

Acceptable Means of Compliance (AMC)
and
Guidance Material (GM)
to
Annex VI Part - ARA
(AUTHORITY REQUIREMENTS for AIRCREW)

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SUBPART GEN. GENERAL REQUIREMENTS

Section I. GENERAL

GM 1. ARA. GEN. 105 Definitions

The following provides a list of acronyms used throughout this Annex :

(A)	Aeroplane
(H)	Helicopter
A / C	Aircraft
ACAS	Airborne Collision Avoidance System
AeMC	Aero - medical Centre
ALARP	as low as reasonably practicable
AMC	Acceptable Means of Compliance
AME	Aero - medical Examiner
APU	Auxiliary Power Unit
ARA	Authority Requirements for Aircrew
ATO	Approved Training Organization
ATPL	Airline Transport Pilot Licence
BITD	Basic Instrument Training Device
bpm	beats per minute
CAT	category
CC	Cabin Crew
cm	centimetres
CPL	Commercial Pilot Licence
CS	Certification Specification
CS - FSTD (A)	Certification Specifications for Aeroplane Flight Simulation Training Devices
CS - FSTD (H)	Certification Specifications for Helicopter Flight Simulation Training Devices
dB	decibel
DH	Decision Height
DPATO	Defined Point After Take-off
DPBL	Decision Point Before Landing
EC	European Community
ECG	electrocardiogram
ENT	ear, nose and throat
EOG	electro - oculography
ETOPS	Extended Range Operations with Twin - engined Aeroplanes
FANS	Future Air Navigation System
FD	Flight Director
FEV1	forced expiratory volume in 1 second
FFS	Full Flight Simulator
FMECA	failure mode, effects and criticality analysis
FMGC	Flight Management and Guidance Computer

FMS	Flight Management System
FNPT	Flight Navigation and Procedures Trainer
FSTD	Flight Simulation Training Device
FTD	Flight Training Device
FTE	Full Time Equivalent
ft	feet
FVC	forced vital capacity
GM	Guidance Material
GPS	Global Positioning System
HF	Human Factors
Hg	mercury
HUD / HUGS	Head - up Display / Head - up Guidance System
Hz	Herz
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IGE	in ground effect
ILS	Instrument Landing System
IOS	Instructor Operating Station
IR	Implementing Rule
IR	Instrument Rating
kg	kilogram
LDP	Landing Decision Point
LVTO	Low Visibility Take - off
m	metre
mm	millimetre
OGE	out of ground effect
ORA	Organization Requirements for Aircrew
ORO	Organization Requirements for Air Operations
OSD	operational suitability data
QTG	qualification test guide
POM	proof of match
ROD	Rate of Descent
RVR	Runway Visual Range
TDP	Take-off Decision Point
VDR	validation data roadmap

AMC 1. ARA. GEN. 120 (d)(3) Means of Compliance*GENERL*

The information to be provided to other Member States following approval of an alternative means of compliance should contain a reference to the Acceptable Means of Compliance (AMC) to which such means of compliance provides an alternative, as well as a reference to the corresponding Implementing Rule, indicating as applicable the subparagraph(s) covered by the alternative means of compliance.

GM 1. ARA. GEN. 120 Means of Compliance*GENERL*

Alternative means of compliance used by a GDCA or by organizations under its oversight may be used by other competent authorities or organizations only if processed again in accordance with ARA.GEN.120(d) and (e).

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Section II. MANAGEMENT

AMC 1. ARA. GEN. 200 (a) Management System

GENERAL

- a)** All of the following should be considered when deciding upon the required organizational structure :
- 1) the number of certificates, attestations, authorizations and approvals to be issued ;
 - 2) the number of certified persons and organizations exercising an activity within that Member State, including persons or organizations certified by other competent authorities ;
 - 3) the possible use of qualified entities and of resources of other competent authorities to fulfill the continuing oversight obligations ;
 - 4) the level of civil aviation activity in terms of:
 - (i) number and complexity of aircraft operated ;
 - (ii) size and complexity of the Member State's aviation industry ;
 - 5) the potential growth of activities in the field of civil aviation.
- b)** The set-up of the organizational structure should ensure that the various tasks and obligations of the competent authority do not rely solely on individuals. A continuous and undisturbed fulfillment of these tasks and obligations of the competent authority should also be guaranteed in case of illness, accident or leave of individual employees.

GM 1. ARA. GEN. 200 (a) Management System

GENERAL

- a)** The competent authority designated by State should be organized in such a way that :
- 1) there is specific and effective management authority in the conduct of all relevant activities ;
 - 2) the functions and processes described in the applicable requirements of CR - EC N^o 216 / 2008¹ and its Implementing Rules and AMCs, Certification Specifications (CSs) and Guidance Material (GM) may be properly implemented ;
 - 3) the GDCA of RA organization and operating procedures for the implementation of the applicable requirements of CR-EC N^o 216 / 2008 and its Implementing Rules are properly documented and applied ;
 - 4) all GDCA personnel involved in the related activities are provided with training where necessary ;
 - 5) specific and effective provision is made for the communication and interface as necessary with the EASA and the competent authorities of another States ; *and*
 - 6) all functions related to implementing the applicable requirements are adequately described.
- b)** A general policy in respect of activities related to the applicable requirements of CR-EC N^o 216 / 2008 and its Implementing Rules should be developed, promoted and implemented by the manager at the highest appropriate level ; for example the manager at the top of the functional area of the competent authority that is responsible for such activities.
- c)** Appropriate steps should be taken to ensure that the policy is known and understood by all personnel involved, and all necessary steps should be taken to implement and maintain the policy ;

d) The general policy, whilst also satisfying additional national regulatory responsibilities, should in particular take into account :

- 1) the provisions of CR-EC N° 216 / 2008 ;
- 2) the provisions of the applicable Implementing Rules and their AMCs, CSs and GM ;
- 3) the needs of industry ; *and*
- 4) the needs of the EASA and of the competent authority.

e) The policy should define specific objectives for key elements of the organization and processes for implementing related activities, including the corresponding control procedures and the measurement of the achieved standard.

