

MEMORANDUM
BY ELECTRONIC MAIL

To: Wind Turbine Advisory Committee

From: Risk & Uncertainty Subcommittee

Date: July 17, 2008

Re: Update on Risk & Uncertainty Subcommittee Work

In preparation for the third meeting of the Wind Turbine Guidelines Advisory Committee, the Risk & Uncertainty Subcommittee has prepared the following summary of other regulatory models that may provide useful in developing an approach to wind-wildlife interactions.

I. Merits of an Avian Protection Plan for Addressing Wind/Wildlife Interactions

The members of the Federal Advisory Committee may wish to consider the merits of the use of an Avian Protection Plan (APP) as part of a comprehensive framework for national guidelines to minimize wildlife impacts from wind development. An APP could serve as a complementary *or* alternative tool to the development of more traditional, prescriptive “guidelines”, by providing a mechanism by which wind developers can *implement* a specific commitment and plan to address wind/wildlife interactions on an early and ongoing basis. For example, if the FAC develops formal guidelines, the APP could serve as a mechanism to ensure use of the guidelines by a company.

The APP approach is employed successfully today by the electric utility industry and the USFWS to reduce avian electrocution and collision mortality associated with power lines. In 1989, the utility industry and the Service engaged in cooperative development of guidelines for Avian Protection Plans. The principles and voluntary guidelines are intended to allow electric utilities to tailor an APP that will best fit their needs while furthering the conservation of avian species and improving reliability and customer service. A utility that implements the principles contained in the APP guidelines greatly reduces avian risk as well its risk of enforcement under the Migratory Bird Treaty Act.

In the power line context, an APP provides a framework for implementing a utility program to reduce avian mortalities and document utility actions. It may include the following elements: corporate policy, training, permit compliance, construction design standards, nest management, avian reporting system, risk assessment methodology, mortality reduction measures, avian enhancement options, quality control, and public awareness.

In the context of wind development, a project developer could create an APP that incorporates certain guiding principles (developed by the FAC) and includes a commitment to implement the

applicable federal and state formal guidelines to address project-specific avian issues. Based on implementation of the APP, the developer would then receive the benefit of assurances regarding regulatory compliance.

Preliminary Thoughts: Avian Protection Plan in the Context of the Wind Industry

A wind industry Avian Protection Plan would be a company-specific or project-specific document that delineates a program designed to reduce the risks that result from avian interactions with proposed and existing wind facilities. Although each company or project's APP will be different, the overall goal of any APP should be to reduce avian mortality. The FAC would develop a guidance document that establishes guiding principles to aid developers in their development of an APP. Although not all of the recommended elements would need to be included in every APP because of the specific circumstances of a project or geographical area, the recommended APP guidelines would represent an overview of elements that should be considered for inclusion in an APP and that developers may find helpful in crafting their own, individually-tailored APPs.

As an industry incentive, a wind company that implements the principles contained in APP guidelines could be provided some assurances by the USFWS to reduce the risk of enforcement under the MBTA. For example, based on approval of an APP, the USFWS might consider agreeing not to pursue liability due to incidental takings under the MBTA as a result of wind energy development and operations *provided* that (1) the taking is not malicious, (2) the company remains in compliance with the APP and (3) the company has demonstrated good faith efforts to avoid and minimize potential adverse impacts by way of implementing best management practices and Service guidance.

The FAC also could develop suggested best practices for site selection and design of wind facilities to be included in an APP (see #3 below). For example, the electric utility industry has developed *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* for use in association with an APP, see www.aplic.org.

Possible Principles for a Wind Industry Avian Protection Plan

Using the principles from the electric utility industry's APP Guidelines as a starting point, here are several examples of the type of principles that could be established in an APP Guidelines document for the wind industry

1. Corporate Policy

An APP should include a statement of company policy confirming a commitment to work cooperatively towards the protection of birds and bat species. This should include a commitment by the company to balance its goal of producing wind energy generation in a cost-effective manner with state and federal regulatory requirements protecting avian and bat species, as well as the need to obtain and comply with all necessary permits, monitor incidents of avian and bat mortality, and make reasonable efforts to construct and alter infrastructure and project operations to reduce the incidence of avian and bat mortality.

2. Permit Compliance

An APP should identify the process under which the company will obtain and comply with all necessary permits and laws related to avian issues.

3. Site Selection & Design Practices

A company should agree to consider avian interactions in the siting, design and installation of new facilities, as well as in the operation and maintenance of existing facilities. Inclusion of best site selection and design practices for both new and retrofit techniques should be included in an APP. Companies should either rely on [*the best management practices and guidelines developed by the FAC*] or may choose to instead develop their own internal site selection and design standards that meet or exceed these guidelines. The company also should agree to use all reasonable and feasible generally accepted best management practices during construction and operation of the facility.

4. Consultation & Information Sharing

A company should agree to share all relevant information concerning wildlife resources in and around a wind project area and the potential adverse impacts to those resources. Shared information should include publicly available data from monitoring efforts and pre and post-construction study results relative to the project area. In the APP, a company should agree to work cooperatively with the USFWS in the future to avoid and minimize impacts to wildlife resources as new relevant project information becomes available.

