

**JAA Administrative & Guidance Material**  
**Section Six: Synthetic Training Devices (STD/FSTD), Part Three: Temporary Guidance Leaflet**

LEAFLET NO. 10:        **UPDATING AND UPGRADING EXISTING FSTDs**

1.     **Note:** The material contained in this Leaflet has been issued in accordance with Chapter 9 of Administrative & Guidance Material Section Six: Synthetic Training Devices (STD), Part Two: Procedures (JAR-STD). The proposed text is being distributed for consideration by Authorities in advance of the normal consultation (NPA) process. Following the results of the NPA, this material will be incorporated into JAR-STD whereupon this Leaflet will be withdrawn. Until that occurs, the material in this Leaflet should be used as guidance material.

2.     **General**

2.1    This Temporary Guidance Leaflet concerns changes made to existing Flight Simulation Training Devices by operators and how these changes should be differentiated and evaluated by the certifying authorities.

3.     **Current situation**

3.1    The flight simulator manufacturer faces challenges within the industry to provide devices to meet both customer expectation and qualification requirements within a changing environment. Commercial demands often dictate the need to update older devices with changes to data or avionics or simply to combat obsolescence. This means that currently there are several generations of device in operation, which have been qualified to differing standards, retaining qualification status through grandfather rights. The regulator faces the unenviable task of initial evaluations to the latest standards on top of the ever-increasing recurrent evaluations to many older standards.

3.2    On the technical front, the life expectancy of a device can be affected by the availability of spares, the life of the computing device and general obsolescence which all play a major part. There are options to extend the life of a device, taking into account changes to the aircraft, updates to the data pack which continually develops, updates to equipment and addition of new equipment. Technology changes can result in re-hosting, replacement of visual systems, sound systems, controls and in some cases motion systems. Since these technical changes are implemented by the operator to provide the user with a better, more current and possibly more adequate training device with improved training capabilities, the implementation request for such technological changes should not be discouraged by the certifying authorities or applicable regulations. On the contrary: these changes which often demand large investments by the FSTD operator should be encouraged because of the aforementioned increase in training qualities. Of course the authorities should be able to differentiate clearly between updates and upgrades.

4.     **Practical: Updates v.s. Upgrades**

4.1    An update is a result of a change to the existing device where it retains its existing qualification level and the change can be certified through a recurrent inspection or an extra inspection if deemed necessary by the Authority according to the applicable regulations in effect at the time of initial qualification.

If such a change to an existing device would imply, that the performance of the device could no longer meet the requirements at the time of initial qualification, but that the result of the change would, to the opinion of the Authority, clearly mean an improvement to the performance and training capabilities of the device altogether, than the Authority might accept the proposed change as an update while allowing the device to retain its original qualification level.

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4.2 An upgrade is defined as the raising of the qualification level of a device, or an increase in training credits, which can only be achieved by undergoing an initial qualification according to the latest applicable regulations.

**5. Summary**

5.1 As long as the qualification level of the device does not change, all changes made to the device should be considered to be updates pending approval by the Authority. An upgrade (and consequent initial qualification according to latest regulations) is only applicable when the operator requests another qualification level (recategorisation) for the FSTD.

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