



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

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)
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DEPARTMENT OF ENERGY

Benjamin Hallissy
Technology Manager
Wind Energy Technologies Office
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**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
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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)



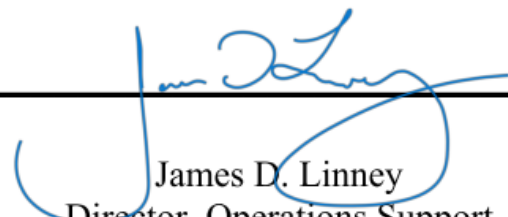
FOR THE DEPARTMENT OF ENERGY



James M Ahlgrim
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



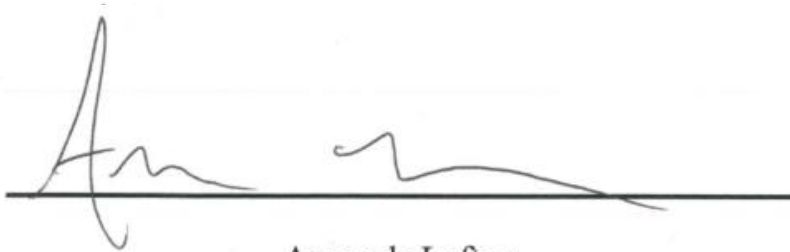
**FOR THE NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION**



Thomas Cuff, Director
Office of Observations
National Weather Service



**FOR THE BUREAU OF OCEAN ENERGY
MANAGEMENT**

A handwritten signature in black ink, appearing to read 'Amanda Lefton', is written over a solid black horizontal line.

Amanda Lefton
Director, Bureau of Ocean Energy Management

