Federal Aviation Administration
National Simulator Program

Statement of Qualification

The Federal Aviation Administration (FAA) National Simulator Program (NSP) has evaluated this Flight Simulation Training Device (FSTD) and found it to meet the standards set forth in the qualification document.

Sponsor	Pan Am International Flight Academy
FAA ID	261
Aircraft Designation	B-737-300
Qualification Document	120-40A
Qualification Level	D
Expiration Date	6/30/2021

With the exception of noted exclusions for which this FSTD has not been subjectively tested, the qualification of this FSTD includes the tasks set out in the applicable qualification document. To maintain qualification, this FSTD must continue to meet all the standards and specifications of the qualification document and is subject to the conditions and limitations in the FSTD Information and Configuration List as well as the last FAA FSTD Evaluation Report. This certificate is not transferable, and unless revoked, suspended, or amended is valid until the expiration date.

Federal Aviation Administration
National Simulator Program

FSTD INFORMATION & CONFIGURATION

Sponsor Name:	Pan Am International Flight Academy
Designator:	PN7X
FAA ID:	261
Make/Model/Series:	B-737-300
Evaluation Interval:	12

Section 1. Sponsor | FSTD Location | Contact Information

FSTD Location

Training Facility Name:	Pan Am Las Vegas		
Address:	1771 WHITNEY MESA DR		
City:	HENDERSON		
State/Prov/Terr:	NV		
Country:	USA		
ZIP:	89014		

Local FAA Authority / FAA Training Program Approval Authority (TPAA)

Name:	Behrle, Richard		
Address:	2895 SW 145 AVE		
City:	MIRAMAR		
State/Prov/Terr:	FL	**Office:**	(954) 641-6129
Country:	USA	**Cell:**	
ZIP:	33027	**Email:**	richard.behrle@faa.gov

FAA Alternate POC (APM, FTPM, if applicable)

Name:			
Address:			
City:			
State/Prov/Terr:		**Office:**	
Country:		**Cell:**	
ZIP:		**Email:**	

Sponsor FSTD Management Representative

Name:	Ansell, Arlen		
Address:	5000 Northwest 36th Street		
City:	MIAMI		
State/Prov/Terr:	FL	**Office:**	(305) 874-6575
Country:	USA	**Cell:**	(305) 773-2803
ZIP:	33166	**Email:**	aansell@panamacademy.com

Sponsor FSTD Local Contact

Name:	Selzler, Dean		
Address:	1771 Whitney Mesa Drive		
City:	HENDERSON		
State/Prov/Terr:	NV	**Office:**	(725) 444-1865
Country:	USA	**Cell:**	(305) 354-6150
ZIP:	89014	**Email:**	dselzler@panamacademy.com

Federal Aviation Administration
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FSTD INFORMATION & CONFIGURATION

Sponsor Name:	Pan Am International Flight Academy
Designator:	PN7X
FAA ID:	261
Make/Model/Series:	B-737-300
Evaluation Interval:	12

Section 2. FSTD Information

A/C Common Name:	BOEING B-737	**Manufacturer Name:**	CAE
A/C Alternative Name:	B-737-300	**Manufactured Year:**	1988
Qualification Basis:	120-40A	**Manufacture Serial No:**	2HF6
Qualification Level:	D	**Sponsor's FSTD ID:**	B737#30
FSTD Class:	Airplane FFS	**Evaluation Base Month:**	Mar
FSTD Seats Available:	5	**FSTD Convertible to:**	| | |

FSTD Configuration Information

FSTD Configuration (1):	B-737-300
FSTD Configuration (2):	
FSTD Configuration (3):	

FSTD Engine Information

Pri. Engine Type / Thrust:	CFM56-3B1 / 20K	**FADEC Version:**	
Alt. Engine Type / Thrust:	CFM56-3B1 / 22K	**FADEC Version:**	
Alt. Engine Type / Thrust:		**FADEC Version:**	
Alt. Engine Type / Thrust:		**FADEC Version:**	

