

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-nsf-simulator-scheduling@faa.gov

Section 1. FSTD & Sponsor Information **Date Submitted:** [Click here to enter a date.](#)

Sponsor Name: FSTD Location:		FAA FSTD ID# / Lvl: Aircraft Type:	
MR Name/Tel:		TPAA Name/Tel:	
MR Email:		TPAA Email:	

Section 2. Training Tasks

Full Stall	<input type="checkbox"/> Request to Train	<input type="checkbox"/> FSTD Modification Required (60.23)	RFT: Click here to enter a date.
Upset Recovery & Prevention Training (UPRT)	<input type="checkbox"/> Request to Train	<input type="checkbox"/> FSTD Modification Required (60.23)	RFT: Click here to enter a date.
Engine & Airframe Icing	<input type="checkbox"/> Request to Train	<input type="checkbox"/> FSTD Modification Required (60.23)	RFT: Click here to enter a date.
Gusting Crosswind	<input type="checkbox"/> Request to Train	<input type="checkbox"/> FSTD Modification Required (60.23)	RFT: Click here to enter a date.
Bounced Landing	<input type="checkbox"/> Request to Train	<input type="checkbox"/> FSTD Modification Required (60.23)	RFT: Click here to enter a date.

Section 3. Interim Approvals: FAA Use Only

Full Stall Training Task Interim Approval: *(Final approval granted upon successful NSP evaluation)*

NSP Disposition: Date: Click here to enter a date.	<input type="checkbox"/> Interim Approval <input type="checkbox"/> NSP Evaluation Req. <input checked="" type="checkbox"/> Not Approved	<input type="checkbox"/> Interim Approval with the following limitations:
TPAA Disposition: Date: Click here to enter a date.	<input type="checkbox"/> Concur <input type="checkbox"/> Do not Concur	

UPRT Training Task Interim Approval: *(Final approval granted upon successful NSP evaluation)*

NSP Disposition: Date: Click here to enter a date.	<input type="checkbox"/> Interim Approval <input type="checkbox"/> NSP Evaluation Req. <input checked="" type="checkbox"/> Not Approved	<input type="checkbox"/> Interim Approval with the following limitations:
TPAA Disposition: Date: Click here to enter a date.	<input type="checkbox"/> Concur <input type="checkbox"/> Do not Concur	

Engine & Airframe Icing Training Task Interim Approval: *(Final approval granted upon successful NSP evaluation)*

NSP Disposition: Date: Click here to enter a date.	<input type="checkbox"/> Interim Approval <input type="checkbox"/> NSP Evaluation Req. <input checked="" type="checkbox"/> Not Approved	<input type="checkbox"/> Interim Approval with the following limitations:
TPAA Disposition: Date: Click here to enter a date.	<input type="checkbox"/> Concur <input type="checkbox"/> Do not Concur	

Gusting Crosswind Training Task Interim Approval: *(Final approval granted upon successful NSP evaluation)*

NSP Disposition: Date: Click here to enter a date.	<input type="checkbox"/> Interim Approval <input type="checkbox"/> NSP Evaluation Req. <input checked="" type="checkbox"/> Not Approved	<input type="checkbox"/> Interim Approval with the following limitations:
TPAA Disposition: Date: Click here to enter a date.	<input type="checkbox"/> Concur <input type="checkbox"/> Do not Concur	

Bounced Landing Training Task Interim Approval: *(Final approval granted upon successful NSP evaluation)*

NSP Disposition: Date: Click here to enter a date.	<input type="checkbox"/> Interim Approval <input type="checkbox"/> NSP Evaluation Req. <input checked="" type="checkbox"/> Not Approved	<input type="checkbox"/> Interim Approval with the following limitations:
TPAA Disposition: Date: Click here to enter a date.	<input type="checkbox"/> Concur <input type="checkbox"/> 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.

