencies, regional conservation groups, and others coordinating to protect habitat for native birds in the Atlantic Flyway. Waterfowl may pass over the Project site in flight, however, most migrating waterbirds fly at night (and to a lesser extent during daytime) at altitudes of 500 to 1,000 feet or more (Bellrose 1976). This phenomenon has been confirmed with radar at many locations for ducks, geese, loons, and other birds (Kerlinger 1982, Kerlinger and Moore 1989). Impacts to waterfowl and waterbirds observed at numerous operating commercial wind energy facilities throughout the United States, including at large sites with high migration activity (e.g. Top of Iowa, Iowa), revealed that waterfowl are not particularly susceptible to collision with wind turbines (Koford et al. 2005). No waterfowl or waterbird fatalities have been documented at the closest operational wind facility (Lempster Wind, Lempster New Hampshire; Tidhar et al. 2010).

b. Most songbirds migrate at night, when air conditions and temperatures are more favorable (Kerlinger 1995). In the midwestern and eastern United States, night migrating songbirds have accounted for a majority of the fatalities at wind turbines. In general, the documented level of fatalities has not been large in comparison with the source populations of these species, nor have the fatalities been suggestive of biologically significant impacts to species. Nocturnally migrating songbirds documented at the closest operational wind facility (Lempster Wind, Lempster New Hampshire) have been within the range observed within the region and the nation, and impacts are estimated as resulting in the loss of individuals per annum (Tidhar et al. 2010). The observed level of mortality is also minor when compared to other potential sources of avian mortality (Erickson et al. 2001). The results of pre-construction surveys of nocturnal migration using radar, which include characterizations of passage rate and flight altitude, do not correlate with observed mortality of birds at operational wind energy sites (Tidhar et al. 2010).

c. In Connecticut, the primary fall migration pattern carries raptors from the northeast to the southwest. Raptors generally follow one of three migratory pathways: birds returning from breeding areas east of Connecticut may follow the coastline westward through the state; birds from breeding grounds north of Connecticut may follow the Connecticut River Valley south to the coast and then head west along the coastline; or they may travel southwest through the interior of the state along the hilly regions of Litchfield and Fairfield Counties, passing through the Northwest Highlands and the Southwest Hills. In the western hilly regions, migrating raptors take advantage of rising columns of warm air called thermals, which enable birds to soar for long distances, thereby reducing the energy required for migration (Kerlinger 1995). Because western Connecticut lacks long linear ridges, such as those occurring along the edge of the Connecticut River Valley, thermals are somewhat spread out over the region, and migration is considered "broad front" as opposed to concentrated.

The Northeast Hawk Watch Association (NEHWA) and the Hawk Migration Association of North America (HMANA) monitor the numbers and types of hawks migrating annually over specific mountains or hilltops where regular raptor passage occurs. The majority of hawk watch sites in Connecticut are located along the hills of southern Litchfield County and western

Fairfield County. A few hawk watch sites are located in northern Litchfield County in the general region of the Project site, including Booth Hill in Hartland, Pine Mountain in Barkhamsted, and Middle School in Torrington These sites range from approximately 9.5 to 11 miles to the northeast, east, and southeast, of the Project site respectively. Spring raptor migration patterns tend to be focused inland rather than along the Atlantic Coast. In Connecticut, only Peak Mountain and Quaker Ridge have conducted spring raptor migration counts of any duration. These sites are 21 and 45 miles away from the Project site respectively, suggesting that the area surrounding the Project site is not a heavily used corridor during spring migration.

The Project site is located many miles from prominent ridgelines and the coast, which are known to be used as primary transportation corridors by large groups of autumn migrating raptors. The Project site also appears to be located in an area that falls outside of the major chain of hawk watch sites that occur in a belt running northeast to southwest through Litchfield and Fairfield Counties. This suggests that the Project area might be outside of the major raptor migration corridors and would receive more sporadic migratory raptor traffic. Occasional individuals could be expected to pass over the site, but would be expected to be of lower frequency and lower abundance than hawk watch sites. Due to the prominence of broad-winged hawk at inland hawk watch sites in Litchfield County, it is anticipated that this species might make up the bulk of migrants potentially passing over the Project site. Peak passage rates in Connecticut for this species occurs between early September and early October.

Broad-winged hawks have not been highly susceptible to wind energy induced mortality. Raptor mortality from collision with turbines has also been low at most operating wind power projects outside of California (NWCC 2010). In instances where concentrated hawk migration does occur around wind energy sites, evidence to date shows that risk to migrating raptors is not great and not likely to be biologically significant (NWCC 2010, Erickson et al. 2003). The Site does not contain a high prey base for migrating or resident raptors, an important factor in contributing to mortality at operating facilities (Smallwood 2008 and NWCC 2010). No raptor fatalities have been documented at the closest operational wind facility (Lempster Wind, Lempster New Hampshire; Tidhar et al. 2010).

d. While few shorebirds may pass over the Site during migration periods, the Site lacks a high proportion of stopover habitat and existing research has demonstrated that very few shorebirds collide with wind turbines or other tall structures (Erickson et al. 2001). No shorebird fatalities have been documented at the closest operational wind facility (Lempster Wind, Lempster New Hampshire; Tidhar et al. 2010).

2. Despite the information evaluated, additional bird use surveys will be completed at Colebrook South during the spring and fall migration periods of 2011. These studies will provide data on bird species composition and levels of use during the migration seasons. Impacts to migratory birds will be determined through a post-construction fatality monitoring study. The objective of the monitoring study will be to determine the annual and seasonal estimated fatality rates to birds and bats. BNE will conduct such post-construction studies for a period of two years, which is consistent with requests from New York, New Hampshire and Pennsylvania for post-construction monitoring, and is also consistent with recommendations by USFWS, which

requests multi-year post-monitoring studies in its draft guidelines. BNE will provide the information to DEP to better inform bird and bat activity on the Site.

32. Please describe the impact of the "unidentified passerine" observations on reported species richness and species diversity (Exhibit L).

A32. The number of unknown passerine observations made was due to dense understory and forest canopy which limited the potential for the surveyor to visually identify birds. The dense vegetation also masked call "signatures," which were often distant and infrequent, limiting the potential for auditory identifications. Many auditory observations were also chirps and not easily identifiable to species, as would be the case with songs. As a result, species richness and bird diversity estimates were affected; however, the degree to which these results were affected is uncertain as species diversity was relatively low while survey effort was average to good for a pre-construction survey effort, particularly for such a small project.

33. Please provide the times, and field conditions (temperature, precipitation, visibility) for each of the 12 observation points each day that field data on bird use were collected.

A33.

date	station	start time	end time	vis	cc	temp	units	speed low	speed high	unit
6/29/2010	1	1/0/1900	1/0/1900	GOOD	50	23	C	0	0	MPH
6/29/2010	2	1/0/1900	1/0/1900	POOR	50	21	C	0	0	MPH
6/29/2010	3	1/0/1900	1/0/1900	FAIR	100	22	C	0	0	MPH
6/29/2010	4	1/0/1900	1/0/1900	FAIR	90	22	C	90	22	MPH
6/29/2010	5	1/0/1900	1/0/1900	POOR	85	22	C	0	0	MPH
6/29/2010	6	1/0/1900	1/0/1900	FAIR	85	21	C	0	0	MPH
6/29/2010	7	1/0/1900	1/0/1900	FAIR	85	21	C	0	0	MPH
6/29/2010	8	1/0/1900	1/0/1900	FAIR	85	22	C	0	0	MPH
6/29/2010	9	1/0/1900	1/0/1900	FAIR	85	21	C	1	1	MPH
6/29/2010	10	1/0/1900	1/0/1900	GOOD	20	21	C	0	0	MPH
6/29/2010	11	1/0/1900	1/0/1900	FAIR	20	21	C	0	0	MPH
6/29/2010	12	1/0/1900	1/0/1900	GOOD	10	23	C	1	3	MPH
7/6/2010	1	1/0/1900	1/0/1900	POOR	10	24	C	0	0	MPH
7/6/2010	2	1/0/1900	1/0/1900	FAIR	10	24	C	1	1	MPH
7/6/2010	3	1/0/1900	1/0/1900	POOR	10	24	C	1	1	MPH
7/6/2010	4	1/0/1900	1/0/1900	GOOD	20	24	C	3	7	MPH
7/6/2010	5	1/0/1900	1/0/1900	POOR	15	24	C	1	2	MPH
7/6/2010	6	1/0/1900	1/0/1900	FAIR	15	24	C	1	1	MPH
7/6/2010	7	1/0/1900	1/0/1900	FAIR	20	24	C	1	1	MPH
7/6/2010	8	1/0/1900	1/0/1900	FAIR	30	24	C	0	0	MPH
7/6/2010	9	1/0/1900	1/0/1900	FAIR	30	25	C	0	1	MPH
7/6/2010	10	1/0/1900	1/0/1900	FAIR	30	24	C	0	0	MPH
7/6/2010	11	1/0/1900	1/0/1900	FAIR	30	24	C	0	0	MPH
7/6/2010	12	1/0/1900	1/0/1900	GOOD	30	24	C	2	3	MPH
7/15/2010	1	1/0/1900	1/0/1900	POOR	90	20	C	0	0	MPH
7/15/2010	2	1/0/1900	1/0/1900	POOR	100	20	C	1	2	MPH
7/15/2010	3	1/0/1900	1/0/1900	FAIR	90	20	C	0	0	MPH
7/15/2010	4	1/0/1900	1/0/1900	FAIR	90	19	C	2	3	MPH
7/15/2010	5	1/0/1900	1/0/1900	FAIR	90	20	C	1	2	MPH
7/15/2010	6	1/0/1900	1/0/1900	FAIR	90	19	C	0	1	MPH
7/15/2010	7	1/0/1900	1/0/1900	FAIR	90	19	C	0	0	MPH
7/15/2010	8	1/0/1900	1/0/1900	FAIR	90	20	F	0	0	MPH
7/15/2010	9	1/0/1900	1/0/1900	FAIR		20	C			MPH
7/15/2010	10	1/0/1900	1/0/1900	FAIR	90	20	C	0	0	MPH
7/15/2010	11	1/0/1900	1/0/1900	FAIR	90	20	C	1	1	MPH
7/15/2010	12	1/0/1900	1/0/1900	FAIR	90	20	C	0	0	MPH

34. What is the likelihood that all of the unidentified passerine observations in the Bird Survey were of a single species?

