

**Attachment 6 to Appendix A to Part 60—
FSTD Directives Applicable to Airplane
Flight Simulators
Flight Simulation Training Device (FSTD)
Directive**

FSTD Directive 1. Applicable to all Full Flight Simulators (FFS), regardless of the original qualification basis and qualification date (original or upgrade), having Class II or Class III airport models available.

Agency: Federal Aviation Administration (FAA), DOT.

Action: This is a retroactive requirement to have all Class II or Class III airport models meet current requirements.

Summary: Notwithstanding the authorization listed in paragraph 13b in Appendices A and C of this part, this FSTD Directive requires each certificate holder to ensure that by May 30, 2009, except for the airport model(s) used to qualify the simulator at the designated level, each airport model used by the certificate holder's instructors or evaluators for training, checking, or testing under this chapter in an FFS, meets the definition of a Class II or Class III airport model as defined in 14CFR part 60. The completion of this requirement will not require a report, and the method used for keeping instructors and evaluators apprised of the airport models that meet Class II or Class III requirements on any given simulator is at the option of the certificate holder whose employees are using the FFS, but the method used must be available for review by the TPAAs for that certificate holder.

Dates: FSTD Directive 1 becomes effective on May 30, 2008.

For Further Information Contact: Ed Cook, Senior Advisor to the Division Manager, Air Transportation Division, AFS-200, 800 Independence Ave, SW., Washington, DC 20591; telephone: (404) 832-4701; fax: (404) 761-8906.

Specific Requirements:

1. Part 60 requires that each FSTD be:
 - a. Sponsored by a person holding or applying for an FAA operating certificate under Part 119, Part 141, or Part 142, or holding or applying for an FAA-approved training program under Part 63, Appendix C, for flight engineers, and
 - b. Evaluated and issued an SOQ for a specific FSTD level.
2. FFSs also require the installation of a visual system that is capable of providing an out-of-the-flight-deck view of airport models. However, historically these airport models were not routinely evaluated or required to meet any standardized criteria. This has led to qualified simulators containing airport models being used to meet FAA-approved training, testing, or checking requirements with potentially incorrect or inappropriate visual references.
3. To prevent this from occurring in the future, by May 30, 2009, except for the

airport model(s) used to qualify the simulator at the designated level, each certificate holder must assure that each airport model used for training, testing, or checking under this chapter in a qualified FFS meets the definition of a Class II or Class III airport model as defined in Appendix F of this part.

4. These references describe the requirements for visual scene management and the minimum distances from which runway or landing area features must be visible for all levels of simulator. The airport model must provide, for each "in-use runway" or "in-use landing area," runway or landing area surface and markings, runway or landing area lighting, taxiway surface and markings, and taxiway lighting. Additional requirements include correlation of the v airport models with other aspects of the airport environment, correlation of the aircraft and associated equipment, scene quality assessment features, and the control of these models the instructor must be able to exercise.

5. For circling approaches, all requirements of this section apply to the runway used for the initial approach and to the runway of intended landing.

6. The details in these models must be developed using airport pictures, construction drawings and maps, or other similar data, or developed in accordance with published regulatory material. However, this FSTD DIRECTIVE 1 does not require that airport models contain details that are beyond the initially designed capability of the visual system, as currently qualified. The recognized limitations to visual systems are as follows:

a. Visual systems not required to have runway numbers as a part of the specific runway marking requirements are:

- (1) Link NVS and DNVS.
- (2) Novoview 2500 and 6000.
- (3) FlightSafety VITAL series up to, and including, VITAL III, but not beyond.
- (4) Redifusion SP1, SP1T, and SP2.

b. Visual systems required to display runway numbers only for LOFT scenes are:

- (1) FlightSafety VITAL IV.
- (2) Redifusion SP3 and SP3T.
- (3) Link-Miles Image II.

c. Visual systems not required to have accurate taxiway edge lighting are:

- (1) Redifusion SP1.
- (2) FlightSafety Vital IV.
- (3) Link-Miles Image II and Image IIT
- (4) XKD displays (even though the XKD image generator is capable of generating blue colored lights, the display cannot accommodate that color).

7. A copy of this Directive must be filed in the MQTG in the designated FSTD Directive Section, and its inclusion must be annotated on the Index of Effective FSTD Directives chart. See Attachment 4, Appendices A through D for a sample MQTG Index of Effective FSTD Directives chart.

