LEAFLET NO. 9 (rev. 1)**:** **ADDITIONAL GUIDANCE ON QUALITY SYSTEMS FOR OPERATORS OF SYNTHETIC TRAINING DEVICES**

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 purpose of this leaflet is to give information and guidance on quality systems for operators of synthetic training devices.

1. General

1.1 The concept of Quality Systems is a fundamental requirement on operators of Synthetic Training Devices. An effective Quality System is vitally important in supporting operation of the devices, in a structured way, to ensure they remain in compliance with the technical standards of JAR-STD and continue to be effective training tools. An effective Quality System is also essential to support any level of extended qualification as permitted by JAR-STD 1A.020(a) and its associated ACJ.

1.2 ACJs STD A/H.025 provide extensive guidance on what is expected in an Operators Quality System. However, the experience of the Authorities indicates that there remain many areas of misunderstanding in the STD operating community with regard to Quality Systems. This TGL has been developed to provide additional material to help both operators and Authorities in developing effective Quality Systems that satisfy the requirements of JAR-STD and ensure the highest standards of training are maintained.

1.3 For ease of use this TGL has been laid out in the same way as ACJ 1A.025 with similar paragraph numbering and appropriate cross-referencing. Although this TGL uses ACJ 1A.025 as its basis, the advice is equally applicable to other levels of STD and both aeroplanes and helicopters. Where the expected standard differs this has been detailed in the TGL.

1.4 Also included, as Appendices to this TGL are a STD Operator Quality System Compliance Checklist (Appendix 1) and a Guidance Leaflet detailing the preparation for an Authority Evaluation (Appendix 2). The Compliance Checklist will be used by the Authorities as a standardised checklist for the elements that are expected in an STD Operators Quality System. The Operator should complete the third column of the checklist by providing appropriate Quality Manual or Procedure references for each of the identified elements of the Quality System. This would then be provided to the Authority. Use of this checklist should assist in ensuring a consistent approach by the Authorities and also provide the Operators with additional guidance on all the elements of a Quality System that the Authorities will expect to be reflected in an effective Quality System. The Guidance Leaflet is provided to help Operators to prepare for Authority visits and to facilitate the preliminary briefing that is the first step of any initial or recurrent evaluation of a Synthetic Training Device carried out by an Authority.

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JAR-STD 1A.025

1. Introduction

   JAR-STD 1A.025 is divided into three parts. Part (a) covers the basic Quality System, but of equal importance are Parts (b) and (c) covering configuration management of the device and the safety and reliability features of the installation, respectively.

2. 1A.025(a)(4) – The documentation of the Quality System may be electronic provided the necessary controls can be demonstrated. This must include control of any paper copies that may be downloaded for use by individuals. It is recommended that any such copies are automatically designated as uncontrolled as part of the download process. Whilst electronic signatures on Master documents may be accepted, with appropriate protections, under the JAA system it still remains a requirement for a hard-copy master, with wet-ink signatures to be held by the applicant.

3. 1A.025(b)(1) - It is required that the simulator be maintained in a configuration that accurately represents the aircraft being simulated. This may be a specific aircraft tail number or may be a representation of a common standard. Users of the device will always be required to produce a differences list for any device they intend to use, and to identify how any differences will be covered in training. In order to ensure each device is maintained in the appropriate configuration, the STD operator will need to have a system that ensures all relevant Airworthiness Directives (ADs) are introduced on to affected simulators. In order to do this operators are reminded that ADs from both the State of Design of the aircraft and the State where the STD is located will need to be monitored. It is common for ADs from the State of Design to be automatically adopted unless specifically varied by the State of Registry. It may also be necessary to monitor ADs issued by states where users of the device have aircraft registered. In addition to ADs, the STD operator will also need to put in place processes that ensure all aircraft modifications are reviewed for any effect on training and testing. This will usually require review of the aircraft manufacturers Service Bulletins and may require a specific link to the aircraft manufacturer to be developed. It may be necessary for this link to be created through the users of the device, as some aircraft manufacturers have been reluctant to share such information directly with simulator operators who are not also aircraft operators.