A34. This is impossible to determine but unlikely. The classification of "unidentified passerine" indicates that the surveyor was unable to identify even to Genus, therefore, determination was not feasible – see response to Q32.

35. Which data points were situated to capture bird use in the open water/emergent wetland habitats?

A35. Points 8, 11 and 12 (33% of survey points) were situated in or adjacent to wetlands.

36. Why were no nocturnal or callback surveys conducted for Northern Saw-whet Owl (*Aegolius acadicus*), Sharp-shinned Hawk (*Accipiter striatus*), Northern Goshawk (*Accipiter gentilis*) or American Bittern (*Botaurus lentiginosus*)?

A36. Nocturnal surveys were not included in the survey design because: (1) the vast majority of pre-construction wind energy breeding bird surveys do not include nocturnal bird surveys; (2) impacts to nocturnally active resident birds have generally been low in the eastern US (e.g. see data from post-construction studies completed in New York, New Hampshire and Pennsylvania); and (3) the CTDEP did not request such surveys. Playback surveys were not included in the study design because: (1) CTDEP did not request surveys of this type; (2) direct impacts to Northern goshawk and American bittern are generally believed to be low (in terms of collision risk); and (3) no Northern goshawk or American bittern nests were observed along disturbance areas. Nonetheless, surveys will be completed during the 2011 breeding bird season which include point counts completed during periods when nocturnally active birds would be active and broadcast surveys which include playbacks of northern goshawk and American bittern. A post-construction fatality monitoring survey will also be completed.

37. The Bird Survey states that no state-listed species were observed during the survey. However, the Broad-winged Hawk (*Buteo platypterus*), a state-listed species of special concern was observed on the site according to Table 4. Please provide details on site use by this species as well as an analysis of the potential impacts the proposed wind development might have on Broad-winged Hawk.

A37. The broad-winged hawk is not state or federally listed as threatened or endangered and was therefore was not characterized as "listed," a generic term referring to designation of threatened or endangered species. Only two broad-winged hawks were observed during the breeding bird study – both of which were seen incidentally while the surveyor was on Site. Impacts to broad-winged hawks from operating wind facilities have been very low, particularly considering the large aggregations of the species which occur during migration, often in proximity to operating utility scale wind facilities. To our knowledge only three broad-winged hawks have been documented as fatalities at 76 operating wind facilities in the US (WEST unpublished data). The species may not be particularly susceptible to collisions because of flight heights, avoidance behavior and foraging behavior.

38. It is stated in both the executive summary as well as the discussion section of the Bird Survey: "*The results of the surveys were characteristic of forested and open grassland areas of central Connecticut".* However, the subject site is not located in central Connecticut but rather the northwest highlands (a.k.a. Litchfield Highlands). Please provide a regionally-relevant assessment of the survey results.

A38. Scaling of impacts using different regional terms is somewhat subjective. The Project is located in a portion of Connecticut that we feel could be termed either northwest Connecticut, central Connecticut, the Litchfield Highlands, the Northwest Highlands, Lower Berkshire Hills, or the Lower New England/Northern Piedmont ecoregion. Metzler and Barrett (2006) identify Colebrook as occurring in the transition zone between the western Connecticut Hudson Highlands and the Berkshire/Vermont Uplands ecoregions. However one chooses to characterize the region in which the Project occurs, the results of the breeding bird survey are indicative of the bird species and diversity which one may expect to occur within forested and open grassland areas. That was the intent of the statement included in the report.

39. Please quantify (in acres) and illustrate on an aerial photograph the direct forested habitat loss as well as the potential indirect habitat loss (through behavioral avoidance and habitat fragmentation) at each turbine location as discussed in the executive summary of the Bird Survey.

A39. According to an evaluation completed by Zapata Inc. on the disturbance area of the Project, 14.05 acres of forest will be permanently impacted by the Project. Impact areas are illustrated in the map prepared by Zapata Inc. attached hereto as Exhibit 2.

There is a current lack of information on the indirect impacts of wind energy facilities on forested bird communities. It is thought that indirect impacts of wind energy developments are low compared to other, alternative, forms of development within forested landscapes. For example, a housing development within the project area of the Project would result in far greater loss of forested habitats and increased fragmentation compared with the proposed wind project. Wind turbine pads, access roads and other infrastructure have been minimized in size through project planning, thereby reducing the overall impact areas of development areas on forest bird habitats. The Project will not directly impact the majority of the available forest habitat within the project area.

40. Please provide the professional experience of Vanasse Hangen Brustlin, Inc. ("VHB") field personnel in conducting habitat assessments for forest-roosting bats.

A40. BNE objects to this interrogatory because the information requested is irrelevant as VHB was not retained to conduct habitat assessments for forest-roosting bats.

41. Please state the number and species diversity of any snags identified by VHB personnel during the Vegetation Assessment.

A41. The Site's ±6.70 beaver impoundment contains the greatest concentration of snags. While not specifically inventoried, it is estimated that between 75 to 100 snags are located within and along the edges of the pond. Where identifiable, the species are typical of upland wetland fringe and consist primarily of eastern hemlock (*Tsuga canadensis*), white pine (*Pinus strobus*), red maple (*Acer rubrum*) and an occasional black birch (*Betula lenta*). The largest snags (>12-inch DBH) within the pond are primarily white pine but many smaller snags were not identified to species due to the advanced state of decay.

Snags of the above-listed species, as well as American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), and yellow birch (*Betula alleghaniensis*) are scattered throughout the remainder of the Site. Near the western edge of the pond, approximately a dozen trees exhibited damage from ice storms or wind and were snapped or blown down. Affected species were primarily American beech and eastern hemlock

42. Please describe the specific methodology employed by VHB to document "the occurrence of burrows, tree cavities, snags, and vernal pools" as stated in the Terrestrial Wildlife Habitat & Wetland Impact Analysis (Exhibit I, pg 4).

A42. The methodology utilized to conduct the terrestrial wildlife habitat is explained in BNE's petition at Exhibit I. VHB conducted a meandering survey that began at the early old field meadow, then descended to the beaver pond, encircled the pond in a counterclockwise fashion, and ended with the eastern portion of the Property. VHB used a digital camera and field notebooks to record observations of wildlife, including tracks, nests, burrows and snags.

43. Please provide the education and experience in conducting bat acoustic surveys and call analysis for all members of the WEST field team in Connecticut.

A43. BNE objects to this interrogatory as overly broad and unduly burdensome. Subject to this objection and without waiving the same, WEST's acoustic bat analysis was led by Mr. Jeff Gruver, WEST's senior bat biologist. Mr. Gruver has completed at least an estimated 100 acoustic bat analyses for proposed and existing wind facilities. He has presented talks and conducted workshops on bat acoustic analysis at regional and national scientific meetings and symposiums. Mr. Gruver's resume is attached hereto as Exhibit 3.

44. Please explain the justification for excluding the possibility that eastern small-footed myotis could occupy the CWRA project site (Exhibit K).

A44. Caves and mines are key winter habitat for eastern small-footed bats and these features are believed to be absent from the Project area. Summer roosts include caves and mines, hollow trees and under bark, cracks and crevices in rock walls, and ridge-top talus fields. This suggests that forested areas with caves, mines, rock outcrops or talus provide key summer habitat. The site is believed to lack caves, mines or talus fields. According to the Connecticut Audubon Society, no eastern small-footed bats have been recorded in Connecticut for several decades.

45. Please explain how the 96.2% acoustic sampling rate was calculated (Exhibit K, pg. 7).

A45. The requested data is available in Exhibit K and final sampling rate is included in the final bat acoustic survey report, attached to the pre-filed testimony of David Tidhar. The sampling rate included in the report is 80.3 %.

46. Please describe the specific calibration methods and sensitivity settings used by WEST on the CA1 and CA2 detector systems (Exhibit K).

A46. Anabat detectors record bat echolocation calls with a broadband microphone. Calls were recorded to a compact high-capacity flash memory card and data was subsequently transferred onto a computer for analysis. The echolocation sounds were then translated into frequencies audible to humans by dividing the frequencies by a predetermined ratio. A division ratio of 16 was used for this study. Bat echolocation detectors also detect other ultrasonic sounds, such as those sounds made by insects, raindrops hitting vegetation, and other sources. Depending on the environment in which the unit was placed, a sensitivity level of 5.5 or 6 was used to reduce interference from these other sources of ultrasonic noise. To ensure similar

detection ranges among anabat units, microphone sensitivities were calibrated using a BatChirp ultrasonic emitter (Tony Messina, Las Vegas, Nevada) as described in Larson and Hayes (2000). A BatChirp is placed on a platform approximately 18 meters away from a platform on which the Anabat detector is set. Platforms are approximately 1 meter above the floor. The Anabat detector is turned on and the Sensitivity is adjusted until a clear tone is heard from the detector. That level is noted for each detector to be used on a project. When each detector detects a clear tone at the same level (as they often do), detectors are considered calibrated. If a detector detects a clear tone more than ½ step from the other one(s), a note is made the sensitivity should be set up or down appropriately.

47. Please describe the specific calibration methods used by WEST to determine the relative sensitivity of the CA1 and CA2 detector systems.

A47. See response to Q46 above.

48. Please identify what calibration methods were used by WEST to confirm the proper functioning of the CA2 detector system at the beginning and end of the acoustic monitoring survey period.

A48. See response to Q46 above.

49. Please compare the effective range limit of the bat detector system used by WEST in comparison to the nacelle height of the proposed wind turbines.

A49. The detection range of Anabat detectors and SM2Bat Units depend on a number of factors, such as echolocation call characteristics, microphone sensitivity, habitat, the orientation of the bat, and atmospheric conditions (Limpens and McCracken 2004; Ian Agranat, President & CEO Wildlife Acoustics, pers. comm. 2010). The detection range of Anabat detectors is generally less than 30 m (98 ft) due to atmospheric absorption of echolocation pulses (Fenton 1991). The SM2Bat equipment manufacturer, Wildlife Acoustics, claims a detection distance of 100-300 feet (30-100 meters), though given the physics of sound transmission in air, the range of song meter is likely to be similar to that of an Anabat detector (approximately 100 ft [30-m]), and will be subject to all the same sources of variance, including air temperature, relative humidity, and proximity and orientation of the bat relative to the detector. The nature of sound wave propagation produced by a variable source (moving bats) through a variable medium (air) means that detection distances are subject to a lot of variation. The frequency range of a bat can also affect detection distances.

