

Opening Remark: The Chapter 1, Background, was written by Eric Hendrikse and slightly overworked by Manfred von Allmen. The Chapter 2, Suggested Procedure, was added by Manfred von Allmen.

1. Background

Lately, within JAA premises, an increasing number of new training devices according JAR-STD 3A (FNPT's) is being offered for initial evaluation to the respective authorities. This may be initiated by the ending of the "Grandfather-period" that ended sometime mid 2005 and consequently ended the possible use for a number of older FNPTs that were operated under this Grandfather right provision.

The devices being offered for initial evaluation include FNPT Type 1, FNPT Type 2 and FNPT Type 2 MCC by different manufacturers and to different Authorities. It may be useful to remember, that these devices do not fall under the so called "mutual acceptance" arrangement by other recognised JAA-authorities as is being the case for STD-1A, 2A and 1H devices. Because these devices represent classes of aeroplanes (i.e. Single Pilot, Single Engine Piston) and are mainly used by FTO's at their own locations, the urgent need for such a mutual acceptance arrangement is not present.

Since there is no mutual acceptance of certificates issued by other member states for these devices, each Authority may and will implement the provisions of JAR-STD 3A according to their own point of view and interpretation. It shows that differences exist between the Authorities in how the text of JAR-STD 3A has to be applied and this leads to differences in the contents of the (M)QTGs of these devices.

Besides this leading to increased workload for the manufacturers, because they may need different MQTG documents for each certifying Authority, it could also lead to an unfair competition between the international operators (FTOs), because one operator might have to put much more effort into certifying a device than another one. This is not according to the European (EU) way of thinking.

On the other hand, Authorities must use their knowledge (and if necessary pressure on the manufacturer) to their full extent to get a training device that will not only fulfil the requirements of the JAR-STD 3A but also provide the operator with a valuable training tool. It turns out that many FTOs just do not have the knowledge to judge whether the performance of their new FNPT complies with all their training needs and the requirements of JAR-STD 3A and JAR-FCL. It's a valid thought to consider that the level of knowledge of FSTDs among the FNPT operators may in fact be not that what should be expected of a professional operator according JAR-STD 1A and although this is a valid thought, it puts more responsibility on the shoulders of the qualifying Authority when initially evaluating training devices according JAR-STD 3A.

To make the lives of the manufacturers a little easier and to possibly reduce the workload for the Authorities involved the following procedure was developed:

When a new device according JAR-STD 3A is offered for initial evaluation, this will eventually lead to an (nationally) accepted (M)QTG containing all applicable Validation Data and an Engineering Report.

If a similar device is - at a later stage - offered for initial evaluation to another Authority, the manufacturer will have to provide all relevant information about the previous certification in another member state to the new authority. This Authority then may choose:

1. to accept the data already evaluated by another authority;
2. to contact the relevant Authority with possible questions that have arisen;
3. to require additional data from the manufacturer/operator.

It must be emphasised, that this method does not imply a mutual acceptance of qualifications, but may merely be a working method to save precious time of the Authority, the operator and the manufacturer and could lead to faster qualification of new JAR-STD 3A devices.

2. Suggested Procedure for initial Evaluation/Qualification

The background to this procedure is given in ACJ No. 1 to JAR-FSTD A §1.5.4 and §2.2.2.3 and ACJ No. 3 to JAR-FSTD A.

For generic training devices normally an aerodynamic model off-the-shelf serves as baseline. This model may be enhanced and tuned with additional flight test data, data from aeroplane flight manuals or data from other sources. The result of this work is the set of agreed Validation Data, which is required to be substantiated by an engineering report. Upon the completion of this engineering report mostly subjective tuning and judgement applies. This set of agreed Validation Data represents the designated aeroplane configuration.

The manufacturer of a training device issues the QTG based on the set of agreed Validation Data and performs the first QTG run. The results of this initial run are required to be objectively evaluated and accepted by the Authority before the evaluation process can continue. The initial evaluation by the Authority at the operators facility is therefore an objective evaluation of the QTG results, even if some tests may be optimised. Of course, this initial evaluation contains also a thorough subjective part by the application of the list of Functions & Subjective Tests according ACJ No. 1 to JAR-FSTD A §3.

After a successful initial evaluation the Authority issues a Qualification Certificate, where the Class of Aeroplane according JAR-FCL should be obvious, e.g. SEP, MEP, MET. Further details to the simulated aeroplane are listed in the evaluation report of the Authority and the QTG.