Flight Instrumentation & Systems

☐ **NVG**	☐ **Other:**
☐ **CPDLC**	☐ **Other:**
☐ **EFB Class:**	☐ **Other:**

Data Sources & Models

Flight Control Data: Model/Revision:	D6-37908 (RSEP)
Aero Model: Source/Model/Revision:	D6-37908 REV D

Visual System

Image Generator Make/Model:	Evans & Sutherland SP3-T		
DisplayType:	Mono View, Collimated	**Visual Projector Type:**	CRT
Horizontal Field of View(degs):	75	**Vertical Field of View(degs):**	40

Avionics

Manufacturer	EFIS		
Model			
Standard/Revision			

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Flight Management System

Manufacturer:	Smiths/GE		
Model:	U10.8A		
Type/Revision:			

Motion System

Manufacturer:	CAE
Type:	Hydraulic
Axis:	6

Airport Qualification Models

1: Airport / Runways / Taxiway:	KSFO / ALL /
2: Airport / Runways / Taxiway	KDEN / ALL / BN Gates to 34R T/O, 35R to BN Gates Landing
3: Airport / Runways / Taxiway	KIAD / All Except 01L/19R (Outline Only) / Gate to 01C

Visual Ground Segment

Airport / Landing RW	KDEN / 35L

Helicopter Non-Airport Landing Areas

Elevated Surface:	
Confined Landing Area:	
Sloped Surface	

Other National Aviation Authority Qualifications (US-NAA BASA-SIPs Agreements Only)

NAA Name:			
NAA FSTD ID No:			
NAA Qualification Level:			
NAA Qualification Basis:			

Federal Aviation Administration
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FSTD INFORMATION & CONFIGURATION

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Except for Non-Qualified items in section 4, this FSTD is qualified to perform all maneuvers, procedures, tasks, and functions listed in the applicable QPS Appendix, Tables 1B and 1C of 14 CFR Part 60 as amended. Additionally, this FSTD is qualified to perform maneuvers, procedures, tasks, and functions annotated in sections 3a, 3b, or 3c. Specific use in conjunction with any training program must be approved by the FAA Training Program Approval Authority (TPAA).

Section 3a. Level 6 and Above FSTD Additional FSTD Qualified Maneuvers, Procedures, Tasks, and Functions
(not stated in 14CFR Part 60 Appendix (A,B,C, or D) Attachment 1, Table 1B)

Area/Function/Maneuver	**Requested** (Sponsor Use)	**Qualified** (FAA Use Only)	**Remarks** (Include Partial Task Limitations if Applicable)
CAT I (Minimums IAW sponsor/operator authorization)	☑	☑	
CAT II (Minimums IAW sponsor/operator authorization)	☑	☑	
CAT III (Minimums IAW sponsor/operator authorization)	☑	☑	700RVR 100RA
Circling Approach	☑	☑	
Windshear Training	☑	☑	
Auto-Coupled Approach	☑	☑	
Auto Go Around	☐	☐	
Auto-Land / Roll-Out Guidance	☑	☑	No Roll Out Guidance
TCAS/ACAS I / II 7.0	☑	☑	
WX-Radar	☑	☑	
HUD / HGS	☐	☐	
EFVS / SVS	☐	☐	
TAWS (GPWS / EGPWS)	☑	☑	
SMGCS	☐	☐	
Enhanced Taxi Markings	☐	☐	
RWSL / LAHSO	☐	☐	
LPV GPS WAAS ☐ LPV ☐ GPS ☐ WAAS	☐	☐	
RNP/AR	☐	☐	
ADS-B ☐ In	☐	☐	
Full Stall (14CFR Part 60 (2016)/FSTD Directive 2)	☐	☐	
UPRT (14CFR Part 60 (2016)/FSTD Directive 2)	☐	☐	
Icing (14CFR Part 60 (2016)/FSTD Directive 2)	☐	☐	
Realistic Gusting Crosswind (14CFR Part 60 (2016)/FSTD Directive 2)	☐	☐	
Bounced Landing (14CFR Part 60 (2016)/FSTD Directive 2)	☐	☐	
Other	☐	☐	
Other	☐	☐	
Other	☐	☐	
Other	☐	☐	