50. Please describe the temporal pattern of bat activity at the CA2 detector (independently of the CA1 detector).

A50. There were only 43 files containing bat passes. There were 4 in June, 28 in July and 11 in August.

51. Please identify how the CA1 and CA2 sampling sites were chosen.

A51. The two Anabat detectors were placed near the ground at two fixed stations (CA1 and CA2). The SM2Bat unit was placed near the ground at a third location (CS1; Figure 2 of final report). Station CA1 was located along an abandoned forest track in deciduous forest at one of the proposed turbine locations near the center of the Project. A narrow woodland shelterbelt was located between station CA1 and a forest clearing in which the meteorological (met) tower was located. Station CA2 was located along an abandoned forest track at a proposed turbine location in the northwest corner of the Project, also in deciduous forest . The SM2Bat unit was placed at the edge of a beaver pond and wetland complex between the two Anabat stations. Open water is considered a feature attractive to bats for foraging, and placement of the SM2Bat unit at this location increased potential for recording bat species that may occur in the Project area.

52. Please identify the state or federal sampling guideline that was used to develop the sampling protocol at the CWRA project site (Exhibit K).

A52. Survey protocols and analysis methods used were consistent with approaches used across the country for pre-construction wind-energy studies (e.g. Cape Vincent Wind, New York) and recommended in state (e.g. New York, Pennsylvania, Maine) guidelines and federal (FACA 2010 draft) recommendations, as well as by scientists working in the fields of bat bio-acoustics and bat ecology (e.g. Kunz et al 2007, Arnett et al 2008, Brintsky 2004**).**

53. Does the acoustic sampling protocol used at the CWRA project site meet the temporal, spatial, or vertical sampling criteria identified by the Wind Siting Guidelines of the Pennsylvania Game Commission (Exhibit K)?

A53. BNE objects to this interrogatory because the information requested is irrelevant. Specifically, BNE notes that the Property is not located in the State of Pennsylvania and therefore does not have to comply with such standards.

54. Does the acoustic sampling protocol used at the CWRA project site meet the temporal, spatial, or vertical sampling criteria identified by the pre-construction monitoring guidelines of the New York Department of Environmental Conservation (Exhibit K)?

A54. BNE objects to this interrogatory because the information requested is irrelevant. Specifically, BNE notes that the Property is not located in the State of New York and therefore does not have to comply with such standards.

55. Does the acoustic sampling protocol used at the CWRA project site meet the temporal, spatial, or vertical sampling criteria identified by the pre-construction monitoring guidelines for Tier 4 wind projects of the New Jersey Department of Environmental Protection (Exhibit K)?

A55. BNE objects to this interrogatory because the information requested is irrelevant. Specifically, BNE notes that the Property is not located in the State of New Jersey and therefore does not have to comply with such standards.

56. Please explain why red bats were limited to the MF call group (30kHz - 40kHz) when WEST states in their report that "eastern red bats typically emit calls with minimum frequencies between 30 and 43 kHz (J. Szewczak, pers. comm.)" (Exhibit K, pg. 7).

A56. Red bats do, on occasion, produce some calls in sequence that exceed 43 kHz, but it is not typical, and even on occasions when some calls in a sequence approach 43 kHz, the sequence often will have started below 40 kHz. We do not extend MF to 43 kHz because while some red bat calls in a sequence may exceed 40 kHz, at least some generally fall below 40 kHz. In addition, extending MF to 43 kHz would defeat the purpose of having separate MF and HF categories because the species captured by the HF category (most of the Myotids as well as Perimyotis) typically don't have minimum call frequencies that exceed 43 kHz.

57. In the Interim Report Discussion, WEST states that some of the HF call activity may have been due to little brown myotis, a species they categorize as an MF species. If both MF species are also HF species, what value is the MF call group?

A57. Species groups are defined for the purpose of readily classifying echolocation calls. Bats vary their echolocation based on task, and there is individual variation in bat echolocation. Any classification boundary based on frequency of echolocation is arbitrary. As such, some calls will straddle the boundary between groups.

58. Given that 3,004 calls were from the MF bat group, and given that only two species are in the MF bat group (little brown myotis and eastern red bat), and given that WEST only identified 5 calls from the eastern red bat, is it the opinion of WEST that 2,999 calls were from little brown myotis?

A58. This would be a logical conclusion. An alternative would include the possibility that some big brown bat calls were included in the group.

59. In the Discussion, WEST states that "the majority of MF activity during the study period was comprised of little brown bats" (Exhibit K, pg. 13). Please justify this statement.

A59. See Final Bat Acoustic Study attached to the pre-filed testimony of David Tidhar.

60. Given that WEST's species-specific analysis only identified 0.1% of the MF bat calls and 0.2% of the LF bat calls, do you feel the conclusions made regarding eastern red bat and hoary bat activity at the CWRA project site are indicative of the overall activity of these species?

A60. It is certainly possible. While both species are geographically widespread, they may not be locally abundant. For example, Brooks (2011) reported that 7% of passes recorded in Massachusetts were from red or hoary bats.

61. Was there a meteorological tower at the CWRA project site throughout the entire acoustic monitoring survey period? If yes, please explain why ground microphone systems were used to monitor bat activity when there was a meteorological tower on site that could have sampled within the rotor swept area.

A61. Yes, there was a meteorological (MET) tower installed at the Site, however, there are certain risks including safety risks and the potential damage to the Met tower that could arise from lowering the tower to install bat monitoring equipment. Lowering the tower could also result in delays to bat monitoring activities given the time needed to lower the tower and the potential risks associated with it. After consulting with WEST on the various issues regarding bat monitoring equipment, including the concerns referenced above, BNE determined that ground-based monitoring equipment was appropriate for the Site. Ground-based Anabat sampling has been a standard component of pre-construction acoustic bat monitoring at commercial wind-energy sites for several years. Over recent years, scientists working in this field (e.g. Kunz et al 2007, WEST) have recommended acoustic sampling within the rotor swept zone, however, this is not always possible because elevating detectors to sufficient height may not be feasible because: 1) suitable structures may not be present, or 2) because suitable structures may not be altered without risking damage to the structure or other equipment. At the Site, the second scenario was the reason why an elevated detector could not be deployed – placement of a detector (or means of elevating a detector such as a Bat Hat system) would have required lowering the meteorological tower to the ground which may have damaged meteorological instrumentation and resulted in study delay and additional significant costs, respectively. Due to this reason, two ground based detectors were deployed at the Project – one was located in an existing forest clearing while the second was located at a proposed turbine location. This sampling design allowed for comparative analysis between bat activity at a proposed turbine location with an open canopy clearing.

A current conclusion reached by biologists working in the field of wind-energy/wildlife interactions is that bat activity indices derived from pre-construction acoustic studies show a rough correlation with post-construction fatality patterns (see final bat report and NWCC 2010). This conclusion is largely based on ground-based Anabat sampling.

62. Please explain how up to 95% of the bat activity is attributed to little brown myotis and big brown bats despite WEST's conclusion that "the CWRA is not in the vicinity of any known bat colonies" (Exhibit K, pg. 13).

A62. This statement is intended to mean large colonies (eg, hibernacula); this statement should have been qualified in the report.

63. Are upland sites with perennial streams and water habitat are critical roost habitat for bat species?

A63. Critical habitat implies specific designations defined by agencies for listed species. Here we interpret "critical" in the more general sense – to mean important. We must also differentiate crevice-roosting species (those that roost in cracks or crevices or under exfoliating bark in trees from foliage roosting species (those that roost in branches, mimicking

and hiding in leaf clusters). Forested areas with suitable roosting habitat (e.g, snags for crevice roosting species) and perennial water are likely to meet most of a bats needs during the summer, and may be used preferentially by bats (Brigham 2007).

64. Are hydric habitats (including wetlands) a landscape-level feature that consistently associated with high levels of bat activity?

A65. Bats need open clean water for drinking and insects for feeding. To the extent that hydric habitats provide those, they generally have high levels of activity relative to surrounding non-hydric areas during the non-hibernation season.

65. Are permanent water sources and wetland habitats used as foraging and/or roosting habitat by bats?

A65. They likely would be used for foraging. They may be used for rooting if suitable habitat and temperatures are available.

66. Please summarize the effort that was conducted to reach the conclusion that the "CWRA is not in the vicinity of any known bat colonies or features likely to attract large numbers of bats" (Exhibit K, pg. 13).

A66. See response to Q62 above.

67. Please justify your conclusion that the CWRA is not in the vicinity of any features likely to attract large numbers of bats given the large beaver pond and multiple forested wetlands at the project site.

A67. See response to Q62 above.

68. Given that the vast majority of bat mortality occurs during the fall migratory period, please explain how one can conclude the likely level of impact without providing data on the bat activity during the fall migratory period.

A68. The requested information is included in the final bat acoustic study attached to the pre-filed testimony of David Tidhar.

69. Given that the objective of the acoustic monitoring survey was to "characterize seasonal and spatial activity by bats within the CWRA during the maternity season", please justify why only one of the four habitat types identified by VHB at the Colebrook South project site was surveyed for bat activity.

A69. Three habitat types were included in the sampling design – deciduous forest, edge/grassland and forested wetland. The number of habitats sampled exceeds expectations on bat acoustic sampling design in neighboring states where guidelines (e.g. Pennsylvania PGC, Maine IFW and NYSDEC) recommend sampling at meteorological towers only. Meteorological towers tend to be located in high points and within open areas because of the guy-wire supports.

The sampling design used at Colebrook South attempted to maximize information on species diversity by sampling with the full-spectrum SM2 at a forested wetland, characterize bat activity at a proposed wind turbine location in the forest, and characterize bat activity at an open/edge area which would reflect any potential changes in the landscape following construction of the facility.

70. Given that the objective of the acoustic monitoring survey was to "characterize seasonal and spatial activity by bats within the CWRA during the maternity season", please explain why the survey missed over half of the maternity season.

A70. The objective of the study was to characterize bat activity seasonally and it included the majority of the maternity season and the fall migration period. Importantly, the study was completed during the period in which most bat fatalities have been documented as wind turbine collisions and the period in which bat activity is greatest.

71. Please explain why no acoustic monitoring was conducted by WEST in the southern half of the Colebrook South project area.

A71. At the time of implementation of the 2010 study in June 2010, the southern turbine location was not being considered by BNE. A total of 3 sampling points were located within the Project site – see response to Q69.

