



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

DEC 20 2019

RA-19-03915

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Re-Submittal of Deliverable 2, Certification Plan 23168;
"737NG/MAX Enhanced Digital Flight Control System, System
Description"

Model: 737-8, 737-9

RA Project No.: PS18-0837

EASA Project No.: 0010059715

EASA Level: Non-Basic

Response Requested: January 09, 2020

Expedited Flow: Yes

References: (a) Boeing Document D241A018-11, Rev. V; "737NG/MAX
Enhanced Digital Flight Control System, System Description,"
dated December 20, 2019
(b) Boeing letter RA-19-03274, Submittal of Deliverable 2,
Certification Plan 23168; "737NG/MAX Enhanced Digital Flight
Control System, System Description", dated October 26, 2019

Special Instructions: Please forward to Mr. Ken Paoletti – Mechanical/Flight Controls and
Mr. Tom Phan and Mr. John Hill - Avionics/Software

Expedited response is requested to support certification flight
testing.

This letter is to submit:

Compliance Data Deliverable 2 for Certification Plan 23168

Please find enclosed the reference (a) document for review and concurrence. This submittal is
an update to the previously submitted reference (b) version to address the P12.1.2 software.

This letter is being sent for:

Review/Comments/Concurrence:



Mr. John Piccola
RA-19-03915
Page 2

This document is being sent in support of TIA. Boeing requests FAA acknowledge the submittal by the requested response date.

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)

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ECCN: 7E994 and 9E991

The data provided should be returned to Boeing immediately following use by the FAA, including any copies thereof which the FAA may be required to make in the course of its review. Boeing does not authorize the FAA to retain any portion of the materials being supplied.

Sincerely,

(b) (6)

Digitally signed
by
Date: 2019.12.20
14:09:15 -08'00'

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
(b) (6), MC 081-53
FAX: (425) 294-9340
GWO

Enclosures: A) Boeing Document D241A018-11, Rev. V; "737NG/MAX Enhanced Digital Flight Control System, System Description," dated December 20, 2019
B) Two FAA Forms 8100-9

cc

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222
Mr. J. Voytilla	X	X		FAA Program Mgr., 0600-1222
Mr. B Breneman	X	X		Transport Standards Branch Policy & Innovation Branch, International Section, AIR-676 Manager



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

DEC 20 2019

RA-19-03908

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Re-Submittal of Boeing Document 832-8427-223 "Plan for Software Aspects of Certification for the FCC-730 on the Boeing 737-NG/MAX", at Revision C, in Support of Certification Project 23168, Deliverable 14

Model: 737-8, 737-9

RA Project No.: PS18-0837

EASA Project No.: 0010059715

EASA Level: Non-Basic

Response Requested: January 09, 2020

Expedited Flow: Yes

References:

- (a) Boeing letter RA-19-03069, Submittal of Boeing Document 832-8427-223 "Plan for Software Aspects of Certification for the FCC-730 on the Boeing 737-NG/MAX", at Revision -, in Support of Certification Project 23168, Deliverable 14, with Supporting documents dated October 25, 2019
- (b) FAA Letter 860-19-0762a: Comments of 832-8427-223_3rd_Draft
- (c) Boeing letter RA-19-03632, Submittal of Boeing Document 832-8427-223 "Plan for Software Aspects of Certification for the FCC-730 on the Boeing 737-NG/MAX", at Revision A, in Support of Certification Project 23168, Deliverable 14, with Supporting documents dated November 23, 2019
- (d) Boeing letter RA-19-03694, Submittal of Boeing Document 832-8427-223 "Plan for Software Aspects of Certification for the FCC-730 on the Boeing 737-NG/MAX", at Revision B, in Support of Certification Project 23168, Deliverable 14, dated December 4, 2019.
- (e) FAA email, PSAC rev B – FAA/EASA Comments, received on December 14, 2019, with marked up PSAC



Mr. John Piccola
RA-19-03908
Page 2

Special Instructions: Please forward this submittal to Mr. Tom Phan – Avionics/Software and Mr. Daniel Bui – Electrical/Avionics and Mr. John Hill – Senior Engineer

Expedited response requested to support the P12.1.2 TIA.

This letter is to submit:

- 1) Boeing document 832-8427-223, "Plan for Software Aspects of Certification for the FCC-730 on the Boeing 737-NG/MAX", at Revision C, deliverable reference number 14 of Certification Plan 23168
- 2) 4 Form(s) 8100-9 approvals
- 3) PSAC Revision B to C redlined copy of changes with comments regarding FAA/EASA questions
- 4) FAA/EASA Comment Tracking spreadsheet - The applicable tabs for Rev C are:
 - a) **FAA-EASA Comnt Rsp** – PSAC Rev C – These are the comments (and responses) from the FAA marked up PSAC Rev B version
 - b) **MoC Review** – 12-9 Mtg – These are the actions agreed for updating the PSAC that resulted from the FAA-EASA MoC Letter and PSAC Appx F review meeting on 12-9
 - c) **Boeing E-UM Changes** – These are other changes made by the Boeing E-UMs

Previous revisions of the PSAC were submitted via the reference (a) and (c) letters to support 25.1302 testing. This revision addressed the reference (e) comments received from the FAA & EASA, which are responded to in the Enclosure (D) spreadsheet.

This letter is being sent for:

FAA Approval: Boeing respectfully requests the FAA review the enclosed documents and provide comments/approval by the requested response date.