Federal Aviation Administration
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FSTD INFORMATION & CONFIGURATION

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FAA ID:	261
Make/Model/Series:	B-737-300
Evaluation Interval:	12

Section 3b. Level 6 and Above FSTD Additional Helicopter FSTD Qualified Maneuvers, Procedures, Tasks, and Functions
(not stated in 14CFR Part 60 Appendix (C or D) Attachment 1, Table 1B)

Area/Function/Maneuver	**Requested** (Sponsor Use)	**Qualified** (FAA Use Only)	**Remarks** (Include Partial Task Limitations if Applicable)
Helicopter Slope Landings	☐	☐	
Helicopter External Load Operations	☐	☐	
Helicopter Pinnacle Approach to Landings	☐	☐	
Helicopter Night Vision Maneuvers Class A ☐, Class B Lens ☐	☐	☐	
Helicopter Category A Takeoffs	☐	☐	
Other	☐	☐	
Other	☐	☐	
Other	☐	☐	
Other	☐	☐	

Federal Aviation Administration
National Simulator Program

FSTD INFORMATION & CONFIGURATION

Sponsor Name:	Pan Am International Flight Academy
Designator:	PN7X
FAA ID:	261
Make/Model/Series:	B-737-300
Evaluation Interval:	12

Section 3c. Level 4 & 5 FSTD Optionally Qualified Maneuvers, Procedures, Tasks, and Functions
(as defined in Table B1B and D1B)

Area/Function/Maneuver	Requested (Sponsor Use)	Qualified (FAA Use Only)	Remarks (Include Partial Task Limitations if Applicable)
Preflight Procedures			
Preflight Inspection (flight deck only).	☐	☐	
Engine Start	☐	☐	
Pre-takeoff Checks.	☐	☐	
In-Flight Maneuvers			
Approach to Stalls	☐	☐	(Level 5 Only)
Engine Failure (procedures only)	☐	☐	(Level 5 Only)
Specific Flight Characteristics incorporated into user's approved flight training program	☐	☐	
Instrument Procedures			
Standard Terminal Arrival / Flight Management System Arrival	☐	☐	(Level 5 Only)
Holding	☐	☐	(Level 5 Only)
Precision Instrument, all engines operating	☐	☐	(Level 5 Only)
Non-Precision Instrument, all engines operating	☐	☐	(Level 5 Only)
Missed Approach	☐	☐	(Level 5 Only)
Landings and Approaches to Landings			
Visual Approaches (normal, steep, shallow) with visual system	☐	☐	(Helicopter Only)
Normal and Abnormal Procedures			
Powerplant	☐	☐	
Fuel System.	☐	☐	
Electrical System	☐	☐	
Environmental and Pressurization Systems	☐	☐	
Fire Detection and Extinguisher Systems	☐	☐	
Navigation and Avionics Systems	☐	☐	
Automatic Flight Control System, Electronic Flight Instrument System, and Related Subsystems.	☐	☐	
Flight Control Systems	☐	☐	
Anti-ice and Deice Systems	☐	☐	
Aircraft and Personal Emergency Equipment	☐	☐	
Emergency Procedures			
Emergency Descent (Max Rate)	☐	☐	
Inflight fire and smoke removal	☐	☐	
Rapid Decompression	☐	☐	
Emergency Evacuation	☐	☐	
Post flight Procedures			
After-Landing Procedures	☐	☐	
Rotor brake operation.	☐	☐	
Abnormal/emergency procedures	☐	☐	
Other			
Other	☐	☐	
Other	☐	☐	
Other	☐	☐	
Other	☐	☐	

