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February 6, 2012

Mr. Dennis Roberts
Director of Airspace Services
Docket Operations, M-30
U.S. Department of Transportation
1200 New Jersey Avenue SE, Room W12-140
West Building Ground Floor
Washington, DC 20590

Re: Docket Number 2011-1279, Notice of Policy and Request for Information on Airborne Wind Energy Systems

Mr. Roberts:

The Airborne Wind Energy Consortium, representing private enterprise and other members of the nascent industry that is developing Airborne Wind Energy Systems, submits the following comments in response to the Federal Aviation Administration's (FAA) Notice of Policy and Request for Information on Airborne Wind Energy Systems (AWES).

The Airborne Wind Energy Consortium is an international industry organization in the business of promoting the airborne wind energy renewable resource and the technologies to capture it. These technologies will enhance energy security through high capacity, efficient and renewable production of electricity.

We appreciate the opportunity to submit comments and look forward to engaging in future discussions with the FAA and members of the National Airspace System users' community.

Respectfully,

PJ Shepard
Secretary, Airborne Wind Energy Consortium

Response to the Federal Aviation Authority
Docket No.: FAA-2011-1279; Notice No. 11-07
Notification for Airborne Wind Energy Systems (AWES)

AIRBORNE WIND ENERGY CONSORTIUM

The Airborne Wind Energy Consortium (AWEC) represents the interests of the airborne wind energy community. Prototype designs differ among its members but they all share certain characteristics and needs. While each proposed system has different physical and operating dimensions for both individual units and farms, all Airborne Wind Energy Systems (AWES) consist of a ground station, a tether and an airborne component.

AWESs take advantage of the higher speed and more consistent winds at altitude to generate electricity more reliably and to increase the area of usable wind resource. Airborne wind systems have demonstrated the potential to give access to the first truly low cost wind energy.

We as a consortium respect and understand the need for free and open use of the National Airspace System (NAS). The AWEC is committed to protecting the access to NAS, operational flexibility, and safety of the general aviation community. As a community we will work with the FAA to enable our technology, by developing interfacing procedures with conventional aviation and maintaining safety standards.

Permitting and Notification

AWES systems have been classified under Part 77 by the FAA. Part 77 sets forth a system for permitting and charting obstructions within the NAS. With minor modifications to the marking and lighting guidelines in FAA Advisory Circular 70/7460-1K, AWEC is comfortable with this classification.

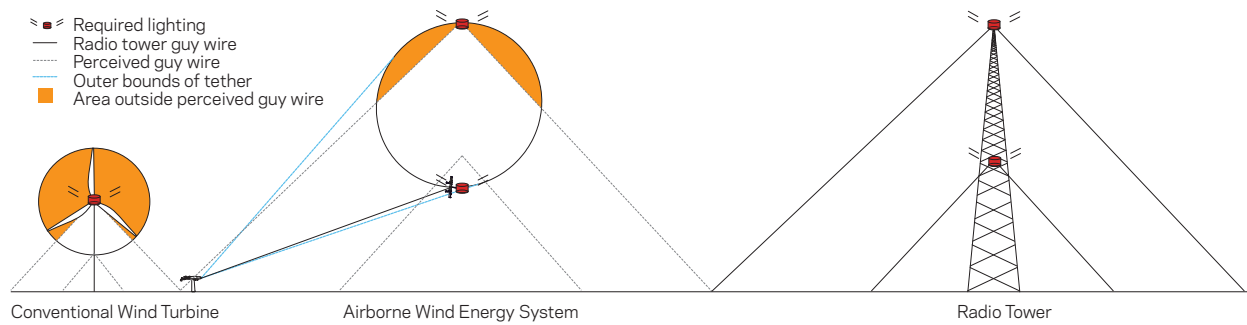
Marking and Lighting

Members of the AWEC community will collaborate with the FAA to design marking and lighting solutions for AWESs, making the systems conspicuous to pilots.

There are several marking and lighting examples in Part 77 of tall objects with limited structures, which are functionally similar to AWESs from the perspective of pilots. Both conventional wind turbines and radio towers fall into this category. Wind turbines are currently lit at the nacelle but not at the blade tip, while radio towers are lit on the structure but not along the guy wires, as shown in the image below. The AWEC proposes a lighting design with similar characteristics.

