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## Executive Summary

The Wind Turbine Guidelines Advisory Committee (Committee) was established in 2007 under the Federal Advisory Committee Act to provide advice and recommendations to the Secretary of the Interior (Secretary) on developing effective measures to avoid or minimize impacts to wildlife and their habitats related to land-based wind energy projects. The USFWS chairs the Committee, which includes 22 members representing governments, wildlife conservation organizations, and the wind industry.

This Committee's recommendations to the Secretary (Guidelines) contain the Committee's advice regarding policy issues, as well as science-based technical advice on how best to assess and prevent adverse impacts to wildlife and their habitats while allowing for the development of the Nation's wind energy resources. The Committee recognizes that the environmentally-friendly development of wind energy and the protection of the Nation's natural resources are priorities for both the Administration and the American people. For example, on March 11, 2009, the Secretary issued Executive Order 3285, making the production and delivery of renewable energy a priority for the Department of the Interior. The Committee therefore developed a set of premises and principles that recognize the delicate balance between wind resource development and the protection of wildlife and habitats. Those principles guided the Committee's discussions and are the basis upon which its advice is founded.

The Committee recognizes that these Guidelines require new activities and increased effort by the USFWS. The Committee urges that the necessary resources to fulfill these responsibilities be made available to the USFWS. In addition to these new USFWS activities, the Committee recognizes that wind energy developers who voluntarily adhere to these Guidelines will be undertaking a robust level of wildlife impact analysis, and a shared responsibility with USFWS to ensure that the scientific standards of the Guidelines are upheld and used to make wise development decisions. To further demonstrate a commitment to wildlife conservation, the Committee recognizes and encourages the wind energy industry's participation and support of partnerships such as the American Wind Wildlife Institute, National Wind Coordinating Collaborative, Grassland Shrub-Steppe Species Collaborative, and the Bats and Wind Energy Cooperative to promote needed research about wildlife and wind energy interactions. The Committee encourages USFWS to seek partnerships among the wind energy industry, federal, state, and tribal governments, and conservation organizations, to continue the relationships formed and strengthened through this process, and to assist in fulfilling new and existing responsibilities.

The Committee's Guidelines are founded upon a "tiered approach" for assessing potential impacts to wildlife and their habitats. The tiered approach is an iterative decision-making process for collecting information in increasing detail, quantifying the possible risks of proposed wind energy projects to wildlife and habitats, and evaluating those risks to make siting, construction, and operation decisions. Subsequent tiers refine and build upon issues

raised and efforts undertaken in previous tiers. At each tier, a set of questions is provided to help the developer identify potential problems associated with each phase of a project, and to guide its decision process. The tiered approach is designed to assess the risks of project development by formulating questions that relate to site-specific conditions regarding potential species and habitat impacts. The tiers are outlined briefly as:

- Tier 1 – Preliminary evaluation or screening of sites (landscape-level screening of possible project sites)
- Tier 2 – Site characterization (broad characterization of one or more potential project sites)
- Tier 3 – Field studies to document site wildlife conditions and predict project impacts (site-specific assessments at the proposed project site)
- Tier 4 – Post-construction fatality studies (to evaluate direct fatality impacts)
- Tier 5 – Other post-construction studies (to evaluate direct and indirect effects of adverse habitat impacts, and assess how they may be addressed)

This framework allows the developer to determine whether he or she has sufficient information, whether and/or how to proceed with development of a project, or whether additional information gathered at a subsequent tier is necessary to make those decisions. The Committee agrees that incentives should be available to those developers who demonstrate due care by voluntarily implementing the tiered approach and through coordination with USFWS early and throughout the tiered process.

The Guidelines provide best-available methods and metrics to help answer the questions posed at each tier. The Committee recognizes that substantial variability exists among project sites and recommends methods and metrics that should be applied with the flexibility to address the varied issues that may occur on a site-by-site basis, while maintaining consistency in the overall tiered process. As research expands and provides new information, these methods and metrics will be updated to reflect current science.

Other elements in the Guidelines include a full discussion of mitigation policies and principles; the applicability of adaptive management, including the potential use of operational modifications; and considerations related to cumulative impacts, habitat fragmentation, and landscape-level analysis. Finally, the Guidelines discuss the need for additional research and collaboration related to potential wind energy-wildlife impacts, and offer some alternatives for accomplishing the needed research.

The Committee also wishes to present policy advice germane to its Charter but separate from its recommended Guidelines. First, the Committee unanimously recommends that the Secretary adopt the Committee's Guidelines to evaluate and minimize the potential risk of

wind energy projects to wildlife and habitats. Additional policy recommendations support the implementation of the Guidelines, including that the Secretary:

- Develop landscape-level tools and provide analysis to assist in implementation of the Guidelines.
- Provide and/or support adequate, meaningful incentives for industry's voluntary adoption of the Guidelines.
- Advance the use, cooperation, and effective implementation of the Guidelines.
- Assure that the USFWS has an adequate budget and staff resources to implement the Guidelines as necessary, including training of Regional and Field staff and other interested stakeholders.
- When making policy decisions, address both the threat to birds and other wildlife from climate change, and the effects of other stressors.
- Work with other federal and tribal agencies, stakeholders, and states to develop a national research plan that identifies and implements research priorities to reduce impacts to wildlife resources while allowing wind energy development.
- Revise the Guidelines regularly.
- Improve DOI's capability to assess cumulative impacts by developing data that can be used to conduct regional or landscape level analysis.

The Committee believes that the recommended Guidelines reflect a comprehensive and user-friendly wildlife and habitat risk assessment and decision-making tool that supports DOI priorities related to renewable energy development, federal, state and tribal trust responsibilities, developer cost and confidentiality concerns, and the needs of federal- or state-listed wildlife and habitats, without creating new regulations. The policy recommendations outlined above are offered to promote and support the successful voluntary adoption and implementation of the recommended Guidelines.