FSTD Directive 2
Sponsor Notification and Interim Approval

Federal Aviation Administration
National Simulator Program, AFS-205
P.O. Box 20636
Atlanta, GA 30320 Tel. 404.474.5620

FSTD Sponsors should use this form to notify the NSP of their intent to use an FSTD for any of the 5 Extended Envelope and Weather Event training tasks described in 14 CFR Part 60 FSTD 2016. Supporting documents such as objective test results, statements of compliance, etc. must accompany this form. Sponsors should complete sections 1, 2 & 4 as applicable. **Limit one FSTD per form.** Upon successful desk assessment, the sponsor may be granted interim approval. Final approval to be granted upon successful completion of an NSP evaluation.

Email to: 9-aso-afs205-nsp-simulator-scheduling@faa.gov

Section 1. FSTD & Sponsor Information			**Date Submitted:** Click here to enter a date.
Sponsor Name: FSTD Location:	Pan Am International Flight Academy Miami, Fl	**FAA FSTD ID# / Lvl: Aircraft Type:**	261 / D B737-300
MR Name/Tel:	Arlen Ansell, 305 773 2803	**TPAA Name/Tel:**	Rick Behrle, 954 641-6129
MR Email:	aansell@panamacademy.com	**TPAA Email:**	Richard.behrle@faa.gov

Section 2. Training Tasks			
Full Stall	☒ Request to Train	☒ FSTD Modification Required (60.23)	RFT: 7/24/2020
Upset Recovery & Prevention Training (UPRT)	☒ Request to Train	☒ FSTD Modification Required (60.23)	RFT: 7/24/2020
Engine & Airframe Icing	☒ Request to Train	☒ FSTD Modification Required (60.23)	RFT: 7/24/2020
Gusting Crosswind	☒ Request to Train	☒ FSTD Modification Required (60.23)	RFT: 7/24/2020
Bounced Landing	☒ Request to Train	☒ FSTD Modification Required (60.23)	RFT: 7/24/2020

Section 3. Interim Approvals: *FAA Use Only*		
Full Stall Training Task Interim Approval:		***(Final approval granted upon successful NSP evaluation)***
NSP Disposition: Date: 7/24/2020	☒ **Interim Approval** ☐ **NSP Evaluation Req.** ☐ **Not Approved**	☒ **Interim Approval with the following limitations:**
TPAA Disposition: Date: Click here to enter a date.	☐ **Concur** ☐ **Do not Concur**	
UPRT Training Task Interim Approval:		***(Final approval granted upon successful NSP evaluation)***
NSP Disposition: Date: 7/17/2020	☒ **Interim Approval** ☐ **NSP Evaluation Req.** ☐ **Not Approved**	☒ **Interim Approval with the following limitations:**
TPAA Disposition: Date: Click here to enter a date.	☐ **Concur** ☐ **Do not Concur**	
Engine & Airframe Icing Training Task Interim Approval:		***(Final approval granted upon successful NSP evaluation)***
NSP Disposition: Date: 7/17/2020	☒ **Interim Approval** ☐ **NSP Evaluation Req.** ☐ **Not Approved**	☒ **Interim Approval with the following limitations:**
TPAA Disposition: Date: Click here to enter a date.	☐ **Concur** ☐ **Do not Concur**	
Gusting Crosswind Training Task Interim Approval:		***(Final approval granted upon successful NSP evaluation)***
NSP Disposition: Date: 7/17/2020	☒ **Interim Approval** ☐ **NSP Evaluation Req.** ☐ **Not Approved**	☒ **Interim Approval with the following limitations:**
TPAA Disposition: Date: Click here to enter a date.	☐ **Concur** ☐ **Do not Concur**	
Bounced Landing Training Task Interim Approval:		***(Final approval granted upon successful NSP evaluation)***
NSP Disposition: Date: 7/17/2020	☒ **Interim Approval** ☐ **NSP Evaluation Req.** ☐ **Not Approved**	☒ **Interim Approval with the following limitations:** See note below regarding artificial updraft "bounce" implementation.
TPAA Disposition: Date: Click here to enter a date.	☐ **Concur** ☐ **Do not Concur**	

In accordance with §60.23(c), the proposed FSTD Modification will not be placed into training until NSPM and TPAA approval has been granted or the twenty-one day waiting period has lapsed with no response from the NSPM or TPAA.