4. 1A.025(b)(2)(ii) – It has always proven difficult to provide a comprehensive definition of what level of change should be considered major. Any change that affects the QTG should always be considered major. Introduction of new standards of equipment such as FMGCs and updated aerodynamic data packages would normally be considered major. Re-hosting of the STD software would be classified as major. Introduction of features that model new training scenarios e.g. TCAS, EGPWS would normally be classified as major. Operators are reminded that the requirement is for the Authority to be notified of such changes. This does not imply that the Authority will always wish to directly evaluate the change. The Authority is mindful of the potential burden placed on the operator by a special evaluation and will always consider that burden when deciding if such an evaluation is necessary. A decision by the Authority to evaluate a change does not imply that the operator does not need its own internal acceptance process to be completed prior to any Authority evaluation.

5. 1A.025(c) – The intent of this section of the requirement is to establish that the STD operator has all the necessary procedures in place to ensure that the STD installation remains in compliance with all requirements affecting the safety of the device and its users. The Authority will routinely audit the procedures to establish that they are properly implemented and effective but will not, necessarily, carry out checks directly. Based on experience it is likely that the Authority will pay particular attention to the quality of safety briefings provided to users and instructors on the STD and to the

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execution of regular checks on the STD safety features. It is recognised that certain checks such as that of the emergency stop can have adverse impact on the STD if carried out in full. It is acceptable to develop a procedure that protects elements of the device by shutting them down in advance, in a more controlled manner, provided it can be shown that the procedure still demonstrates the whole device can be shut down by the operation of a single emergency stop button, when required.

ACJ JAR-STD 1A.025

1. Introduction – It must be recognised that whatever Quality System is developed, it will not be effective unless it becomes an integral part of the way in which the organisation works. It includes both the necessary procedures for maintaining compliance with all the applicable requirements and a quality assurance programme to monitor the execution of these procedures. A successful Quality System will ensure that the highest quality training tool is available at all times. If the Quality System is viewed as an add-on to existing processes it will become a burden and will never be wholly effective. It should also be noted that Quality Control or Inspection is only a small part of a Quality System. If the Quality System is working effectively, inspections such as fly-outs should become routine revealing little beyond day-to-day unserviceabilities. Systematic defects should be captured by the Quality Assurance programme.

2. Para 2.1 – The Accountable Manager and the Quality Manager have to be acceptable to the Authority. For the Accountable Manager the acceptability is based on an assessment of the nominated person's level of responsibility and authority. The Authority must be satisfied that the Accountable Manager is able to adequately provide the required level of resources to properly support the STD. Detailed knowledge of STD requirement standards are not necessary, only sufficient to understand his/her responsibility for ensuring the STD is properly supported. The assessment of the Quality Manager will concentrate on establishing that the nominee has sufficient knowledge and experience of both quality management and STD operations to operate a Quality System within an STD operator. This is likely to require experience of working in the quality field and sufficient knowledge of STD's and the technical standards with which they must comply.

3. Para 2.2 – The Quality Policy Statement signed by the Accountable Manager is important in demonstrating that the Quality System is endorsed at the highest level. However, the Policy Statement is likely to be very high level and in many organisations applies more widely than to just the STD element. It is, therefore, necessary to translate the Policy Statement into Quality Objectives applicable to individual elements of the business. For an STD operator these would be expected to include targets for simulator reliability and availability, defects rates etc.

4. Para 2.3 – Many STD operators may be ISO 9000 certified, often as part of a much wider company approval. Whilst ISO 9000 provides a good basis for a Quality System, in most cases, it may not provide full compliance with all elements of JAR-STD. Elements more directly related to the operation of STD's will normally be required.

5. Para 2.4.4 – For smaller organisations, as stated in the ACJ, it is perfectly acceptable to combine the roles of Quality Manager and Accountable Manager. However, special attention needs to be paid to ensuring the appropriate level of independence of personnel carrying out quality functions, particularly the absolute independence of those carrying out quality audits. For larger organisations that hold multiple approvals and may cover multiple sites it is advantageous to have a common Quality System with an overall Quality Manager. However, it is essential, particularly where sites may be significantly separated geographically, that there is a nominated Quality

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Representative/focal at each site and possibly for each approval. These Quality Representatives will hold the delegated responsibility of the Quality Manager for the day-to-day Quality role at their site and in their function and have the necessary direct reporting lines to the overall Quality Manager and Accountable manager. In most cases it will also be necessary to ensure that local Quality Representatives are also acceptable to the local NAA. In many cases the local Quality Representatives may perform other functions in addition to the quality role. This is acceptable provided the necessary independence of any quality activity is maintained.

