

Avian and Bat Surveillance and Assessment Plan Timeline and Deliverables

Prepared Pursuant to the Mitigation Action Plan for the University of Delaware Lewes Campus Onsite Wind Energy Project, DOE/EA-1782

March 7, 2011

Introduction

The University of Delaware, College of Earth Ocean and Environment (hereinafter CEOE) has constructed a 2MW Gamesa G90 Wind Turbine immediately adjacent to the College's Lewes, Delaware campus. Prior to construction of the turbine, CEOE commissioned an evaluation of the impact of a single turbine in the dredge spoil area adjacent to our campus. The conclusion of that evaluation was that "impacts are likely to be minimal and not biologically significant." (Phase I Avian Risk Assessment, Kerlinger and Guarnaccia, January 2010, incorporated as Appendix D to DOE EA-1782, 3 Dec. 2010). Given that the project would consist of only one turbine, the report noted that a pre-construction flight-use study could not reliably predict risk. However, the evaluation recommended that, post-construction, there be an assessment of avian and bat impacts.

CEOE secured funds from the US Department of Energy (DOE) to be applied toward the wind turbine and its installation. As a consequence, review under the National Environmental Policy Act (NEPA) was triggered. After the conclusion of an Environmental Assessment (EA), DOE, on December 3, 2010, issued a Finding of No Significant Impact (FONSI). As part of the EA process, CEOE met with officials at US Fish & Wildlife Service (FWS) at the site on two occasions. As a result of those meetings, CEOE committed to undertake an avian and bat monitoring plan that would commence in Spring 2011, form an advisory group, and undertake adaptive management, as appropriate. DOE embodied that commitment in the regulatory process and directed UD to undertake an "Avian and Bat Protection Plan."

The advisory group was formed in fall 2010, and includes representatives of FWS, the Delaware Department of Natural Resources and Environmental Control (DNREC) and Delaware Audubon. Subsequently, although not officially part of the Advisory Group, representatives from Delaware State University (DSU) and the Delmarva Ornithological Society (DOS), as the suggestion of the Advisory Committee, were invited to participate in an attempt to facilitate input from a larger group of knowledgeable individuals.

On November 18, 2010, Greg Shriver and Jeff Buler, of the UD Department of Entomology and Wildlife Ecology (DEWE) submitted a preliminary proposal for discussion. That proposal was discussed among CEOE, the Advisory Group, and Dr. Shriver on November 22, 2010. Julie Thompson (FWS) indicated on that call that the proposed work of Shriver and Buhler met the

FWS requirements. DNREC subsequently agreed to provide partial funding of the study proposed by Buler and Shriver. Two additional conference calls have occurred subsequently (one in Dec 2010 and one in Jan 2011). The discussions have resulted in additional funding from Maryland DNR (to Kevina Vulinec at Delaware State University) to supplement the study of bats at the wind turbine) and funding from DNREC (to Shriver and Buhler for the avian and bat study). The outcomes of the discussions with the advisory committee are incorporated into the Avian and Bat Surveillance and Assessment Plan, including the scope of work detailed in Exhibit A.

On 15 February 2011, UD provided DOE and the Advisory Committee a summary of the Advisory Group's findings and recommendations on the draft Avian and Bat Surveillance and Assessment Plan.

Implementation of the Avian and Bat Surveillance and Assessment Plan

Step 1: CEOE will commence implementation of avian and bat surveillance in Spring 2011. The surveillance monitoring includes a fatality assessment, bird surveys, acoustic monitoring, and thermal imaging at the site. The scope of work is attached as Exhibit A.

Step 2a: Consistent with the scope of work (Ex. A), a report that encompasses the results and analyses of the data from Spring 2011 through Fall 2011, will be made available to CEOE by January 15, 2012.

Step 2b: If at any point in time during the course of the study CEOE learns of a take of a Bald or Golden Eagle or a federally listed endangered species, CEOE will consult with FWS regarding the advisability of obtaining an incidental take permit.

Step 3: UD will provide the Advisory Committee with data (raw number counts) of any takes by species for each quarter within thirty (30) days of the conclusion of that quarter.

Step 4: Based on a review of the report from 2a, the NJ ACUA wind farm post-construction mortality data and reports, and other sources of data analyzing the environmental effects of avian and bat takes such as FWS's analysis of the hunting of migratory birds and waterfowl harvest management, CEOE will make recommendations regarding any changes to the study protocol, including the necessity for and extent of adaptive management and forward those recommendations to the Advisory Group by February 1, 2012. The recommendation on adaptive management could range from no action to changes in onsite land management to compensation (providing substitute resources) to curtailment.

Step 5: CEOE will hold a telephone or in-person consultation with the Advisory Group by February 15, 2012. Subsequent to the call but no later than March 1, 2012, UD will submit an annual report to DOE and the Advisory Committee that will consist of (a) the Jan 15, 2012 report, (b) CEOE recommendations, and (c) any CEOE decision coming out of the in-person consultation.

Step 6: If species-specific biological thresholds are being exceeded, CEOE will cause to be implemented adaptive management measures by April 1, 2012.

Step 7: Irrespective of whether adaptive management measures are implemented, a second year of avian and bat surveillance will be undertaken to gain additional data. The study protocol may be modified in accordance with recommendations under Step 4 given the findings from the first year of study or, as appropriate, to better measure the efficacy of the adaptive monitoring measures.

Step 8: A follow-up report will be generated consistent with the scope of work (Ex. A), by January 15, 2013, assessing the second-year data, and as appropriate, the efficacy of the adaptive management measures. Modification to the adaptive management measures will be implemented, as appropriate, in consultation with the Advisory Group.

Step 9: No later than March 1, 2013, UD will submit the final report to DOE and the Advisory Committee that will consist of (a) the Jan 15, 2013 report, (b) any CEOE recommendations, and (c) any CEOE decision made after consultation with the Advisory Group.