

116TH CONGRESS
2D SESSION

H. R. 8403

To require the Administrator of the Federal Aviation Administration to better integrate human factors into the aircraft certification process through the deployment of necessary enhancements to improve aviation safety, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 25, 2020

Mr. LARSEN of Washington (for himself and Mr. GRAVES of Louisiana) introduced the following bill; which was referred to the Committee on Transportation and Infrastructure

A BILL

To require the Administrator of the Federal Aviation Administration to better integrate human factors into the aircraft certification process through the deployment of necessary enhancements to improve aviation safety, 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 “Human Factors Im-
5 provements to the Aircraft Certification Act”.

6 **SEC. 2. HUMAN FACTORS.**

7 (a) AIRCRAFT CERTIFICATION PROCESS.—

1 (1) EVALUATION.—Not later than 18 months
2 after the date of enactment of this Act, the Adminis-
3 trator (acting through the Associate Administrator
4 for Aviation Safety of the Administration) shall—

5 (A) conduct an evaluation of the develop-
6 ment of tools and methods to support the inte-
7 gration of human factors assessment and sys-
8 tem safety assessments of human interaction
9 with flight deck and flight control systems for
10 transport airplanes into the aircraft certifi-
11 cation process under section 44704 of title 49,
12 United States Code; and

13 (B) develop a framework to better inte-
14 grate human factors throughout such aircraft
15 certification process with the objective of im-
16 proving safety by designing systems and train-
17 ing pilots in a manner that accounts for con-
18 temporary knowledge to reduce the possibility
19 of an accident resulting in whole or in part
20 from the pilot's interaction with the aircraft.

21 (2) REPORT TO CONGRESS.—Not later than 60
22 days after the completion of the evaluation required
23 under paragraph (1), the Administrator shall submit
24 to Congress a report detailing the findings of such

1 report and a plan for implementation based on such
2 findings of such report.

3 (3) IMPLEMENTATION.—Upon submission of
4 the report required under paragraph (2), the Admin-
5 istrator shall implement the findings of such evalua-
6 tion.

7 (b) HUMAN FACTORS EDUCATION PROGRAM.—

8 (1) IN GENERAL.—The Administrator shall de-
9 velop a human factors education program that ad-
10 dresses the effects of modern flight deck systems, in-
11 cluding automated systems, on human performance
12 for transport airplanes and the approaches for better
13 integration of human factors in aircraft design and
14 certification.

15 (2) TARGET AUDIENCE.—The human factors
16 education program shall be integrated into the train-
17 ing protocol in existence as of the date of the enact-
18 ment of this Act such that such program is routinely
19 administered to the following:

20 (A) Appropriate employees within the
21 Flight Standards Service.

22 (B) Appropriate employees within the Air-
23 craft Certification Service.

1 (C) Other employees or authorized rep-
2 resentatives determined to be necessary by the
3 Administrator.

4 (c) TRANSPORT AIRPLANE MANUFACTURER INFOR-
5 MATION SHARING.—The Administrator shall—

6 (1) require each transport airplane manufac-
7 turer to provide the Administrator with the informa-
8 tion or findings necessary for flight crew to be
9 trained on flight deck systems;

10 (2) ensure the information or findings under
11 paragraph (1) adequately includes consideration of
12 human factors; and

13 (3) ensure that each transport airplane manu-
14 facturer identifies any technical basis, justification
15 or rationale for the information and findings under
16 paragraph (1).

17 (d) DEFINITIONS.—In this Act:

18 (1) ADMINISTRATION.—The term “Administra-
19 tion” means the Federal Aviation Administration.

20 (2) ADMINISTRATOR.—The term “Adminis-
21 trator” means the Administrator of the Federal
22 Aviation Administration.

23 (3) HUMAN FACTORS.—The term “human fac-
24 tors” means a multidisciplinary set of principles de-
25 veloped to holistically explain and predict pilot be-

1 havior in relation to the management of the oper-
2 ation of an aircraft, including the pilot's manage-
3 ment of aircraft systems and response to systems
4 failures and non-normal conditions.

5 (4) TRANSPORT AIRPLANE.—The term “trans-
6 port airplane” means a transport-category airplane
7 designed for operation by an air carrier or foreign
8 air carrier type-certificated with a passenger seating
9 capacity of 30 or more or an all-cargo derivative of
10 such an airplane.

11 (e) AUTHORIZATION OF APPROPRIATIONS.—There is
12 authorized to be appropriated such sums as are necessary
13 to carry out this section.

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