

- a. Table A1A, General Requirements, Section 2.d.2. (Ground Reaction Characteristics)
- b. Table A3A, Functions and Subjective Testing Requirements, test 9.e. (Missed Approach—Bounced Landing)

4. Where qualification is being sought to conduct bounced landing training tasks in accordance with this Directive, the FSTD Sponsor must conduct the required evaluations and modifications as prescribed in this Directive and report compliance to the NSPM in accordance with §60.23 using the NSP's standardized FSTD Sponsor Notification Form. At a minimum, this form must be accompanied with the following information:

- a. A description of any modifications to the FSTD (in accordance with §60.23) necessary to meet the requirements of this Directive; and
- b. A confirmation statement that the modified FSTD has been subjectively evaluated by a qualified pilot as described in §60.16(a)(1)(iii).

5. The NSPM will review each submission to determine if the requirements of this Directive have been met and respond to the FSTD Sponsor as described in §60.23(c). Additional NSPM conducted FSTD evaluations may be required before the modified FSTD is placed into service. This response, along with any noted restrictions, will serve as an interim qualification for bounced landing recovery training tasks until such time that a permanent change is made to the Statement of Qualification (SOQ) at the FSTD's next scheduled evaluation.

ATTACHMENT 7 TO APPENDIX A TO PART 60— ADDITIONAL SIMULATOR QUALIFICATION RE- QUIREMENTS FOR STALL, UPSET PREVENTION AND RECOVERY, AND ENGINE AND AIRFRAME ICING TRAINING TASKS

BEGIN QPS REQUIREMENTS

A. High Angle of Attack Model Evaluation (Table A1A, Section 2.m.)

1. Applicability: This attachment applies to all simulators that are used to satisfy training requirements for stall maneuvers that are conducted at angles of attack beyond the activation of the stall warning system. This attachment is not applicable for those FSTDs that are only qualified for approach to stall maneuvers where recovery is initiated at the first indication of the stall. The material in this section is intended to supplement the general requirements, objective testing requirements, and subjective testing requirements contained within Tables A1A, A2A, and A3A, respectively.

2. General Requirements: The requirements for high angle of attack modeling are intended to evaluate the recognition cues and performance and handling qualities of a developing stall through the stall identifica-

tion angle-of-attack and recovery. Strict time-history-based evaluations against flight test data may not adequately validate the aerodynamic model in an unsteady and potentially unstable flight regime, such as stalled flight. As a result, the objective testing requirements defined in Table A2A do not prescribe strict tolerances on any parameter at angles of attack beyond the stall identification angle of attack. In lieu of mandating such objective tolerances, a Statement of Compliance (SOC) will be required to define the source data and methods used to develop the stall aerodynamic model.

3. Fidelity Requirements: The requirements defined for the evaluation of full stall training maneuvers are intended to provide the following levels of fidelity:

- a. Airplane type specific recognition cues of the first indication of the stall (such as the stall warning system or aerodynamic stall buffet);
- b. Airplane type specific recognition cues of an impending aerodynamic stall; and
- c. Recognition cues and handling qualities from the stall break through recovery that are sufficiently exemplar of the airplane being simulated to allow successful completion of the stall recovery training tasks.

For the purposes of stall maneuver evaluation, the term "exemplar" is defined as a level of fidelity that is type specific of the simulated airplane to the extent that the training objectives can be satisfactorily accomplished.

4. Statement of Compliance (Aerodynamic Model): At a minimum, the following must be addressed in the SOC:

- a. Source Data and Modeling Methods: The SOC must identify the sources of data used to develop the aerodynamic model. These data sources may be from the airplane original equipment manufacturer (OEM), the original FSTD manufacturer/data provider, or other data provider acceptable to the FAA. Of particular interest is a mapping of test points in the form of alpha/beta envelope plot for a minimum of flaps up and flaps down aircraft configurations. For the flight test data, a list of the types of maneuvers used to define the aerodynamic model for angle of attack ranges greater than the first indication of stall must be provided per flap setting. In cases where it is impractical to develop and validate a stall model with flight-test data (*e.g.*, due to safety concerns involving the collection of flight test data past a certain angle of attack), the data provider is expected to make a reasonable attempt to develop a stall model through the required angle of attack range using analytical methods and empirical data (*e.g.*, wind-tunnel data);
- b. Validity Range: The FSTD sponsor must declare the range of angle of attack and