72. What are the terms and conditions of the Conservation Easement (Vol 53, P. 870) west of Pole 915 on Flagg Hill Road?

A72. BNE objects to this interrogatory because the information requested is irrelevant. Specifically, BNE's petition does not propose any activities in the referenced conservation easement. BNE further objects to this interrogatory because the information is publicly available.

73. What is the significance of the long dash and two short dash line running roughly parallel to, and 300-400' west of, Flag Hill Road on Sheet C-001 (Exhibit F)?

A73. The line in question is the property line of the parcel acquired by BNE.

74. What is the source of the site topography shown on the plans (Exhibit F)? What is the level of accuracy and precision? If it was not field-surveyed, was any ground-truthing done? If so, where, and how much?

A74. The source of the topography shown on the plans is from the State of Connecticut, Department of Environmental Protection. All 2004 Statewide Aerial Survey imagery and data products are defined under State of Connecticut contract award number RFP-990-A-14-0518-C (dated Feb 22, 2000). The Connecticut Statewide LiDAR dataset consists of x, y, and z point-data from an interpolated surface model ("bare-earth") derived from an Airborne LiDAR Topographic Mapping System (ALTMS). This data underwent automated processes to interpolate and create 2 foot elevation contours from the 20-foot posting LiDAR 2000 point data.

The horizontal positional accuracy of the 20-foot posting LiDAR 2000 point data is approximately 3 feet on the ground. Ground-truthing was performed at the proposed wetland crossing.

75. What is the source of the wetland boundary locations shown on the plans (Exhibit F)? What is the level of accuracy and precision?

A75. Wetland boundary flag locations have been located in the field using a GPS receiver utilizing available real-time Satellite-Based Augmentation System (WAAS) corrections. Resulting positions have been post-processed against a nearest Continuously Operating Reference Station (CORS) tied to the National Spatial Reference System (NSRS). Resulting positions have been post-processed using generally accepted survey adjustment methods with an ultimate expected horizontal accuracy of less than one meter. The wetlands flags in the immediate vicinity of the wetlands crossing were field located by Riordan Surveying using an electronic theodolite. The survey field control utilized was the same control utilized in completing the A-2 property line survey. The area encompassed for this extended from the northerly property line southerly for 275'. The horizontal accuracy of these measurements is within one inch.

76. Did VHB do any growing season wildlife surveys? If so, please provide the dates, weather conditions, visibility, time spent on-site on that particular task, and the qualifications of the personnel.

A76. Wildlife surveys were not conducted during the growing season.

77. Please describe how the field investigator was able to determine on January 29, 2010 (with 2"-6" of snow) that Wetland 1 did not contain any areas that are irregularly or seasonally flooded, or that no vernal pools were present (Exhibit I)?

A77. The determination of applicable water regime modifiers, as noted within the wetland delineation field forms provided in Attachment A of Exhibit I, are completed based on conditions at the time of the delineation. In this case, it was determined that the most accurate characterization of Wetland 1 included permanently flooded, permanently saturated and seasonally saturated areas. It is conceivable that irregularly or seasonally flooded areas are present at times, particularly where each of the two forested wetland lobes transition to the beaver pond.

Based on guidance provided by the CTDEP, to meet the definition of a vernal pool, four criteria must be met:

- It contains water for approximately two months during the growing season;
- It occurs within a confined depression or basin that lacks a permanent outlet stream;
- It lacks any fish population;
- It dries out most years, usually by late summer.

None of the delineated wetland areas are characterized as a confined depression or basin and as such they do not meet the traditional or "classic" definition of a vernal pool. However, the

potential may exist within portions of the interior of the delineated wetland areas, particularly where each of the two forested wetland lobes transitions to the beaver pond, for "cryptic" vernal pool habitat to exist. Cryptic vernal pools are areas within wetlands that provide the appropriate hydrology to provide breeding habitat for obligate vernal pool species. BNE has retained the services of Michael W. Klemens, PhD to determine if any on-site wetland resources provide breeding habitat for obligate vernal pool amphibians.

78. Please describe how the field investigator was able to determine on January 29, 2010 (with 2"-6" of snow) that Wetland 2, described as a seasonally saturated depression whose interior was generally devoid of woody vegetation, did not contain any areas that are irregularly or seasonally flooded, or that it did not contain a vernal pool (Exhibit I)?

A78. The determination of applicable water regime modifiers, as noted within the wetland delineation field forms provided in Attachment A of Exhibit I, are completed based on conditions at the time of the delineation. In this case, it was determined that the most accurate characterization of Wetland 2 was seasonally saturated.

Based on guidance provided by the CTDEP, to meet the definition of a vernal pool, four criteria must be met:

- It contains water for approximately two months during the growing season;
- It occurs within a confined depression or basin that lacks a permanent outlet stream;
- It lacks any fish population;
- It dries out most years, usually by late summer.

The delineated wetland area does not include a confined depression or basin and as such does not meet the traditional or "classic" definition of a vernal pool. However, the potential may exist within portions of Wetland 2, particularly off-site to the north, for "cryptic" vernal pool habitat to exist. Cryptic vernal pools are areas within wetlands that provide the appropriate hydrology to provide breeding habitat for obligate vernal pool species. BNE has retained the services of Michael W. Klemens, PhD to determine if any on-site wetland resources provide breeding habitat for obligate vernal pool amphibians.

79. Please describe how the field investigator was able to determine on March 16, 2010 (with up to 3"of snow) that Wetland 4, described as a seasonally saturated depression did not contain any areas that are irregularly or seasonally flooded, or that it did not contain a vernal pool (Exhibit I)?

A79. The determination of applicable water regime modifiers, as noted within the wetland delineation field forms provided in Attachment A of Exhibit I, are completed based on conditions at the time of the delineation. In this case, it was determined that the most accurate characterization of Wetland 2 was seasonally saturated.

Based on guidance provided by the CTDEP, to meet the definition of a vernal pool, four criteria must be met:

- It contains water for approximately two months during the growing season;

- It occurs within a confined depression or basin that lacks a permanent outlet stream;
- It lacks any fish population;
- It dries out most years, usually by late summer.

The delineated wetland does not include a confined depression or basin. Additionally, this wetland is not located on the Property.

80. Please describe the relevance of mid summer vernal pool surveys in general, and particularly during a hot, dry late spring and summer (Exhibit I).

A80. No mid summer vernal pool surveys were conducted.

81. How do you explain the absence of vegetation in the interior of Wetland 2?

A81. Wetland 2 is a narrow feature lacking woody vegetation. This feature contains emergent vegetation which was observed during the growing season.

82. How was the 3.5 acre hilltop meadow created? How frequently has it been mowed? Has it been seeded and if so, how?

A82. BNE objects to this interrogatory because the requested information is irrelevant.

83. Please explain the discrepancy between the description of the cleared area in the Vegetation Assessment (Exhibit I, p.3) and the rationale for selecting Forbs (Exhibit I, p.9) to assess the wildlife potential for this area?

A83. The Property's early old field meadow does not fit directly into any of the DeGraaf and Yamasaki (2001) habitat descriptions. The area is covered by grasses, ferns, and goldenrods. The "shrub/old field" category identified by the authors was initially considered for characterizing this area, however the authors describe shrub/old fields as "abandoned agricultural fields reverting to forest, characterized by grasses, shrubs, and small trees." The area contains grasses, but due to mowing activities, lacks shrubs and small trees. The "grass" category was also considered for describing this area, but is described by DeGraaf and Yamasaki as "hayfields, etc." which also does not characterize the area. The authors describe the "forb" category as "broadleaved herbaceous cover [e.g. goldenrod (*Solidago*), sensitive fern (*Onoclea*)]. While this is not an exact description of the area in question, it was deemed to be a close approximation.

84. Please explain the conflict between the characterization of the outlet stream from the Beaver Pond as perennial (Exhibit I, p 8) and intermittent (Exhibit I, p11). If the outlet is actually perennial or nearly so, how would that affect VHB's conclusions with respect to amphibians and fish likely to use the site.

A84. The outlet stream from the beaver pond is an unnamed perennial watercourse as shown in Exhibit I, Figure 1. The southern Property boundary crosses the dammed portion of the beaver pond in close proximity to the point of origin of this watercourse and, as such, little if any of this watercourse actually exists on the Property. Therefore, an evaluation of this resource was

not deemed to be feasible or necessary. The intermittent watercourse referred to on page 11 of Exhibit I is not the same watercourse. As stated, this feature is an intermittent inlet or tributary to the beaver pond that flows into the beaver pond from the west.

85. Please provide a reference or other source for the statement that the beaver pond is likely to be too deep for salamanders (Exhibit I, p. 11)

A85. This statement was a reference to the open water portions of the beaver pond. The shallow, vegetated fringes may in fact provide habitat for salamanders. BNE has retained the services of Michael W. Klemens, PhD, who will conduct an on-site assessment of this area.

86. Given the presence of successional forest and early old field/meadow habitat (Exhibit I, p. 4) and the DEP's confirmation of the state-listed Smooth Green Snake nearby, why were no detailed surveys performed for this species?

A86. The old field/meadow habitat was recently created to erect the MET tower. This area was previously forested and as such, would not be utilized by smooth green snake. BNE has retained the services of Michael W. Klemens, PhD to confirm this finding.

87. Given the description of Northern Spring Salamander habitat in one of your primary reference documents (Klemens 1993) and the presence of a perennial watercourse, wetlands dominated by hemlock and springs, why was that species omitted from the discussion of Salamanders (Exhibit I, p. 11) and the list in Table 1 (Exhibit I, p. 13)?

A87. BNE has retained the services of Michael W. Klemens, PhD to determine if any on-site wetland resources provide suitable habitat for northern spring salamander.

88. Will the site development have adverse impacts on forest-interior birds and other disturbance-sensitive species that are/likely to be present within the 500m zone of influence of any of the turbines? If so, which species and if not, why not?

A88. See response to Q39. Also, please note that disturbance affects are unequal for species and are variable based on geographic location, populations, and habitats, even for the same species evaluated. The characterization of a 500-m zone of influence is misleading. To our knowledge, only one study (Pearce-Higgens 2010) has shown disturbance effects of wind turbines on birds to a distance of 500 meters and that study was completed in an open upland landscape in the United Kingdom. Because no data are currently available from existing wind projects located in forested landscapes which measured disturbance effects, it is not possible to quantify distance of disturbance or determine which species may be affected by wind turbines within this landscape type at this time. However, it is debatable as to whether disturbance may be more or less possible in forested landscape compared with grassland or open landscapes – all known published studies of the effects of wind turbine related disturbance on birds in North America have been completed in grasslands.

