October 25, 2010

NH Site Evaluation Committee
29 Hazen Drive
PO Box 95
Concord, NH 03302-0095

Reference: Docket 2010-01

Dear Committee Members:

I am writing as Chair of the Hawk Migration Association of North America's Board of Directors to comment on the environmental work done on the Groton wind project. Since my comments are based in large part on HMANA's policy statements, "HMANA Policy on Industrial Wind Turbine Siting and Monitoring" and "Use of Hawkcount. org Data for Wind Power Studies," you might want to review these at http://www.hmana.org/Hawkcount_Wind_Siting.php and at http://www.hmana.org/read_article.php?id=9. The Hawk Migration Association of North America's mission is to conserve raptor populations through the scientific study, enjoyment and appreciation of raptor migration.

The proposed Groton protocols appear inadequate for evaluating the risk posed by industrial wind turbine projects to wildlife resources, especially in light of HMANA's current policy statements. The general deficiencies are outlined below:

- One year of studies is insufficient for pre-construction studies: seasons are extremely variable from year to year and a one-year snapshot is inadequate to determine patterns of migration, species abundance and risk. Three years should be considered the minimum length of time for preconstruction studies to take place.
- Picking 10-20 days during migration time is problematic. The limitation of studies to such a small percentage of the migration period creates too many gaps in observations of what is essentially a 90 day migration. Trying to schedule those 10-20 days for "optimal" conditions allows for the likelihood of undercounting migrating raptors and underestimating risk.
- Monitoring dates, especially in the fall are much too vague, "between September and late October" could mean less than a 30-day sampling period; "some sampling for Golden Eagles" in November is unacceptably vague. Spring sampling dates (late March to the end of May) could miss the bulk of Golden Eagle migration. Golden Eagles are early migrants: their migration could be substantively over by late March.
- The hours of observation also may be inappropriately restrictive. Flights of migrating raptors occur outside the time frame "9:00 a.m. to 5:00 p.m." on significant occasions. Late and early flights can also be more likely to include raptors migrating at elevations putting them most directly at risk from turbine projects. When evaluating risk, raptors should not be observed only when they are most likely to migrate at heights putting them at least risk from industrial turbines.
- The protocols state that HMANA protocols will be followed in preconstruction studies. It is important to understand that HMANA protocols were developed to understand the migration and, if analyzed appropriately, changes in species abundance. To evaluate risk from turbine development, other considerations need to be added to the HMANA protocols. Even so, HMANA protocols would require more than 10 observation days and a sampling period more consistent with the entire migration period not just what someone considers its "peak."

In section 4.1 of the "Groton Bird and Bat Risk Assessment," there is a critical misstatement: "newer facilities have widely spaced turbines, smooth tubular towers, and blades that spin slowly enough to remain visible even at high wind speeds"(p. 39,

second paragraph).” Modern turbines have tip speeds as high as 200 mph. At such speeds, it's generally accepted that the vision of raptors is not fast enough to see them. The false assertion that raptors easily see rotating blades is repeated in the section’s conclusions (p. 46).

Also on page 46, the risk assessment states that "Post-construction studies and other literature on raptor collision mortality in the U.S. (outside of California) have documented very few raptor fatalities,” which is true, but ignores the fact that very few projects have been completed in documented migratory flyways. The Stantec risk assessment goes on to state “that raptors are not vulnerable to impacts associated with collision mortality at modern wind facilities." This generalized assertion flies in the face of the judgment of the National Wind Coordinating Committee (NWCC). The NWCC, a consortium of wind industry representatives, environmental and consumer groups, government agencies and others, has acknowledge that raptors are especially vulnerable to the risks posed by wind turbines: “Compared with other avian species studied to date throughout the United States, some species such as raptors . . . appear to be at higher risk relative to their occurrence of collisions with wind turbines” (Wind Turbine Interactions with Birds and Bats: A Summary of Reserch Results and Remaining Questions: NWCC 2004).

Four well-known examples of the risks posed by turbines to raptors and other birds whose migratory behavior is similar to raptors, especially gold and bald eagles, support the NWCC contention rather than the misleading Stantec assertion: 1) On Smola, Norway, both adult and juvenile White-tailed Eagles have been killed by turbines and have been driven from one of their best nesting areas in the world (White-tailed Eagles are very closely related to American Bald Eagles); 2) In Altamont, California, “repowering” with the new generation wind turbines touted by Stantec has apparently not resulted in a reduction in mortality to Golden Eagles and other raptors; 3) In Tarifa, Spain, significant numbers of Griffon Vultures are killed by modern wind turbines; 4) On nearby Wolfe Island, in the northeast corner of Lake Ontario, after very limited study, it has been documented that Turkey Vultures (whose migratory behavior, as with Griffon Vultures, is similar to that of many raptors) in alarming numbers have been killed by modern wind turbines.

Finally, the conclusion of the risk assessment makes a very strange statement: "Field surveys and literature review did not document anything particular about the project area that would suggest an increased risk to raptors posed by the site, other than the location of the Project within a system of parallel ridges in a region of the country through which large numbers of raptors migrate" (p. 46, 1st sentence, last paragraph).
Location of the project “within a system of parallel ridges in a region of the country through which large numbers of raptors migrate” suggests an increase in risk to raptors posed by the site and the need for much more rigorous pre-construction studies than those conceived by or completed by Stantec.

I hope these comments prove helpful to the site evaluation committee.
Please feel free to contact me if you have any questions.

Sincerely,

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