¹

CR-EC N° 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a EASA, and repealing Council Directive 91/670/EEC, CR-EC No 1592/2002 and CD 2004/36/EC.

OJL 79, 19. 3. 2008, p. 1.

AMC 1. ARA. GEN. 200 (a)(1) Management System
DOCUMENTED POLICIES and PROCEDURES

a) The various elements of the organization involved with the activities related to CR-EC N° 216 / 2008 and its Implementing Rules should be documented in order to establish a reference source for the establishment and maintenance of this organization ;

b) The documented procedures should be established in a way that facilitates their use. They should be clearly identified, kept up-to-date and made readily available to all personnel involved in the related activities ;

c) The documented procedures should cover, as a minimum, all of the following aspects :

- 1) policy and objectives ;
- 2) organizational structure ;
- 3) responsibilities and associated authority ;
- 4) procedures and processes ;
- 5) internal and external interfaces ;
- 6) internal control procedures ;
- 7) training of personnel ;
- 8) cross - references to associated documents ;
- 9) assistance from other competent authorities or the EASA (*where required*).

d) It is likely that the information is held in more than one document or series of documents, and suitable cross-referencing should be provided. For example, organizational structure and job descriptions are not usually in the same documentation as the detailed working procedures. In such cases it is recommended that the documented procedures include an index of cross-references to all such other related information, and the related documentation should be readily available when required.

AMC 1. ARA. GEN. 200 (a)(2) Management System
QUALIFICATION and TRAINING - GENERAL

- a)* The GDCA should ensure appropriate and adequate training of its personnel to meet the standard that is considered necessary to perform the work. To ensure personnel remain qualified, arrangements should be made for initial and recurrent training as required ;
- b)* The basic capability of the GDCA personnel is a matter of recruitment and normal management functions in selection of personnel for particular duties. Moreover, the GDCA should provide training in the basic skills as required for those duties. However, to avoid differences in understanding and interpretation, all personnel should be provided with further training specifically related to CR-EC N° 216 / 2008, its Implementing Rules and related AMC's, CS's and GM, as well as related to the assessment of alternative means of compliance ;
- c)* The GDCA may provide training through its own training organization with qualified trainers or through another qualified training source ;
- d)* When training is not provided through an internal training organization, adequately experienced and qualified persons may act as trainers, provided their training skills have been assessed. If required, an individual training plan should be established covering specific training skills. Records should be kept of such training and of the assessment, as appropriate.

AMC 2. ARA. GEN. 200 (a)(2) Management System
QUALIFICATION and TRAINING - INSPECTORS

a) Initial Training Programme :

The initial training programme for inspectors should include, as appropriate to their role, current knowledge, experience and skills in at least all of the following :

- 1) aviation legislation organization and structure ;
- 2) the Chicago Convention, relevant ICAO Annexes and Documents ;
- 3) the applicable requirements and procedures ;
- 4) management systems, including auditing, risk assessment and reporting techniques ;
- 5) human factors principles ;
- 6) rights and obligations of inspecting personnel of the GDCA ;
- 7) “on - the - job “ training ;
- 8) suitable technical training appropriate to the role and tasks of the inspector, in particular for those areas requiring approvals.

b) Recurrent Training Programme :

The recurrent training programme should reflect, at least, changes in aviation legislation and industry. The programme should also cover the specific needs of the inspectors and the GDCA.

GM 1. ARA. GEN. 200 (a)(2) Management System
SUFFICIENT PERSONNEL

- a)* This GM on the determination of the required personnel is limited to the performance of certification and oversight tasks, excluding personnel required to perform tasks subject to any national regulatory requirements ;

b) The elements to be considered when determining required personnel and planning their availability may be divided into quantitative and qualitative elements :

1) *Quantitative Elements* :

- (i) the estimated number of initial certificates to be issued ;
- (ii) the number of organizations certified by the GDCA ;
- (iii) the number of persons to whom the GDCA has issued a licence, certificate, rating, authorization or attestation ;
- (iv) the estimated number of persons and organizations exercising their activity within the territory of the State and established or residing in another EU Member State.

2) *Qualitative Elements* :

- (i) the size, nature and complexity of activities of certified organizations and FSTD qualification certificate holders (cf. AMC 1. ORA.GEN.200 (b)), taking into account :
 - (A) privileges of the organization ;
 - (B) type of approval, scope of approval, multiple certification ;
 - (C) possible certification to industry standards ;
 - (D) types of aircraft / flight simulation training devices (FSTDs) operated ;
 - (E) number of personnel ; *and*
 - (F) organizational structure, existence of subsidiaries ;
- (ii) the safety priorities identified ;
- (iii) the results of past oversight activities, including audits, inspections and reviews, in terms of risks and regulatory compliance, taking into account :
 - (A) number and level of findings ;
 - (B) timeframe for implementation of corrective actions ; *and*
 - (C) maturity of management systems implemented by organizations and their ability to effectively manage safety risks, taking into account also information provided by other competent authorities related to activities in the territory of the States concerned ;
- (iv) the size and complexity of the State's aviation industry and the potential growth of activities in the field of civil aviation, which may be an indication of the number of new applications and changes to existing certificates to be expected.