**Attachment 5 to Appendix C to Part 60—
FSTD DIRECTIVES APPLICABLE TO
HELICOPTER FFSs
Flight Simulation Training Device (FSTD)
Directive**

FSTD Directive 1. Applicable to all FFSs, regardless of the original qualification basis and qualification date (original or upgrade), having Class II or Class III airport models available.

Agency: Federal Aviation Administration (FAA), DOT

Action: This is a retroactive requirement to have all Class II or Class III airport models meet current requirements.

Summary: Notwithstanding the authorization listed in paragraph 13b in Appendices A and C of this part, this FSTD Directive requires each certificate holder to ensure that by May 30, 2009, except for the airport model(s) used to qualify the simulator at the designated level, each airport model used by the certificate holder's instructors or evaluators for training, checking, or testing under this chapter in an FFS, meets the definition of a Class II or Class III airport model as defined in 14CFR part 60. The completion of this requirement will not require a report, and the method used for keeping instructors and evaluators apprised of the airport models that meet Class II or Class III requirements on any given simulator is at the option of the certificate holder whose employees are using the FFS, but the method used must be available for review by the TPAAs for that certificate holder.

Dates: FSTD Directive 1 becomes effective on May 30, 2008.

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Specific Requirements:

1. Part 60 requires that each FSTD be:
 - a. Sponsored by a person holding or applying for an FAA operating certificate under Part 119, Part 141, or Part 142, or holding or applying for an FAA-approved training program under Part 63, Appendix C, for flight engineers, and
 - b. Evaluated and issued an SOQ for a specific FSTD level.
2. FFSs also require the installation of a visual system that is capable of providing an out-of-the-flight-deck view of airport models. However, historically these airport models were not routinely evaluated or required to meet any standardized criteria. This has led to qualified simulators containing airport models being used to meet FAA-approved training, testing, or checking requirements with potentially incorrect or inappropriate visual references.
3. To prevent this from occurring in the future, by May 30, 2009, except for the

airport model(s) used to qualify the simulator at the designated level, each certificate holder must assure that each airport model used for training, testing, or checking under this chapter in a qualified FFS meets the definition of a Class II or Class III airport model as defined in Appendix F of this part.

4. These references describe the requirements for visual scene management and the minimum distances from which runway or landing area features must be visible for all levels of simulator. The visual scene or airport model must provide, for each "in-use runway" or "in-use landing area," runway or landing area surface and markings, runway or landing area lighting, taxiway surface and markings, and taxiway lighting. Additional requirements include correlation of the visual scenes or airport models with other aspects of the airport environment, correlation of the aircraft and associated equipment, scene quality assessment features, and the extent to which the instructor is able to exercise control of these scenes or models.

5. For circling approaches, all requirements of this section apply to the runway used for the initial approach and to the runway of intended landing.

6. The details in these scenes or models must be developed using airport pictures, construction drawings and maps, or other similar data, or be developed in accordance with published regulatory material. However, FSTD Directive 1 does not require that airport models contain details that are beyond the initially designed capability of the visual system, as currently qualified. The recognized limitations to visual systems are as follows:

a. Visual systems not required to have runway numbers as a part of the specific runway marking requirements are:

- (1) Link NVS and DNVS.
- (2) Novoview 2500 and 6000.
- (3) FlightSafety VITAL series up to, and including, VITAL III, but not beyond.
- (4) Redifusion SP1, SP1T, and SP2.

b. Visual systems required to display runway numbers only for LOFT scenes are:

- (1) FlightSafety VITAL IV.
- (2) Redifusion SP3 and SP3T.
- (3) Link-Miles Image II.

c. Visual systems not required to have accurate taxiway edge lighting are:

- (1) Redifusion SP1.
- (2) FlightSafety Vital IV.
- (3) Link-Miles Image II and Image IIT
- (4) XKD displays (even though the XKD image generator is capable of generating blue colored lights, the display cannot accommodate that color).

7. A copy of this Directive must be filed in the MQTG in the designated FSTD Directive Section, and its inclusion must be annotated on the Index of Effective FSTD Directives chart. See Attachment 4, Appendices A through D of this part for a sample MQTG Index of Effective FSTD Directives chart.