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)

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ECCN: 7E994



Mr. John Piccola
RA-19-03908
Page 3

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Sincerely,

(b) (6) Digitally signed
by (b) (6)
Date: 2019.12.20
15:47:52 -08'00'

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
(b) (6) MC 081-53
FAX: (425) 294-9340
GWO

Enclosures: A) Rockwell Collins Document 832-8427-223, Revision C
B) 4 Form(s) 8100-9 Approval of Enclosure A
C) PSAC Revision B to C redlined copy of changes
D) FAA/EASA Comment Tracking spreadsheet

cc

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222
Mr. J. Voytilla	X	X		FAA Program Mgr., 0600-1222



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

MAR 19 2019

RA-19-00921

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Information Only Submittal of Boeing Document "737NG/737MAX Enhanced Digital Flight Control System Certification Summary," Deliverable 1, CP 23168

Model: 737-8, 737-9

RA Project No.: PS18-0837

EASA Project No.: 0010059715

EASA Level: Non-Basic

Expedited Flow: No

References: (a) Boeing Document D241A023, Rev. G, "737NG/737MAX Enhanced Digital Flight Control System Certification Summary," dated March 18, 2019
(b) Certification Plan 23168, Rev. E, "737-8 / 737-9 Flight Control Computer Software Replacement (Version P12.1)"
(c) FAA Letter 860-19-0112 dated February 20, 2019

Special Instructions: Please forward to Mr. Tom Phan Avionics/Software and Mr. Ken Paoletti, Mechanical / Flight Controls

This letter is to submit:

Information Only - Compliance Data Deliverable:

Please find enclosed the reference (a) document which is identified as Deliverable 1 in the reference (b) certification plan. Also enclosed are two FAA Forms 8100-9 approving the document to the applicable requirements. The reference (c) letter requested that Boeing submit this document for oversight purposes.

This letter is being sent for:

Other: Information only submittal

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)



Mr. John Piccola
RA-19-00921
Page 2

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ECCN: 7E994

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Sincerely,

(b) (6)

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
[REDACTED] MC 081-53
FAX: (425) 294-9340

gdb

Enclosures: A) Boeing Document D241A023, Rev. G
B) Two FAA Forms 8100-9

cc

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

FEB 27 2019

RA-19-00628

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Submittal of Boeing Document D251A018-6, "737 NG/MAX Stabilizer Trim Control System Safety Analysis", at Revision J, in Support of Certification Project 23168 Deliverable 9

Model: 737-8, 737-9

FAA Project No.: N/A

RA Project No.: PS18-0837

EASA Project No.: TBD

EASA Level: Non-Basic

Response Requested: March 4, 2019

Expedited Flow: Yes

In Reply To: FAA Letter 860-19-0112 dated Feb 20, 2019

References: Boeing Letter RA-19-00457, "Re-Submittal of Program Notification Letter for Certification Plan 23168 "737-8 / 737-9 Flight Control Computer Software Replacement (Version P12.1)", dated February 12, 2019

Special Instructions: Boeing respectfully requests approval for both FARs, JARs and CSs
Boeing respectfully requests expedited review to support Flight Test scheduled for March 7, 2019

This letter is to submit:

Boeing D251A018-6, "737 NG/MAX Stabilizer Trim Control System Safety Analysis", deliverable reference number 9 as defined by the reference certification plan and 1 FAA form 8100-9 recommending approval.

This letter is being sent for:

Regulatory Review/Approval. Boeing respectfully requests approval for FARs, JARS and CSs.

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)



Mr. John Piccola
RA-19-00628
Page 2

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ECCN: 9E991

The data provided should be returned to Boeing immediately following use by the FAA, including any copies thereof which the FAA may be required to make in the course of its review. Boeing does not authorize the FAA to retain any portion of the materials being supplied.

Sincerely,

(b) (6)

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
[REDACTED] MC 081-53
FAX: (425) 294-9340

jae

- Enclosures: A) Boeing Document D251A018-6, "737 NG/MAX Stabilizer Trim Control System Safety Analysis", at Revision I dated February xx, 2019
B) 1 (one) Form 8100-9 Recommend Approval of Enclosure A

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

APR 16 2019

RA-19-01230

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Submittal of Deliverable 26, "737NG/MAX Stabilizer Trim Control System Safety Analysis Rev. L – Preliminary," for Certification Plan 23168

Model: 737-8/-9

RA Project No.: PS18-0837

EASA Project No.: 10059715

EASA Level: Non-Basic

Response Requested: April 18, 2019

Expedited Flow: Yes

References:

- (a) Boeing Document D251A018-6. "737NG/MAX Stabilizer Trim Control System Safety Analysis Rev. L - Preliminary," dated April 15, 2019
- (b) Certification Plan 23168, Rev. G; 737-8 / 737-9 Flight Control Computer Software Replacement (Version P12.1.1)

Special Instructions: This preliminary document is being provided to support TIA. Boeing requests FAA acknowledge the submittal. Please forward to Mr. Ken Paoletti, Mechanical / Flight Controls

This letter is to submit:

Compliance Data Deliverable 26 for Certification Plan 23168

Please find enclosed the reference (a) document identified as Deliverable 26 in the reference (b) certification plan. This deliverable has been reviewed by the cognizant AR(s) as the technical expert.

This letter is being sent for:

Information only

This document is being sent in support of TIA. Boeing requests FAA acknowledge the submittal.



Mr. John Piccola
RA-19-01230
Page 2

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)

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ECCN: 9E991

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Sincerely,

(b) (6)

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
(b) (6) MC 081-53
FAX: (425) 294-9340

gdb

Enclosure: Boeing Document D251A018-6, Revision L - Preliminary

cc

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222



U.S. Department
of Transportation
**Federal Aviation
Administration**

Aviation Safety

2200 South 216th Street
Des Moines, WA 98198-6547

May 10, 2019

In Reply

Refer To: 860-19-0343

Ms. Elizabeth A. Pasztor
ODA Lead Administrator
Regulatory Administration
The Boeing Company
P.O. Box 3707, M/C 081-53
Seattle, WA 98124-2207

Dear Ms. Pasztor:

Subject: Submittal of Boeing Document "Flight Crew Operations 25.1302 Compliance Report – MCAS," at Revision A, in Support of Certification Plans 23168 and 16330, Deliverable Numbers 19 and 29, and Project Numbers PS18-0837 and PS18-0037

Reference: (1) Boeing letter RA-19-00625, dated Mar 17, 2019
(2) Boeing letter RA-19-01228, dated Apr 16, 2019

The Federal Aviation Administration (FAA) BASOO Branch Organization Management Team (OMT) completed its review of the reference (1) letter and its enclosure. We received the reference (2) letter and revised report and note that its changes do not impact our comments to the reference (1) letter.

