Testimony in Support of HB 2375 from Rep. Levy

Chair Lively, Vice-Chair Gamba, and Members of the Committee,

For the record, my name is Representative Bobby Levy and I am the state representative for House District 58, which includes Umatilla, Union, and Wallowa Counties.

I am here today to express my strong support for House Bill 2375. This legislation seeks to improve the compatibility of wind energy development with rural communities by requiring that new or repowered wind energy facilities apply to the Federal Aviation Administration (FAA) for the installation of light-mitigating technology. If approved, the facility would then be required to install the technology within 24 months.

Residents in my district and across Oregon's rural communities have raised concerns about the continuous nighttime obstruction lighting required on wind turbines, which can disrupt the natural landscape, impact property values, and interfere with the quality of life for those living nearby. This bill takes an important step toward addressing these concerns while ensuring that aviation safety remains a top priority.

I also want to clarify that nothing in HB 2375 supersedes the jurisdiction of the FAA or the Department of Defense. This ensures that the legislation remains in compliance with all applicable federal regulations and does not interfere with national security or airspace management.

However, this bill is not in its final form. An amendment is currently being drafted by key stakeholders that would address applicability dates, installation timelines, and the definition of "repowered". This will help ensure that no undue burdens are being put onto industry while still accomplishing the goals of this bill. To help educate anyone who may be interested in the details, I've submitted additional materials that help explain the timeline, costs, and specifics of this light-mitigating technology.

As it stands, HB 2375 strikes an appropriate balance between fostering renewable energy development and being responsive to the needs of rural Oregonians. By requiring that wind energy developers pursue FAA-approved light mitigation, we can reduce unnecessary light pollution while maintaining the necessary safety measures for aircraft.

I urge your support for HB 2375. Thank you.

ADLS 101 : You need an Aircraft Detection Lighting System for your wind farm – what do you do?

by Gary Andrews, President & CEO DeTect, Inc.; Jesse Lewis, Senior Vice President, ADLS, DeTect, Inc.

Background

An Aircraft Detection Lighting System (ADLS) is a sensor-based system that monitors the airspace around a wind farm, activating the obstruction lights only when aircraft are within a defined buffer zone. ADLS technology originated from the 'Dark Sky' movement in the 1950's where astronomers were concerned that nocturnal skyglow from urban areas was blotting out stars. In 1988, the International Dark-Sky Association focused on 'excessive use of artificial light' in remote areas. The use of ADLS today at windfarms is primarily being driven by nearby residents objecting to the constant flashing of the lights at night.

In 2011 the U.S. Federal Aviation Administration (FAA) started researching radar-activated obstruction lighting technologies and issued performance standards in an Advisory Circular (AC 70/7460-1M, Chapter 14, "Aircraft Detection Lighting Systems"). Other countries including Canada, Australia, and Germany now have similar standards. Several US states, including North and South Dakota, have now mandated ADLS for new and existing windfarms. Other states and some local jurisdictions are also now requiring or working on regulations for ADLS.

How ADLS Works

In operation, an ADLS continually monitors the airspace around and above the wind farm for aircraft and, when an aircraft is detected crossing a preset boundary, the system turns on the obstruction lights, keeping them on until the aircraft clears the control area (Figure 1). The FAA activation zone is a 3 nautical mile buffer around each obstruction and a 1000 feet buffer above the tallest obstruction. Most ADLS systems are tower or turbine-mounted within the wind farm to provide full, unobstructed 360 degree

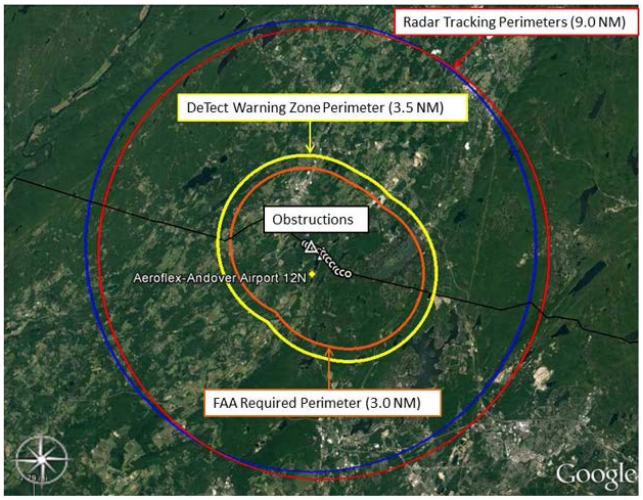


Figure 1: Typical ADLS airspace plan with warning and activation boundaries

monitoring of the airspace. For large wind farms or sites with complex terrain, multiple radar units may be required for full coverage.

Implementing an ADLS

An ADLS is not just a radar - it is comprised of the radar(s), the obstruction lights and necessary infrastructure. The radar(s) includes the processors, operating software, datasystem, radar tower(s), backup power and SCADA network interface (Figure 2). Radar tower height is determined by line-of-sight modeling to provide full coverage. The obstruction lights also must be 'ADLS compatible' and connected to the wind farm fiber optic network. Each radar unit requires power and fiber from the closest turbine to the radar for connection to the wind farm network. Advanced ADLS systems allow for sensitive processors and electronics to be installed in in the windfarm operations building, with only the radar sensor installed at the tower site which reduces O&M costs.