The airborne portion of the system would be lit with a high intensity light. The light would flash at regular intervals at a fixed altitude or at the top and bottom of the flight path (for non-stationary systems) causing them to resemble a radio tower.

Tether marking and lighting is an area of particular concern for the AWEC community. Tether drag is debilitating to most AWES's performance and increasing tether drag will prevent these systems from achieving the large reductions in cost of energy offered by the airborne approach. Tether marking also encumbers the tether and endangers the system during launching and landing. For these reasons, the AWEC proposes not marking or lighting the tether.



When lit Airborne Wind Energy Systems would resemble radio towers. The area outside of the perceived guy wire area is much smaller than that for conventional wind turbines, suggesting that pilots accustomed to the markings on radio towers would safely avoid AWESs marked in this fashion.

Testing

The members of AWEC commit to following the FAA's current guidelines as laid out in Docket No. FAA-2011-1279, Notice No. 11-07 for current testing.

Current Testing

AWEC members will comply with FAA requests:

- Airborne operations of AWES should be temporary in nature for testing and data collection purposes only
- Single AWES devices only (e.g.—no “farms” or multiple simultaneous testing)
- AWES should be limited to a single fixed location (e.g.—no mobile ground facilities)
- Testing is confined to heights at or below 499 feet above ground level (AGL)
- Airborne flight testing of AWES will only occur during daylight hours
- AWES will be made conspicuous to the flying public through NOTAMs.

One of the critical issues for the airborne wind industry is the ability to test frequently. As Part 77 evaluations can take time and have a certain amount of ambiguity built in, AWEC would like to work with the FAA to develop a system to expedite and standardize testing evaluations. This may be achieved through a designated point person at the FAA or a pre-approval process for particular sites that the industry sets aside for testing.

To ensure the safety of airborne wind energy systems, in depth reliability testing will need to be performed, starting within the next year. This will change the testing needs of the members of AWEC.

Upcoming Testing Needs

Within the next year members of AWEC will need to test:

- At night
- Over long periods of time (weeks, months)

Within the next two years members of the AWEC will need to test:

- Up to 2,000 feet AGL
- Multiple system “farm” environments

The airborne wind community is eager to engage with the FAA to create guidelines that will allow for safe and economical operation of airborne wind turbines under Part 77 with continued free and open use of NAS.

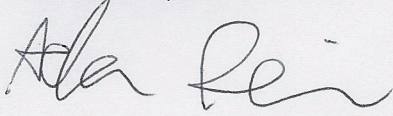
Signed:

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Corwin Hardham, CEO
Makani Power, Inc.

The airborne wind community is eager to engage with the FAA to create guidelines that will allow for safe and economical operation of airborne wind turbines under Part 77 with continued free and open use of NAS.

Signed:



ADAM REIN

CFO

ALTAEROS ENERGIES, INC.

adam.rein@altaerosenergies.com

The airborne wind community is eager to engage with the FAA to create guidelines that will allow for safe and economical operation of airborne wind turbines under Part 77 with continued free and open use of NAS.

Signed:

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Dimitri Cherny, CEO
Highest Wind

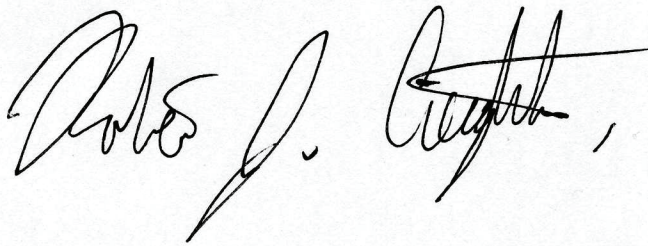
The airborne wind community is eager to engage with the FAA to create guidelines that will allow for safe and economical operation of airborne wind turbines under Part 77 with continued free and open use of NAS.

Signed: 

Daniel Gelbaum, President
Sky Wind Power Corporation
February 6, 2012.

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Signed:

 , President, Windlift