c) Based on existing data from previous oversight planning cycles and taking into account the situation within State's aviation industry, the GDCA may estimate :

- 1) the standard working time required for processing applications for new certificates (*for persons, organizations and FSTD qualification*) ;
- 2) the number of new certificates to be issued for each planning period ; *and*
- 3) the number of changes to existing certificates to be processed for each planning period.

d) In line with the GDCA oversight policy, the following planning data should be determined specifically for each type of organization certified by the GDCA ((ATO) approved training organization and aero-medical centres (AeMC)) and for FSTD qualification certificate holders :

- 1) standard number of audits to be performed per oversight planning cycle ;
- 2) standard duration of each audit ;
- 3) standard working time for audit preparation, on-site audit, reporting and follow-up, per inspector ;

- 4) standard number of ramp and unannounced inspections to be performed ;
- 5) standard duration of inspections, including preparation, reporting and follow-up, per inspector ;
- 6) minimum number and required qualification of inspectors for each audit / inspection.

e) Standard working time could be expressed either in working hours per inspector or in working days per inspector. All planning calculations should then be based on the same unit (*hours or working days*) ;

f) It is recommended to use a spreadsheet application to process data defined under (*c*) and (*d*), to assist in determining the total number of working hours / days per oversight planning cycle required for certification, oversight and enforcement activities. This application could also serve as a basis for implementing a system for planning the availability of personnel ;

g) For each type of organization certified by the GDCA and for FSTD qualification certificate holders the number of working hours / days per planning period for each qualified inspector that may be allocated for certification, oversight and enforcement activities should be determined, taking into account :

- 1) purely administrative tasks not directly related to oversight and certification ;
- 2) training ;
- 3) participation in other projects ;
- 4) planned absence ;
- 5) the need to include a reserve for unplanned tasks or unforeseeable events.

and

h) The determination of working time available for certification, oversight and enforcement activities should also consider :

- 1) the possible use of qualified entities ;
- 2) possible cooperation with other competent authorities for approvals involving more than one Member State.

and

i) Based on the elements listed above, the GDCA should be able to :

- 1) monitor dates when audits and inspections are due and when they have been carried out ;
- 2) implement a system to plan the availability of personnel ;
- 3) identify possible gaps between the number and qualification of personnel and the required volume of certification and oversight.

and

Care should be taken to keep planning data up-to-date in line with changes in the underlying planning assumptions, with particular focus on risk-based oversight principles.

AMC 1. ARA. GEN. 210 (d) Management System
PROCEDURES AVAILABLE to the AGENCY

a) Copies of the procedures related to the competent authority's management system and their amendments to be made available to the Agency for the purpose of standardization should provide at least the following information :

- 1) Regarding continuing oversight functions undertaken by the competent authority, the competent authority's organizational structure with description of the main processes. This information should demonstrate the allocation of responsibilities within the competent authority, and that the competent authority is capable of carrying out the full range of tasks regarding the size and complexity of the Member State's aviation industry. It should also consider overall proficiency and authorization scope of competent authority personnel ;
 - 2) For personnel involved in oversight activities, the minimum professional qualification requirements and experience and principles guiding appointment (e. g. assessment) ;
 - 3) How the following are carried out : assessing applications and evaluating compliance, issuance of certificates, performance of continuing oversight, follow-up of findings, enforcement measures and resolution of safety concerns ;
 - 4) Principles of managing exemptions and derogations ;
 - 5) Processes in place to disseminate applicable safety information for timely reaction to a safety problem ;
 - 6) Criteria for planning continuing oversight (*oversight programme*), including adequate management of interfaces when conducting continuing oversight (*air operations, flight crew licensing, continuing airworthiness management for example*) ;
 - 7) Outline of the initial training of newly recruited oversight personnel (*taking future activities into account*), and the basic framework for continuation training of oversight personnel.
- b) As part of the continuous monitoring of a competent authority, the Agency may request details of the working methods used, in addition to the copy of the procedures of the competent authority's management system (*and amendments*). These additional details are the procedures and related guidance material describing working methods for competent authority personnel conducting oversight ;
- c) Information related to the competent authority's management system may be submitted in electronic format.

GM 1. ARA. GEN. 205 Allocation of Tasks to Qualified Entities
CERTIFICATION TASKS

The tasks that may be performed by a qualified entity on behalf of the GDCA include those related to the initial certification and continuing oversight of persons and organizations as defined in this Regulation, with the exclusion of the issuance of certificates, licences, ratings or approvals.

AMC 1. ARA. GEN. 220 (a) Record - keeping***GENERAL***

- a)* The record-keeping system should ensure that all records are accessible whenever needed within a reasonable time. These records should be organized in a way that ensures traceability and retrievability throughout the required retention period ;
- b)* Records should be kept in paper form or in electronic format or a combination of both media. Records stored on microfilm or optical disc form are also acceptable. The records should remain legible and accessible throughout the required retention period. The retention period starts when the record has been created ;
- c)* Paper systems should use robust material, which can withstand normal handling and filing. Computer systems should have at least one backup system, which should be updated within 24 hours of any new entry. Computer systems should include safeguards against unauthorized alteration of data ;
- d)* All computer hardware used to ensure data backup should be stored in a different location from that containing the working data and in an environment that ensures they remain in good condition. When hardware - or software-changes take place, special care should be taken that all necessary data continue to be accessible at least through the full period specified in the relevant Subpart or by default in ARA.GEN.220 (c).