Figure 2: Typical ADLS radar and tower installation

To determine if a wind farm is a candidate for an ADLS, GIS and viewshed analysis of the site is conducted by the ADLS supplier to define the number of radar units required for complete airspace coverage and locations for the radar(s). Special siting considerations include radar beam blockage by terrain, structures and other obstacles (e.g. tree lines), lattice vs monopole towers (raptor issues), onshore vs offshore installation, light compatibility, availability of power and fiber to the radar(s), local aircraft activity levels, and other factors (land access, cultural/natural resource areas). The viewsheds are analyzed at various aircraft altitudes to ensure that aircraft are fully 'visible' to the radar (Figure 3).

Figure 3: typical radar viewshed model (red = not visible; green = visible)

Once the final turbine and radar locations are set, the owner files the ADLS Obstruction Lighting Plan with the FAA. The package includes the location of all turbines and radars and viewshed maps at various altitudes ranging from 200-1000 feet. Most ADLS vendors prepare the FAA filing package as part of their proposal at no cost.

At this point, the infrastructure and construction requirements and costs can be determined including costs for running power and fiber to the radars, tower foundation(s), network interfacing and cyber security, and obstruction lighting connection to the windfarm network. For older windfarms, the lights may not be compatible or upgradable and may need to be replaced. Scope of work assignments can vary from the ADLS vendor supplying only the ADLS radar and related services with a general contractor performing the construction-related tasks to full turnkey delivery (Figure 4).

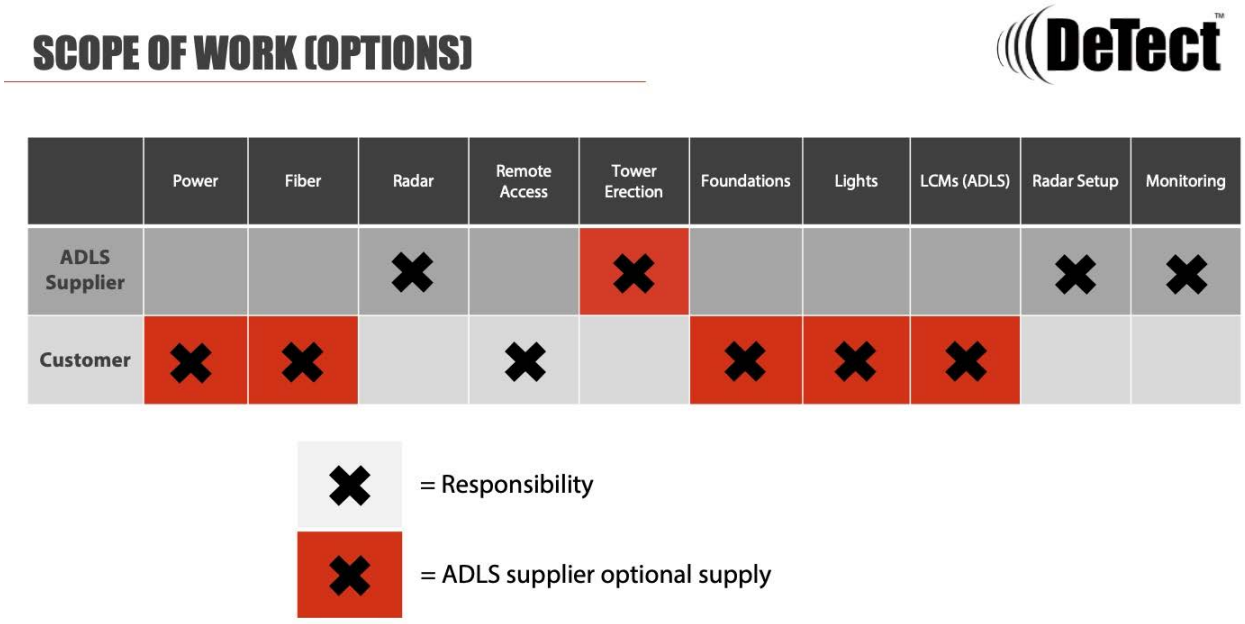


Figure 4: General Scope of Work Responsibilities

Project Schedule

The typical ADLS project takes 8-10 months after for system manufacture to installation, commissioning and turnover. Currently, due to the microchip supply shortage, some component lead times are longer, so schedules are running 10-12 months for 2022 COD projects. After installation, start-up of the ADLS is fairly short with the system operational within a week. It should be noted however that optimization of the lights OFF/ON periods to the lowest safe level can take up to 60 days as the data from the radar undergoes QA/QC and filters are developed for non-aircraft targets (e.g. birds).

