

117TH CONGRESS  
2D SESSION

# H. R. 8400

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.

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## IN THE HOUSE OF REPRESENTATIVES

JULY 15, 2022

Mr. FEENSTRA introduced the following bill; which was referred to the Committee on Science, Space, and Technology

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## 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 2022” or the “WING Act  
6 of 2022”.

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 that 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 a 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—

16                   “(1) multifunction phased array radar;

17                   “(2) the replacement of contaminated data with  
18           commercial radar data;

19                   “(3) the utilization of data from private-sector-  
20           associated meteorological towers;

21                   “(4) providing wind farm boundaries and con-  
22           solidated wind farm areas to display on local fore-  
23           casting equipment;

24                   “(5) installing and providing access to rain  
25           gauges; and

1           “(6) any other technology-based mitigation so-  
2           lution that the Director determines could overcome  
3           beam blockage or ghost echoes.

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

7           “(1) September 30, 2027; or

8           “(2) 1 year after date on which the final rec-  
9           ommendation required by subsection (e)(2) is sub-  
10          mitted by the Director.

11          “(e) REPORT; RECOMMENDATION.—

12          “(1) IN GENERAL.—Not later than two years  
13          after the date of enactment of this section and annu-  
14          ally thereafter until the Program terminates pursu-  
15          ant to subsection (d), the Director shall submit to  
16          Congress a report on the implementation of the Pro-  
17          gram, including an evaluation of each technology-  
18          based mitigation solution identified for priority con-  
19          sideration in subsection (c), and a recommendation  
20          regarding additional identification and testing of  
21          new technologies based on such consideration.

22          “(2) FINAL RECOMMENDATION.—Not later  
23          than five years after the date of enactment of this  
24          section, the Director shall provide to Congress a rec-  
25          ommendation on whether additional research, test-

1 ing, and development through the Program estab-  
2 lished by subsection (a) is needed, and a determina-  
3 tion of whether a cessation of field research, develop-  
4 ment, testing, and evaluation is appropriate.

5 “(f) DEFINITIONS.—In this section:

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

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

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

15 “(4) OBSTRUCTION.—The term obstruction in-  
16 cludes—

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

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

21 (b) CLERICAL AMENDMENT.—The table of sections  
22 for the Weather Research and Forecasting Innovation Act  
23 of 2017 is amended by inserting after the item relating  
24 to section 414 the following new item:

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