6. Para 3 – The Quality System, as a whole, begins with the requirements with which the system seeks to comply. These include both the Technical Standards, in this case the relevant parts of JAR-STD plus any other operator specific standards, for example Health and Safety codes and the quality objectives such as defect rates and rectification intervals and STD reliability targets. The Quality System should define the process by which these standards are made available to those who require them. The next part of the Quality System is that part which defines the day-to-day procedures or working practices by which the standards will be achieved. These procedures will include as a minimum defect reporting systems, defect rectification processes, tracking mechanisms, preventative maintenance programmes, spares handling, equipment calibration and configuration management of the device. They should include checks to assess the quality of the performed actions. These procedures and standards must be made readily available to anybody involved in the maintenance and day-to-day operation of the STD. The third part of the Quality System is the method by which the operator confirms the device is maintained in compliance with the defined standards and is being operated in accordance with the defined procedures. This is the Quality Assurance programme and includes the audit methods, reporting and corrective action procedures and feedback, management reviews and schedules for audits of all aspects of the STD operation. Across all aspects of the Quality System, and most important to it, are the people. The Quality System includes the definition of the responsibilities of all staff and should include a declaration of the minimum levels of resource proposed for the direct support of the STD plus the levels of support and managerial staff proposed. The levels of resource can be affected by factors such as local health and safety regulations, existence of weekend and/or night usage of the device(s), etc. The Quality System also includes definition of the skills and experience required for staff and leads to definition of any required training programmes. Training needs will cover both technical training and audit training, including QTG running and checking and fly-out techniques for flight crew. All the above would be documented in, as a minimum, a Quality manual and a procedures manual with appropriate cross-referencing both up and down the document hierarchy.

7. Para 3.3 – The documentation of the Quality System may be provided in any number of documents provided there are appropriate cross-references in all documents such that the system is fully traceable in both directions from end to end. For all but the smallest organisations at least two documents would be expected. Firstly a Quality Manual containing the Quality Policy, terminology, organizational charts and responsibilities, an overview of all processes, within the system, and certainly including those for maintaining regulatory compliance such as QTG running and fly-outs (Function and Subjective testing), Quality Assurance programme including the audit schedule and audit procedures including reporting and corrective action procedures. In addition the Quality manual should include, either directly or by reference, the identification of skills and experience and associated training. Secondly a Procedures Manual containing, as a minimum, software and hardware control procedures, configuration control procedures including, for example, control of training loads, updates to visual models, navigation and IOS data bases, QTG running and checking procedures, fly-out procedures, maintenance procedures including both defect rectification and preventative maintenance processes. Any standard forms and checklists should also be included. The Quality System

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documentation also includes all records such as technical logs, QTG runs, fly out reports and maintenance job cards. For operators with several approvals, separate and modular procedures manuals with a single Quality Manual covering all approvals, may be acceptable.

8. Para 4 - It is important to understand the difference between Quality Assurance and Quality Control. An effective Quality System will contain elements of both. Quality Control is normally done by inspection of the product, it provides confirmation, at the time of the inspection that the product conforms to a defined standard. The Quality Assurance element is essential to ensure the standard is maintained throughout the periods between product inspections. Within a Quality Assurance programme, the processes are defined that are necessary to provide confidence that the STD(s) is being supported and maintained to the highest possible standard and in compliance with the relevant requirements. A programme of internal audits is then set in place to confirm that the processes are being followed and are effective. The Authority would normally oversee an approved organisation by process and system audit, however, in the case of Synthetic Training Devices, Authority oversight includes an inspection element in the form of the annual simulator fly-out.