Long-term O&M

ADLS radar technology is based on existing aircraft radars and is highly reliable with operational rates of 98%+. A key safety system built into most ADLS is that the radar does not

turn the obstruction lights on, but only sends a lights OFF command when all safety and diagnostic heartbeats are clear of failure and no aircraft are present within the buffer zone. This failsafe design ensures that if the ADLS equipment fails or loses network connectivity, the override signal is lost and the lights automatically are ON.

O&M costs and level of effort is low and most ADLS suppliers offer extended warranty/service plans that cover all maintenance and repairs for the life of the project. This includes 24-7 monitoring of the system and daily reporting of the lights ON and OFF times, including exceptions such as system failures and weather.

Lessons Learned

ADLS today is proven, reliable and widely deployed technology, but there have been a lot of lessons learned. A key lesson learned from over 60 DeTect ADLS installations over the past few years is that developers need to be careful how they present the ADLS to public stakeholders. While most projects are seeing lights OFF periods of 95%+, there are sites where aircraft activity is high that increases lights ON periods. Additionally, during spring and fall bird migration periods, lights ON times may increase as some bird activity can be seen by the radar as potential aircraft.

Typical ADLS Project Schedule	2021					2022											
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Order Date		x															
Design drawings issued		x															
Procurement of long lead components			x														
Start of manufacturing				x													
Completion of infrastructure manufacturing						x											
Completion of electronics manufacturing									x								
Factory Acceptance Test										x							
Shipping											x						
Installation of site infrastructure (power/fiber)																	
Installation of foundation																	
Tower erection																	
Equipment installation																	
Start-up and commissioning													x				
System optimization																	
COD																	x

ADLS Cost – Budgetary (Terrestrial)

Item	$ 000's (US)
ADLS sensor, processors & software	$ 500-600
Radar tower, foundation & installation	$ 150-200
Power & fiber to radar sensor site	$ 500-600
Commissioning, validation testing & optimization**	$ 75-100
Total per ADLS (installed & commissioned)	**$ 1250-1500**
Other costs:	
ADLS-compatible lights / upgrades (per light)*	$ 3-10
Operations & Maintenance (per year)	$ 15-20

* Most current obstruction lights are ADLS-compatible (can be connected to the windfarm network & controlled by the ADLS); older non-compatible lights must be replaced or upgraded.

** Once commissioned, it may take 1-3 months to fully optimize system operation & minimize lights ON periods.

*** Extended warranty/service plans are available for up to 30 years.

MEMORANDUM OF AGREEMENT
Establishment of the Wind Turbine Radar Interference Mitigation Working Group

Between the Following U.S. Federal Government Agencies

DEPARTMENT OF DEFENSE (DoD)
DEPARTMENT OF ENERGY (DOE)
FEDERAL AVIATION ADMINISTRATION (FAA)
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
BUREAU OF OCEAN ENERGY MANAGEMENT (BOEM)

I. PURPOSE

A. All Federal agencies having a stake in resolving wind turbine radar interference issues should, where opportunities present themselves, develop a shared vision and framework to coordinate activities. This Memorandum of Agreement (MOA) supersedes the 2014 Memorandum of Understanding, *Establishment of the Wind Turbine Radar Interference Mitigation Working Group* (WTRIM) and establishes a general framework to encourage cooperation and coordination between the signatory agencies (the Parties, or, individually, a Party). The purpose of this MOA is to identify and develop the means to mitigate the potential technical and operational effects of wind turbine projects on critical radar missions within the jurisdiction of the Parties, including offshore regions. The goals of the interagency effort include:

a. Developing near-term (5 years), mid-term (10 years), and long-term (20 years) goals focusing on technology-driven mitigation solutions. These will be primarily technology-driven, but may also extend to policy and legislative proposals, as necessary.
b. Creating and executing a plan to implement workable solutions that includes a process for the Parties, in accordance with each Party's authorities and limitations on the use of appropriations, to commit funding necessary to execute the near, mid, and long-term mitigation, as outlined in Section II.

The Department of Defense enters into this memorandum of understanding in furtherance of its statutory requirements set forth in section 183a of title 10 of the U.S. Code and

Department of Defense Instruction 4000.19, change 2, August 31, 2018 (https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/400019p.pdf?ver=2019-02-26-085841-693).

II. REQUIREMENTS

A. Whereas all Parties have been empowered by internal management, and in some cases additionally by Congress, to identify wind turbine radar interference mitigation solutions, their representatives will coordinate the development of an interagency Research and Development Plan, as well as commitments of funding required for all associated studies, field tests, or other agreed-to expenditures to be cost-shared commensurate with meeting agency equity needs, in accordance with each Party's authorities and limitations on the use of appropriations.

B. Department of Energy: Whereas DOE supports research and development to reduce the cost of wind energy and overcome challenges to its adoption nationwide, including, but not limited to, wind turbine radar interference, DOE will:

a. Commit senior departmental oversight and leadership.
b. Participate in the budget process by helping identify required studies, field tests, or other agreed-to expenditures.