5. Avian Reporting System

Although reporting of avian mortalities may be required as a condition of federal or state permits, a company should agree to voluntarily monitor relevant avian interactions, including mortalities, through the development of an internal reporting system. An APP should provide for the development of such a reporting system, which can help a company pinpoint areas of concern by tracking both the specific locations where mortalities may be occurring and the extent of such mortalities. Data collected by company personnel should include avian and bat mortalities or injuries, as well as remedial actions taken. All data should be regularly entered into a searchable database compatible for use in additional analysis.

6. Risk Assessment Methodology

A company should agree to assess risk to birds and bats from development of wind power at all proposed sites in order to avoid, minimize, and mitigate adverse impacts. A company can have the greatest impact on reducing avian mortality by focusing its efforts in a cost-effective manner to avoid locations and areas that pose the greatest risk to migratory birds and bats. Therefore, as a general matter, an APP should include a method for evaluating the risks posed to birds in a manner that identifies areas and issues of particular concern. A risk assessment study should begin with an assessment of available data addressing areas of high avian use, avian mortality, established flyways, adjacent wetlands, prey populations, effectiveness of design standards, and possible remedial actions and other factors that can increase avian interactions with wind facilities. The avian reporting system should be an integral component of this risk assessment. An APP also should provide for the development of models that will enable a company to utilize biological information to assess risk and avoid and minimize avian impacts.

7. Mortality Reduction Measures

After completing a risk assessment, a company should focus its efforts on areas of concern, ensure that development activities are not out of proportion to the risks encountered by birds and bats, and then determine whether an avian mortality reduction plan needs to be implemented for existing projects.

8. Avian Enhancement Options

In addition to taking steps to reduce mortality risk to avian species, an APP also may include opportunities for a company to enhance avian populations or habitat, including managing habitats to benefit migratory birds, or working cooperatively with agencies or organizations in such efforts. Where feasible, such proactive development of new ideas and methods to protect migratory birds should be encouraged and explored.

9. Quality Control & Adaptive Management

An APP should include a mechanism to review existing practices, ensuring quality control and adaptive management. For instance, a company may conduct an independent assessment of its avian reporting system to ensure its effectiveness, or invest in research on the effectiveness of different techniques and technologies used to prevent mortality.

10. Key Resources

An APP should identify key resources to address avian protection issues including, for example, a list of experts who may be called upon to aid in resolving avian issues. These could include consultants, State and Federal resource agencies, universities, or conservation groups. An APP that connects avian experts with company decision-makers may reduce the risk of avian incidents.

Possible Next Steps

- FAC members determine if an APP approach has merit for the wind industry
- Receive briefing on pending APP being developed by Iberdrola and the Service
- Draft comprehensive guiding principles and framework for wind-related APP

II. Clean Water Act Stormwater Program

The EPA's stormwater program has undergone tremendous changes over the years, but in January 2008 the EPA (along with several other state and national partners) issued a document entitled "Managing Wet Weather with Green Infrastructure." This program basically aims to reduce the quantity of stormwater and improve water quality through a series of major areas of focus (research, outreach and communication, CWA regulatory support, economic viability and funding, demonstrations and recognition, partnerships, and promotions). Basically the concept is to promote an environmentally preferable approach that is cost-effective to reducing stormwater run-off.

III. Clean Water Act Section 316(b)

EPA's 316(b) rulemaking has undergone decades of review and development but there is now movement on the finalization of rules (after several court cases) that would basically stratify power plants and the level of review and scrutiny they would get based on the type of water body they are located on. The premise being that some plants are located in environments that are clearly more "sensitive" than others—such as estuaries versus open oceans. The concept here is that we could consider some sort of categorization of potential risk based on site criteria.

IV. Clean Air Act New Source Review

After having established clear guidelines on acceptable environmental impact levels from emissions of air pollution, the NSR construction permit program requires a case-by-case application of control technologies (which become more stringent over time as technology improves), backed by air quality impact modeling/monitoring. The control technologies are listed on a publicly-available database, and are available to state and federal regulators. I believe the practice of siting and construction with the best available mitigation technologies/best practices, backed by available monitoring data, will yield more protective deployment of wind turbines over time without unnaturally delaying the deployment of turbines now. That is, the data generated from today's best efforts to balance wind power with wildlife interactions will formally inform tomorrow's development efforts, with a long-term trend towards more information being gathered on turbine-wildlife interactions, and better mitigation/avoidance techniques being deployed.

V. National Environmental Policy Act

While not a permitting program, NEPA (and many states' mini-NEPAs) are comprehensive, good-faith attempts to identify the environmental impacts from development. The basic premise of applying NEPA to the turbine-wildlife interaction question would be largely of enforcement discretion after the developer made (and made available publicly or to state/federal agencies?) a comprehensive, good-faith effort to identify, avoid, or mitigate impacts from development. While a permit would not be issued, the EA/EIS process informs whether a permit is issued in a normal NEPA matter, and here would inform whether a developer should be subject to enforcement if the good-faith EA/EIS does not predict actual impacts.

VI. Clean Air Act/Clean Water Act Categorical Technology Standards

Many environmental statutes describe with particularity the design, construction, and operation standards applicable to new sources of pollution. In most cases, the standards are fairly concise, achievable, and provide certainty to developers and as to the environmental benefits of the standards.