

116TH CONGRESS
1ST SESSION

S. 1112

To improve the safety of the air supply on commercial aircraft, and for
other purposes.

IN THE SENATE OF THE UNITED STATES

APRIL 10, 2019

Mr. BLUMENTHAL (for himself, Mr. MARKEY, and Mrs. FEINSTEIN) intro-
duced the following bill; which was read twice and referred to the Com-
mittee on Commerce, Science, and Transportation

A BILL

To improve the safety of the air supply on commercial
aircraft, 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 “Cabin Air Safety Act
5 of 2019”.

6 **SEC. 2. COMMERCIAL AIR CARRIER DEFINED.**

7 In this Act, the term “commercial air carrier” means
8 an air carrier operating under part 121 or 135 of title
9 14, Code of Federal Regulations.

1 **SEC. 3. TRAINING TO RESPOND TO SMOKE OR FUME INCI-**
2 **DENTS ON AIRCRAFT.**

3 (a) IN GENERAL.—Not later than 180 days after the
4 date of the enactment of this Act, the Administrator of
5 the Federal Aviation Administration shall prescribe regu-
6 lations requiring flight attendants, pilots, aircraft mainte-
7 nance technicians, and airport first responders and emer-
8 gency response teams to receive training, not less fre-
9 quently than annually, on how to respond to incidents on
10 board aircraft involving smoke or fumes.

11 (b) REQUIREMENTS.—The training required by sub-
12 section (a) shall include the dissemination of educational
13 materials with respect to the following:

14 (1) Sources and types of smoke and fumes on
15 board aircraft.

16 (2) Odor and visual descriptors to allow an in-
17 dividual to recognize the presence of oil and hydrau-
18 lic fluid fumes and other potentially hazardous
19 fumes, such as fumes relating to hydraulic fluid, en-
20 gine exhaust, ground service vehicle exhaust, fuel,
21 de-icing fluid, and ozone.

22 (3) The potential for acute or chronic impair-
23 ment to an individual relating to such fumes.

24 (4) Procedures for recognizing and responding
25 to smoke and fumes on board aircraft.

1 (5) An overview of the system for reporting in-
 2 cidents of smoke or fumes on board aircraft estab-
 3 lished under section 4(a)(2).

4 (6) Requirements relating to reporting incidents
 5 of smoke and fumes on board aircraft to the Federal
 6 Aviation Administration under sections 4 and 6(b).

7 **SEC. 4. REPORTING OF INCIDENTS OF SMOKE OR FUMES**
 8 **ON BOARD AIRCRAFT.**

9 (a) IN GENERAL.—Not later than 180 days after the
 10 date of the enactment of this Act, the Administrator of
 11 the Federal Aviation Administration shall—

12 (1) develop a standardized form for flight at-
 13 tendants, pilots, and aircraft maintenance techni-
 14 cians to report incidents of smoke or fumes on board
 15 an aircraft operated by a commercial air carrier; and

16 (2) establish a system for reporting incidents of
 17 smoke or fumes on board aircraft that allows—

18 (A) pilots, flight attendants, and aircraft
 19 maintenance technicians to—

20 (i) submit the form developed under
 21 paragraph (1) to the Federal Aviation Ad-
 22 ministration; and

23 (ii) receive a copy of such submission
 24 for their records; and

(B) pilots, flight attendants, aircraft maintenance technicians, the collective bargaining representative of employees of the air carrier, and commercial air carriers to search the reported incidents database compiled by the Federal Aviation Administration for the purposes of reviewing and monitoring incidents contained in the database and assisting with investigations conducted under section 5.

(b) CONTENT OF FORMS.—The form developed under subsection (a)(1) for reporting an incident of smoke or fumes on board an aircraft shall include sections for the following information, if available at the time of the report:

(1) Identification of the flight, the type of aircraft, the registration number of the aircraft, and the individual reporting the incident.

(2) Information about the smoke or a fire, if relevant, including a description of the nature and apparent source of the smoke or fire.

(3) Information about the fumes, including a description of the type, apparent source, smell, and visual consistency (if any) of the smoke or fumes.

(4) Information about the location of the smoke or fumes.

1 (5) Information about the engine manufacturer,
2 engine type, the engine serial number, and the age
3 of the engine.

4 (6) Information about—

5 (A) the phase of flight during which smoke
6 or fumes were present; and

7 (B) if the incident happened while the air-
8 craft was on the ground, the location of the air-
9 craft at the airport at the time of the incident.

10 (7) Other observations about the smoke or
11 fumes.

12 (8) A description of symptoms reported by crew
13 members and passengers.

14 (9) Information with respect to whether crew
15 members or passengers used, needed, or were admin-
16 istered supplemental or emergency oxygen.

17 (10) Information regarding any effects on the
18 operation of the flight.

19 (11) Information about maintenance work con-
20 ducted on the aircraft following the incident.

21 (c) PUBLIC AVAILABILITY OF SMOKE AND FUME
22 EVENT INFORMATION.—

23 (1) IN GENERAL.—Not less frequently than
24 quarterly and subject to paragraph (2), the Adminis-
25 trator of the Federal Aviation Administration shall

1 compile, and make available to the public, statistics
2 regarding the information obtained from the forms
3 developed under subsection (a)(1) and submitted to
4 the Federal Aviation Administration.

5 (2) WEBSITE.—The Administrator shall develop
6 a publicly available Internet website that includes
7 the aggregate data required under paragraph (1)
8 and a searchable database for the events reported to
9 the Federal Aviation Administration under sub-
10 section (a)(2) that includes the following variables
11 for each event:

12 (A) Date.

13 (B) Tail number.