C. Department of Defense, Federal Aviation Administration, and the National Oceanic and Atmospheric Administration: Whereas these agencies and sub-agencies have critical radar systems that are threatened by wind turbine interference and need to identify workable and affordable mitigation measures, they will:

a. Commit senior departmental oversight and leadership.
b. Help identify required studies, field tests, or other agreed-to activities.
c. Help identify resources to support WTRIM activities commensurate with meeting their agency needs and in accordance with their authorities and limitations on the use of appropriations.

D. Bureau of Ocean Energy Management: Whereas BOEM is the regulatory authority and primary permitting agency for offshore wind energy development on the Outer Continental Shelf and has need to identify critical radar interference and workable mitigation measures, BOEM will:

a. Commit senior management oversight and leadership.
b. Participate in the budget process by helping to identify required studies, field tests, or other agreed-to expenditures based on the principles of cost sharing commensurate with meeting their equity needs.

E. The interagency team will collaborate as appropriate with other federal government groups and organizations, including, but not limited to:

The DoD/FAA National Air Surveillance (NAS) Modernization Working Group, the joint working group responsible for addressing common NAS information assurance needs.

III. STIPULATIONS (subject to applicable Federal laws, regulations, and policies)

Now, therefore, the Parties agree that the undertaking will be implemented with the following stipulations:

A. Management of the WTRIM Working Group will be carried out in the manner of a three-tiered team:

a. Executive Steering Group (ESG): The ESG will be composed of executive level representatives from each of the Parties to provide oversight and strategic direction to the Working Group. The ESG will:

i. Approve a 5-year plan for studies, field tests or other agreed-to activities on which agency funding requirements can be determined, based on the principle of cost-sharing and commensurate with the intent of the MOA and respective agency equity needs, in accordance with each Party's authorities and limitations on the use of appropriations.

ii. Prepare a yearly progress report at the end of each calendar year. The report should also include objectives for the following years.

iii. Lead, or designate a Senior Steering Group (SSG) representative to lead quarterly progress review briefings held by the WTRIM, provide executive oversight, and ensure that the spirit and purpose of the MOA is being satisfactorily pursued.

iv. Appoint representatives to an SSG that is composed of management level representatives from each of the Parties who will carry out ESG approved tasks.

b. Senior Steering Group (SSG) – The ESG will appoint organizational representatives to the SSG. The SSG's purpose will be to provide the WTRIM Working Group (WG) program management and synchronization across WTRIM WG activities. When necessary, the SSG may invite government representatives from non-parties to participate in meetings.

c. WTRIM WG – The WG will be composed of representatives from within as well as outside the Parties, as approved by the SSG. The WG will normally include federal government scientists, engineers, and agency analysts, who will be responsible for executing project tasks, as approved and directed by the SSG. The WG may, as necessary, be augmented at the approval of an SSG member.

IV. MUTUAL UNDERSTANDINGS.

A. This MOA describes the general terms upon which the Parties will cooperate. Performance by each Party under the terms of this MOA is subject to the

availability of appropriated funds and personnel resources through their respective funding procedures. This MOA is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds or transfer of anything of value between Parties to this MOA will be handled in accordance with applicable laws, regulations, and procedures. Any such endeavors by the SSG will be outlined in separate agreements, such as work plans or statements of work, which will be made in writing by representatives of the Parties and independently authorized by appropriate authority.

B. This MOA is a voluntary agreement and does not create any rights or benefits, either substantive or procedural, enforceable by law or equity, by persons who are not party to this agreement, against the Parties, or their officers or employees. This MOA does not apply to any person, agency, or entity outside those of the Parties. This MOA does not impose any legally binding requirements on the Parties, the regulated community, or the public and does not restrict the authorities of the Parties to exercise their discretion in making regulatory decisions based upon their judgment about specific facts and application of relevant statutes and regulations.

C. Nothing in this MOA is intended to diminish, modify, or otherwise affect the statutory or regulatory authorities of the Parties or relieve them of their obligations under Federal Law.

D. Nothing in this MOA will be construed as an indication of a financial commitment by the Parties for the expenditure of funds, except as authorized in specific appropriations.

Each Party is responsible for all costs of its personnel, including pay and benefits, support, and travel. Each Party is responsible for supervision and management of its personnel.

It is expressly understood and agreed that this MOA embodies the entire agreement between the Parties regarding the MOA's subject matter.

E. This MOA may only be modified or amended by mutual agreement of all Parties in writing.

This MOA takes effect beginning on the day after the last Party signs.

F. Additional Federal organizations may become Parties to the MOA by the approval of the ESG.

This MOA will be reviewed annually on or around the anniversary of its effective date for financial impacts and triennially in its entirety.

Any disputes relating to this MOA will, subject to any applicable law, Executive order, directive, or instruction, be resolved by consultation between the Parties or

in accordance with Parties' applicable regulations or directives pertaining to interagency agreements.

G. This MOA may be terminated at any time by the mutual written agreement of all Parties or individual Parties may withdraw upon 90 days written notice to the other Parties.