Disposition:

<input type="checkbox"/>	Responsibility for review and FAA approval of the subject document is hereby delegated to the cognizant Engineering Unit Member(s). The OMT has not reviewed the document.
<input type="checkbox"/>	No compliance action. The FAA finds the subject document to be in compliance with the applicable regulatory requirements and, thereby, approves it.
<input checked="" type="checkbox"/>	Opportunity For Improvement (OFI). See Comments section.
<input type="checkbox"/>	*Informal Compliance Action (iFCA) The required file number is provided above. The OMT is rejecting the subject document because it does not meet the requirement(s) defined in the referenced Boeing Procedures Manual (BPM) section/FAA Order/Regulation. We have identified the following regulatory noncompliance and have determined it is eligible for informal compliance action. Rationale is provided in Comments section, if needed. *If selected, see Required and Encountered Conditions sections.

Re-submittal Information:

<input type="checkbox"/>	Re-submittal is not required. The Organization Designation Authorization (ODA) may approve the subject document once it has been determined that all OMT comments have been addressed.
<input checked="" type="checkbox"/>	*Re-submittal is required. The OMT requires that the subject document be re-submitted to the OMT for approval once all OMT comments have been incorporated. *If selected, a comment is required. See Comments section.

Comments:

The OMT has the following high-level comments. Additional detailed and specific comments are listed in the attached enclosure:

1. Ambiguous vs. Unambiguous: Title 14, Code of Federal Regulations (14 CFR) § 25.1302(b) states, "Flight deck controls and information intended for the flight crew's use must:

- (1) Be provided in a clear and unambiguous manner at a resolution and precision appropriate to the task."

Title 14, Code of Federal Regulations (14 CFR) § 25.1302(c) states, "Operationally-relevant behavior of the installed equipment must be:

- (1) Predictable and unambiguous."

FAA Comment: As a stand-alone function, maneuvering characteristics augmentation system (MCAS) (by design) is not provided "in a clear and unambiguous manner" nor is "predictable and unambiguous." This creates a conflict showing compliance to § 25.1302(b)(1) and (c)(1). To clarify the analysis, the FAA recommends including basic speed trim as part of the intended function discussion, and clarifying that pilots are not expected or required to distinguish between speed trim and MCAS modes.

2. Abnormal Modes: Additional evaluations and test scenarios may be required, pending FAA review of a complete integrated systems safety assessment and functional hazard assessment.
3. Pilot Evaluations: The FAA requests additional piloted evaluations of MCAS improvements, to include 3 airline crews.
4. Workload: As stated in the FAA certification plan response letter for P12.1.1, the FAA does not accept the Boeing assessment for § 25.1523, Minimum Crew, Crew Workload as a minor change. The FAA intends to evaluate workload as part of P12.1.1 activities, and it can be concurrent with § 25.1302 activities.

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Public availability to be determined under 5 U.S.C. 552

5. Lessons learned from Ethiopia 302 may warrant additional investigation for runaway trim and manual trim procedures, pending the Seattle Aircraft Certification Office assessment for continued operational safety.

Detailed comments on the Boeing analysis document may be found in the attached enclosure.

If you have any questions regarding this issue, please contact Mr. Shaun Ripple, Senior Flight Test Engineer, by telephone at (206) 231-3585 or by email at shaun.ripple@faa.gov; or Mr. Patrice Adjibly, Program Manager, by telephone at (206) 231-3645 or by email at patrice.adjibly@faa.gov.

Sincerely,



John Piccola
Aviation Safety
Manager, BASOO Branch
Aircraft Certification Service

Enclosure:

Boeing Document "Flight Crew Operations 25.1302 Compliance Report – MCAS" at Rev New with FAA Comments

Re-submittal Information:

<input type="checkbox"/>	Re-submittal is not required. The Organization Designation Authorization (ODA) may approve the subject document once it has been determined that all OMT comments have been addressed.
<input checked="" type="checkbox"/>	*Re-submittal is required. The OMT requires that the subject document be re-submitted to the OMT for approval once all OMT comments have been incorporated. *If selected, a comment is required. See Comments section.

Comments:

The OMT has the following high-level comments. Additional detailed and specific comments are listed in the attached enclosure:

1. Ambiguous vs. Unambiguous: Title 14, Code of Federal Regulations (14 CFR) § 25.1302(b) states, "Flight deck controls and information intended for the flight crew's use must:

- (1) Be provided in a clear and unambiguous manner at a resolution and precision appropriate to the task."

Title 14, Code of Federal Regulations (14 CFR) § 25.1302(c) states, "Operationally-relevant behavior of the installed equipment must be:

- (1) Predictable and unambiguous."

FAA Comment: As a stand-alone function, maneuvering characteristics augmentation system (MCAS) (by design) is not provided "in a clear and unambiguous manner" nor is "predictable and unambiguous." This creates a conflict showing compliance to § 25.1302(b)(1) and (c)(1). To clarify the analysis, the FAA recommends including basic speed trim as part of the intended function discussion, and clarifying that pilots are not expected or required to distinguish between speed trim and MCAS modes.

2. Abnormal Modes: Additional evaluations and test scenarios may be required, pending FAA review of a complete integrated systems safety assessment and functional hazard assessment.
3. Pilot Evaluations: The FAA requests additional piloted evaluations of MCAS improvements, to include 3 airline crews.
4. Workload: As stated in the FAA certification plan response letter for P12.1.1, the FAA does not accept the Boeing assessment for § 25.1523, Minimum Crew, Crew Workload as a minor change. The FAA intends to evaluate workload as part of P12.1.1 activities, and it can be concurrent with § 25.1302 activities.

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Mr. John Piccola
RA-19- 00625
Page 2

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)

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ECCN: 9E991

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Sincerely,

(b) (6)

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
(b) (6) MC 081-53
FAX: (425) 294-9340
gdb

Enclosure: Boeing document "Flight Crew Operations - 25.1302 Compliance Report -- MCAS", at
Revision New

cc

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222



Elizabeth A. Pasztor
ODA Lead Administrator
Regulatory Administration
Commercial Airplanes

The Boeing Company
P.O. Box 3707 MC 03-37
Seattle, WA 98124-2207

DEC 23 2019

RA-19-03926

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Informational Only – P12.1..2 CFTP C5.02.AAT, Deliverable 36 of Cert Plan 23168 and supporting documents

Model: 737-8, 737-9

RA Project No.: PS18-0837

EASA Project No.: 0010059715

EASA Level: Non-Basic

Response Requested: N/A

Expedited Flow: N/A

References: N/A

Special Instructions: Please forward to Mr. Shaun Ripple, Mr. Kevin Greene, and Mr. Robert Stoney – Flight Test; Mr. Patrice Adjibly, Mr. James Sutherland and Mr. Jim Voytilla – Program Managers.