AMC 1. ARA. GEN. 220 (a)(1) ; (2) ; (3) Record - keeping***COMPETENT AUTHORITY MANAGEMENT SYSTEM***

Records related to the GDCA management system should include, as a minimum and as applicable :

- a)* the documented policies and procedures ;
- b)* the personnel files of GDCA personnel, with supporting documents related to training and qualifications ;
- c)* the results of the GDCA internal audit and safety risk management processes, including audit findings and corrective actions ; *and*
- d)* the contract(s) established with qualified entities performing certification or oversight tasks on behalf of the GDCA.

AMC 1. ARA. GEN. 220 (a)(4) Record - keeping***ORGANIZATIONS***

Records related to an organization certified by the GDCA should include, as appropriate to the type of organization :

- a)* the application for an organization approval ;
- b)* the documentation based on which the approval has been granted and any amendments to that documentation ;
- c)* the organization approval certificate including any changes ;
- d)* a copy of the continuing oversight programme listing the dates when audits are due and when such audits were carried out ;
- e)* continuing oversight records including all audit and inspection records ;

- f)* copies of all relevant correspondence ;
- g)* details of any exemption and enforcement actions ;
- h)* any report from other competent authorities relating to the oversight of the organization ;
- i)* a copy of any other document approved by the GDCA.

GM 1. ARA. GEN. 220 (a)(4) Record - keeping
ORGANIZATIONS - DOCUMENTATION

Documentation to be kept as records in support of the approval include the management system documentation, including any technical manuals, such as the Operations Manual, and Training Manual, that have been submitted with the initial application, and any amendments to these documents.

AMC 1. ARA. GEN. 220 (a)(5) Record - keeping
PERSONS

Records related to personnel licences, certificates, ratings, authorizations or attestations issued by the GDCA should include, as a minimum :

- a)* the application for a licence, certificate, rating, authorization or attestation or change to a licence, certificate, rating, authorization or attestation ;
- b)* documentation in support of the application for a licence, certificate, rating, authorization or attestation or change to a licence, certificate, rating, authorization or attestation, covering as applicable :
 - 1) theoretical examination(s) ;
 - 2) skill test(s) ;
 - 3) proficiency check(s) ; *and*
 - 4) certificates attesting required experience.
- c)* a copy of the licence or certificate including any changes ;
- d)* all relevant correspondence or copies thereof ;
- e)* details of any exemption ;
- f)* details of any enforcement action(s) ; *and*
- g)* any report from other competent authorities relating to personnel licences, certificates, ratings, authorizations or attestations issued by the competent authority.

AMC 1. ARA. GEN. 220 (a)(7) Record - keeping
ACTIVITIES PERFORMED in the TERRITORY of a MEMBER STATE by PERSONS or ORGANISATIONS ESTABLISHED or RESIDING in ANOTHER MEMBER STATE

a) Records related to the oversight of activities performed in the territory of a Member State by persons or organizations established or residing in another Member State should include, as a minimum :

- 1) oversight records including all audit and inspection records and related correspondence ;
- 2) copies of all relevant correspondence to exchange information with other competent authorities relating to the oversight of such persons / organizations ;
- 3) details of any enforcement measures and penalties ; *and*

- 4) any report from other competent authorities relating to the oversight of these persons / organizations, including any notification of evidence showing non-compliance with the applicable requirements.
- b)** Records should be kept by the competent authority having performed the audit or inspection and should be made available to other competent authorities at least in the following cases :
- 1) serious incidents or accidents ;
 - 2) findings through the oversight programme where organizations certified by another competent authority are involved, to determine the root cause ;
 - 3) an organization being certified or having approvals in several Member States.
- c)** When records are requested by another competent authority, the reason for the request should be clearly stated ;
- d)** The records can be made available by sending a copy or by allowing access to them for consultation.

GM 1. ARA. GEN. 220 Record - keeping
GENERAL

Records are required to document results achieved or to provide evidence of activities performed. Records become factual when recorded. Therefore, they are not subject to version control. Even when a new record is produced covering the same issue, the previous record remains valid.

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Section III. Oversight, Certification and Enforcement

AMC 1. ARA. GEN. 300 (a) ; (b) ; (c) Oversight

EVALUATION of APPROVED TRAINING ORGANISATIONS OPERATIONAL SAFETY RISK ASSESSMENT

As part of the initial certification or the continuing oversight of an ATO, the GDCA should normally evaluate its safety risk assessment processes related to hazards identified by the ATO as having an interface with its operations. These safety risk assessments should be identifiable processes of the ATO's management system. As part of its continuing oversight, the GDCA should also remain satisfied as to the effectiveness of these safety risk assessments.

a) General methodology for operational hazards.

The GDCA should establish a methodology for evaluating the safety risk assessment processes of the ATO's management system. When related to operational hazards, the GDCA evaluation under its normal oversight process should be considered satisfactory if the ATO demonstrates its competence and capability to :

- 1) understand the hazards identified and their consequences on its operations ;
- 2) be clear on where these hazards may exceed acceptable safety risk limits ;
- 3) identify and implement mitigations including suspension of operations where mitigation cannot reduce the risk to within safety risk limits ;
- 4) develop and execute effectively, robust procedures for the preparation and the safe operation of the flights subject to the hazards identified ;
- 5) assess the competence and currency of its staff in relation to the duties for the intended operations and implement any necessary training ; *and*
- 6) ensure sufficient numbers of qualified and competent staff for such duties.