H. This MOA will remain in force for a period of five years from the date of its execution.

V. POINTS OF CONTACT. The following individuals will be the working level points of contact for this MOA:

DEPARTMENT OF DEFENSE
Robbin Beard
Deputy Director, Military Aviation and Installation Assurance Siting Clearinghouse, Office of the Assistant Secretary of Defense (Energy, Installations an Environment)
robbin.e.beard.civ@mail.mil

DEPARTMENT OF ENERGY
Benjamin Hallissy
Technology Manager
Wind Energy Technologies Office
benjamin.hallissy@ee.doe.gov

BUREAU OF OCEAN ENERGY MANAGEMENT
Marilyn Sauls
Chief, Engineering and Technical Review Branch
Marilyn.Sauls@boem.gov

FEDERAL AVIATION ADMINISTRATION
Shaun Mach
Surveillance Lead, NAS Operations
shaun.mach@faa.gov

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Bill Ward
Radar Operations Center
National Weather Service
bill.ward@noaa.gov

EFFECTIVE DATE. The Parties have by their signatures on the following pages executed this MOA as of this date:

January 4, 2023

FOR THE DEPARTMENT OF DEFENSE

Steve Sample
Executive Director, Military Aviation and Installation Assurance Siting Clearinghouse, Office of the Assistant Secretary of Defense (Sustainment)

FOR THE DEPARTMENT OF ENERGY

James M Ahlgrimm
Acting Director, Wind Energy Technologies Office
Office of Energy Efficiency and Renewable Energy

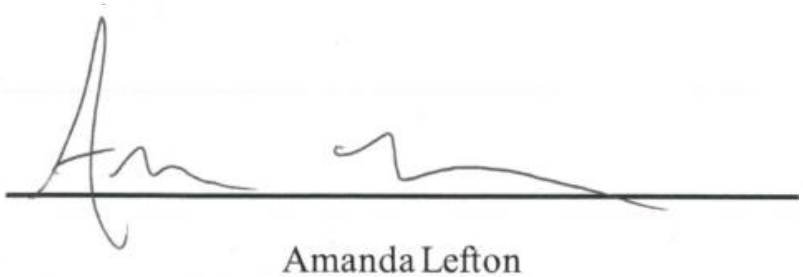
FOR THE FEDERAL AVIATION ADMINISTRATION

James D. Linney
Director, Operations Support
(AJW-1) FAA Technical Operations

FOR THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Thomas Cuff, Director
Office of Observations
National Weather Service

FOR THE BUREAU OF OCEAN ENERGY MANAGEMENT



Amanda Lefton
Director, Bureau of Ocean Energy Management

BOEM
Bureau of Ocean Energy Management

Federal Aviation Administration

« OE/AAA

Wind Turbine FAQs (latest revision 10/19/2023)

1. How should I submit my Wind Turbine and/or Met Tower Filing for aeronautical study?

You are required to determine whether the proposal will be located on or off of airport property. All proposals for wind turbines and met towers that are on airport property should be filed as On Airport Construction. All other stand-alone Turbines or Mets should be filed as Off Airport Construction. Turbines added to another structure, such as on top of another building should be filed as an alteration to the other structure, not as a wind turbine study.

2. Is there a fee for obtaining a determination from the FAA?

No, there are no fees associated with any part of an aeronautical study or obtaining a determination from the FAA.

3. How do I know whether I'm required to file an FAA Form 7460-1, Notice of Proposed Construction or Alteration?

You may use the Notice Criteria Tool link on the home page to determine whether notice is required. The tool is based on Title 14, Code of Federal Regulations, Part 77 (14 CFR Part 77). There is a link to Part 77 on the home page of the website. Section 77.9 identifies construction or alteration requiring notice; Section 77.9(e) identifies construction or alteration not requiring notice.

If notice is required, you may submit the FAA Form 7460-1 electronically on the website. If you don't have an account for e-filing, there are instructions on the home page for setting up your account and e-filing the notice ("Click Here for Instructions on how to E-file your proposal with the FAA").

4. When should I submit my notice?

Because of the extensive studies that wind turbines require, we request that you file notice at least 90-120 days before planned construction. The aeronautical study process includes evaluations by various lines of business, and any identified impacts must be resolved before a final agency determination is issued. A public notice may also be required which includes a 30-day comment period, adding additional time to the aeronautical study. There is no guarantee that a final agency determination will be issued by your planned construction date, so file as early as possible. 14 CFR Part 77 does not carry provisions for waivers or exemptions, so there is no way to shorten or bypass this process. We also recommend that you provide early notice to DOD and DHS to determine if your proposal may impact their mission. Please see FAQ #23 – the FAA needs the exact location/height of each wind turbine along with specific information in order to evaluate any potential impacts to the National Airspace System (NAS).

5. In what order should I submit the wind turbine proposals associated with my project?

Please submit them sequentially in the order of the wind turbine layout.