89. What will be the impact of low frequency noise generated by the turbines on wildlife using the site and adjacent areas?

A89. No noise analysis has been conducted concerning noise impacts to wildlife.

90. Does any portion of the area proposed to be disturbed drain to Beckley Bog and Beckley Pond.

A90. No. The project area drains to the south towards the Mad River.

91. Please provide an analysis of the functions and values for Wetland 1 as a whole?

A91. The wetland evaluation was conducted to determine the functions and values of Wetland 1 in proximity to the location of the proposed wetland crossing in order to promote a wetland mitigation strategy that would adequately replace wetland functions and values lost as a result of filling at this location.

92. Please explain the assessment of the upper portion of Wetland 1 as not providing flood flow alteration functions at the principal or secondary level, in light of the well-documented significant influence of headwater wetlands on downstream hydrology.

A92. As noted on page 19 of Exhibit I, Wetland Evaluation section, wetland functions and values (with the exception of Wildlife Habitat, Uniqueness/Heritage and Visual Quality/Aesthetics) were evaluated at the portion of Wetland 1 that would be subject to direct impacts only. The portion of Wetland 1 that would be subject to direct impacts is limited in its opportunity to provide flood flow alteration at a principal or secondary level due to the lack of impervious cover and development in proximity. It is limited in its effectiveness to provide this function by its lack of a watercourse feature, slight gradient, lack of depth and narrow configuration.

93. Given the gently sloping to level terrain, headwater position, permanently ponded area, please explain VHB's position (Exhibit I, p.21) that Wetland 1 does not provide principal or secondary level functions for groundwater recharge or discharge?

A93. As noted on page 19 of Exhibit I, Wetland Evaluation section, wetland functions and values (with the exception of Wildlife Habitat, Uniqueness/Heritage and Visual Quality/Aesthetics) were evaluated at the portion of Wetland 1 that would be subject to direct impacts only. The portion of Wetland 1 that would be subject to direct impacts does not provide groundwater recharge at a principal or secondary level as it is underlain by till which limits infiltration of surface water. It does not provide groundwater discharge at a principal or secondary level as it is not associated with a seepage or significant groundwater discharge area.

94. Please explain the discrepancy between the description of Wetland 1 as having emergent marsh and open water (Exhibit I, p. 7) and the statement that it is not associated with open water and therefore does not provide sediment or shoreline stabilization functions or protect water quality (Exhibit I, p. 21)

A94. As noted on page 19 of Exhibit I, Wetland Evaluation section, wetland functions and values (with the exception of Wildlife Habitat, Uniqueness/Heritage and Visual Quality/Aesthetics) were evaluated at the portion of Wetland 1 that would be subject to direct impacts only. The portion of Wetland 1 that would be subject to direct impacts does not provide sediment or shoreline stabilization functions at a principal or secondary level as it is not associated with open water or a watercourse.

95. Given the presence of streambanks and wet meadows which are suitable for the state-listed species Great St. John's Wort and its known presence in a nearby wetland east of the site, why were no detailed on-site surveys completed for this species?

A95. The perennial watercourse outlets from the beaver pond in close proximity to the southern Property boundary and, as such, little if any of this watercourse actually exists on the Property. In addition, this area will not be subject to disturbance as a result of the Project. There are no wet meadows on the Property. As such, the preferred habitat of Great St. John's Wort does not exist on the Property. The CTDEP concurred with this finding as detailed in a letter dated January 13, 2011, attached as Exhibit 4.

96. Why are several species identified in the DeGraff and Yamasaki matrices as utilizing the three habitat types used by VHB in their analysis, not reported in Table 1 (Exhibit I)?

A96. Additional information is required on the specific species in question to thoroughly answer this question. However, generally speaking, while many species are identified in the DeGraaf and Yamasaki matrices as using the habitat cover types we used in our analysis, range maps included in the species accounts located in the front of *New England Wildlife* indicate that some of these species do not occur in Connecticut or in the northwest region of the state. In some cases, specific habitat features required by some species are not believed to occur on the Property, even though the general cover type used by that species may occur. Several species were not originally included in Table 1 because they were identified as requiring loose soil as a special habitat feature, and several of the soil units mapped on the Property contain compacted soil and bedrock within two feet. Based on further consideration of the soil composition and the species habitat requirements, seven small mammal species (shrews, moles, voles, and mice) have been incorporated in Table 1A below. In addition, bobcat (*Lynx rufus*) has been added to Table 1A due to documented sightings in northwest Connecticut and the size of the species' home range (eight to 12 square miles), which could allow an individual to include the Property within its territory. Several amphibians and reptiles were eliminated from Table 1 based on the high elevation of the Property. Klemens (1993) identified elevation as a key factor in the distribution of amphibians and reptiles in Connecticut. BNE has retained the services of Michael W. Klemens, PhD to evaluate potential herpetofauna on the Property.

Table 1A: Additional Mammals Anticipated To Use the Property

Common Name	Scientific Name	Habitat Type on the Property			Special Habitat features
MAMMALS					
Northern Water Shrew	*Sorex palustris*	Forest		Pond	Herbaceous cover, cold-water wetlands.
Hairy-tailed Mole	*Parascalops breweri*	Forest	Meadow		Loose, moist, well-drained soil.
Eastern Mole	*Scalopus aquaticus*		Meadow		Soft, moist soils containing earthworms.
Star-nosed Mole	*Condylura cristata*	Forest		Pond	Wet muck, humus.
Meadow Vole	*Microtus pennsylvanicus*	Forest	Meadow		Herbaceous vegetation; loose soils.
Meadow Jumping Mouse	*Zapus hudsconicus*	Forest	Meadow		Open wooded stands; herbaceous ground cover; loose soils. Hibernates in winter.
Woodland Jumping Mouse	*Napaeozapus insignis*	Forest			Moist cool woodlands; loose soils, herbaceous ground cover. Hibernates in winter.
Bobcat	*Lynx rufus*	Forest	Meadow		Dense woody understory; rock ledges and talus; successional habitats with abundant prey base (e.g. lagomorphs).

97. Please explain the discrepancy between the Habitat Type Map (Exhibit I, Figure 2), which maps a significant area of scrub-shrub emergent wetland and the wildlife evaluation, which considered this entire area to be a pond.

A97. The Habitat Type Map, which was created through interpretation of 2004 Connecticut DOT aerial photographs in conjunction with field truthing, over represented the scrub-shrub/emergent wetland area. The depiction within the wildlife evaluation as a pond is more accurate.

98. How would the inclusion of this habitat type have changed the results reported in VHB's Table 1 (Exhibit I)?

A98. The area in question contains a narrow fringe of scrub-shrub habitat bordering an open water pond that is greater than six acres. In terms of size, the area dominated by scrub-shrub is a minor habitat component. This area will be evaluated by Michael W. Klemens, PhD for the presence of herpetofauna that may utilize this habitat type.

99. Please explain the discrepancy between the Habitat Type Map (Exhibit I, Figure 2), and vegetation assessment (Exhibit I, p.4) which both identify forested wetlands at the site, and the wildlife evaluation, which considered the entire forested area to be northern hardwoods?

A99. Forested wetland is not identified as a separate habitat category in the DeGraaf and Yamasaki matrices. The forest matrix the authors use is broken down into 11 cover types based on dominant tree species or a group of species, such as northern hardwoods. Thus forested wetland is incorporated into the matrix under the heading of the dominant tree species or group, and is not separately identified by water regime. Wildlife species that use forested wetland dominated by northern hardwoods and are considered to occur at high elevations in northwestern Connecticut were included in the evaluation.

100. How would the inclusion of this habitat type have changed the results reported in VHB's Table 1 (Exhibit I)?

A100. See response to Q99.

101. What [sic] many square feet of wetlands or watercourses will be indirectly affected?

A101. If wetland or watercourse impacts could be quantified by square footage they would not be considered indirect impacts.

102. How were the wetland flags placed in the field by VHB located and transferred to the plans (Exhibit F)? What is the level of accuracy?

A102. Wetland boundary flag locations have been located in the field using a GPS receiver utilizing available real-time Satellite-Based Augmentation System (WAAS) corrections. Resulting positions have been post-processed against a nearest Continuously Operating Reference Station (CORS) tied to the National Spatial Reference System (NSRS). Resulting positions have been post-processed using generally accepted survey adjustment methods with an ultimate expected horizontal accuracy of less than one meter. The wetlands flags in the immediate vicinity of the wetlands crossing were field located by Riordan Surveying using an electronic theodolite. The survey field control utilized was the same control utilized in completing the A-2 property line survey. The area encompassed for this extended from the northerly property line southerly for 275'. The horizontal accuracy of these measurements is within one inch.

103. Do all of the plans conform to A-2 and T-2 standards (Exhibit F)? If not, which ones do not?

A103. All of the plans that comprise Exhibit F do not conform to A-2 and T-2 standards. The plans in Exhibit F are for review by the Connecticut Siting Council and not for construction. Final construction documents will meet A-2 and T-2 standards.

104. How will the slash and stumps from clearing 11+ acres of trees be handled? Will stumps be buried on-site? If chipped, where is the stockpile area and how much volume will be generated?

A104. Harvested trees will be utilized as log length firewood and hauled off-site. Tree tops and woody debris (excluding stumps) not suitable for firewood will be chipped. Wood chips will be trucked off-site or utilized on-site for erosion control. Stumps will be loaded into a dumpster and trucked to a State Registered DEP-Approved Wood Recycling Facility.

105. Where is the dewatering wastewater treatment detail?

A105. The site plans included in Exhibit F of the petition and revised site plans attached to the pre-filed testimony of Melvin Cline are for review by the Connecticut Siting Council and not for construction. Dewatering wastewater treatment details have not been fully developed. As construction drawings are completed, dewatering details will be developed in accordance with Section 5-13-1 of the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

106. Where are the soil stockpile areas for all three turbines/blade assembly/crane assembly areas and the access road construction?

A106. The stockpile area(s) are shown on the revised site plans submitted with the pre-filed testimony of Melvin Cline.

107. How much earthwork (total volume of cut and fill) is required to execute the plans?

A107. Total volume cut is approximately 31,435 cubic feet and the approximate total volume of fill is 25,985 cubic feet.

108. Is the total earthwork balanced, or will there be a net import or export of earth materials?

A108. Total earthwork for the project is not balanced. There will be an excess of cut material estimated at 5470 cubic yards that will be spread on-site post construction.