FSTD Directive 2 - Sponsor Notification and Interim Approval

Section 4a. FSTD Modification Description		
FD2 - Full Stall Training Task:		
Provide a Complete Description of FSTD Modification to Support the Training Task: (software changes must include name of a/c system software, aero module, or engine module changed) Integration of a Bihrle Stallbox with representative B737-300 full stall model Integration of the Stallbox is based on an identical modification performed and qualified on Pan Am FSTD ID 282 with same basic software environment and load.		
FSTD Sponsors must complete	*FAA Use Only:*	
Compliance Statements, Subject Matter Expert and IOS:	Status	Comment
☒ An SOC describing the Aerodynamic model is attached. Does the SOC: ☒ Identify the sources of data *(e.g. OEM, 3rd party data gather, flight test, wind tunnel, etc.)* used to develop the aerodynamic model? ☒ Include a mapping of test points in the form of alpha/beta envelope plot for a minimum of flaps up and flaps down aircraft configurations? ☒ Declare the range of AOA & sideslip where the model remains valid for training, including at least 10° beyond stall indication AOA? *(please state the stall AOA value for flaps up/down or indicate on alpha/beta map)* ☒ Discuss the applicable stall characteristics for the aircraft type incorporated into the aerodynamic model [see Appendix A, Attachment 7 (A.4.c) for list of these]? **Either {** ☐ Address limitations in the aerodynamic model for a particular stall maneuver (if applicable) **Or,** ☒ There are no limitations in the aerodynamic model for the required stall maneuvers. **}**	**OK**	SOC 6.1
Either {{ ☒ An SOC confirming the SME evaluation is attached. **Either {** ☒ The SME evaluation has or will be conducted on this training FSTD prior to training **Or,** ☐ The SME evaluation was conducted on an engineering or development simulator sharing a common aerodynamic & flight control model and the attached SOC has been supplied by the data provider. Additional objective POM testing (attached) as described in Table A2A, 2.c.8.a & 3.f.5 has been provided. **}** **Or,** ☐ The FSTD sponsor has submitted a request (attached) to the Administrator for approval of a deviation from the SME pilot experience requirements because an assessment of pilot availability demonstrates that a suitably qualified pilot meeting the experience requirements of this section cannot be practically located. **}}**	**OK**	
The SME pilot: ☒ Has held or holds a type rating/qualification in the aircraft being simulated	**OK**	

And, ☒ Has direct experience in conducting stall maneuvers in the aircraft being simulated or in an aircraft that shares the same type rating as the make, model, and series of the simulated aircraft. For the latter, differences in the aircraft specific stall recognition cues and handling characteristics are addressed in the SOC and are referenced in available documentation. **And if the SME is assessing the training FSTD:** ☒ The SME is familiar with the intended stall training maneuvers to be conducted in the FSTD and the cues necessary to accomplish the required training objectives		
☒ This FSTD also meets the Instructor Operating System (IOS) requirements for Upset Recovery and Prevention Training (UPRT) tasks as described in Part 60 Appendix A, Table A1A(2n.) and Attachment 7. To be verified below in Section 4b, IOS Feedback Mechanism.	**OK**	
<u>For aircraft equipped with a Stick Pusher System</u>: **Either {** ☐ The attached SOC verifies that the stick pusher system has been modeled, programmed, and validated using the aircraft manufacturer's design data or other acceptable data source is attached. The SOC addresses, at a minimum, stick pusher activation and cancellation logic as well as system dynamics, control displacement and forces as a result of the stick pusher activation. **Or,** ☒ The aircraft being simulated is not equipped with a stick pusher system. **}**	**NA**	
Objective Testing Requirements *(for FSTDs qualified <u>PRIOR</u> to Part 60 Change 2 and IAW FSTD Directive 2)*: **2.c.8.a.** Stall Characteristics, ***(Appendix A, Table A2A)*** **Either {** ☐ Objective tests, with updated tolerances, have been provided for: ☐ Second Segment Climb-Wings Level (1g) ☐ Approach or Landing- Wings Level (1g) **Or,** ☒ Existing flight test validation data is missing required parameters or otherwise unsuitable to meet the requirements of FSTD Directive 2. Therefore, the sponsor has provided for one of the following: ☐ Alternate Data (attached) ☒ A subjective validation by a SME with direct experience in stall characteristics of the aircraft being simulated and addressed in the SOC. **}** **And {** ☐ Objective tests have been provided for: ☐ High-altitude, cruise stall ☐ Turning flight stall **Or,** ☒ The High-altitude, cruise stall maneuver has been subjectively evaluated by the SME and addressed in the SOC.	**OK**	

