

116TH CONGRESS
1ST SESSION

S. 2181

To require the disclosure of information relating to cyberattacks on aircraft systems and maintenance and ground support systems for aircraft, to identify and address cybersecurity vulnerabilities to the United States commercial aviation system, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JULY 18, 2019

Mr. MARKEY (for himself and Mr. BLUMENTHAL) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To require the disclosure of information relating to cyberattacks on aircraft systems and maintenance and ground support systems for aircraft, to identify and address cybersecurity vulnerabilities to the United States commercial aviation system, 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 “Cybersecurity Stand-
5 ards for Aircraft to Improve Resilience Act of 2019” or
6 the “Cyber AIR Act”.

1 **SEC. 2. DEFINITIONS.**

2 In this Act:

3 (1) COVERED AIR CARRIER.—The term “cov-
4 ered air carrier” means an air carrier or a foreign
5 air carrier (as those terms are defined in section
6 40102 of title 49, United States Code).

7 (2) COVERED MANUFACTURER.—The term
8 “covered manufacturer” means an entity that—

9 (A) manufactures or otherwise produces
10 aircraft and holds a production certificate under
11 section 44704(c) of title 49, United States
12 Code; or

13 (B) manufactures or otherwise produces
14 electronic control, communications, mainte-
15 nance, or ground support systems for aircraft.

16 (3) CYBERATTACK.—The term “cyberattack”
17 means the unauthorized access to aircraft electronic
18 control or communications systems or maintenance
19 or ground support systems for aircraft, either wire-
20 lessly or through a wired connection.

21 (4) CRITICAL SOFTWARE SYSTEMS.—The term
22 “critical software systems” means software systems
23 that can affect control over the operation of an air-
24 craft.

25 (5) ENTRY POINT.—The term “entry point”
26 means the means by which signals to control a sys-

1 tem on board an aircraft or a maintenance or
2 ground support system for aircraft may be sent or
3 received.

4 **SEC. 3. DISCLOSURE OF CYBERATTACKS BY THE AVIATION**
5 **INDUSTRY.**

6 (a) IN GENERAL.—Not later than 270 days after the
7 date of the enactment of this Act, the Secretary of Trans-
8 portation shall prescribe regulations requiring covered air
9 carriers and covered manufacturers to disclose to the Fed-
10 eral Aviation Administration any attempted or successful
11 cyberattack on any system on board an aircraft, whether
12 or not the system is critical to the safe and secure oper-
13 ation of the aircraft, or any maintenance or ground sup-
14 port system for aircraft, operated by the air carrier or pro-
15 duced by the manufacturer, as the case may be.

16 (b) USE OF DISCLOSURES BY THE FEDERAL AVIA-
17 TION ADMINISTRATION.—The Administrator of the Fed-
18 eral Aviation Administration shall use the information ob-
19 tained through disclosures made under subsection (a) to
20 improve the regulations required by section 4 and to notify
21 air carriers, aircraft manufacturers, and other Federal
22 agencies of cybersecurity vulnerabilities in systems on
23 board an aircraft or maintenance or ground support sys-
24 tems for aircraft.

1 **SEC. 4. INCORPORATION OF CYBERSECURITY INTO RE-**
2 **QUIREMENTS FOR AIR CARRIER OPERATING**
3 **CERTIFICATES AND PRODUCTION CERTIFI-**
4 **CATES.**

5 (a) REGULATIONS.—Not later than 270 days after
6 the date of the enactment of this Act, the Secretary of
7 Transportation, in consultation with the Secretary of De-
8 fense, the Secretary of Homeland Security, the Attorney
9 General, the Federal Communications Commission, and
10 the Director of National Intelligence, shall prescribe regu-
11 lations to incorporate requirements relating to cybersecu-
12 rity into the requirements for obtaining an air carrier op-
13 erating certificate or a production certificate under chap-
14 ter 447 of title 49, United States Code.

15 (b) REQUIREMENTS.—In prescribing the regulations
16 required by subsection (a), the Secretary shall—

17 (1) require all entry points to the electronic sys-
18 tems of each aircraft operating in United States air-
19 space and maintenance or ground support systems
20 for such aircraft to be equipped with reasonable
21 measures to protect against cyberattacks, including
22 the use of isolation measures to separate critical
23 software systems from noncritical software systems;

24 (2) require the periodic evaluation of the meas-
25 ures described in paragraph (1) for security
26 vulnerabilities using best security practices, includ-

1 ing the appropriate application of techniques such as
2 penetration testing, in consultation with the Sec-
3 retary of Defense, the Secretary of Homeland Secu-
4 rity, the Attorney General, the Federal Communica-
5 tions Commission, and the Director of National In-
6 telligence; and

7 (3) require the measures described in para-
8 graph (1) to be periodically updated based on the re-
9 sults of the evaluations conducted under paragraph
10 (2).

11 **SEC. 5. MANAGING CYBERSECURITY RISKS OF CONSUMER**
12 **COMMUNICATIONS EQUIPMENT.**

13 (a) IN GENERAL.—The Commercial Aviation Com-
14 munications Safety and Security Leadership Group estab-
15 lished by the memorandum of understanding between the
16 Department of Transportation and the Federal Commu-
17 nications Commission entitled “Framework for DOT–
18 FCC Coordination of Commercial Aviation Communica-
19 tions Safety and Security Issues” and dated January 29,
20 2016 (in this section known as the “Leadership Group”),
21 shall be responsible for evaluating the cybersecurity
22 vulnerabilities of broadband wireless communications
23 equipment designed for consumer use on board aircraft
24 operated by covered air carriers that is installed before,

1 on, or after, or is proposed to be installed on or after,
2 the date of the enactment of this Act.

3 (b) RESPONSIBILITIES.—To address cybersecurity
4 risks arising from malicious use of communications tech-
5 nologies on board aircraft operated by covered air carriers,
6 the Leadership Group shall—

7 (1) ensure the development of effective methods
8 for preventing foreseeable cyberattacks that exploit
9 broadband wireless communications equipment de-
10 signed for consumer use on board such aircraft; and

11 (2) require the implementation by covered air
12 carriers, covered manufacturers, and communica-
13 tions service providers of all technical and oper-
14 ational security measures that are deemed necessary
15 and sufficient by the Leadership Group to prevent
16 cyberattacks described in paragraph (1).

17 (c) REPORT REQUIRED.—Not later than one year
18 after the date of the enactment of this Act, and annually
19 thereafter, the Leadership Group shall submit to the Com-
20 mittee on Commerce, Science, and Transportation of the
21 Senate and the Committee on Transportation and Infra-
22 structure of the House of Representatives a report on—

23 (1) the technical and operational security meas-
24 ures developed to prevent foreseeable cyberattacks
25 that exploit broadband wireless communications

1 equipment designed for consumer use on board air-
2 craft operated by covered air carriers; and

3 (2) the steps taken by covered air carriers, cov-
4 ered manufacturers, and communications service
5 providers to implement the measures described in
6 paragraph (1).

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