

PMC-ND

(1.08.09.13)

**U.S. DEPARTMENT OF ENERGY  
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY  
NEPA DETERMINATION**

**RECIPIENT:**American Wind Wildlife Institute**STATE:** Mult

**PROJECT TITLE** Evaluating the Effectiveness of a Camera-Based Detection System to Support Informed Curtailment and Minimize Eagle Fatalities at Wind Energy Facilities

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0001554	DE-EE0007880	GFO-0007880-001	

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

**CX, EA, EIS APPENDIX AND NUMBER:**

Description:

**A9 Information gathering, analysis, and dissemination** Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)

**B3.3****Research related to conservation of fish, wildlife, and cultural resources**

Field and laboratory research, inventory, and information collection activities that are directly related to the conservation of fish and wildlife resources or to the protection of cultural resources, provided that such activities would not have the potential to cause significant impacts on fish and wildlife habitat or populations or to cultural resources.

Rationale for determination:

- The Department of Energy (DOE) is proposing to provide funding to the American Wind Wildlife Institute (AWWI) to compare the detection and classification of golden eagles by the IdentiFlight system to human observers at two wind energy facilities in the western U.S.

AWWI would partner with Western Ecosystems Technology, Inc. (WEST) of Fort Collins Colorado to independently evaluate how IdentiFlight compares to human observers (aka 'biomonitors') in detecting and identifying eagles under a suite of environmental conditions and would use the observation data to model how IdentiFlight and biomonitors reduce the eagle fatality prediction through informed curtailment. The IdentiFlight system uses standard image-sensors, high-magnification stereoscopic sensors, and high-performance artificial intelligence algorithms for autonomous real-time image processing. The project would be completed in three Budget Periods.

Budget Period 1 would include the project launch, development of study design, and response to peer review comments on the study design. It would also involve the installation of IdentiFlight units at a host site and an initial comparison of IdentiFlight collected data to the biomonitor collected data. A Go/No-Go decision point would occur at the end of Budget Period 1.

Budget Period 2 would involve a detailed evaluation of IdentiFlight and biomonitor curtailment orders, and a modeling of the effect of environmental variables on variation in biomonitor and IdentiFlight performance. It would calculate eagle fatality reduction by using IdentiFlight detection data in conjunction with turbine curtailment orders. A Go/No-Go decision point would occur at the end of Budget Period 2.

Budget Period 3 would involve quantification of eagle collision reductions from informed curtailment. It would also calculate eagle fatality reduction by using IdentiFlight detection data in conjunction with turbine curtailment orders. There would be a cost-effectiveness comparison of IdentiFlight and biomonitors in reducing eagle collision risk. Finally it would provide study results to both the IdentiFlight technology provider and the DOE.

Once the initial project planning activities are complete, field testing would take place at two geographically distinct wind energy facilities over two field seasons. One site would be the Top of the World Windpower facility in Converse County, WY and the other would be the Elkhorn Valley Wind Farm in Union County, OR. Both sites are operational windfarms located in rangelands.



The IdentiFlight units are freestanding. The units require a level ground surface and occupy an area of approximately 12 square feet. Concrete ballast weights hold an approximate 20 foot tilt-up tower that contains the sensors. Power is generally supplied to the IdentiFlight unit from the nearest wind turbine.

#### Top of the World Windpower:

Identiflight units have been installed and are currently operational at the Top of the World Windpower facility. Data collected by the ongoing efforts, including biomonitors and the IdentiFlight system, would be provided to AWWI for analysis. Evaluation of IdentiFlight detection capabilities would include determining the likelihood or probability of detecting and accurately tracking an eagle. No new permits would be required for project activities at the Top of the World facility. The data collection process is passive and would not interfere with avian behavior or ongoing windfarm operations, including eagle mitigation collision risk reductions activities.