☒ The Turning flight stall maneuver has been subjectively evaluated by the SME and addressed in the SOC. **}** **Objective Testing Requirements** *(for FSTDs qualified IAW Part 60 Change 2):* FSTD Directive 2 is not applicable. Objective tests are required for all configurations in Appendix A, Table A2A, Item 2.c.8.a. ☐ FSTD is being qualified IAW 14CFR Part 60 Ch. 2:		
2.a.10. Stick Pusher Force Calibration. ☐ Test is attached.	**NA**	
3.f.5. Characteristic Motion Vibrations - Stall Buffet validation. For FSTDs qualified IAW Part 60 Change 2, FSTD Directive 2 is not applicable. Objective tests are required for all configurations in Appendix A, Table A2A, Item 3.f.5. Second Segment Climb: **Either** ☐ An objective test result is attached **Or,** ☒ Buffets have been evaluated by the SME pilot Approach/Landing Config: **Either** ☐ An objective test result is attached **Or,** ☒ Buffets have been evaluated by the SME pilot High Altitude Cruise: **Either** ☐ An objective test result is attached **Or,** ☒ Buffets have been evaluated by the SME pilot	**OK**	
FAA Use Only:		
Date Reviewed/ FAA Reviewer/ Other Comment. **7/24/2020** Turton		

Comment Status Codes: ***OK*** *-- Acceptable* ***C*** *– Correction Required* ***NA*** *– Not Applicable*
I *– Improvement Recommended* ***DO*** *– Onsite Evaluation Discrepancy Opened*

FSTD Directive 2 - Sponsor Notification and Interim Approval

Section 4b. FSTD Modification Description
FD2 Upset Recovery & Prevention Training (UPRT)
Provide a Complete Description of FSTD Modification to Support the Training Task: (software changes must include name of a/c system software, aero module, or engine module changed) Integration of the Stallbox is based on the identical modification performed and qualified on Pan Am FSTD ID 282 with same basic software environment and load. UPRT scenario implementations and scaling's identical to those qualified on Pan Am FSTD ID 282 with same basic software environment and load. No aircraft failure modes introduced. IOS feedback mechanism requirements met by installation of a tablet installed with the Birhle Stallbox UPRT Displays system identical to that qualified on Pan Am FSTD ID 282 with same basic software environment and load.