The GDCA should take into account :

- 1) the ATO's recorded mitigations for each unacceptable risk identified are in place ;
- 2) the operational procedures specified by the ATO with the most significance to safety appear to be robust ; *and*
- 3) that the staff on which the ATO depends in respect of those duties necessary for the intended operations are trained and assessed as competent in the relevant procedures.

EVALUATION of APPROVED TRAINING ORGANISATIONS' VOLCANIC ASH SAFETY RISK ASSESSMENT

In addition to the general methodology for operational hazards, the GDCA evaluation under its normal oversight process should also assess the ATO's competence and capability to :

- 1) choose the correct information sources to use to interpret the information related to volcanic ash contamination forecast and to resolve correctly any conflicts among such sources ;
- 2) take account of all information from its type certificate holders (TCHs) concerning volcanic ash-related airworthiness aspects of the aircraft it operates, and the related pre-flight, in-flight and post flight precautions to be observed.

GM 1. ARA. GEN. 300 (a) ; (b) ; (c) Oversight*VOLCANIC ASH SAFETY RISK ASSESSMENT - ADDITIONAL GUIDANCE*

Further guidance on the assessment of an ATO volcanic ash safety risk assessment is given in ICAO Doc. 9974 (*Flight Safety and Volcanic Ash – Risk management of flight operations with known or forecast volcanic ash contamination*).

GM 1. ARA. GEN. 300 (d) Oversight*ACTIVITIES within the TERRITORY of the MEMBER STATE*

a) Activities performed in the territory of the Member State by persons or organizations established or residing in another Member State include :

- 1) activities of organizations certified by the competent authority of any other Member State or the Agency ;
- 2) activities of persons holding a licence, certificate, rating, or attestation issued by the competent authority of any other Member State ; *and*
- 3) activities of persons making declarations to the competent authority of any other Member State.

b) Audits and inspections of such activities, including ramp and unannounced inspections, should be prioritized towards those areas of greater safety concern, as identified through the analysis of data on safety hazards and their consequences in operations.

AMC 1. ARA. GEN. 305 (b) Oversight Programme*SPECIFIC NATURE and COMPLEXITY of the ORGANISATION, RESULTS of PAST OVERSIGHT*

a) When determining the oversight programme for an organization the GDCA should consider in particular the following elements, as applicable :

- 1) the implementation by the organization of industry standards, directly relevant to the organization's activity subject to this Regulation ;
- 2) the procedure applied for and scope of changes not requiring prior approval ;
- 3) specific approvals held by the organization ;
- 4) specific procedures implemented by the organization related to any alternative means of compliance used.

b) For the purpose of assessing the complexity of an organization's management system, AMC 1. ORA.GEN.200 (b) should be used ;

c) Regarding results of past oversight, the GDCA should also take into account relevant results of ramp inspections of organizations it has certified that were performed in other States in accordance with ARO.RAMP.

AMC 1. ARA. GEN. 305 (b)(1) Oversight Programme*AUDIT*

- a)* The oversight programme should indicate which aspects of the approval will be covered with each audit ;
- b)* Part of an audit should concentrate on the organization's compliance monitoring reports produced by the compliance monitoring personnel to determine if the organization is identifying and correcting its problems ;
- c)* At the conclusion of the audit, an audit report should be completed by the auditing inspector, including all findings raised.

AMC 2. ARA. GEN. 305 (b)(1) Oversight Programme*RAMP INSPECTIONS*

When conducting a ramp inspection of aircraft used by organizations under its regulatory oversight the GDCA should, in as far as possible, comply with the requirements defined in ARO. RAMP.

AMC 1. ARA. GEN. 305 (b) ; (c) Oversight Programme*INDUSTRY STANDARDS*

- a)* For organizations having demonstrated compliance with industry standards, the GDCA may adapt its oversight programme, in order to avoid duplication of specific audit items ;
- b)* Demonstrated compliance with industry standards should not be considered in isolation from the other elements to be considered for the GDCA risk-based oversight ;
- c)* In order to be able to credit any audits performed as part of certification in accordance with industry standards, the following should be considered :
 - 1) the demonstration of compliance is based on certification auditing schemes providing for independent and systematic verification ;
 - 2) the existence of an accreditation scheme and accreditation body for certification in accordance with the industry standards has been verified ;
 - 3) certification audits are relevant to the requirements defined in Annex VII (Part - ORA) and other Annexes to this Regulation as applicable ;
 - 4) the scope of such certification audits can easily be mapped against the scope of oversight in accordance with Part - ORA ;
 - 5) audit results are accessible to the GDCA and open to exchange of information in accordance with Article 15 (1) of CR-EC N° 216 / 2008 ; *and*
 - 6) the audit planning intervals of certification audits i. a. w. industry standards are compatible with the oversight planning cycle.

AMC 1. ARA. GEN. 305 (c) Oversight Programme***OVERSIGHT PLANNING CYCLE***

- a)* When determining the oversight planning cycle and defining the oversight programme, the GDCA should assess the risks related to the activity of each organization and adapt the oversight to the level of risk identified and to the organization's ability to effectively manage safety risks ;
- b)* The GDCA should establish a schedule of audits and inspections appropriate to each organization. The planning of audits and inspections should take into account the results of the hazard identification and risk assessment conducted and maintained by the organization as part of the organization's management system. Inspectors should work in accordance with the schedule provided to them ;
- c)* When the GDCA, having regard to an organization's safety performance, varies the frequency of an audit or inspection it should ensure that all aspects of the organization's activity are audited and inspected within the applicable oversight planning cycle ;
- d)* The section(s) of the oversight programme dealing with ramp inspections should be developed based on geographical locations, taking into account aerodrome activity, and focusing on key issues that can be inspected in the time available without unnecessarily delaying the operations.