6. How do I submit attachments with my notice?

Select the Instructions link in the OE/AAA Account section and refer to the Attaching Documents Desk Reference Guide. (https://oeaaa.faa.gov/oeaaa/external/content/instructions.jsp)

7. What kind of documentation do you need in addition to the notices?

Unless you are filing via the import spreadsheet option, you must submit a spreadsheet identifying the turbine ID number, latitude and longitude in degrees, minutes and seconds (NAD 83), site elevation, height above ground level (AGL), overall height above mean sea level (AMSL), and preferred marking and lighting (if you have a preference; please see the paragraph below concerning obstruction marking and lighting proposals). The FAA ASN number should be in ascending order if listed on the spreadsheet.

Please submit a map depicting the layout with the turbine number next to each site.

Please note the following concerning submission of obstruction marking and lighting proposals: You may submit a marking and lighting plan to the FAA with your proposed project, but it is not a requirement, and there is no guarantee that a submitted plan will be the plan outlined in any final determination. If you don't have a marking/lighting preference you may select "Other" in the "Requested Marking/Lighting" field, then type in "No Preference" in the "Other" field. The wind turbine specialist handling your studies will make the final determination concerning which structures should have obstruction lights based on guidance in the current version of FAA Advisory Circular 70/7460-1, Obstruction Marking and Lighting. The determinations for those wind turbines that require obstruction lights will include a condition of WPSRL (white paint/synchronized red lights). The determinations for turbines that require daytime marking only will include a condition of WP (white paint only).

8. I just received my determinations and it says all turbines in my project must be lit and to contact the OEG once my final layout is complete. Do I need to file for a Marking and Lighting study at that time?

Due to the propensity for changes within wind turbine project, our policy is to include a recommendation for white paint/synchronized red lights for all turbines within the project. The proponent must then confirm that the layout is final (no changes, no additions, no removals) and that all turbines can and will be built at their determined location and height. The proponent may contact our office with that confirmation and request a re-evaluation of the marking and lighting recommendations. We will then determine whether a portion of the turbines may qualify for the removal of the lighting recommendation. A Marking and Lighting letter will be issued only for those turbines that we determine can be changed to White Paint Only.

9. If my proposal is on a military airfield do I file it as on airport or off airport property?

If the airfield is strictly military, proposals for temporary or permanent structures should be filed as off-airport structures. If the airfield is joint-use (military and civilian operations), proposals for temporary or permanent structures should be filed as on-airport structures. Any proposed changes to the pavement on an airfield (military or joint-use), i.e., construction/modification/resurfacing of runways, taxiways, aprons, etc. should be filed as on-airport proposals.

10. What/who is the sponsor?

The sponsor can be you, your company, or your client. The sponsor is the person or business ultimately responsible for the construction or alteration. The sponsor appears as the addressee on all correspondence from the FAA.

11. I've received a Determination of No Hazard from the FAA, however, I am now in the process of selling the structure to someone else. How do I get the name on the determination changed to the new owner of the structure?

The FAA is not responsible for tracking changes in ownership. Therefore, if the FAA receives ownership changes it shall not make those corrections to issued determinations.

However, the original e-filer of the case can update the sponsor information through their registered e-filing account to reflect the new owner and ensure that the FAA has a means of contacting responsible parties with subsequent correspondence regarding the aeronautical study and determination.

12. How do I get the latitude and longitude?

The geographic coordinates may be obtained by utilizing a U.S. Geographical Survey 7.5-minute quadrangle map or equivalent, a GPS receiver or a certified survey. The coordinates should be accurate to within the nearest second or hundredth of a second. If a certified survey is available, please DO NOT submit it with your filing. We will ask for it if we need it.

13. What happens after I submit the notice and associated attachments?

An aeronautical study will be conducted by the FAA Air Traffic Organization, Obstruction Evaluation Group (OEG) for off-airport studies. The OEG technician will verify that the information submitted is accurate and complete. If the information is inaccurate or incomplete the technician will request additional information. If additional information is required for any of the studies within the project, none of the other studies will be processed until all required information has been received.

Once the technician has determined that all information is accurate and complete he/she will verify the studies in our system, which will change the status in your account to "Work in Progress." When the status is changed to "Work in Progress" your information is made available to other FAA offices and military representatives that need to review the proposal. Those offices will provide comments to the OEG and after all comments have been received, the OEG technician or specialist will issue the appropriate letter; when it's been issued the status in your account will change to "Determined." After the letter has been issued it will be available on the website. Select "Search Archives" and enter the ASN for a link to the study.

14. When can I file Notice of Actual Construction (7460-2) Part 1 indicating the start of construction?

Supplemental Notice for the start of construction, Part 1 of the 7460-2, must be filed if requested on your determination; however, you are not prohibited from filing it when it was not requested. 14 CFR Part 77 says, in part, “Actual structural work of the proposed construction or alteration, such as the laying of a foundation”. In the past, we have applied this literally as if the words, “such as” were not there. Due to the nature of most wind farm projects, substantial construction may be started prior to the foundation of the actual turbine being laid. You may file 7460-2 Part 1 when you can guarantee that the turbines will be constructed AND substantial construction has started. This could be substations, transmission lines, maintenance and operations control buildings, etc. Part 1 is used to ensure aviation safety is maintained. An extension to the determination is not needed if the construction has started and a 7460-2 Part 1 has been accepted by the FAA.

