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DOE/EA-1782

**MITIGATION ACTION PLAN FOR THE UNIVERSITY OF DELAWARE  
LEWES CAMPUS ONSITE WIND ENERGY PROJECT**

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U.S. Department of Energy  
Office of Energy Efficiency and Renewable Energy  
1000 Independence Avenue, SW  
Washington, D.C. 20585

## 1.0 INTRODUCTION

The U.S. Department of Energy (DOE) has prepared an Environmental Assessment (EA) to aid its decision whether to provide funding for the University of Delaware's construction and operation of a 2-megawatt wind turbine adjacent to the University's College of Earth, Ocean, and Environment Campus in Lewes, Delaware. The EA (DOE/EA-1782) for the University's Wind Energy Project was completed in compliance with the National Environmental Policy Act (NEPA) and implementing regulations issued by the Council on Environmental Quality and DOE (40 CFR Parts 1500-1508 and 10 CFR Part 2021, respectively). The Final EA and FONSI are available at <http://www.nepa.energy.gov>.

Through the environmental review process, DOE determined that there would be potential environmental impacts from the proposed project that would require mitigation to assure that the impacts would not become significant. Therefore, DOE prepared this Mitigation Action Plan (MAP) to establish conditions for issuing the FONSI as required by 10 CFR 1021.322, which stipulates that:

*(b) In addition to the requirements found at 40 CFR 1508.13, a DOE FONSI shall include the following:*

*(1) Any commitments to mitigations that are essential to render the impacts of the proposed action not significant, beyond those mitigations that are integral elements of the proposed action, and a reference to the Mitigation Action Plan prepared under 1021.331 of this part;*

The potential impacts requiring commitments and mitigation relate to the following:

- Biological Resources – Uncertainty about the number of birds and bats that may be killed by the operating wind turbine.

### 1.1 Purpose of the Mitigation Action Plan

The purpose of this MAP is to specify the methods for implementing mitigation measures that address the potential environmental impacts identified in the DOE EA-1782. The development of these measures and an implementation plan, as a necessary condition for the FONSI, is described by 40 CFR 1021.331(b) Mitigation action plans, as follows:

*(b) In certain circumstances, as specified in §1021.322(b)(2), DOE shall also prepare a Mitigation Action Plan for commitments to mitigations that are essential to render the impacts of the proposed action not significant. The Mitigation Action Plan shall address all commitments to such necessary mitigations and explain how mitigation will be planned and implemented. The Mitigation Action Plan shall be prepared before the FONSI is issued and shall be referenced therein.*

Mitigation measures identified herein shall be incorporated and enforceable through the National Environmental Policy Act Requirements clause of University of Delaware's financial assistance award. DOE will require the University to demonstrate successful metrics for each criterion identified in this MAP. The University of Delaware shall return to DOE any Federal funds used for construction or operation of the Wind Energy Project if the University of Delaware fails to meet the conditions of this MAP by the deadlines specified. In addition, cost shared funds for these activities will be disallowed.

## **1.2 Structure of the Mitigation Action Plan**

This MAP is organized as follows:

- Section 1 presents the introduction, purpose, and structure; and
- Section 2 presents the potential impacts, mitigation measures, metrics for defining success or failure of the mitigation measures, and monitoring methods for impacts to avian and bat species in the form of fatal collisions with the wind turbine adjacent to the University of Delaware's campus in Lewes, Delaware.

Should any additional potential impacts requiring commitments and mitigation be identified, the structure of the document allows expansion to Sections 3, 4, etc. to address such potential impact areas.

## **2.0 BIOLOGICAL RESOURCES – AVIAN AND BAT SPECIES**

This section of the MAP presents the potential impacts, mitigation measures, metrics for defining success or failure of the mitigation measures, and monitoring methods for the potential impacts of wind turbine's operation on avian and bat species.

### **2.1 Potential Impacts**

The wind turbine's presence and operation could result in occasional bird and bat collisions and fatalities. Based on the records of such fatalities at other wind turbine sites, this would not be expected to threaten populations of birds or bats in the area. However, the wind turbine is located adjacent to marshlands that present a large area of natural habitat and along an important bird migration route near the coast of Delaware Bay. In addition, there is no information available on the abundance of bats at or in the immediate vicinity. So there is uncertainty about the number of birds and bats that may be killed by the operating wind turbine.

### **2.2 Mitigation Measures**

The University of Delaware will be responsible for the following mitigation measures:

- Assemble an Advisory Group that includes representatives from the U.S. Fish and Wildlife Service (USFWS), the Delaware Department of Natural Resources and Environmental Control (DNREC), and the Delaware Audubon Society and, in

consultation with these parties, to prepare an Avian and Bat Protection Plan (ABPP) that addresses monitoring and evaluation protocols, and adaptive management practices.

- Determine, in consultation with the Advisory Group, if species-specific thresholds are being exceeded and, if they are being exceeded, institute adaptive management practices that would reduce impacts to wildlife; and
- Continue to execute terms of the ABPP.

### **2.3 Metrics for Determining Success or Failure of the Mitigation Measures**

As a means of verifying the success or failure of the mitigation measures, the University of Delaware will:

- 1) Prepare a draft Avian and Bat Protection Plan (ABPP) that addresses monitoring and evaluation protocols, and adaptive management;
- 2) By February 28, 2011, provide the members of the Advisory Group and the DOE Contracting Officer a summary of the Advisory Group's findings and recommendations on the draft ABPP;
- 3) By March 31, 2011, provide the members of the Advisory Group and the DOE Contracting Officer a completed ABPP in which the University of Delaware made a good faith effort to address the Advisory Group's findings and recommendations developed for part 2 above;
- 4) By March 1, 2012, and March 1, 2013, respectively, submit two annual reports to the members of the Advisory Group and the DOE Contracting Officer, describing the University of Delaware's compliance activities under the ABPP.
- 5) Determine, in consultation with the Advisory Group, if species-specific biological thresholds are being exceeded and, if they are being exceeded, institute adaptive management practices; and
- 6) Continue to execute the project in accordance with the terms of the ABPP.

### **2.4 Monitoring Techniques for Mitigation Measures**

Monitoring of mitigation measures will be accomplished through DOE's review of the reports and verifications submitted by the University of Delaware as metrics for determining success or failure as identified in Section 2.3. No additional monitoring measures are anticipated.