AMC 2. ARA. GEN. 305 (c) Oversight Programme***OVERSIGHT PLANNING CYCLE***

- a)* For each organization certified by the GDCA and each FSTD qualification certificate holder all processes should be completely audited at periods not exceeding the applicable oversight planning cycle. The beginning of the first oversight planning cycle is normally determined by the date of issue of the first certificate. If the GDCA wishes to align the oversight planning cycle with the calendar year, it should shorten the first oversight planning cycle accordingly ;
- b)* The interval between two audits for a particular process should not exceed the interval of the applicable oversight planning cycle ;
- c)* Audits should include at least one on-site audit within each oversight planning cycle. For organizations exercising their regular activity at more than one site, the determination of the sites to be audited should consider the results of past oversight, the volume of activity at each site, as well as main risk areas identified ;
- d)* For organizations holding more than one certificate, the GDCA may define an integrated oversight schedule to include all applicable audit items. In order to avoid duplication of audits, credit may be granted for specific audit items already completed during the current oversight planning cycle, subject to four conditions :
- 1) the specific audit item should be the same for all certificates under consideration ;
 - 2) there should be satisfactory evidence on record that such specific audit items were carried out and that all corrective actions have been implemented to the satisfaction of the GDCA ;
 - 3) the GDCA should be satisfied that there is no reason to believe standards have deteriorated in respect of those specific audit items being granted a credit ;
 - 4) the interval between two audits for the specific item being granted a credit should not exceed the applicable oversight planning cycle.

AMC 1. ARA. GEN. 305 (d) Oversight Programme*PERSONS HOLDING a LICENCE, CERTIFICATE, RATING or ATTESTATION*

The oversight of persons holding a licence, certificate, rating or attestation should normally be ensured as part of the oversight of organizations. Additionally, the GDCA should verify compliance with applicable requirements when endorsing or renewing ratings.

To properly discharge its oversight responsibilities, the GDCA should perform a certain number of unannounced verifications.

AMC 1. ARA. GEN. 310 (a) Initial Certification Procedure - Organizations*VERIFICATION of COMPLIANCE*

a) In order to verify the organization's compliance with the applicable requirements, the GDCA should conduct an audit of the organization, including interviews of personnel and inspections carried out at the organization's facilities ;

b) The GDCA should only conduct such audit after being satisfied that the application shows compliance with the applicable requirements ;

c) The audit should focus on the following areas :

1) detailed management structure, including names and qualifications of personnel required by ORA.GEN.210 and adequacy of the organization and management structure ;

2) personnel :

(i) adequacy of number and qualifications with regard to the intended terms of approval and associated privileges ;

(ii) validity of licences, ratings, certificates or attestations as applicable.

3) processes for safety risk management and compliance monitoring ;

4) facilities – adequacy with regard to the organization's scope of work ;

5) documentation based on which the certificate should be granted

(organization documentation as required by Part-ORA, including technical manuals, such as operations manual or training manual).

d) In case of non-compliance, the applicant should be informed in writing of the corrections that are required ;

e) In cases where an application for an organization certificate is refused, the applicant should be informed of the right of appeal as exists under national law.

**AMC 1. ARA. GEN. 315 (a) Procedure for Issue, Revalidation, Renewal
or Change of Licences, Ratings or Certificates - Persons***VERIFICATION of COMPLIANCE*

a) In order to verify that the applicant meets the requirements, the GDCA should review the application and any supporting documents submitted, for completeness and compliance with applicable requirements ;

b) As part of the verification that the applicant meets the requirements, the GDCA should check that he / she has never held any personnel licence, certificate, rating, authorization or attestation with the same scope and in the same category issued in another State which was revoked or suspended in any other State ;

c) The GDCA should request the applicant to make a declaration covering items (*b*). Such declaration should include a statement that any incorrect information could disqualify the applicant from being granted a personnel licence, certificate, rating, authorization or attestation. In case of doubts, the GDCA should contact the competent authority of the another State where the applicant may have previously held any personnel licence, certificate, rating, authorization or attestation.

AMC 1. ARA.GEN.330 Changes – Organizations

GENERAL

a) Changes in nominated persons :

The GDCA should be informed of any changes to personnel specified in Part-ORA that may affect the certificate or terms of approval / approval schedule attached to it.

When an organization submits the name of a new nominee for any of the persons nominated as per ORA.GEN.210 (b), the GDCA should require the organization to produce a written résumé (GDCA Form 4) of the proposed person's qualifications. The GDCA should reserve the right to interview the nominee or call for additional evidence of his / her suitability before deciding upon his / her acceptability ;

b) A simple management system documentation status sheet should be maintained, which contains information on when an amendment was received by the GDCA and when it was approved ;

c) The organization should provide each management system documentation amendment to the GDCA, including for the amendments that do not require prior approval by the GDCA.

Where the amendment requires GDCA approval, the GDCA, when satisfied, should indicate its approval in writing. Where the amendment does not require prior approval, the GDCA should acknowledge receipt in writing within 10 working days ;

d) For changes requiring prior approval, in order to verify the organization's compliance with the applicable requirements, the GDCA should conduct an audit of the organization, limited to the extent of the changes. If required for verification, the audit should include interviews and inspections carried out at the organization's facilities.