15. How do I request an extension of my determination?

Select the Instructions link in the OE/AAA Account section and refer to the Request Extension Desk Reference Guide. (https://oeaaa.faa.gov/oeaaa/external/content/instructions.jsp)

16. How do I know who to contact if I have questions about my proposal?

For proposals studied as off-airport structures, in the field entitled "If construction or alteration IS NOT LOCATED on an airport:" you may select the link at the bottom of that box, "QUESTIONS? Please contact the appropriate representative." Select the state in which the structure would be located. The contact information for the technician, backup technician and specialist assigned to that state for wind turbine (WT) studies will be provided.

For proposals on airport property, find the FAA Airports Region / District Office having jurisdiction over the airport on which the construction is located, and contact the office responsible for the state in which your structure would be located. Also, please contact that office with any questions pertaining to documents/sketches associated with on-airport structures that are e-filed.

17. I've received a Determination of No Hazard to Air Navigation for my structure. I've learned that the coordinates or height may be different than those noted in my determination. Am I required to file a new 7460-1 with the FAA?

Generally, a new study is not required if the coordinates are within one second of the coordinates AND the overall AMSL is equal to or lower than the AMSL as listed on the determination letter.

A new study (7460-1) is required for any of the following changes:

(a) A survey was required to mitigate an adverse effect and there is any change in coordinates.

(b) The latitude and/or longitude changes by exactly 1 second or more. For example: Initial latitude 37-00-50.00 – new study is not required for 37-00-49.01 to 49.99, or 37-00-50.01 to 37-00-50.99; a new study is required for 37-00-49.00 or 37-00-51.00.

(c)The overall AMSL (site elevation + height above ground level [AGL]) increases by 1 foot or more.

(d) A new filing is required any time there is a change to the frequencies or use of greater power.

If a new study is required based on a height increase or coordinate changes of 1 second or more, you must submit a New Case (Off Airport) prior to the start of construction so the FAA may evaluate your proposal at the revised height or location. If you do not file for a new study prior to the start of construction as required and you submit the Supplemental Notice (FAA Form 7460-2) instead, the system will recognize the changes and initiate a new study. When the new study is initiated you will be required to certify the new information and submit a new filing so the FAA may evaluate your structure under a new Aeronautical Study Number (ASN). NOTE: It is not a given that the proposal at the revised height or location will result in a favorable determination.

18. Can I get a conditional determination so I can move forward with my proposal?

The FAA receives requests for conditional type determinations so that projects can obtain funding or be in compliance with production tax credit requirements, or for other reasons. It is our policy to have all outstanding issues resolved prior to issuing final agency determinations. The FAA does not control land use issues and cannot issue determinations with conditions applicable to an event taking place in the future. We have no way to enforce or track these type of conditions and therefore cannot comply with requests for "conditional" type determinations.

19. The FAA issued determinations of no hazard for my project and I need to request an extension or file again. Am I guaranteed to get another determination of no hazard the second time around?

There is no guarantee that any project will get a determination of no hazard when it is studied again. The national airspace system is dynamic and changes must be taken into consideration during aeronautical studies. It is to your benefit to build the project prior to the expiration date for the initial determination.

20. How many extensions will the FAA grant?

After conducting a review, if no issues are identified that would cause a significant adverse effect, the FAA may grant one extension. After one extension is issued, if the structure has not been built, the FAA must receive a new filing and restudy the proposal.

21. We've received Determinations of No Hazard to Air Navigation on our proposed wind farm. Now we want to refile for taller turbines. Can we keep the original determinations intact until the FAA issues new determinations?

If you refile for a height increase on a proposed structure, your previous determinations will be terminated. It is our policy to terminate any previous determinations if you refile for a greater height. It causes an administrative hardship on the FAA to carry multiple filings at the same location. Other organizations that evaluate impacts cannot filter out the filings, and this creates a cumulative impact issue. With the multitude of wind turbine filings throughout the U.S., cumulative impact is based on the total number of turbines in an area. Multiple filings in the same location creates a cumulative impact issue that could result in erroneous data analysis. Additionally, obstruction evaluation specialists cannot work out an accurate lighting plan with multiple filings.

The FAA recommends that wind turbine developers work out necessary financial arrangements that are not dependent on maintaining an existing determination if refiling is necessary. The FAA is not responsible for financial arrangements associated with determinations that may have been placed upon you by your financial institute, insurance provider, etc.

22. Can I submit my Wind Turbine Project to the FAA for a feasibility study?

Due to resource limitations, the FAA can no longer support feasibility studies or filings of a speculative nature for proposed Wind Turbine projects. The FAA must have all Wind Turbine configurations including latitude/longitude, height and layout plan at the time of your filing to accurately evaluate the cumulative effect of the entire project as it pertains to the national airspace system. Your proposal may warrant further detailed study including math modelling.