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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)		
<i>FSTD Sponsors must complete</i>		<i>FAA Use Only:</i>
Compliance Statements, Subject Matter Expert and IOS:	Status	Comment
<input type="checkbox"/> An SOC describing the Aerodynamic model is attached. <u>Does the SOC:</u> <ul style="list-style-type: none"> <input type="checkbox"/> Identify the sources of data (e.g. OEM, 3rd party data gather, flight test, wind tunnel, etc.) used to develop the aerodynamic model? <input type="checkbox"/> 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? <input type="checkbox"/> 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) <input type="checkbox"/> 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]? <p>Either {</p> <ul style="list-style-type: none"> <input type="checkbox"/> Address limitations in the aerodynamic model for a particular stall maneuver (if applicable) <p>Or,</p> <ul style="list-style-type: none"> <input type="checkbox"/> There are no limitations in the aerodynamic model for the required stall maneuvers. <p>}</p>		
<p>Either { {</p> <input type="checkbox"/> An SOC confirming the SME evaluation is attached. <p>Either {</p> <ul style="list-style-type: none"> <input type="checkbox"/> The SME evaluation has or will be conducted on this training FSTD prior to training <p>Or,</p> <ul style="list-style-type: none"> <input type="checkbox"/> 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. <p>}</p> <p>Or,</p> <input type="checkbox"/> 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. <p>}}}</p>		
<p><u>The SME pilot:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Has held or holds a type rating/qualification in the aircraft being simulated <p>And,</p> <ul style="list-style-type: none"> <input type="checkbox"/> 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 		

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<p>referenced in available documentation.</p> <p>And if the SME is assessing the training FSTD:</p> <p><input type="checkbox"/> 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</p>		
<p><input type="checkbox"/> 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:</p>		
<p>For aircraft equipped with a Stick Pusher System:</p> <p>Either {</p> <p><input type="checkbox"/> 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.</p> <p>Or,</p> <p><input type="checkbox"/> The aircraft being simulated is not equipped with a stick pusher system.</p> <p>}</p>		
<p>Objective Testing Requirements (for FSTDs qualified PRIOR to Part 60 Change 2 and IAW FSTD Directive 2):</p> <p>2.c.8.a. Stall Characteristics, (Appendix A, Table A2A)</p> <p>Either {</p> <p><input type="checkbox"/> Objective tests, with updated tolerances, have been provided for:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Second Segment Climb-Wings Level (1g) <input type="checkbox"/> Approach or Landing- Wings Level (1g) <p>Or,</p> <p><input type="checkbox"/> 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:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Alternate Data (attached) <input type="checkbox"/> A subjective validation by a SME with direct experience in stall characteristics of the aircraft being simulated and addressed in the SOC. <p>}</p> <p>And {</p> <p><input type="checkbox"/> Objective tests have been provided for:</p> <ul style="list-style-type: none"> <input type="checkbox"/> High-altitude, cruise stall <input type="checkbox"/> Turning flight stall <p>Or,</p> <ul style="list-style-type: none"> <input type="checkbox"/> The High-altitude, cruise stall maneuver has been subjectively evaluated by the SME and addressed in the SOC. <input type="checkbox"/> The Turning flight stall maneuver has been subjectively evaluated by the SME and addressed in the SOC. <p>}</p> <p>Objective Testing Requirements (for FSTDs qualified IAW Part 60 Change 2):</p> <p>FSTD Directive 2 is not applicable. Objective tests are required for all configurations in Appendix A, Table A2A, Item 2.c.8.a.</p> <p><input type="checkbox"/> FSTD is being qualified IAW 14CFR Part 60 Ch. 2:</p>		
<p>2.a.10. Stick Pusher Force Calibration.</p> <p><input type="checkbox"/> Test is attached.</p>		

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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)		
<i>Sponsors must complete</i>		<i>FAA Use Only:</i>
UPRT Scenarios and IOS Feedback Mechanism:	Status	Comment
<input type="checkbox"/> 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: <ul style="list-style-type: none"> • A nose-high, wings level aircraft upset. • A nose-low, wings level aircraft upset. • A high bank angle aircraft upset. <p>Optional: The following additional upset scenarios have been evaluated and are available on the IOS:</p> <input type="checkbox"/> Other: <input type="checkbox"/> Other: <p><i>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.</i></p>		
<input type="checkbox"/> 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.		
IOS Feedback Mechanism <p><input type="checkbox"/> 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:</p> <ul style="list-style-type: none"> • 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 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 		