Sponsors must complete	*FAA Use Only:*	
UPRT Scenarios and IOS Feedback Mechanism:	Status	Comment
☒ The minimum set of required maneuvers has been evaluated to ensure that the combination of angle of attack and sideslip does not exceed the range of flight test validated data or wind tunnel/analytical data while performing the recovery maneuver and is available on the IOS including: • A nose-high, wings level aircraft upset. • A nose-low, wings level aircraft upset. • A high bank angle aircraft upset. Optional: The following additional upset scenarios have been evaluated and are available on the IOS: ☒ Other: Pitch up, L/R roll (scenario based) ☒ Other: Pitch down, L/R roll (Scenario based) *Note: "Maneuver" based training focuses on a single event in isolation. "Scenario" based training incorporates maneuvers into a real-world experience to cultivate flying skills in an operational environment.*	**C**	SOC 6.2 SOC doesn't mention a "high bank angle" upset.
☒ At least one of the upset recovery maneuvers requires angles of attack above the stall warning system activation. Therefore, the aerodynamic model meets the requirements for high angle of attack modeling as described in Table A1A (2m.). Qualification for the Full Stall training task is required.	**OK**	
IOS Feedback Mechanism ☒ This FSTD meets the Instructor Operating System (IOS) requirements for Upset Recovery and Prevention Training (UPRT) tasks as described in Table A1A(2n.) and Attachment 7. The feedback mechanism includes: • FSTD validation envelope. This must be in the form of an alpha/beta envelope (or equivalent method) depicting the "confidence level" of the aerodynamic model depending on the degree of flight validation or source of predictive methods The envelopes must provide the instructor real-time feedback on the simulation during a maneuver. There must be a minimum of a flaps up and flaps down envelope available. The validation envelope was derived by the aerodynamic data provider, or by using information from the provider; • Flight control positions. The instructor must be able to assess the pilot's flight control inputs during the	**C**	Not strictly required, but recommended that V-n diagram also depict Vdive/Mdive speed limit, if known. The same for showing Ultimate Load limit along with Limit Load factor.

upset recovery maneuver as required. It must include rudder pedal displacement and control forces as well as the primary control channels (including fly-by-wire as appropriate). Required additional parameters and time history (or equivalent) are presented; and • Airplane operational limits. Real-time aircraft operating limits must be displayed during the maneuver as applicable for the configuration of the airplane. Required minimum parameters and time history (or equivalent) are presented. ****** An exemplar IOS utility is of practical size and format, allows simultaneous viewing of the parameters noted above, and provides the instructor clear indications of FSTD envelope and aircraft load exceedances. Instructors should be well versed in its use and where possible, have input in the design.		
Compliance Statement: ☒ An SOC is attached that: • Defines the source data used to construct the FSTD validation envelope. • Verifies that each upset prevention and recovery feature programmed at the instructor station and the associated training maneuver has been evaluated by a suitably qualified pilot using methods described in Table A1A (2n). • Confirms the recovery maneuver can be performed such that the FSTD does not exceed the FSTD validation envelope, or when exceeded, that it is within the realm of confidence in the simulation accuracy.	**OK**	
FAA Use Only:		
Date Reviewed/ FAA Reviewer/ Other Comment. **7/17/2020** Turton		

Comment Status Codes: ***OK*** *-- Acceptable* ***C*** *– Correction Required* ***I*** *– Improvement Recommended* ***NA*** *– Not Applicable* ***DO*** *– Onsite Evaluation Discrepancy Opened*

FSTD Directive 2 - Sponsor Notification and Interim Approval

Section 4c. FSTD Modification Description		
FD2 - Engine and Airframe Icing Training Task:		
Provide a Complete Description of FSTD Modification to Support the Training Task: (software changes must include name of a/c system software, aero module, or engine module changed) Introduction of engine icing effects (Aerodynamic icing effects existing) Airframe icing rates and effects, engine fan blade icing and other engine icing effect implementation identical to those qualified on Pan Am FSTD ID 282 with same basic software environment and load.		
Sponsors must complete	*FAA Use Only:*	
Compliance Statement:	Status	Comment
☒ An SOC is attached that describes: • The expected aircraft specific recognition cues and degradation effects due to a typical in-flight icing encounter. This description is based upon relevant source data identified in the SOC such as aircraft OEM supplied data, accident/incident data, or other acceptable data sources. • The data sources utilized to develop the qualified ice accretion models. Acceptable data sources may be, but are not limited to, flight test data, aircraft certification data, aircraft OEM engineering simulation data, or other analytical methods based upon established engineering principles. ☐ This airframe has demonstrated vulnerabilities to a specific type of ice accretion (due to accident/incident history) which requires specific training (i.e. supercooled large-droplet icing or tailplane icing). Ice accretion models have been developed that address the training requirements. Identify Specific Icing Type Here	**OK**	SOC 6.3
Objective Testing Requirements: For FSTDs qualified IAW Part 60 Change 2, FSTD Directive 2 is not applicable. Objective demonstration is required, Appendix A, Table A2A, Item 2.i. ☐ An objective demonstration of engine and airframe icing effects **has not** been provided IAW FSTD Directive 2. ☒ The sponsor has elected to provide the attached objective demonstration of engine and airframe icing effects IAW 14 CFR Part 60 Appx. A, Table A2A (2i).	**OK**	Test 2J1A – 2nd Seg Climb, Severe Ice, Anti-Ice ON Test 2J1B – 2nd Seg Climb, Severe Ice, Anti-Ice OFF
FAA Use Only:		
Date Reviewed/ FAA Reviewer/ Other Comment. **7/27/2020** Turton		