This letter is to submit:

Please find enclosed the subject documents to support the submittal of the CFTP which was also submitted via TPERT and Message Courier on 12/20/2019.

This letter is being sent for:

Information Only:

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)



Mr. John Piccola
RA-19-03926
Page 2

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Sincerely,

(b) (6) Digitally signed
by (b) (6)
Date: 2019.12.23
07:01:40 -08'00'

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
MC 081-53
FAX: (425) 294-9340
GWO

Enclosures: A) CFTP C5.02.AAT
B) 1 8100-9 Recommending Approval
C) Flight Test Plan feedback
D) Cert Flight Condition Matrix

cc

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222
Mr. J. Voytilla	X	X		FAA Program Mgr., 0600-1222
Mr. B Breneman	X	X		Transport Standards Branch Policy & Innovation Branch, International Section, AIR-676 Manager



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

DEC 19 2019

RA-19-03882

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

FAA ACTION		
System Oversight Division • BASOO Branch		
<input checked="" type="checkbox"/> Approve	<input type="checkbox"/> Concur	<input checked="" type="checkbox"/> CFRs
<input type="checkbox"/> Reject	<input type="checkbox"/> Accept	<input checked="" type="checkbox"/> EASA CS
<input type="checkbox"/> Acknowledge		<input type="checkbox"/> CARs
TSO/Project #s:		PS18-0837
Comments:		
Branch #	Concurrence	Date
AIR-715		
S. Ripple via email 12/30/2019 x-3585		
FAA Staff Specialist	Date	Phone
Digitally signed by SHANNON J VOYTILLA Date: 2020.01.06 13:53:47 -08'00'		x-3632
BASOO Manager	Date	Phone
Action Stamp #: 860-20-0007		
File Code: 8110.1 Section 6		

Subject: Submittal of Additional Flight Test Pilot Report B1.42 ABD-PR, "737 MAX MCAS Inoperative Evaluation," Deliverable 38, Cert Plan 23168

Model: 737-8, 737-9

RA Project No.: PS18-0837

EASA Project No.: 0010059715

EASA Level: Non-Basic

Response Requested: January 09, 2020

Expedited Flow: Yes

References:

- (a) Boeing Letter RA-19-03015, "Submittal of retained draft Type Inspection Authorization rev B for Certification Plan 23168, "737-8 / 737-9 Flight Control Computer Software Replacement (Version P12.1.2)", in support of testing for "737-7 MAX Enhanced Digital Flight Control System (EDFCS) P12.1.2 Flight Control Computer (FCC) Software Certification Flight Test" on airplane 1E001," dated October 03, 2019
- (b) Boeing letter RA-19-03501, Submittal of Flight Test Pilot Report B5.02.ACS-PR, "737 MAX EDFCS P12.1.2 Flight Control Computer Software Engineering Flight Test," Deliverable 38, Cert Plan 23168, dated November 13, 2019

Special Instructions: Please forward to Mr. Shaun Ripple, TPM Flight Test, Mr. Tom Phan, TPM Avionics/Software and Mr. Ken Paoletti of Flight Controls.

Expedited response is requested to support P12.1.2 flight testing. This Pilot report was also sent via Message Courier on December 18, 2019.

This letter is to submit:



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

FAA
JUL 07 2019

PGA

JUL 01 2019

RA-19-02115

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

FAA ACTION		
* Boeing Aviation Safety Oversight Office		
<input type="checkbox"/> Approve	<input type="checkbox"/> EASA CS	<input type="checkbox"/> JARs
<input type="checkbox"/> Object	<input type="checkbox"/> CAA's	<input type="checkbox"/> FARs
<input type="checkbox"/> Acknowledge	<input type="checkbox"/> Concur	<input type="checkbox"/> Accept
TSOP Project #s: PS18-0837		
Comments: OK to chart FAA review is ongoing		
Branch #	Concurrence	Date
715	SR	7/16/19
J. Miller PA 7/16/19		
FAA Staff Senc.	Phone	Date
11-0-047 845	7/16/19	
BASOO Manager	Phone	Date
860-19-0582		
Action Stamp #		

Subject: Submittal of 737 Manual Stabilizer Trim Wheel Force Evaluation and Simulation Model Validation

Model: 737-8, 737-9

RA Project No.: PS18-0837

EASA Project No.: 0010059715

EASA Level: Non-Basic

Response Requested: 07/08/2019

Expedited Flow: Yes

References: Type References Here

Special Instructions: Expedited response requested to support program schedule and to support submittal of information to FCAAs.

This letter is to submit:

Please find enclosed the Subject manual stabilizer trim wheel force evaluation and simulator validation report.

This letter is being sent for:

Boeing requests FAA review of the enclosed data and provide concurrence to forward this data to EASA, TCCA, ANAC and CAAC.

Please contact this office or the following individuals if you have further questions

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)

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It is the responsibility of the individual in control of this data to abide by U.S. export laws.
ECCN: 7E994



Elizabeth A. Pasztor
ODA Lead Administrator
Regulatory Administration
Commercial Airplanes

The Boeing Company
P.O. Box 3707 MC 93-07
Seattle, WA 98124-2607

NOV 11 2019

RA-19-03472

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

FAA ACTION		
System Oversight Division • BASOO Branch		
<input checked="" type="checkbox"/> Approve	<input type="checkbox"/> Concur	<input type="checkbox"/> CFRs
<input type="checkbox"/> Reject	<input type="checkbox"/> Accept	<input type="checkbox"/> EASA CS
<input type="checkbox"/> Acknowledge		<input type="checkbox"/> CARs
TSO/Project #s:		PS18-083 7
Comments:		
Branch #	Concurrence	Date
AIR-715	PRB	11/15/19
FAA Staff Specialist	Date	Phone
12/16/19	11/15/19	x3645
BASOO Manager	Date	Phone
11/15/19	11/15/19	x3645
Action Stamp #: 860-19-0949		
File Code: 8110.1 Section 6		