109. How much specialized earth material (bank-run gravel, process gravel, rip-rap, etc.) will be required, in terms of yardage and truck trips?

A109. It is estimated that 74,923 cubic yards of rip rap requiring 139 truck loads and 156,000 cubic yards of process gravel will be needed requiring approximately 290 truck loads.

110. What is the total volume of topsoil proposed to be stockpiled for use in site restoration? Where will it be stockpiled? Will any be exported from the site?

A110. The excess cut material (topsoil) from the Project will be utilized in site restoration. Any remaining excess material will be spread on site.

111. Why is no grading shown for the entire downslope blade at each assembly area?

A111. The construction method to be used will allow those downslope blades to hang off the slope. At Turbine 1 and Turbine 2 those blades extend over temporary sediment traps. At Turbine 3 the downslope blade will require some grading as indicated on the revised site plans attached to the pre-filed Testimony of Melvin Cline.

112. What is the distance between the limit of grading for the tower laydown area for the southern turbine and the nearest property line? If the 1:1 cut and fill slopes upgradient of this area are ultimately determined not to be feasible, will off-site grading be required? If so, have grading rights been obtained? If they are not available, how will this affect the plans?

A112. The tower laydown area has been relocated to the north. The distance to the nearest property line and the tower laydown area is approximately 101 ft. In addition, the grading slope has been softened to 2:1 as indicated on the revised site plans attached to the pre-filed testimony of Melvin Cline. Off-site grading will not be required.

113. Please explain the conflict between the temporary seeding proposed to stabilize these side slopes and the limitation of vegetative stabilization.

A113. Side slopes have been softened to 2:1. Temporary seeding and vegetative stabilization will be in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

114. Please explain the conflict between Construction Schedule Note 9 on Sheet C-200 (exhibit F) and the grading shown for each of the tower and blade assembly areas, and the road side slopes.

A114. The grading slopes have been softened to 2:1 as indicated on the revised site plans attached to the pre-filed testimony of Melvin Cline in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

115. Where are the discharge points from the temporary diversions shown on Sheet C-201 (Exhibit F), what is the drainage area for each of the discharge points and what measures will be used for sediment control and stabilization at these outlets?

A115. The erosion control measures have been revised due to relocation and narrowing of the crane road, and temporary laydown and assembly areas. See Sheet C-201 of the revised site plans attached to the pre-filed testimony of Melvin Cline. Drainage areas can be found in the revised Storm Water Management Plan with SWPPP in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

116. Please explain the discrepancy between the use of 1:1 slopes and the specified erosion control and stabilization measure of temporary seeding on Sheets C-201, C-202, and C-203 (Exhibit F).

A116. The grading slopes have been softened to 2:1 as indicated on the revised site plans attached to the pre-filed testimony of Melvin Cline in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

117. What is the drainage area that discharges to the culvert at Sta. 15 + 50, Sheet C-202 (Exhibit F)? How will sediment be removed and how will the downslope blade assembly area be protected from erosion?

A117. The erosion control measures have been revised due to relocation and narrowing of the crane road, and temporary laydown and assembly areas as shown on the revised site plans attached to the pre-filed testimony of Melvin Cline. Drainage areas can be found in the revised Storm Water Management Plan with SWPPP and are in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

118. What is the drainage area flowing to the temporary diversion downslope of the culvert @ Sta 15 + 50 on Sheet C- 202 (Exhibit F), including the area that drains to the culvert?

A118. The erosion control measures have been revised due to relocation and narrowing of the crane road, and temporary laydown and assembly areas as shown on the revised site plans attached to the pre-filed testimony of Melvin Cline. Drainage areas can be found in the revised Storm Water Management Plan with SWPPP and are in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

119. Please explain the discrepancy between the design of the silt fences around all of the blade laydown/assembly areas and the requirements of the CT Erosion and Sediment Control Manual.

A119. BNE objects to this interrogatory because it is vague and ambiguous.

120. How will run-on from upslope areas, groundwater seepage and slumping be controlled on the cut slopes above the blade laydown and tower laydown areas on Sheets C-202 and 203 (Exhibit F)? If it is to be intercepted and diverted, where are those facilities on the plan, where will the discharge points be, what is the total area that drains to each of the discharge points, how will they be stabilized, what erosion control measures will be required, and how will the grading accommodate these features?

A120. The erosion control measures have been revised due to relocation and narrowing of the crane road, and temporary laydown and assembly areas as shown on the revised site plans attached to the pre-filed testimony of Melvin Cline. Drainage areas can be found in the revised Storm Water Management Plan with SWPPP and are in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

121. How will the discharge from the temporary diversion ditch be conveyed down the slope @ Station 1+ 75 of the access road, to the roadside ditch?

A121. BNE objects to this question. There is no temporary diversion ditch at station 1+75 of the access road.

122. Why doesn't the erosion control barrier downslope of the access road Station 1+00 and 5+00 conform to the requirements of the Erosion Control Manual?

A122. BNE objects to this interrogatory because it is vague and ambiguous.

123. Why doesn't the stabilization of the slopes for the Tower assembly area on Sheet C-201 (Exhibit F) conform to the requirements of the Erosion Control Manual.

A123. BNE objects to this interrogatory because it is vague and ambiguous. Subject to this objection and without waiving the same, BNE responds as follows: the erosion control measures have been revised due to relocation and narrowing of the crane road, and temporary laydown and assembly areas as shown on the revised site plans attached to the pre-filed testimony of Melvin Cline. Drainage areas can be found in the revised Storm Water Management Plan with SWPPP and are in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

124. Why is no grading shown for southwestern leg of the blade assembly area on Sheet C-201 (Exhibit F)? Why doesn't this grading conform to the requirement that the blade assembly area be graded flat to within 6" shown on the plans? If the blade is allowed to "hang over", what supports will be needed and how will they be constructed, given the 18' grade differential?

A124. The areas for the down slope blade did not require grading. The construction method to be used will allow those blades to hang off the slope. The intent was to trim or remove trees as necessary to permit the blade to "hang over" and be lifted into place. Soil disturbance in that area would not have been required. The area underneath the blade has been revised to include a temporary sediment trap during construction and converted to a bioretention pond. The blade will be held in place by a crane while being attached to the hub.

125. Please provide site plans (including grading, erosion control, access, utilities, sanitary facilities) for the support building. How much site disturbance will be required to make this facility operational? Was this included in the area of disturbance calculations? If yes, please show where these facilities will be located.

A125. Site plans for the proposed support building have not been fully developed. The estimated site disturbance for the proposed building area was included in the disturbance calculations. Proposed location can be found on the revised site plans attached to the pre-filed testimony of Melvin Cline.

126. Please explain the discrepancy between the proposed grading for the blade assembly areas, crane assembly area, crane pads, and tower assembly areas, the Erosion control plan notes, which do not permit slopes steeper than 2:1 without a plan designed and sealed by a geo-technical engineer, and the CT Sediment and Erosion Control Manual?

A126. The 1:1 slopes would have been designed and sealed by a geotechnical engineer. The grading slopes have now been softened to 2:1 as indicated on the revised site plans attached to the pre-filed testimony of Melvin Cline in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

127. How will the side slopes and bottom of the temporary roadside ditches be stabilized? What runoff velocities will occur for the 10 yr through 100 year storms and how will the ditch bottom and sides be stabilized? Please provide calculations showing that the ditches will be stable and have adequate capacity to pass the design storm.

A127. Revised site plans have been attached to the pre-filed testimony of Melvin Cline All permanent diversions (swales) will be lined with standard riprap in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. The permanent diversions have been designed to handle the 10 year design storm as required. The supporting calculations have been included in the SWMP with SWPPP.

128. What measures are included in the design to control seepage and stabilize cut slopes in areas with a hardpan, or where seasonal high groundwater is likely to be encountered?

A128. The revised plans submitted with the pre-filed testimony of Melvin Cline are for review by the Connecticut Siting Council and not for construction. Final construction drawings to be filed during the anticipated development and management phase of this proceeding will include geotechnical analyses to provide design criteria for seepage and seasonal high groundwater issues.

129. Why is there a discrepancy between the Erosion Control narrative and the plans with respect to stabilization of slopes steeper than 2:1?

A129. BNE objects to this interrogatory because it is vague and ambiguous. Subject to this objection and without waiving the same, BNE responds as follows: the erosion control measures have been revised due to relocation and narrowing of the crane road, and temporary laydown and assembly areas as shown on the revised site plans attached to the pre-filed testimony of Melvin Cline. Drainage areas can be found in the revised Storm Water Management Plan with SWPPP and are in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

130. Please explain the discrepancy between grading shown west of the access road in the vicinity of Stations 8 and 9 and the CT Erosion and Sediment Control requirements for slope angle, height, and stabilization method?

A130. The grading slopes have been softened to 2:1 as indicated on the revised site plans attached to the pre-filed testimony of Melvin Cline in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

131. Why is the widest point of the permanent access road located at the wetland crossing?

A131. During construction, the crane road at the wetland crossing was 35 feet wide to accommodate the crane and was proposed to be reduced to 15 feet wide post-construction. Per the revised site plans attached to the pre-filed testimony of Melvin Cline, the crane road will be constructed and remain at a width of 20 feet at the wetland crossing.

132. If additional topsoil is required in the wetland restoration area (per note 3, Sheet C-312 of Exhibit F), what effect will that have on wetland hydrology?

A132. We do not currently anticipate additional topsoil to be needed in the wetland restoration area.

133. How will the success of the proposed restoration and enhancement areas be monitored and what plans are in effect to address any remedial measures that may be required? What will the success standards be for the restoration?

A133. Monitoring of the Upland Meadow Creation and Restoration Areas will be conducted by a qualified third party inspector as follows: these areas will be monitored for the first two growing seasons following their construction. Monitoring reports will be submitted to the Connecticut Siting Council no later than December 15th of each year. The reports will provide details on the three success standards described below and recommended corrective measures if necessary. The first year of monitoring will be the first year that the site has been through a full growing season after completion of construction and planting. For monitoring purposes, a growing season starts no later than May 31.

The Restoration Areas will be assessed using three success standards. Each standard is described below. Success Standard 1: At least 75% of the surface area of the Restoration Areas should be reestablished with indigenous species within two growing seasons. Success Standard 2: Vegetation should be checked to ensure that no invasive species colonize in the Restoration Areas. Success Standard 3: Slopes within and adjacent to the Restoration Areas are stabilized.