Comment Status Codes: ***OK*** *-- Acceptable* ***C*** *– Correction Required* ***NA*** *– Not Applicable* ***I*** *– Improvement Recommended* ***DO*** *– Onsite Evaluation Discrepancy Opened*

Section 4d. FSTD Modification Description		
FD2 – Gusting Crosswinds Training Task:		
Provide a Complete Description of FSTD Modification to Support the Training Task: (software changes must include name of a/c system software, aero module, or engine module changed) Implementation of FAA continuous gusting wind model and velocities identical to that qualified on Pan Am FSTD ID 282 with same basic software environment and load.		
Sponsors must complete	*FAA Use Only:*	
Compliance Statement:	Status	Comment
☒ An SOC is attached that describes the source data used to construct gusting crosswind profiles. ☒ Realistic gusting crosswind profiles are available to the instructors that have been tuned in intensity and variation to require pilot intervention to avoid runway departure during takeoff or landing roll. ☒ Aerodynamic and ground reaction modeling is employed to support training in crosswinds and gusting crosswinds up to the aircraft's maximum demonstrated crosswind component. ☒ The sponsor has ensured that the wind gust models do not exceed the capabilities of the aerodynamic and ground models.	**OK**	SOC 6.4
FAA Use Only:		
Date Reviewed/ FAA Reviewer/ Other Comment. **7/17/2020** Turton		

Comment Status Codes: ***OK*** *-- Acceptable* ***C*** *– Correction Required* ***NA*** *– Not Applicable* ***I*** *– Improvement Recommended* ***DO*** *– Onsite Evaluation Discrepancy Opened*

Section 4e. FSTD Modification Description		
FD2 – Bounced Landing Training Task:		
Provide a Complete Description of FSTD Modification to Support the Training Task: (software changes must include name of a/c system software, aero module, or engine module changed) Implementation of wind effects to induce a bounce on touchdown identical to that qualified on Pan Am FSTD ID 282 with same basic software environment and load.		
Sponsors must complete	*FAA Use Only:*	
Compliance Statement:	Status	Comment
☒ An SOC is attached that describes ground reaction modeling, appropriate effects, and indications during bounced or skipped landings including ground contact (e.g. tail, wing, propeller, or nosewheel strike) due to landing in an abnormal aircraft attitude. ☒ Neither ground nor flight models have been modified for the sole purpose of inducing a bounce.	**C**	It should be noted this artificially introduces a bounce, particularly with the updraft. There is no demonstration that the simulator model can bounce as a result of an improper touchdown. May still be useful for training recovery technique.
FAA Use Only:		
Date Reviewed/ FAA Reviewer/ Other Comment. **7/17/2020** Turton		

Comment Status Codes: ***OK*** *-- Acceptable* ***C*** *– Correction Required* ***NA*** *– Not Applicable* ***I*** *– Improvement Recommended* ***DO*** *– Onsite Evaluation Discrepancy Opened*