23. How can I request termination of my study?

Select the Instructions link in the OE/AAA Account section and refer to the Request Termination-Dismantled-Abandoned Desk Reference Guide. (https://oeaaa.faa.gov/oeaaa/external/content/instructions.jsp)

24. How long is a Determination of No Hazard to Air Navigation issued for?

A Determination of No Hazard to Air Navigation will be valid for 18 months. This is the maximum time as specified by 14 CFR Part 77.

25. What happened to the WIND TURBINE BUILD OUT TOOL?

Map services and data are available from U.S. Wind Turbine Database, provided by the U.S. Geological Survey, American Clean Power Association, and Lawrence Berkeley National Laboratory via https://eerscmap.usgs.gov/uswtdb

26. Can I file for wind turbines at or higher than 500 feet?

Yes- there is no restriction on heights for filing notice. File electronically on our website for your wind turbines at the highest height and the FAA will conduct an aeronautical study just like any other structure. Please note that at 500 feet or higher, your proposed structure will be in altitudes available to general aviation aircraft. A public notice may be issued to gather aeronautical information, and this includes a 30-day comment period. In order to be considered, the comments must be relevant to the effect the structure would have on AVIATION and must provide sufficient detail to permit a clear understanding of the effect. Only valid aeronautical comments will be factored into the FAA's decision. Example: Comments concerning land values or aesthetics would not be considered valid aeronautical comments.

27. Prior to a determination being issued, who can communicate with the FAA about a specific aeronautical study?

Communication with the FAA about a specific aeronautical study is allowed only for the sponsor and representative identified in the e-filing. Written permission can be uploaded to a study, or e-mailed to the specialist handling the study, by the sponsor or representative, identifying any individual authorized to communicate with the FAA about that specific study. The permission should include the individual's name, phone number, and email address.

28. How do I request the use of an Aircraft Detection Lighting System (ADLS)?

(a) On initial notice of filing of your wind farm project, check the ADLS request box.

(b) File notice for a Marking and Lighting study, check the ADLS request box.

(c) Notice has been filed, study is still work in progress, email specialist with ADLS request.

29. What must be submitted when requesting ADLS?

(a) You must submit showing an approved vendor. A list of approved vendors is available via the useful links on the left hand side of our website.

(b) The ADLS request should be made for all turbines in your project (even the ones that may have white paint only) for consideration.

(c) You must identify where the radar sensors will be mounted – which turbines. If the sensors are to be mounted on stand-alone towers, the towers must be filed as "MET Tower" so that we may associate it with the wind farm. The radar frequency and Effective Radiated Power (ERP) must be included only for the structure the sensor will be mounted onto.

(d) Additional documents will need to be submitted. (see current edition of Advisory Circular 70/7460-1)

a. Radar coverage maps submitted depicting the volume of coverage area at 200 feet above ground level and 1000 feet above the wind turbine with the greatest AMSL height included in the ADLS request. If the required coverage does not exist at 200 feet AGL, additional coverage maps may be requested (e.g. 500 feet AGL, 1000 feet AGL). The ADLS vendor will be able to assist you with this request. Example: If the tallest wind turbine in the ADLS request is 1500 feet AMSL, add 1000 feet to show ADLS coverage at 2500 feet AMSL.

b. Example of manufacturer certifying statement:

(company/name of manufacturer) certifies that the proposed installation of the ADLS for the project will meet the requirements of the current version of AC 70/7460-1 Obstruction Marking and Lighting, and will be in accordance with the most recent Technical Note issued for this system.

(signature of company official) (and date signed)

c.Example of developer certifying statement:

(company/name of developer) certifies that the proposed ADLS for the project will be continuously monitored in accordance with the current version of AC 70/7460-1 Obstruction Marking and Lighting, and the Technical Note issued for the system. We will insure this responsibility is specifically transferred to any subsequent owners of the project.

(signature of company official) (and date signed)

30. I have received approval for an ADLS and now wish to switch vendors. What do I need to do?

You will need to contact the OEG specialist responsible in your area. At a minimum you will be required to upload all new documentation from the new vendor in accordance with the current version of Advisory Circular 70/7460-1.

What happened to the DoD Preliminary Screening Tool?
The DoD Preliminary Screening Tool was not properly maintained and is no longer being hosted by the FAA. The FAA will continue to coordinate with DoD, for formal review, all completed submissions of proposed energy projects received in accordance with 49 U.S.C. 44718 - Structures interfering with air commerce. However, the DoD has a structured process for developers to request a mission compatibility evaluation of proposed energy projects, as documented in Part 211 of Title 32 CFR. (Ã Â§ 211.7 Initiating an informal DoD review of a proposed project). Please visit https://www.dodclearinghouse.osd.mil/Project-Review/ for more information about the DoD's Military Aviation and Installation Assurance Siting Clearinghouse's informal review process. Note: the DoD's informal review does not relieve you of your obligation to file notice with the FAA when your proposal meets 14 CFR Â§77.9 notice requirements.