Dear Mr. Piccola,

Subject: Submittal of Updated Flight Test Pilot Report B1.33.AAQ-PR, "Stall Testing with EFS and/or STS off Part 2," Deliverable 46, Cert Plan 23168

Model: 737-8, 737-9ee

RA Project No.: PS18-0837ee

EASA Project No.: 0010059715ee

EASA Level: Non-Basic

Response Requested: November 14, 2019ee

Expedited Flow: Yesee

References: (a) Boeing Letter RA-19-02545, "Submittal of retained draft Type Inspection Authorization rev A for Certification Plan 23168, 737-8 / 737-9 Flight Control Computer Software Replacement (Version P12.1.2), in support of testing for Stall Testing with EFS and/or STS OFF on airplane 1E001," dated September 24, 2019ee
(b) Boeing letter RA-19-02958, Submittal of Flight Test Pilot Report, B1.14.AAS-PR, "Stall Testing with EFS and/or STS off," Deliverable 46, Cert Plan 23168, Rev. M + RL1, dated September 25, 2019ee

Special Instructions: Please forward to Mr. Shaun Ripple, TPM Flight Test, Mr. Tom Phan, TPM Avionics/Software and Mr. Ken Paoletti of Flight Controls.

Expedited response is requested to support Stall ID testing scheduled for November 16, 2019.

This letter is to submit:

Please find the Enclosure (A) subject document which is being submitted in support of the TIA reference (a) letter. This supersedes the reference (b) submitted Pilot Report letter – the previous report is included as Enclosure (b) for reference. This Pilot report was also sent via Message Courier on November 11, 2019.



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC DB1-53
Seattle, WA 98124-2207

01 NOV 2019

RA-19-03351

Mr. (b) (6)
EASA 737 Project Certification Manager
European Aviation Safety Agency
Ottoplatz, 1
D-50679 Köln,
Germany

Dear Mr. (b) (6)

Subject: Submittal of Simulator Certification Flight Test Plan, Deliverable 35, Certification Plan 23168

Model: 737-8, 737-9

RA Project No.: PS18-0837

EASA Project No.: 0010059715

EASA Level: Non-Basic

Response Requested: 8 November 2019

References:

- (a) S5.02.AAF, Rev New, Flight Test Plan Abstract, "737 MAX Enhanced Digital Flight Control System (EDFCS) P12.1.2 Flight Control Computer (FCC) Software Certification Simulator Test,"
- (b) Certification Plan 23168, Rev N; "737-8 / 737-9 Flight Control Computer Software Replacement (Version P12.1.2)"
- (c) Ares(2019)6253046, "Validation Work Plan – 0010059715," Issue 3, dated 9 October 2019

Special Instructions: Please forward to Panel 6 for review and Panels 1 and 4 for information.

This letter is to submit:
Simulator Test Plan

Please find enclosed the reference (a) document which is being submitted in accordance with the reference (b) certification plan and the reference (c) work plan.

This letter is being sent for:
Regulatory Review:

Boeing respectfully requests EASA review the enclosed document and provide a response by the requested response date.

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)

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Page 2

Mr. [REDACTED]
RA-19-03351

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It is the responsibility of the individual in control of this data to abide by U.S. export laws.
ECCN: 9E991

Sincerely,

(b) (6) (b) (6)
[REDACTED]
[REDACTED]

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator

(b) (6) [REDACTED] MC 081-53
FAX: (425) 294-9340

gdb

Enclosure: S5.02.AAF, Rev New, Flight Test Plan Abstract, "737 MAX Enhanced Digital Flight Control System (EDFCS) P12.1.2 Flight Control Computer (FCC) Software Certification Simulator Test

cc:

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Manager., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222
Israel Navarro		X	X	Section Manager – Non-EU Large Transport Aeroplanes



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

MAR 04 2019

RA-19-00629

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Submittal of Boeing Document D241A018-12, "737 NG/MAX ENHANCED DIGITAL FLIGHT CONTROL SYSTEM, AUTOTHROTTLE, AND YAW DAMPER SAFETY ANALYSIS MODEL: 737-600/700/800/900, 737-7/8/9", at Revision N, in Support of Certification Plan 23168 Deliverable 10

Model: 737-8, 737-9

RA Project No.: PS18-0837

EASA Project No.: 10059715

EASA Level: Non-Basic

Response Requested: March 6, 2019

Expedited Flow: Yes

References: (a) Boeing Letter RA-19-00457, "Re-Submittal of Program Notification Letter for Certification Plan 23168 "737-8 / 737-9 Flight Control Computer Software Replacement (Version P12.1)", dated February 12, 2019
(b) FAA Letter 860-19-0112 dated Feb 20, 2019

Special Instructions: Boeing respectfully requests approval for both FARs and CSs
Boeing respectfully requests expedited review to support TIA scheduled for March 8, 2019.

This letter is to submit:

Boeing document D241A018-12, "737 NG/MAX ENHANCED DIGITAL FLIGHT CONTROL SYSTEM, AUTOTHROTTLE, AND YAW DAMPER SAFETY ANALYSIS MODEL: 737-600/700/800/900, 737-7/8/9", deliverable reference number 10 as defined by the certification plan submitted with reference (a). 8100-9 recommend approval of the document is included.

This letter is being sent for:

Regulatory Review/Approval of retained deliverable as noted in reference (b) comment 2.d. Boeing respectfully requests approval for FARs and CSs.

Please contact this office or the following individuals if you have further questions

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)



Mr. John Piccola
RA-19-00629
Page 2

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ECCN: 7E994

The data provided should be returned to Boeing immediately following use by the FAA, including any copies thereof which the FAA may be required to make in the course of its review. Boeing does not authorize the FAA to retain any portion of the materials being supplied.