134. What financial assurances will be put in place to ensure that the proper erosion controls are installed and maintained, and that the site is restored as shown? If you propose bonding or other surety, what is the amount you propose?

A134. BNE does not believe that any soil erosion control bonds are necessary, nor does the Council require such assurances as part of their approval process. However, should the Council deem such controls necessary, BNE will comply with such orders.

135. Why is no mulching or erosion control blankets proposed to protect the newly seeded areas to be restored from erosion until a stabilizing cover can be developed?

A135. Page 5-3-3 of the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control was inadvertently omitted in the temporary seeding details on sheet C-501. It is included in the revised site plans attached to the pre-filed testimony of Melvin Cline.

136. Please provide calculations showing that the proposed wetland crossing detail on Sheet 503 (Exhibit F) is adequate to support the proposed loads required to deliver and assemble the turbine.

A136. The wetland crossing was designed to meet the requirements of specifications for the GE 1.6 MW turbine. Final calculations will be provided during the anticipated development and management phase of this proceeding following final locational approval and geotechnical analysis of the Site.

137. Please provide a plan and cross-sectional detail of the underground utility trench.

A137. Plans have not been developed for underground utility trenching pending the finalization of the interconnection agreement with CL&P. Such plans will be filed during the anticipated development and management phase of this proceeding.

138. How much area will be cleared for the overhead electrical connection to Flag Hill Road? Was this included in the disturbed area calculations?

A138. Finalization of the interconnection agreement with CL&P is pending. Clearing requirements along Flagg Hill Road can not be determined at this time. Such plans will be filed during the anticipated development and management phase of this proceeding.

139. How much clearing will be required along Flag Hill Road to Rte. 44? Was this included in the disturbed area calculations?

A139. Finalization of the interconnection agreement with CL&P is pending. Clearing requirements along Flagg Hill Road can not be determined at this time. Such plans will be filed during the anticipated development and management phase of this proceeding.

140. Please provide calculations demonstrating the adequacy of the proposed temporary sediment basins.

A140. Revised site plans and SWMP and E&SC Plans have been attached to the pre-filed testimony of Melvin Cline. Calculations demonstrating the adequacy of the proposed sedimentation features can be located in the E&SC Plan.

141. Please provide calculations showing the adequacy of the soil stockpile area to accommodate the required soil volume.

A141. The proposed site for the soil stockpile area is provided on the revised site plans attached to the pre-filed testimony of Melvin Cline.

142. Can you direct us to the detail for sediment control for dewatering wastewaters?

A142. The plans are provided for review by the Connecticut Siting Council and not for construction. Dewatering wastewater treatment details have not been fully developed. As construction drawings are competed, dewatering details will be developed in accordance with Section 5-13-1 of the Connecticut Guidelines for Soil Erosion and Sediment Control. Such plans will be filed during the anticipated development and management phase of this proceeding.

143. Do you have a permit under the Inland Wetlands and Watercourse Act CGS §§22a-36 to 22a-45(a) for Wind Colebrook South?

A143. The Siting Council has exclusive jurisdiction over the approval of the proposed project, including all issues relating to the Inland Wetlands and Watercourses Act permitting requirements. See Conn. Gen. Stat. § 16-50g *et seq*.

144. If the answer to the previous question is: no, do you intend to apply for one? If not, why not? If so from which authority?

A144. See response to Q143.

145. If you intend to apply, when do you intend to do so?

A145. See response to Q143.

146. If you have already received and Inland Wetlands and Watercourse Permit, please attach a copy of the permit.

A146. See response to Q143.

BNE ENERGY INC.

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Certification

This is to certify that a copy of the foregoing has been mailed this date to all parties and intervenors of record.

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ACTIVE/72955.2/CLARSON/2405532v2

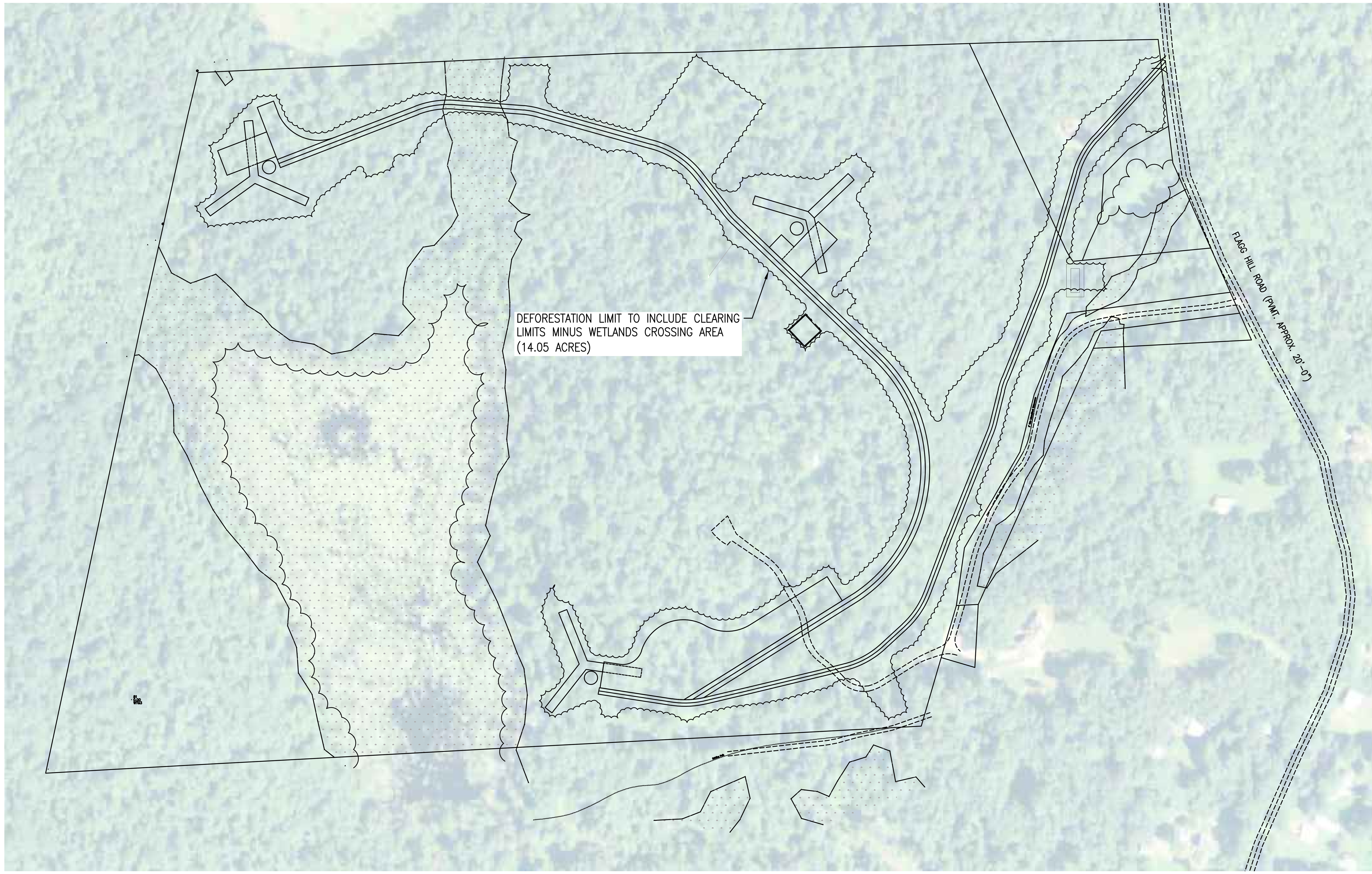
EXHIBIT 1

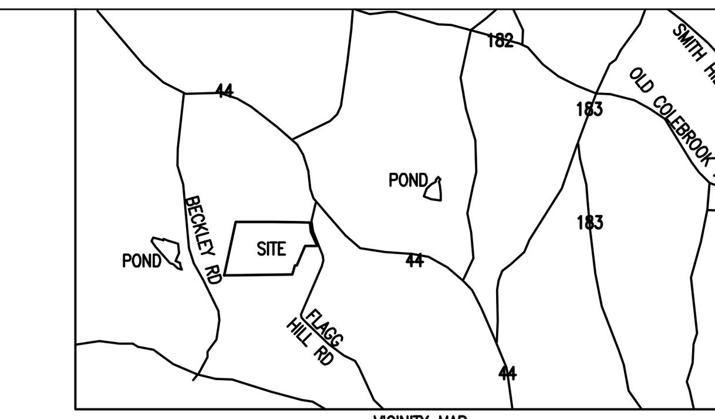
Parcels Within 0.5-Mile of Northeastern Turbine			
Parcel ID	***Owner Name***	***Site Address***	***Town***
4-10-7		59 Tim O'Connor Road	Norfolk
4-10-8		111 Beckley Road	Norfolk
4-08-6		Beckley Road	Norfolk
4-08-7		Beckley Road	Norfolk
1-2		45 Flagg Hill Rd	Colebrook
1-18	William J & Jullian Zampaglione	36 Flagg Hill Road	Colebrook
1-17	David R Lawrence	30 Flagg Hill Road	Colebrook
1-19	Scott Zbell & Alana Stickney	40 Flagg Hill Road	Colebrook
1-15	Bank of America NA	8 Flagg Hill Road	Colebrook
1-14		State of CT	Colebrook
1-11	State of CT	Winsted-Norfolk Road	Colebrook
1-11	Steven J. Mangione	Winsted-Norfolk Road	Colebrook
1-16	Eva Marie Villanova	28 Flagg Hill Road	Colebrook
1-21	Richard T Munzner	44 Flagg Hill Road	Colebrook
1-20	Charles & Margaret Markey	42 Flagg Hill Road	Colebrook
7-12	William A & Muriel T Meeker	32 Greenwoods Turnpike	Colebrook
1-7		Northwestern CT Sportsmen Club	Colebrook
1-3	Valerie Krasko	43 Flagg Hill Road	Colebrook
1-1	Osmund W Leviness Jr & Gilda N Leviness	47 Flagg Hill Road	Colebrook
1-4	Robin L Dziedzic	29A Flagg Hill Road	Colebrook
1-22	Todd H & Alyssa R Correll	48 Flagg Hill Road	Colebrook
1-9	San Gaspo LLC	114 Winsted-Norfolk Road	Colebrook
1-8	James & Ernestine Narducci	120 Winsted-Norfolk Road	Colebrook
1-10	Michael D. & Joann L Garfield	110 Winsted-Norfolk Road	Colebrook
1-11	State of CT	Winsted-Norfolk Road	Colebrook
1-5	Carole Marchetti	33 Flagg Hill Road	Colebrook
7-2	Northwestern CT Sportsmans	177 Winsted-Norfolk Road	Colebrook
1-11	Rock Hall Associates LLC	Winsted-Norfolk Road	Colebrook
7-7	Julianne & Jeffery Lepkowick	150 Winsted-Norfolk Road	Colebrook
7-8	Gregg & Laura R. Gangi	4 Greenwoods Turnpike	Colebrook
7-10	Kristin & Benjamin Mow	12A Greenwoods Turnpike	Colebrook
7-9	Kevin B Carey	10 Greenwoods Turnpike	Colebrook
7-11	Walter M Zima Jr	12B Greenwoods Turnpike	Colebrook
7-15	Mark H & Kasey Greenier	1 Greenwoods Turnpike	Colebrook
7-14	William A & Muriel T Meeker	17 Greenwoods Turnpike	Colebrook
7-13	Peter S Giansiracusa	25 Greenwoods Turnpike	Colebrook
001/155/019C	CROSSMAN PATRICK F & ELIZABETH D	Skinner Road	Winchester
002/155/019	GRANT SWAMP GROUP	246 Danbury Qtr. Road	Winchester