GM 1. ARA. GEN. 330 Changes - Organizations

CHANGE of NAME of the ORGANISATION

a) On receipt of the application and the relevant parts of the organization's documentation as required by Part - ORA, the GDCA should re-issue the certificate ;

b) A name change alone does not require the GDCA to audit the organization, unless there is evidence that other aspects of the organization have changed.

GM 1. ARA. GEN. 350 Findings and Corrective Actions - Organizations

TRAINING

For a Level 1 finding it may be necessary for the GDCA to ensure that further training by the organization is carried out and audited by the GDCA before the activity is resumed, dependent upon the nature of the finding.

GM 1. - AMC 1. ARA. GEN. 355 (e) Findings and Enforcement Measures – Persons

This provision is necessary to ensure that enforcement measures will be taken also in cases where the GDCA may not act on the licence, certificate or attestation.

The type of enforcement measure will depend on the applicable national law and may include for example the payment of a fine or the prohibition from exercising.

It covers two cases :

a) persons subject to the requirements laid down in CR-EC N° 216 / 2008 and its Implementing Rules who are not required to hold a licence, certificate or attestation - for example general medical practitioners (GMPs) ; *and*

b) persons who are required to hold a licence, rating, certificate or attestation, but who do not hold the appropriate licence, rating, certificate or attestation as required for the activity they perform.

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**SUBPART FCL. SPECIFIC REQUIREMENTS RELATING to
FLIGHT CREW LICENSING**

Section II. Licences, Ratings and Certificates

AMC 1. ARA. FCL. 205 Monitoring of Examiners
QUALIFICATION of INSPECTORS

Inspectors of the GDCA of RA supervising Examiners should ideally meet the same requirements as the Examiners being supervised. However, it is unlikely that they could be so qualified on the large variety of types and tasks for which they have a responsibility and, since they normally only observe training and testing, it is acceptable if they are qualified for the role of an Inspector.

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Section III. Theoretical Knowledge Examinations

AMC 1. ARA. FCL. 300 Examination Procedures

GENERAL

- a) The GDCA should provide suitable facilities for the conduct of examinations ;
- b) The content of the examination papers should retain a confidential status until the end of the examination session ;
- c) The identity of the applicant should be confirmed before an examination is taken ;
- d) Examination applicants should be seated in a way so that they cannot read each other's examination papers. They should not speak to any person other than the invigilators ;
- e) All examination papers, associated documents and additional papers handed out to the applicants for the examination should be handed back to the invigilator at the end of the examination ;
- f) Only the examination paper, specific documentation and tools needed for the examination should be available to the applicant during the examination ;
- g) Applicants may use the following equipment during an examination :
 - 1) a scientific, non-programmable, non-alphanumeric calculator without specific aviation functions ;
 - 2) mechanical navigation slide-rule (*DR calculator*) ;
 - 3) protractor ;
 - 4) compasses and dividers ;
 - 5) ruler.
- h) Applicants may use a translation dictionary at the discretion of the GDCA ;
- i) Except equipment specified above, applicant(s) should not use any electronic equipment during the examination(s).

AMC 1. ARA. FCL. 300 (b) Examination Procedures

THEORETICAL KNOWLEDGE EXAMINATIONS for PROFESSIONAL LICENCES and INSTRUMENT RATINGS

With regard to the IR (A), this Table applies to Theoretical Knowledge Examinations for applicants who have completed a Modular Training Course for the IR (A) according to Appendix 6 Section A.

Subject : 010 - AIR LAW						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL (H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	1 : 00	0 : 45	1 : 00	0 : 45	0 : 45	0 : 45
Distribution of questions with regard to the topics of the syllabus						
010 01	3	2	3	3	2	XX
010 02	2	2	2	2	2	XX
010 03	1	1	1	1	1	XX
010 04	2	2	2	2	2	1
010 05	8	8	8	8	8	8
010 06	7	4	7	3	4	7
010 07	5	3	5	3	3	5
010 08	2	2	2	2	2	2
010 09	6	4	6	4	4	6
010 10	2	1	2	1	1	XX
010 11	2	2	2	2	2	XX
010 12	2	1	2	1	1	XX
010 13	2	1	2	1	1	XX
Total questions	44	33	44	33	33	29

Subject : 021 - AIRCRAFT GENERAL KNOWLEDGE - Airframe / Systems / Power Plant						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL (H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	2 : 00	1 : 30	2 : 00	2 : 00	1 : 30	XX
Distribution of questions with regard to the topics of the syllabus						
021 01	4	2	4	4	2	XX
021 02	4	4	4	4	2	XX
021 03	5	2	4	4	3	XX
021 04	5	6	4	4	2	XX
021 05	7	4	6	6	3	XX
021 06	5	4	4	4	2	XX
021 07	4	4	2	2	2	XX
021 08	6	4	4	4	4	XX
021 09	6	6	6	6	4	XX
021 10	6	14	6	6	4	XX
021 11	20	6	20	20	8	XX
021 12	4	2	2	2	13	XX
021 13	4	2	XX	XX	XX	XX
021 14	XX	XX	1	1	1	XX
021 15	XX	XX	4	4	3	XX
021 16	XX	XX	6	6	5	XX
021 17	XX	XX	3	3	4	XX
Total questions	80	60	80	80	60	XX

