

118TH CONGRESS
1ST SESSION

H. R. 3764

To amend title IV of the Weather Research and Forecasting Innovation Act of 2017 to research the impact of obstructions on radar detection and prediction capabilities, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MAY 31, 2023

Mr. FEENSTRA (for himself, Mr. WEBER of Texas, Mrs. BICE, Mrs. MILLER-MEEKS, and Mr. COLLINS) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To amend title IV of the Weather Research and Forecasting Innovation Act of 2017 to research the impact of obstructions on radar detection and prediction capabilities, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Weather Innovation
5 for the Next Generation Act of 2023” or the “WING Act
6 of 2023”.

1 **SEC. 2. RADAR OBSTRUCTION RESEARCH, DEVELOPMENT,**
2 **TEST, AND EVALUATION PROGRAM.**

3 (a) RADAR OBSTRUCTION RESEARCH.—Title IV of
4 the Weather Research and Forecasting Innovation Act of
5 2017 (15 U.S.C. 8514 et seq.) is amended by adding at
6 the end the following new section:

7 **“SEC. 415. RADAR OBSTRUCTION RESEARCH, DEVELOP-**
8 **MENT, TEST, AND EVALUATION PROGRAM.**

9 “(a) ESTABLISHMENT.—The Director of the Na-
10 tional Weather Service, in coordination with the Assistant
11 Administrator for Oceanic and Atmospheric Research,
12 shall establish a Research, Development, Test, and Eval-
13 uation Program (in this section referred to as the ‘Pro-
14 gram’) to ensure the continued performance of weather
15 radar detection and prediction capabilities with physical
16 obstructions in the line of sight of such radar.

17 “(b) REQUIREMENTS.—In carrying out the Program,
18 the Director, in consultation with the Interagency Council
19 for Advancing Meteorological Services, shall—

20 “(1) partner with industry, academia, Federal,
21 State, and local government entities, and any other
22 entity the Director considers appropriate;

23 “(2) identify and test existing or near-commer-
24 cial technologies and solutions that mitigate the po-
25 tential impact of obstructions on weather radar;

1 “(3) research additional solutions that could
2 mitigate the effects of an obstruction on weather
3 radar, including—

4 “(A) signal processing algorithms;

5 “(B) short-term forecasting algorithms to
6 replace contaminated data; and

7 “(C) the use of dual polarization charac-
8 teristics in mitigating the effects of wind tur-
9 bines on weather radar; and

10 “(4) develop commercially viable technical miti-
11 gation solutions for obstructions to weather radar
12 capabilities.

13 “(c) PRIORITY.—In carrying out the requirements
14 described in subsection (b), the Director shall prioritize
15 consideration of the following technology-based mitigation
16 solutions:

17 “(1) Multifunction phased array radar.

18 “(2) The replacement of contaminated data
19 with commercial radar data.

20 “(3) The utilization of data from private-sector-
21 associated meteorological towers.

22 “(4) Providing wind farm boundaries and con-
23 solidated wind farm areas to display on local fore-
24 casting equipment.

1 “(5) Installing and providing access to rain
2 gauges.

3 “(6) Any other technology-based mitigation so-
4 lution the Director determines could overcome beam
5 blockage or ghost echoes.

6 “(d) TERMINATION.—The authority of the Director
7 to carry out the Program shall terminate on the earlier
8 of—

9 “(1) September 30, 2028; or

10 “(2) one year after date on which the final rec-
11 ommendation required by subsection (e)(2) is sub-
12 mitted by the Director.

13 “(e) REPORT; RECOMMENDATION.—

14 “(1) IN GENERAL.—Not later than two years
15 after the date of the enactment of this section and
16 annually thereafter until the Program terminates
17 pursuant to subsection (d), the Director shall submit
18 to Congress a report on the implementation of the
19 Program, including an evaluation of each tech-
20 nology-based mitigation solution identified for pri-
21 ority consideration pursuant to subsection (c), and a
22 recommendation regarding additional identification
23 and testing of new technologies based on such con-
24 sideration.

1 “(2) FINAL RECOMMENDATION.—Not later
2 than five years after the date of the enactment of
3 this section, the Director shall provide to Congress
4 a recommendation on whether additional research,
5 testing, and development through the Program es-
6 tablished under subsection (a) is needed, and a de-
7 termination of whether a cessation of field research,
8 development, testing, and evaluation is appropriate.

9 “(f) DEFINITIONS.—In this section:

10 “(1) BEAM BLOCKAGE.—The term ‘beam block-
11 age’ means a signal that is partially or fully blocked
12 due to an obstruction.

13 “(2) DIRECTOR.—The term ‘Director’ means
14 the Director of the National Weather Service.

15 “(3) GHOST ECHO.—The term ‘ghost echo’
16 means radar signal reflectivity or velocity return er-
17 rors in radar data due to the close proximity of an
18 obstruction.

19 “(4) OBSTRUCTION.—The term obstruction in-
20 cludes—

21 “(A) a wind turbine that could limit the ef-
22 fectiveness of a weather radar system; and

23 “(B) any building that disrupts or limits
24 the effectiveness of a weather radar system.”.

1 (b) CLERICAL AMENDMENT.—The table of sections
2 in section 1(b) of the Weather Research and Forecasting
3 Innovation Act of 2017 is amended by inserting after the
4 item relating to section 414 the following new item:

“415. Radar obstruction Research, Development, Test, and Evaluation Program.”.

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