Parcels Within 0.5-Mile of Northwestern Turbine			
Parcel ID	***Owner Name***	***Site Address***	***Town***
4-10-7		59 Time O'Connor Road	Norfolk
4-10-8		111 Beckley Road	Norfolk
4-08-2		Beckley Road	Norfolk
4-08-6		Beckley Road	Norfolk
4-08-7		Beckley Road	Norfolk
4-08-8		319 Beckley Road	Norfolk
1-2		45 Flagg Hill Road	Colebrook
1-17	David R Lawrence	30 Flagg Hill Road	Colebrook
1-15	Bank of America NA	8 Flagg Hill Road	Colebrook
1-14		State of CT	Colebrook
1-16	Eva Marie Villanova	28 Flagg Hill Road	Colebrook
1-7		Northwestern CT Sportsmen Club	Colebrook
1-3	Valerie Krasko	43 Flagg Hill Road	Colebrook
1-1	Osmund W Leviness Jr & Gilda N Leviness	47 Flagg Hill Road	Colebrook
1-4	Robin L Dziedzic	29A Flagg Hill Road	Colebrook
1-9	San Gaspo LLC	114 Winsted-Norfolk Road	Colebrook
1-8	James & Ernestine Narducci	120 Winsted-Norfolk Road	Colebrook
1-5	Carole Marchetti	33 Flagg Hill Road	Colebrook
7-2	Northwestern CT Sportsmans	177 Winsted-Norfolk Road	Colebrook
7-14	William A & Muriel T Meeker	17 Greenwoods Turnpike	Colebrook
001/155/019C	CROSSMAN PATRICK F & ELIZABETH D	Skinner Road	Winchester
002/155/019	GRANT SWAMP GROUP	246 Danbury Qtr. Road	Winchester

Parcels Within 0.5-Mile of Southern Turbine			
Parcel ID	***Owner Name***	***Site Address***	***Town***
4-10-8		111 Beckley Road	Norfolk
4-08-6		Beckley Road	Norfolk
4-08-7		Beckley Road	Norfolk
4-08-8		319 Beckley Road	Norfolk
4-06-10		Grantville Road	Norfolk
1-2		45 Flagg Hill Road	Colebrook
1-18	William J & Jullian Zampaglione	36 Flagg Hill Road	Colebrook
1-17	David R Lawrence	30 Flagg Hill Road	Colebrook
1-19	Scott Zbell & Alana Stickney	40 Flagg Hill Road	Colebrook
1-15	Bank of America NA	8 Flagg Hill Road	Colebrook
1-14		State of CT	Colebrook
1-11	Steven J. Mangione	Winsted-Norfolk Road	Colebrook
1-16	Eva Marie Villanova	28 Flagg Hill Road	Colebrook
1-21	Richard T Munzner	44 Flagg Hill Road	Colebrook
1-20	Charles & Margaret Markey	42 Flagg Hill Road	Colebrook
1-7		Northwestern CT Sportsmen Club	Colebrook
1-3	Valerie Krasko	43 Flagg Hill Road	Colebrook
1-1	Osmund W Leviness Jr & Gilda N Leviness	47 Flagg Hill Road	Colebrook
1-4	Robin L Dziedzic	29A Flagg Hill Road	Colebrook
1-22	Todd H & Alyssa R Correll	48 Flagg Hill Road	Colebrook
1-5	Carole Marchetti	33 Flagg Hill Road	Colebrook
001/155/019C	CROSSMAN PATRICK F & ELIZABETH D	Skinner Road	Winchester
002/155/019	GRANT SWAMP GROUP	246 Danbury Qtr. Road	Winchester
007/155/019		Grant Station Road	Winchester
008/155/017		Skinner Road	Winchester

EXHIBIT 2





LEGEND

- DITCH LINE
- PROJECT BOUNDARY LINE
- EXISTING VEGETATION
- WETLAND LIMITS
- WETLANDS
- GRAVEL

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
2	INCORPORATED REQUESTED REVISIONS	03-14-11	MLC
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-19-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS		DATE: 03-14-11
DWN BY: RSW	CKD BY: TLK	
SUBMITTED BY: BNE ENERGY		
PLOT SCALE: AS SHOWN	PLOT DATE: 03-14-11	FILE NUMBER: 1355
SIZE: ANSI D	FILE NAME: W:\Projects\BNE Energy Inc\Data\CAD\1355-010 Colebrook South\Misc interrogatory drawings\Clearing and deforestation drawing.dwg	

ZAPATA TRUST · INTEGRITY · QUALITY
6302 FAIRVIEW ROAD #600 CHARLOTTE, NC 28210 ZAPATA@ZAPATAINC.COM
PHONE: (704) 358-8240 FAX: (704) 358-8342 WWW.ZAPATAINC.COM

WIND COLEBROOK SOUTH
CONNECTICUT

DEFORESTED AREA PLAN WITH AERIAL IMAGERY

SHEET IDENTIFICATION

0 150 300

EXHIBIT 3

Jeff Gruver, *Research Biologist*

PROFESSIONAL EXPERIENCE

2007-Present	*Research Biologist,* Western EcoSystems Technology, Inc., Laramie, Wyoming
2004-2007	*Research & Graduate Teaching Assistant,* University of Calgary, Canada
2002-2003	*Research Zoologist,* Wyoming Natural Diversity Database, Laramie, Wyoming
2000-2001	*Graduate Teaching Assistant,* University of Wyoming, Laramie, Wyoming
2000-2002	*Graduate Research Assistant,* University of Wyoming, Laramie, Wyoming
1999-2000	*Research Technician,* Western EcoSystems Technology, Inc., Laramie, Wyoming
1998	*Wildlife Biologist,* Weyerhaeuser Company, Springfield Oregon

EDUCATION

M.S.
University of Wyoming
Laramie, Wyoming
2002
Zoology and Physiology

Non-Degree
Oregon State University
Eugene, Oregon
1998
Wildlife Science

B.S.
The Pennsylvania State University
1993
Economics

SCIENTIFIC ORGANIZATION MEMBERSHIPS

The Wildlife Society

North American Symposium on Bat Research

SPECIALTY AREAS

Wind Power Studies: Design and implementation of studies to assess impacts of wind power development on bats and bat populations. Studies included use of acoustic detection and interpretation of echolocation data to assess relative risk to bats, meta-analysis of acoustic study results from broad spatial and temporal perspectives, exploration of quantitative methods for assessing species presence and relative abundance based on acoustics.

Habitat Conservation Planning: Attended Habitat Conservation Planning for Endangered Species Training (June 2010) at the USFWS National Conservation Training Center, Shepherdstown, WV.

Bat Ecology, Physiology and Conservation: Over 14 years experience studying bats in forested and non-forested habitats, primarily using radio-telemetry to investigate habitat relationships. Investigation of physiological and ecological responses of bats to environmental conditions.

SELECTED PROFESSIONAL PUBLICATIONS

Barclay, R.M.R., E.F. Baerwald, and **J.C. Gruver**. 2007. Variation in bat and bird fatalities at wind energy facilities: assessing the effects of rotor size and tower height. Canadian Journal of Zoology 85: 381-387.

Gruver, J.C. and D.A. Keinath (2006, October 25). Townsend's Big-eared Bat (*Corynorhinus townsendii*): a technical conservation assessment. USDA Forest Service, Rocky Mountain Region. Available: http://www.fs.fed.us/r2/projects/scp/assessments/townsendsbigearedbat.pdf

Seville, R.S. and **J.C. Gruver**. 2004. Species of Eimeria (Apicomplexa: Eimeriidae) from bats (Chiroptera: Vespertilionidae) in central Wyoming. Journal of Parasitology 90(2):348-351.

Hayes, J.P., and **J.C. Gruver**. 2000. Vertical stratification of activity of bats in an old-growth forest in western Washington. Northwest Science. 74(2):102-108.

EXHIBIT 4

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Natural Resources
Inland Fisheries
Natural Diversity Data Base
79 Elm Street, 6th Floor
Hartford, CT 06106-5127

January 13, 2011

Matthew Davison
Vanasse Hangen Brustlin, Inc.
54 Tuttle Place
Middletown, CT 06457

Subject: Colebrook, CT:
Wind Colebrook South

Dear Mr. Davison,

I have reviewed the detailed site plan you provided for the Wind Colebrook South and have determined that the proposed actions will not negatively affect the Great St. John's-wort (*Hypericum ascyron*). As always, erosion and siltation control mechanisms should be utilized to prevent negative impacts to the wetland/riverine habitat. If the proposed project has not been initiated within 12 months of this review, contact the NDDB for an updated review.

Natural Diversity Data Base information includes all information regarding critical biologic resources available to us at the time of the request. This information is a compilation of data collected over the years by the Environmental & Geographic Information Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions (nancy.murray@po.state.ct.us; 860-424-3589). Thank you for consulting the Natural Diversity Data Base and continuing to work with us to protect State listed species.

Sincerely

Nancy M. Murray
Biologist, NDDB Program Coordinator

RECEIVED
JAN 17 2011
VANASSE HANGEN BRUSTLIN, INC.