



Detection and Deterrence Technologies Request for Information (RFI)

Issued: Monday, August 11, 2014

Deadline: Friday, September 5 @ 11:59 pm (Eastern)

SECTION 1 – REQUEST FOR INFORMATION (RFI)

The American Wind Wildlife Institute

The American Wind Wildlife Institute (AWWI) is a groundbreaking non-profit organization built on a strong partnership of leaders from the wind industry, science and environmental organizations, and wildlife management agencies. AWWI's mission is to facilitate timely and responsible development of wind energy while protecting wildlife and habitat.

Much has been learned about predicting and mitigating wildlife impacts from research and monitoring conducted at individual wind energy projects, and innovations in technology will improve our ability to predict and mitigate impacts. AWWI's efforts in innovative technologies seek to (1) aggregate and analyze data from scientific research to identify risks to wildlife from wind development (2) develop landscape-level mapping tools containing wind resource and conservation data, and (3) drive innovation in the development and use of technologies for minimizing impacts to wildlife from operating projects.

AWWI's collaborative network offers a unique opportunity to bring together the wind industry, biologists, and technology creators to explore challenges and opportunities related to wind energy and wildlife. By creating a forum for this interaction, AWWI provides an incubation space for new and exciting ideas that have the potential to drastically reduce the impacts of wind energy on sensitive species. For more information about AWWI, please visit our website (www.awwi.org).

Background

Wind energy projects around the world are required to minimize the impacts they have to wildlife. Many fatalities can be avoided using proper siting techniques to avoid high risk areas, and in efforts to further reduce fatalities, project operators make use of deterrence devices that dissuade birds and bats from approaching turbines or entering collision risk zones. In some cases, operators may shut down individual turbines or turbine strings if target species approach the project, making the accurate detection of these species an important aspect of project operations.

Purpose of Request for Information

The purpose of this Request for Information (RFI) is to gather information about detection and deterrence technologies; specifically, AWWI is seeking information on the state of research and product development around the detection and deterrence of birds and bats with the goal of reducing wind turbine collision fatalities and minimizing effects on project operation. Accordingly, the RFI seeks information from researchers and/or vendors that have either:

1. developed products undergoing testing and/or deployment
- OR
2. initiated research for future products.

Research or products may be directed towards target species (e.g. golden eagle, California condor, whooping crane) or a group of species (e.g. bats, raptors). Products may detect, deter, or do both.

AWWI's RFI seeks to catalog the wide array of detection and deterrent products available to better understand currently available products and to assist its constituents in finding solutions based on their needs. As more is learned about wind energy's impacts on wildlife, developers and operators are making

use of a wide variety of options to minimize those impacts. By documenting the wide suite of options available on the open market, AWWI hopes to enable project operators to quickly find the products best suited to the site's needs that will achieve the greatest conservation benefit.

With respect to the research for future products, AWWI seeks to understand any efforts that are underway, evaluate opportunities there may be to support projects going forward, and make the efforts known to constituents in the event there is an interest on their part to become involved. The RFI may provide an opportunity to advertise the existence of the research and find willing partners to advance its progression.

RFI Approach

AWWI will review the responses to the RFI and summarize them for our constituents via a secure page on AWWI's website. Further outreach from AWWI to specific technology vendors and/or researchers may be conducted based on the responses to the RFI.

Goals of the Request for Information

Through this RFI, AWWI is seeking to:

- Identify available technologies to deter and/or detect bird and/or bat species at wind energy facilities
- Identify research underway to deter and/or detect bird and/or bat species at wind energy facilities
- Establish contact and relationships with the technology vendors who manufacture these technologies
- Provide information learned from this RFI to our constituents for their information as potential consumers of products or interested parties in research
- Assess the wildlife-based research needs of technology vendors and the wind industry

Questions

The RFI seeks to understand the nature of the products offered. Accordingly, the questions are focused around the details of the product, including but not limited to information concerning the following:

- Overview of Product
- Technology Readiness Levels
- Deployment and Operation
- Lifespan and Warranty

These questions can be found in the RFI Response spreadsheet, which is posted on AWWI's website (<http://awwi.org/awwi-releases-request-for-information-on-detection-and-deterrence-technologies/>)

With respect to technologies, AWWI is seeking to understand the level of readiness of each technology based on the categories described by the Department of Energy (DOE) in a [recent RFI](#). For each technology or product described, AWWI RFI respondents will be asked to assess the Technology Readiness Level (TRL) of their technologies as described below in Table 1.