9. Para 4.1.1 – In addition to the normal process and system audits, the Quality Assurance audit schedule should include the schedule for each STD, for fly-outs and QTG running through the audit year.

10. Para 4.3 – The audit procedure should include, at least, the following: statement of scope, planning, initiation of audit, collection of evidence, analysis, reporting of findings, identification and agreement of corrective actions and feedback, including reporting significant findings to the Authority, where appropriate. The review of published material could include, in addition to the Quality and Procedures manuals, QTG records, fly-out reports, Technical log sheets, maintenance records and configuration control records.

11. Para 4.4 – In addition to knowledge of STD requirements and operation, it is expected that auditors will have received training in Quality Systems and audit techniques.

12. Para 4.4.1 - The routine fly-outs of the device are a specialised part of the audit programme. It is essential that the pilots tasked with carrying out these fly-outs are adequately experienced. They would be expected to be TRI/TRE qualified on the type, and should have experience of simulator evaluations carried out by the Authority. The assignment of such pilots can present difficulties, particularly for the independent simulator operator not directly associated with an airline. It is vital for the simulator operator to ensure their users are aware of the importance of the fly-outs as part of the continued qualification of the device and the need to assist in the provision of suitably qualified pilots to carry them out. It is worth noting that simulator users are required to satisfy themselves that the training devices they use are assessed for continued suitability, as part of there own quality programme. Involvement in fly-outs assists in meeting this need.

13. Para 4.7.4 – Whilst it is accepted that the number of audits required in an STD operator with a single device will be significantly less than those in larger operators with multiple devices, the Quality Assurance Programme must still meet the same criteria, and cover all aspects of the operation within a twelve-month period. The independence of the audit personnel must be maintained at all time. The audit programme, whether by full audit or by using a checklist system must still be sufficiently comprehensive to provide the necessary level of confidence that the device is maintained and operated to the highest possible standard. This includes monitoring and review of corrective actions and feedback processes.

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14. Para 4.10 – In addition to the documents listed, it is also important that other documentation is retained such as QTG runs, fly-out reports, technical log, obsolete procedures and forms and, certainly, update and modification history of the device, for a similar five year period.

15. Para 5 – The successful use of sub-contractors by an STD operator is reliant on the sub-contractor operating a Quality System of equal effectiveness to that of the operator. All requirements that an STD operator is expected to meet are equally applicable to his sub-contractor. For example, as is explained in Para 4 of this document, ISO 9000 does not fully address the requirements of JAR-STD. It follows, therefore, if ISO 9000 does not provide full compliance for an operator, neither will it provide full compliance for their sub-contractor. The ultimate responsibility for an effective Quality System within sub-contractors lies with the STD operator, but it is likely that the Authority will include at least one subcontractor in the audit of an STD operator if the sub-contractor plays a significant role in the provision of devices to users.

16. Para 6 – It cannot be emphasised too strongly that for a Quality System to be fully effective there has to be buy-in from the entire workforce. It is essential, therefore, that a proper understanding of the system and how it applies to each and every staff member is provided by appropriate training to all, not just those directly involved in operating the Quality System such as the Quality Manager, Quality Representative and the Auditors. The training given to those directly involved in the Quality System should cover the Quality System, audit techniques and applicable technical standards such as JAR-STD 1A. Quality System familiarisation training should be an integral part of any induction training and recurrent training. Update training on technical standards for audit personnel, is also of particular importance.

17. Para 7 – Any effective Quality System will include measurement of its effectiveness. The operator should develop performance measures that can be monitored against objectives. Such measures, often referred to as Metrics, will be reviewed by the Authority as part of its oversight of the Quality System within the STD operator, and will normally be examined for each STD on, at least, an annual basis. As stated in ACJ JAR-STD 1A.025, ARINC 433 provides good guidance on simulator quality measurement. Metrics should monitor not only individual simulator performance but, for larger operators, how each simulator is performing within the fleet. It is also recommended that metrics data be shared, regularly, with the simulator manufacturers to allow monitoring for generic problems such as design issues, which may be best addressed with a fleet wide solution.