14 (C) Air carrier.

15 (D) Phase of flight.

16 (E) Location of fumes.

17 (F) Description of fumes.

18 (G) Aircraft type.

19 (H) Engine type.

20 (I) Oil type.

21 (J) Deidentified narrative.

22 (K) Cause or maintenance information if
23 cause is not known.

24 (L) Such other criteria as the Adminis-
25 trator considers appropriate.

1 (3) REDACTION.—Before making either indi-
2 vidual event information or aggregate data available
3 to the public under paragraph (1) or (2), the Admin-
4 istrator shall redact any personally identifiable infor-
5 mation.

6 **SEC. 5. INVESTIGATIONS.**

7 (a) IN GENERAL.—Not later than 180 days after the
8 date of the enactment of this Act, the Administrator of
9 the Federal Aviation Administration shall prescribe regu-
10 lations requiring the Federal Aviation Administration to
11 conduct an investigation described in subsection (b), after
12 a report is submitted to the Administration through the
13 system for reporting incidents of smoke or fumes on board
14 aircraft established under section 4(a)(2) and before the
15 date that is 7 days after the incident.

16 (b) REQUIREMENTS FOR INVESTIGATIONS.—An in-
17 vestigation described in this subsection shall include the
18 following:

19 (1) Gathering factual and standardized infor-
20 mation from all flight attendants, pilots, aircraft
21 maintenance technicians, airport first responders,
22 emergency response teams, and medical doctors in-
23 volved in the incident.

24 (2) Gathering any reports submitted under sec-
25 tion 4 with respect to the incident.

1 (3) Gathering technical findings on any re-
2 placed, worn, missing, failed, or improperly serviced
3 components that may have resulted in the incident.

4 (4) Identifying the cause of the incident, if pos-
5 sible.

6 (c) PARTICIPATION OF AIR CARRIERS AND COLLEC-
7 TIVE BARGAINING REPRESENTATIVES.—In conducting an
8 investigation under this section, the Federal Aviation Ad-
9 ministration shall—

10 (1) consult with the commercial air carrier in-
11 volved;

12 (2) work in conjunction with the technical rep-
13 resentatives of the air carrier; and

14 (3) invite the participation of the collective bar-
15 gaining representative of employees of the air car-
16 rier.

17 **SEC. 6. AIR MONITORING EQUIPMENT.**

18 (a) REQUIREMENT TO INCLUDE ON COMMERCIAL
19 AIRCRAFT.—Not later than 180 days after the date of the
20 enactment of this Act, the Administrator of the Federal
21 Aviation Administration shall prescribe regulations requir-
22 ing a commercial air carrier, by not later than one year
23 after the regulations are published in the Federal Reg-
24 ister—

1 (1) to install and operate onboard carbon mon-
2 oxide detectors that—

3 (A) are situated in the air supply system
4 to best enable pilots and maintenance techni-
5 cians to locate the source or sources of air sup-
6 ply contamination;

7 (B) continuously monitor carbon monoxide
8 levels in the aircraft air supply system when the
9 aircraft is in flight; and

10 (C) alert the pilot and flight attendants in
11 the event that carbon monoxide concentration is
12 at or above 9 ppm; and

13 (2) to have in place procedures to train the pi-
14 lots to initiate standardized communication proto-
15 cols, as soon as appropriate, with the flight attend-
16 ants and controllers (as needed), and to apply their
17 professional judgement based on onboard conditions,
18 all in response to carbon monoxide concentration at
19 or above 9 ppm.

20 (b) REQUIREMENT FOR A PILOT TO REPORT AN
21 ALARM.—The regulations prescribed under subsection (a)
22 shall require a pilot to submit a form through the system
23 for reporting incidents of smoke or fumes on board air-
24 craft established under section 4(a)(2) if the carbon mon-

1 oxide concentration is at or above 9 ppm at any time dur-
2 ing flight.

3 (c) INCLUSION OF INFORMATION RELATING TO CAR-
4 BON MONOXIDE DETECTORS IN AIRCRAFT MANUALS.—
5 Not later than one year after the date of the enactment
6 of this Act, the Administrator of the Federal Aviation Ad-
7 ministration shall prescribe regulations requiring an air-
8 craft manufacturer that manufactures aircraft for com-
9 mercial air carriers to include procedures for responding
10 to alarms from carbon monoxide detectors during normal
11 and nonstandard operations in the flight operator's man-
12 ual for each such aircraft produced by the manufacturer.

13 (d) CONTINUING RESEARCH TO DEVELOP SENSORS
14 AND TECHNIQUES TO MONITOR BLEED AIR QUALITY.—
15 The Federal Aviation Administration shall continue to re-
16 search, study, and identify emerging technologies suitable
17 to provide reliable warning of bleed air contamination, in-
18 cluding through investigation and research into specific
19 sensors, methods, and operational techniques to prevent
20 fume events.

21 (e) RULE OF CONSTRUCTION.—Nothing in this sec-
22 tion may be construed to imply that an investigation under
23 section 5 is not necessary or that crew members and pas-
24 sengers have not been exposed to fumes if the alarm in

1 a carbon monoxide detector installed on an aircraft is not
2 activated.

3 **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

4 There are authorized to be appropriated to the Fed-
5 eral Aviation Administration such sums as may be nec-
6 essary to carry out this Act.

7 **SEC. 8. EXCLUSION OF HELICOPTERS.**

8 The provisions of this Act do not apply to helicopters.

9 **SEC. 9. CONFORMING REPEAL.**

10 Section 326 of the FAA Reauthorization Act of 2018
11 (Public Law 115–254) is repealed.