Table 1: Technology Readiness Levels (as defined by the Department of Energy, Energy Efficiency & Renewable Energy Program)

Technology Readiness Level (TRL)	Description
TRL 1	Basic Research: Initial scientific research has been conducted. Principles are qualitatively postulated and observed. Focus is on new discovery rather than applications.
TRL 2	Applied Research: Initial practical applications are identified. Potential of material or process to solve a problem, satisfy a need, or find application is confirmed.
TRL 3	Critical Function or Proof of Concept Established: Applied research advances and early stage development begins. Studies and laboratory measurements validate analytical predictions of separate elements of the technology.
TRL 4	Lab Testing/Validation of Alpha Prototype Component/Process: Design, development and lab testing of components/processes. Results provide evidence that performance targets may be attainable based on projected or modeled systems.
TRL 5	Laboratory Testing of Integrated/Semi-Integrated System: System Component and/or process validation is achieved in a relevant environment.
TRL 6	Prototype System Verified: System/process prototype demonstration in an operational environment (beta prototype system level).
TRL 7	Integrated Pilot System Demonstrated: System/process prototype demonstration in an operational environment (integrated pilot system level).
TRL 8	System Incorporated in Commercial Design: Actual system/process completed and qualified through test and demonstration (pre-commercial demonstration).
TRL 9	System Proven and Ready for Full Commercial Deployment: Actual system proven through successful operations in operating environment, and ready for full commercial deployment.

SECTION 2 – RFI INSTRUCTIONS

Submission Format and Details

Materials for submission of responses (including this RFI and the RFI Response spreadsheet) can be found on AWWI's website: <http://awwi.org/awwi-releases-request-for-information-on-detection-and-deterrence-technologies/>

The following steps are required for responses to this RFI:

1. **Responses must be sent by email to info@awwi.org no later than 11:59 pm (Eastern) on Friday, September 5, 2014.** If you wish to submit a response after this deadline, contact jevans@awwi.org for consideration.
2. The email's subject line should read: *AWWI RFI Response – CompanyName*
3. The body of the email should contain the name, email, and phone number for the submitter or main point of contact as well as a bulleted list of the names of each product described within the RFI Response spreadsheet

4. The completed RFI Response spreadsheet should be attached to the email and must be titled with the company name (e.g. TechCo) and date of submission (e.g. August 18th) like so:
TechCo_RFI_Response (8.18.14)
5. Any additional supporting reports or information described in the RFI Response spreadsheet should be attached to the email and clearly labeled

If you have any questions on the response process for this RFI, please contact jevans@awwi.org

Terms of the RFI

By submitting a response to this RFI, the researcher/vendor agrees to abide by all of the conditions listed below and otherwise stated in this RFI.

- A period of evaluation will commence at the close of the event. AWWI may ask that researchers/vendors are available for follow up questions including further submissions as necessary.
- AWWI shall not be liable for the information solicited or obtained, costs incurred in preparing the Proposals, costs incurred in making any technical presentations or costs for associated computer time while responding to this RFI.
- AWWI in its sole discretion reserves the right to modify the terms of the RFI or to terminate this RFI at any time.
- No orally transmitted submissions will be considered.
- All submissions received will become the property of AWWI and will not be returned.
- Submission of a Response is a representation and warranty of the researcher or vendor submitting the Response that the researcher or vendor has complied with all terms and conditions of this RFI.
- Submissions should be complete when submitted with comprehensive answers that anticipate all possible issues.
- Answers should be provided in the format in which they are requested.
- In the event that a researcher or vendor determines that an amendment must be made to a Response that has been submitted and provided that the closing date and time has not passed, the researcher or vendor will be permitted to amend the Response.

RFI Timeline

Monday, August 11, 2014

- RFI Released

Friday, September 5, 2014 (11:50 PM ET)

- RFI submissions due via email to info@awwi.org