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Appendix 1 to TGL no. 9:

JAR-STD Operator Quality System Assessment

STD Operator:

Site Assessed: **Date of Assessment:**

Accountable Manager: **Quality Manager:**

Number and Type of devices:
Quality Manual Reference:

JAR-STD Ref	Audit Area	QM/Proc Ref	Comments	Satis Y/N
1. ACCOUNTABLE MANAGER				
ACJ 2.1(a)(i) & 2.2.3	Has an Accountable Manager with overall responsibility for the Quality System been nominated?			
ACJ 2.1(a)(i)	Does the Accountable Manager have corporate authority to ensure all necessary activities can be financed and carried out to the standard required by the Authority?			
ACJ 2.1(a)(i)	Is the Accountable Manager acceptable to the Authority?			
ACJ 2.2.1	Has a formal written Quality Policy statement been established, included in the Quality Manual and signed by the Accountable Manager?			
2. QUALITY MANAGER				
ACJ 2.1(a)(iii)	Has a Quality Manager been nominated?			
1A.025 (a)(3)	Is the Quality Manager acceptable to the Authority?			
ACJ 2.4.4	Are the posts of QM and AM combined, if so is the required independence of Quality Audits assured?			

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JAR-STD Ref	Audit Area	QM/Proc Ref	Comments	Satis Y/N
ACJ 2.4.1/2	Does the QM have overall responsibility and authority to: a) verify that standards are met and b) ensure that the Quality Assurance Programme is established, implemented and maintained?			
ACJ 2.4.3(a)	Does the QM have direct access to the AM?			
ACJ 2.4.3(b)	Does the QM have access to all parts of the STD operator and as necessary any subcontractor's organisation?			
3. QUALITY SYSTEM				
1A.025 (a)(1)	Has a Quality System been established by the operator?			
1A.025 (a)(4)	Is the Quality System properly documented? (see Section 4)			
ACJ 3.1.3	Is the QS structured according to the size and complexity of the operator?			

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JAR-STD Ref	Audit Area	QM/Proc Ref	Comments	Satis Y/N
ACJ 3.2.1 & 2	Does the Quality System include the following as a minimum: a. Monitoring of compliance with required technical standards b. Identification of corrective actions and person responsible for rectification c. Feedback system to Accountable Manager to ensure corrective action are promptly addressed d. Reporting of significant non-compliances to the Authority e. A Quality Assurance Programme to verify continued compliance with applicable requirements, standards and procedures		a. b. c. d. e.	
ACJ 4.8.5	Are the responsibilities of the Quality Manager defined to include, as a minimum: a) Monitoring of corrective action programme b) To ensure that the corrective actions contain the necessary elements as defined in ACJ Para 4.8.4(a) c) Provide management with an independent assessment of corrective action, implementation and completion d) Evaluation of the effectiveness of the corrective action programme		a) b) c) d)	

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JAR-STD Ref	Audit Area	QM/Proc Ref	Comments	Satis Y/N
ACJ 3.2.1(i)	Are adequate financial, material and human resources in place to support the Quality System?			
ACJ 4.9	Are management evaluations/reviews of the Quality System a) held b) how often		a) b)	
ACJ 4.9.1 & 2	Does the management evaluation ensure that the Quality System is working effectively and is it comprehensive and well documented?			
ACJ 4.5.2	Does the Quality Assurance Programme identify the processes necessary and the persons within the company who have the training, experience, responsibility and authority to carry out the following: a. Perform quality inspections and audits as part of ongoing Quality Assurance; b. Identify and record any concerns or findings, and the evidence necessary to substantiate such concerns or findings; c. Initiate or recommend solutions to concerns or findings through designated reporting channels; d. Verify the implementation of solutions within specific timescales;		a. b. c. d.	
ACJ 4.5.1	Is there sufficient auditor resource available and can their required level of independence be demonstrated?			
ACJ 4.5.2(e)	Do the Auditors report directly to the Quality Manager?			