Sincerely,

(b) (6)

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
[REDACTED] MC 081-53
FAX: (425) 294-9340

jae

- Enclosures: A) Boeing Document D241A018-12, "737 NG/MAX ENHANCED DIGITAL FLIGHT CONTROL SYSTEM, AUTOTHROTTLE, AND YAW DAMPER SAFETY ANALYSIS MODEL: 737-600/700/800/900, 737-7/8/9", at Revision N dated February 28, 2019
B) 1 (one) Form 8100-9 Recommend Approval of Enclosure A

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222



JUN 25 2019

RA-19-01899

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Submittal of Compliance Data Deliverable #14 for Certification Plan 23147, "737-8/-9 Displays Software Block Points 1.5 and 1.5.1"

Model: 737-8, 737-9

RA Project No.: PS18-0844

EASA Project No.: 10059349

EASA Level: Non-Basic

Response Requested: July 10, 2019

Expedited Flow: No

References:

- (a) Boeing Letter RA-18-04529, "Program Notification Letter for Certification Plan 23147 Revision New, "737-7/-8/-9 Displays Software Block Point 1.5", dated December 21, 2018
- (b) FAA Letter 860-19-0016, dated January 31, 2019
- (c) Boeing Letter RA-19-01845, "Resubmittal of Certification Plan 23147, Revision F, "737-8/-9 Displays Software Block Points 1.5 and 1.5.1", dated June 20, 2019
- (d) Boeing Letter RA-19-00351, "Submittal of Compliance Data Deliverable #1 for Certification Plan 23147, "737-7/-8/-9 Displays Software Block Point 1.5", dated February 6, 2019
- (e) FAA Stamp 860-19-0098, dated February 13, 2019

Special Instructions: Please forward to Mr. Tom Phan, Avionics/Software TPM

Certification Plan 23147 Revision New was submitted to the FAA via reference (a) and received concurrence via reference (b). Subsequently, the certification plan was resubmitted via reference (c) and is still pending approval from FAA.

The MAX Display System (MDS) Plan for Software Aspects of Certification (PSAC) for software block point 1.5 was submitted to FAA via reference (d) and received approval via reference (e). The PSAC has subsequently been revised for software block point 1.5.1 and is being resubmitted as compliance data deliverable #14.

This letter is to submit:

Compliance Data Deliverable, #14

This letter is being sent for:

Regulatory Review/Approval



Mr. John Piccola
RA-19-01899
Page 2

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)

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ECCN: 7E994

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Sincerely,

(b) (6)

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
(b) (6) MC 081-53
FAX: (425) 294-9340

hdn

Enclosures: A) Document 946-2214-007, Rev -, "MAX Display System (MDS) Plan for Software Aspects of Certification (PSAC)," dated 6/11/2019
B) Two (2) FAA Forms 8100-9 (Recommend Approval)

cc

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081 53
Seattle, WA 98124-2207

AUG 05 2019

RA-19-02382

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Information Only – Submittal of Compliance Data Deliverables #17 and #19 for Certification Plan 23147, "737-8/-9 Displays Software Block Points 1.5 and 1.5.1"

Model: 737-8, 737-9

RA Project No.: PS18-0844

EASA Project No.: 10059349

EASA Level: Non-Basic

References: a) Boeing Letter RA-19-01845, "Resubmittal of Certification Plan 23147, Revision F, "737-8/-9 Displays Software Block Points 1.5 and 1.5.1", dated June 20, 2019
b) FAA Letter 860-19-0618, dated July 26, 2019

Special Instructions: Please forward to Mr. Tom Phan, Avionics/Software TPM

Certification Plan 23147 Revision F was submitted via the reference (a) letter. The FAA responded via the reference (b) letter requesting the subject deliverables for oversight.

This letter is to submit:

Compliance Data Deliverables, #17 and #19

This letter is being sent for:

Information Only

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)

The information being forwarded to the FAA by or with this correspondence is for the exclusive purpose of support of applications for or amendments to Type Certificates, is considered proprietary to The Boeing Company and/or its suppliers, and is provided on a confidential basis.

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Mr. John Piccola
RA-19-02382
Page 2

It is the responsibility of the individual in control of this data to abide by U.S. export laws.
ECCN: 7E994

The data provided should be returned to Boeing immediately following use by the FAA, including any copies thereof which the FAA may be required to make in the course of its review. Boeing does not authorize the FAA to retain any portion of the materials being supplied.

Sincerely,

(b) (6)

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
[REDACTED] MC 081-53
FAX: (425) 294-9340

cpv

- Enclosures:
- A) D242A408, "737-7/-8/-9 MAX Display System (MDS) Certification Summary", Revision M dated July 19, 2019
 - B) One (1) FAA 8100-9 approval form for Deliverable #17
 - C) MDS-3165-DAAS, "737 MAX Display System (MDS) Development Assurance Accomplishment Summary (DAAS)", Revision E dated June 26, 2019
 - D) One (1) FAA 8100-9 approval form for Deliverable #19

cc

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

FEB 06 2019

RA-19-00351

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Submittal of Compliance Data Deliverable #1 for Certification Plan 23147, "737-7/-8/-9 Displays Software Block Point 1.5"

Model: 737-8, 737-9

RA Project No.: PS18-0844

EASA Project No.: TBD

EASA Level: Non-Basic

Response Requested: February 12, 2019

Expedited Flow: Yes

References: (a) Boeing Letter RA-18-04529, "Program Notification Letter for Certification Plan 23147 Revision New, "737-7/-8/-9 Displays Software Block Point 1.5"", dated December 21, 2018
(b) FAA Letter 860-19-0016, dated January 31, 2019

Special Instructions: An expedited response is requested to support the program schedule. This project is listed on the FAA/Boeing priority list. Please forward this deliverable and associated FAA Forms 8100-9 to Mr. Tom Phan, Avionics/Software TPM.

Certification Plan 23147 Revision New was submitted to the FAA via the reference (a) letter. In the reference (b) letter, the FAA indicated they would retain compliance data deliverable #1.

This letter is to submit:

Compliance Data Deliverable: #1

This letter is being sent for:

Regulatory Review/Approval: Boeing respectfully requests the FAA review the enclosed document and provide notification of approval for both FAA and EASA regulations by the requested response date.

Please note that Boeing has not received an EASA project number at this time, however compliance data deliverable #1 is not the subject of any EASA non-basic criteria for this project.