#### Elkhorn Valley Wind Farm:

Either three or four IdentiFlight units would be installed at the Elkhorn Valley Wind Farm. Each unit would be installed up to 800 meters from the nearest turbine which would require cable trenching to install power. Along with the IdentiFlight data collection, biomonitors would be stationed at the site to collect eagle activity data. In a similar fashion to the Top of the World Windpower site, the two data sets would be analyzed to evaluate IdentiFlight detection abilities.

There is insufficient information available at this time for DOE to complete a meaningful NEPA review of the proposed installations at the Elkhorn Valley Facility. DOE will complete additional review when the proposed installation sites have been identified.

#### Conclusion:

DOE has determined that the administrative project tasks and the activities at the Top of the World Windpower facility would not impact sensitive resources including threatened or endangered species, bald or golden eagles, cultural resources, or wetlands. Additional DOE NEPA review is required after installation sites have been identified and prior to initiating proposed project activities at the Elkhorn Valley Wind Farm.

Based on the review of the proposal, DOE has determined that Tasks 1.0 through 8.0 for Top of the World Windpower facility and Task 1.0 for Elkhorn Valley Wind Farm fit within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410(2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. Tasks 1.0 through 8.0 for Top of the World Windpower facility and Task 1.0 for Elkhorn Valley Wind Farm is/are categorically excluded from further NEPA review.

#### NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

At the Elkhorn Valley Wind Farm facility the following tasks are prohibited:

Task 2.0: Install IdentiFlight units at Oregon wind site

Task 3.0: Compare IdentiFlight-Biomonitor Data

Task 4.0: Evaluate IdentiFlight and Biomonitor Curtailment Orders, and Complete Modeling Examining Effect of Environmental Variables on Variation in Biomonitor and IdentiFlight Performance

Task 5.0: Calculate Eagle Fatality Reduction by Using IdentiFlight Detection Data in Conjunction with Turbine Curtailment Orders

Task 6.0: Compare Cost-Effectiveness of IdentiFlight and Biomonitors in Reducing Eagle Collision Risk

Task 7.0: Provide Study Results to IdentiFlight Technology Provider and DOE

Task 8.0: Prepare and submit manuscripts on project methodology and results for publication in a peer-reviewed journal

This restriction does not preclude you from:

At the Elkhorn Valley Wind Farm facility the following task is not prohibited:

Task 1.0: Project launch, development of study design and respond to peer review comments

At the Top of the World Windpower site the following task are not prohibited\*:

Task 1.0: Project launch, development of study design and respond to peer review comments

Task 3.0: Compare IdentiFlight-Biomonitor Data

Task 4.0: Evaluate IdentiFlight and Biomonitor Curtailment Orders, and Complete Modeling Examining Effect of Environmental Variables on Variation in Biomonitor and IdentiFlight Performance

Task 5.0: Calculate Eagle Fatality Reduction by Using IdentiFlight Detection Data in Conjunction with Turbine Curtailment Orders

Task 6.0: Compare Cost-Effectiveness of IdentiFlight and Biomonitor in Reducing Eagle Collision Risk

Task 7.0: Provide Study Results to IdentiFlight Technology Provider and DOE

Task 8.0: Prepare and submit manuscripts on project methodology and results for publication in a peer-reviewed journal

\* Please note that Task 2.0 is not applicable to the Top of the World Windpower Site

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:

The recipient is required to submit an EQ-1 to initiate additional DOE NEPA review when the proposed installation sites have been identified at the Elkhorn Valley Wind Farm location.

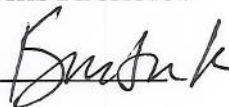
Note to Specialist :

Wind Power Technologies Office

This NEPA determination requires a tailored NEPA provision.

Review completed by Chris Rowe, 4/11/2017

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature:  Date: 4/11/2017  
NEPA Compliance Officer

**FIELD OFFICE MANAGER DETERMINATION**

Field Office Manager review required

**NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:**

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Field Office Manager