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JAR-STD Ref	Audit Area	QM/Proc Ref	Comments	Satis Y/N
ACJ 4.6.1	Does the defined audit schedule cover the following areas, within each 12 month period? a. Organisation b. Plans and objectives c. Maintenance procedures d. STD qualification level; e. Supervision f. STD technical status g. Manuals, Logs, and Records h. Defect deferral i. Personnel training j Aircraft and simulator configuration management, including Airworthiness Directives		a) b) c) d) e) f) g) h) i) j)	
ACJ 4.7.1	Does the audit schedule allow flexibility and unscheduled audits when required?			
ACJ 4.7.1	Have any checks or follow-up audits taken place in order to verify that corrective actions were a) taken, and b) effective			
ACJ 4.7.3	Are significant changes in management or organisation considered in the audit schedule?			
ACJ 4.10.1	How are audit non-compliances recorded?			
ACJ 4.8	Have audit non-compliances been identified?			
ACJ 4.8	Are procedures in place to ensure that corrective actions are taken in response to findings?			
ACJ 4.8.3	Have corrective actions been identified and implemented?			

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JAR-STD Ref	Audit Area	QM/Proc Ref	Comments	Satis Y/N
ACJ ??	Have any follow-up audits taken place in order to verify that corrective actions were a) taken and b) effective		a) b)	
ACJ 4.8.1	Have corrective actions re-established compliance with the standards required by the Authority, and any additional requirements defined by the operator?			
ACJ 10.4.1	Are records of the Quality Assurance programme: a) accurate b) complete and c) readily accessible		a) b) c)	
ACJ 4.10.2	Is there a document retention policy covering a) Audit schedules b) Quality inspection and audit reports c) Responses to findings d) Corrective action reports e) Follow-up and closure reports f) Management evaluation reports		a) b) c) d) e) f)	
ACJ 6.1.1	Is there an acceptable and effective procedure for providing a briefing on the Quality System to all personnel			

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JAR-STD Ref	Audit Area	QM/Proc Ref	Comments	Satis Y/N
ACJ 6.1.2	Is there an acceptable and effective procedure for ensuring that all those responsible for managing the Quality System receive training covering: a) An introduction to the concept of the Quality System b) Quality management c) The concept of Quality Assurance d) Quality manuals e) Audit Techniques f) Reporting and recording g) How the Quality System supports continuous improvement within the organisation		a) b) c) d) e) f) g)	
ACJ 6.1.2	Are suitable training records maintained			
ACJ 5.1.1	Are activities within the Quality System sub-contracted out to external agencies			
ACJ 5.1.2	Do written agreements exist between the operator and the sub-contractor clearly defining the services and quality to be provided?			
ACJ 5.1.3	Are the procedures in place to ensure that the necessary authorisations/approval when required are held by a sub-contractor?			
ACJ 5.1.3	Are the procedures in place to establish that the sub-contractor has the necessary technical competence?			
4. QUALITY MANUAL				
1A.025 (a)(4)	What is the current status of the Quality Manual – Amendment and Issue Date			
ACJ 3.3.1(h)	Is there a procedure in place to control copies and the distribution of the Quality Manual			

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JAR-STD Ref	Audit Area	QM/Proc Ref	Comments	Satis Y/N
ACJ 2.2.1	Have Quality Objectives been developed from the Quality Policy statement, and included either directly or by reference in the quality manual?			
ACJ 2.2.1	Is the Quality Manual signed by the Accountable Manager and the Quality Manager?			
ACJ 3.3.1	Does the Quality Manual include, either directly or by reference to other documents, the following: a) A description of the organisation b) Reference to appropriate STD technical standards c) Allocation of duties and responsibilities d) Audit procedures e) Reporting procedures f) Follow-up and corrective action procedures g) Document retention policy h) Training records			

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JAR-STD Ref	Audit Area	QM/Proc Ref	Comments	Satis Y/N
ACJ 3.3.1	Does the Quality Manual include, either directly or by reference to other documents, the following procedures for day to day operation of the STD: a) defect reporting systems b) defect rectification processes c) tracking mechanisms d) preventative maintenance programmes e) spares handling f) equipment calibration g) configuration management of the device including visual, IOS and navigation databases. h) Configuration Control System to ensure the continued integrity of the hardware and software qualified. i) QTG running and function and subjective tests.			
1A.025 & ACJ 3.3.1	Does the Quality Manual include, either directly or by reference to other documents, procedures for notification of the Authorities of the following: a) any change in the organisation including Company name, location, management b) major changes to a qualified device c) deactivation or relocation of a qualified device d) major failures of a qualified device e) major safety issue associated with the installation			