Mr. John Piccola
RA-19-00351
Page 2

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)

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ECCN: 7E994

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Sincerely,

(b) (6)

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
(b) (6) MC 081-53
FAX: (425) 294-9340

gdb

Enclosures: A) Document 946-2214-006, Rev -, "MAX Display System (MDS) Plan for Software Aspects of Certification (PSAC)," dated 12/14/2018
B) Two FAA Forms 8100-9

cc

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

DEC 30 2019

RA-19-03956

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Information to Supplement the Submittal of 737 NG/MAX Enhanced Digital Flight Control System, Autothrottle, and Yaw Damper Safety Analysis - Preliminary, Deliverable 27 of Certification Plan 23168 737-8, 737-9

Model:

RA Project No.: PS18-0837

EASA Project No.: 0010059715

EASA Level: Non-Basic

Response Requested: N/A

Expedited Flow: N/A

References:

- (a) Boeing Document 241A018-11, Rev P – 737 NG/MAX Enhanced Digital Flight Control System, Autothrottle, and Yaw Damper Safety Analysis – Preliminary, dated December 26, 2019
- (b) Boeing letter RA-19-03952, Information only Submittal of 737 NG/MAX Enhanced Digital Flight Control System, Autothrottle, and Yaw Damper Safety Analysis - Preliminary, Deliverable 27 of Certification Plan 23168, dated December 26, 2018

Mr. Tom Phan and Mr. John Hill - Avionics/Software

Special Instructions: Please forward to Mr. Ken Paoletti – Mechanical/Flight Controls and

This letter is to submit:

Additional information to supplement the reference (b) submittal of the reference (a) Compliance Data Deliverable 27 for Certification Plan 23168

This letter is being sent for:

Information only: The reference (a) document was submitted in support of TIA. The Flight Controls-Autoflight E-UM reviewed the Preliminary SSA for accuracy and completeness.

The P12.1.2 content of the EDFCS has been moved into a new Appendix F for clarity in the EDFCS SSA. Appendix E has been reverted to the Revision M version of the document (used for the 737-9 ATC) except with notes regarding superseded fault trees.

Changes to the STS-related aspects of the EDFCS are covered in the ISSA.



Mr. John Piccola
RA-19-03956
Page 2

The EDFCS SSA includes updates to two EDFCS-specific fault trees that were affected by the P12.1.2 design changes and associated FHA revisions. Those updates are contained in the new Appendix F.

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)

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Sincerely,

(b) (6)

Digitally signed
by [redacted]
Date: 2019.12.30
16:30:57 -08'00'

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
[redacted] MC 081-53
FAX: (425) 294-9340
GWO

Enclosures: N/A
cc

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222
Mr. J. Voytilla	X	X		FAA Program Mgr., 0600-1222
Mr. B Breneman	X	X		Transport Standards Branch Policy & Innovation Branch, International Section, AIR-676 Manager



Elizabeth A. Pasztor
OJA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

17 JUN 2019

RA-19-01935

Mr. (b) (6)
EASA 737 Project Certification Manager
European Aviation Safety Agency
Ottoplatz, 1
D-50679 Köln,
Germany

Dear Mr. (b) (6)

Subject: Submittal of Certification Flight Test Plan (Abstract), Deliverable 21, Certification Plan 23168

Model: 737-8, 737-9

RA Project No.: PS18-0837

EASA Project No.: 0010059715

EASA Level: Non-Basic

Response Requested: 1 July 2019

References:

- (a) S5.02.AAE, Rev E, Test Plan Abstract, "737 MAX Enhanced Digital Flight Control System (EDFCS) P12.1.1 Flight Control Computer (FCC) Software and Failure Evaluation Certification Cab Test,"
- (b) Certification Plan 23168, Rev L; "737-8 / 737-9 Flight Control Computer Software Replacement (Version P12.1.1)"
- (c) Ares(2019)3103995, "Validation Work Plan – 0010059715," Issue 2, dated 10 May 2019

Special Instructions: Please forward to Panel 6

This letter is to submit:

Other: Abstract of Simulator Test Plan

Please find enclosed the reference (a) document which is being submitted in accordance with the reference (b) certification plan and reference (c) work plan.

This letter is being sent for:

Regulatory Review:

Boeing respectfully requests EASA review the enclosed document and provide a response by the requested response date.

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)



Page 2

Mr. [REDACTED]
RA-19-01935

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It is the responsibility of the individual in control of this data to abide by U.S. export laws.
ECCN: 9E991

Sincerely,

(b) (6)

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
[REDACTED] MC 081-53
FAX: (425) 294-9340

gdb

Enclosure: S5.02.AAE, Rev E, Test Plan Abstract

cc:

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Manager., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222
Mr. (b) (6)		X	X	EASA 737 PCM – NG

Request for Assistance Coordination Form

Requestor Name: Patrice Adjibly		Project #: PS18-0837	
Requesting Assistance From:		Document #: Boeing letter RA-19-01917	
<input type="checkbox"/> LAACO <input checked="" type="checkbox"/> SACO <input type="checkbox"/> BASOO <input type="checkbox"/> OTHER:		WTS #:	
Date of Request:	6/17/2019	Requested Completion Date:	6/24/2019
Requested Support: (select one from each row)		<input checked="" type="checkbox"/> Cert Plan Review <input type="checkbox"/> Compliance Doc Review <input type="checkbox"/> Other <input type="checkbox"/> Cert Only <input checked="" type="checkbox"/> Safety Related AD/PAD #: CMR	
Description of Requested Support (provide full scope of request – if support from multiple disciplines are needed, note all disciplines requested in this field, and include links to documents, as applicable): Request SACO review of Submittal of 737MAX Certification Maintenance Requirements Document, Deliverable 34, Certification Plan 23168.			
DISCIPLINE (one form per discipline)		SECTION ASSIGNMENT (one form per section)	
Flight Control & Mechanical Systems		SACO Systems & Equip, AIR-783	
Requesting Office Management Approval: <input checked="" type="checkbox"/> CONCUR <input type="checkbox"/> NONCONCUR		<i>Julie Alger</i> 6/17/19 Julie Alger, Manager, AIR-863 Date:	
THIS SECTION TO BE COMPLETED BY BRANCH MANAGER/SENIOR/PM			
<input type="checkbox"/> YES, the office can support this request:		Assigned Engineer:	
		ECD:	
<input type="checkbox"/> NO, the office can't support this request (provide rationale in comments box below)			
If Manager/Senior/PM review is not needed, check "NA" in Manager/Senior/PM field below			
THIS SECTION TO BE COMPLETED BY ASE AFTER REVIEW (as applicable)			
<input type="checkbox"/> CONCUR		<input type="checkbox"/> OTHER – SEE COMMENTS	
<input type="checkbox"/> CONCUR - WITH COMMENTS		<input type="checkbox"/> NONCONCUR – WITH COMMENTS	
Engineer Signature & Date:		Manager/Senior/PM Signature & Date: <input type="checkbox"/> NA	
Comments or Suggested Response Text (add additional pages, if needed): <div style="height: 100px;"></div>			