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JAR-STD Ref	Audit Area	QM/Proc Ref	Comments	Satis Y/N
1.025 (c)(1)	Does the Quality Manual define acceptable and effective procedures to ensure compliance with applicable Health and Safety Regulations, including: a) Safety briefings b) Fire/Smoke detection and suppression c) Protection against electrical, mechanical, hydraulic and pneumatic hazards d) Other items as defined in JAR-STD 1A.025(c)(1)(iv)			
1.025 (c)(2)	Does the Quality Manual include acceptable and effective procedures for regularly checking STD safety features such as emergency stops and emergency lighting, and are such tests recorded?			
5. QUALITY MEASURES				
ACJ 7.1.1	Does the Quality System include processes to produce and review appropriate metrics data			
ACJ 7.1.1	Do these Quality measures track the following: a) STD Availability b) Numbers of defects c) Open defects d) Defect closure rates e) Training session interrupt rates f) Training session Quality Rating		a) b) c) d) e) f)	
ACJ 7.1.1	Do the Quality Measures support the Quality objectives			

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Required actions/Comments

Signature:……

Date:……

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Appendix 2

GUIDANCE FOR OPERATORS OF SYNTHETIC TRAINING DEVICES TO PREPARE FOR AN AUTHORITY EVALUATION

1.Introduction

The purpose of this document is to provide STD operators with guidance on what is expected by the Authorities to support the discussion during the preliminary briefing which is a first step of any initial or recurrent evaluation of a Synthetic Training Device carried out by an Authority.

This document has been developed as well to standardise working methods throughout JAA countries and to develop effective Quality System spot checks to satisfy the requirements of JAR-STD and therefore to ensure the highest standards of training are attained.

2. Document form

Different document forms can be considered. Nevertheless, it appears that the best solution is a dossier which include all the information required by the Authorities.

3. Contents of the dossier for an initial evaluation:

- Type of simulator and qualification level requested;
- Evaluation agenda: including date of evaluation, name of people involved for the Authority, contact details for the STD operator, schedules for the subjective flight profile, QTG rerun;
- Simulator identification including, type of simulator, manufacturer, registration number, date of entry into service, Host computer, Visual system, motion system, type of IOS, simulated version(s), standards of all the aircraft computers (if applicable);
- Recent and planned modifications;
- Subjective open defect(s);
- Airport visual databases including for each visual scene, name of the airport, IATA and ICAO codes, type of visual scene (specific or generic), additional capabilities (Snow model, WGS 84 compliance, EGPWS);
- QTG status: the list should include for each QTG test available the status of the tests following the STD operator and Authority reviews;
- Additional white pages to take notes.

4. Contents of the dossier for a recurrent evaluation:

- Type of simulator and qualification level requested;
- Evaluation agenda: including date of evaluation, name of people involved for the Authority, contact details for the operator, schedules for the subjective flight profile, QTG rerun and QTG review;
- Simulator identification including, type of simulator, manufacturer, registration number, date of entry into service, Host computer, Visual system, motion system, type of IOS, simulated version(s), standards of all the aircraft computers (if applicable);
- Status of items raised during the last evaluation and date of closure;
- Reliability data: training hours month by month during the past year, numbers of complains mentioned in the Technical Log, training hours lost, availability rate;
- Operational data: a list of the simulator users during the 12 last months should be provided with number of training hours;

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- Failure tabulation including categorisation of failures (ATA chapter by ATA chapter and Pareto diagram, ARINC classification);
- Detail of main failures leading to training interruption or multiple occurrences of some failures;
- Recent and planned modifications;
- Subjective open defect(s);
- Airport visual databases including for each visual scene, name of the airport, ATA and ICAO codes, type of visual scene (specific or generic), additional capabilities (Snow model, WGS 84 compliance, EGPWS);
- QTG status: the list should include for each QTG test available, the date of run during the past year, any comment, and the status of the tests;
- Additional white pages to take notes.

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