Date transmitted back to the requestor: _____



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-55
Seattle, WA 98124-2207

FEB 06 2019

RA-19-00351

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Submittal of Compliance Data Deliverable #1 for Certification Plan 23147, "737-71-81-9 Displays Software Block Point 1.5"

Model: 737-8, 737-9ee

RA Project No.: PS18-0844ee

EASA Project No.: TBD

EASA Level: Non-Basic

Response Requested: February 12, 2019

Expedited Flow: Yes

References: (a) Boeing Letter RA-18-04529, "Program Notification Letter for Certification Plan 23147 Revision New, "737-71-81-9 Displays Software Block Point 1.5", dated December 21, 2018
(b) FAA Letter 860-19-0016, dated January 31, 2019

Special Instructions: An expedited response is requested to support the program schedule. This project is listed on the FAA/Boeing priority list. Please forward this deliverable and associated FAA Forms 8100-9 to Mr. Tom Phan, Avionics/Software TPM.

Certification Plan 23147 Revision New was submitted to the FAA via the reference (a) letter. In the reference (b) letter, the FAA indicated they would retain compliance data deliverable #1.

This letter is to submit:

Compliance Data Deliverable: #1

This letter is being sent for:

Regulatory Review/Approval: Boeing respectfully requests the FAA review the enclosed document and provide notification of approval for both FAA and EASA regulations by the requested response date.

Please note that Boeing has not received an EASA project number at this time, however compliance data deliverable #1 is not the subject of any EASA non-basic criteria for this project.

FAA ACTION		
Boeing Aviation Safety Oversight Office		
<input checked="" type="checkbox"/> Approve	<input checked="" type="checkbox"/> EASA CS	<input type="checkbox"/> JARs
<input type="checkbox"/> Reject	<input type="checkbox"/> CARs	<input checked="" type="checkbox"/> FARs
<input type="checkbox"/> Acknowledge	<input type="checkbox"/> Concur	<input type="checkbox"/> Accept
TSO/Project No. _____		
Comments: _____		
Branch #	Concurrence	Date
863	DB	2/13/19
Tom Phan 2/13/19		
FAA Staff Sign	Phone	Date
860-19-0098	3645	2/13/19
BASOO Manager		
860-19-0098		
Action Stamp #		

File 8000.4, Section 6



Elizabeth A. Pasztor
ODA Lead Administrator

The Boeing Company
P.O. Box 3707 MC 081-53
Seattle, WA 98124-2207

NOV 11 2019

RA-19-03268

Mr. John Piccola
Manager, AIR-860
BASOO Branch
Department of Transportation
Federal Aviation Administration
2200 S. 216 Street
Des Moines, WA 98198-6547

Dear Mr. Piccola,

Subject: Resubmittal of Compliance Data Deliverable #15 for Certification Plan 23147, "737-8/-9 Displays Software Block Points 1.5 and 1.5.1"

Model: 737-8, 737-9

RA Project No.: PS18-0844

EASA Project No.: 10059349

EASA Level: Non-Basic

Response Requested: November 26, 2019

Expedited Flow: No

References:

- a) Boeing letter RA-19-02323, "Submittal of Compliance Data Deliverable #15 for Certification Plan 23147, "737-8/-9 Displays Software Block Points 1.5 and 1.5.1", dated July 30, 2019
- b) FAA letter 860-19-0751, dated September 18, 2019
- c) Boeing letter RA-19-03056, "Resubmittal of Compliance Data Deliverable #15 for Certification Plan 23147, "737-8/-9 Displays Software Block Points 1.5 and 1.5.1", dated October 10, 2019

Special Instructions: Please forward to Mr. Daniel Bui and Mr. Tom Phan.
Boeing respectfully requests approval for both FARs and CSs.

The Software Accomplishment Summary (SAS) was submitted via reference (a) and received FAA comments via reference (b). This letter supersedes reference (c) which was submitted to addresses FAA comments in reference (b). This letter further clarifies the responses contained in Enclosure A.

This letter is to re-submit:

Responses to FAA comments in reference (b)
Compliance Data Deliverable #15

This letter is being sent for:

Regulatory Review/Approval of the SAS, Revision -
Please note the SAS has not been revised since the reference (a) submittal.



Mr. John Piccola
RA-19-03268
Page 2

Please contact this office or the following individuals if you have further questions:

Project Administrator (PA): (b) (6) at (b) (6)
Program Manager: (b) (6) at (b) (6)

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ECCN: 7E994

The data provided should be returned to Boeing immediately following use by the FAA, including any copies thereof which the FAA may be required to make in the course of its review. Boeing does not authorize the FAA to retain any portion of the materials being supplied.

Sincerely,

(b) (6)

(for) Elizabeth A. Pasztor
The Boeing Company ODA Lead Administrator
(b) (6) MC 081-53
FAX: (425) 294-9340

hdn

Enclosures: A) Boeing Responses to FAA Letter 860-19-0751
B) Document 946-2217-004, Rev -, "MAX Display System (MDS) Software Accomplishment Summary (SAS)," dated 6/24/2019
C) Two (2) FAA Forms 8100-9 (Recommend Approval)

cc

Name	SP	Encl	MC	Title
Mr. P. Adjibly	X	X		FAA Program Mgr., 0600-1222
Mr. J. Sutherland	X	X		FAA Program Mgr., 0600-1222