Subject : 022 - AIRCRAFT GENERAL KNOWLEDGE - Instrumentation						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL(H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	1 : 30	1 : 00	1 : 30	1 : 30	1 : 00	0 : 30
Distribution of questions with regard to the topics of the syllabus						
022 01	8	8	8	8	8	XX
022 02	8	6	8	8	6	6
022 03	4	4	4	4	4	4
022 04	4	5	6	6	5	4
022 05	5	XX	3	3	XX	XX
022 06	8	6	XX	XX	XX	XX
022 07	XX	XX	14	14	8	XX
022 08	3	2	XX	XX	XX	XX
022 09	2	XX	XX	XX	XX	XX
022 10	2	XX	XX	XX	XX	XX
022 11	4	XX	4	4	XX	XX
022 12	6	4	6	6	4	3
022 13	4	4	5	5	4	3
022 14	1	XX	1	1	XX	XX
022 15	1	XX	1	1	39	20
Total questions	60	39	60	60	39	20

Subject : 031 - FLIGHT PERFORMANCE - Mass & Balance						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL(H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	1 : 00	1 : 00	1 : 00	1 : 00	1 : 00	XX
Distribution of questions with regard to the topics of the syllabus						
031 01	3	3	3	3	3	XX
031 02	5	5	5	5	5	XX
031 03	5	5	5	5	5	XX
031 04	5	5	5	5	5	XX
031 05	5	5	5	5	5	XX
031 06	2	2	2	2	2	XX
Total questions	25	25	25	25	25	XX

Subject : 032 - FLIGHT PERFORMANCE & PLANNING - Performance (A)						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL (H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	1 : 00	0 : 45	XX	XX	XX	XX
Distribution of questions with regard to the topics of the syllabus						
032 01	5	5	3	3	3	XX
032 02	10	10	5	5	5	XX
032 03	10	10	5	5	5	XX
032 04	10	XX	XX	XX	XX	XX
Total questions	35	25	25	25	25	XX

Subject : 033 - FLIGHT PERFORMANCE & PLANNING Flight Planning & Monitoring						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL (H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	2 : 00	1 : 30	2 : 00	1 : 30	1 : 30	1 : 30
Distribution of questions with regard to the topics of the syllabus						
033 01	5	5	5	5	5	XX
033 02	10	XX	10	XX	XX	10
033 03	10	10	10	10	10	5
033 04	8	8	8	8	8	8
033 05	5	5	5	5	5	5
033 06	5	5	5	5	5	5
Total questions	43	33	43	33	33	33

Subject : 034 - FLIGHT PERFORMANCE & PLANNING - Performance (H)						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL (H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	XX	XX	1 : 00	1 : 00	0 : 45	XX
Distribution of questions with regard to the topics of the syllabus						
034 01	XX	XX	15	15	15	XX
034 02	XX	XX	5	5	5	XX
034 03	XX	XX	5	5	XX	XX
034 04	XX	XX	10	10	XX	XX
Total questions	XX	XX	35	35	20	XX

Subject : 040 - HUMAN PERFORMANCE						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL(H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	1 : 00	0 : 45	1 : 00	1 : 00	0 : 45	0 : 45
Distribution of questions with regard to the topics of the syllabus						
040 01	2	1	2	2	1	1
040 02	33	26	33	33	26	26
040 03	13	9	13	13	9	9
Total questions	48	36	48	48	36	36

Subject : 050 - METEOROLOGY						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL(H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	2 : 00	1 : 30	2 : 00	2 : 00	1 : 30	1 : 30
Distribution of questions with regard to the topics of the syllabus						
050 01	11	9	11	11	9	9
050 02	11	6	11	11	6	6
050 03	4	4	4	4	4	4
050 04	7	6	7	7	6	6
050 05	3	3	3	3	3	3
05006	7	7	7	7	7	7
050 07	6	2	6	6	2	2
05008	8	3	8	8	3	3
050 09	11	9	11	11	9	9
050 10	16	14	16	16	14	14
Total questions	84	63	84	84	63	63

Subject : 061 - GENERAL NAVIGATION						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL(H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	2 : 00	1 : 30	2 : 00	2 : 00	1 : 30	XX
Distribution of questions with regard to the topics of the syllabus						
061 01	12	7	12	12	7	XX
061 02	4	4	4	4	4	XX
061 03	14	12	14	14	12	XX
061 04	16	11	16	16	11	XX
061 05	14	11	14	14	11	XX
Total questions	60	45	60	60	45	XX

Subject : 062 - RADIO NAVIGATION						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL (H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	1 : 30	0 : 30	1 : 30	1 : 00	0 : 30	1 : 00
Distribution of questions with regard to the topics of the syllabus						
062 01	7	4	7	5	4	2
062 02	21	12	21	15	12	23
062 03	12	2	12	8	2	5
062 04	XX	XX	XX	XX	XX	XX
062 05	15	XX	15	XX	XX	10
062 06	11	4	11	6	4	4
Total questions	66	22	66	34	22	44

Subject : 070 - OPERATIONAL POROCEDURES						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL (H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	1 : 15	0 : 45	1 : 00	1 : 00	0 : 45	XX
Distribution of questions with regard to the topics of the syllabus						
070 01	25	18	18	18	14	XX
070 02	20	12	14	14	12	XX
070 03	XX	XX	6	6	4	XX
Total questions	45	30	38	38	30	XX

Subject : 081 - PRINCIPLES of FLIGHT (Aeroplanes)						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL (H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	1 : 00	0 : 45	XX	XX	XX	XX
Distribution of questions with regard to the topics of the syllabus						
081 01	17	14	XX	XX	XX	XX
081 02	6	XX	XX	XX	XX	XX
081 03	XX	XX	XX	XX	XX	XX
081 04	6	6	XX	XX	XX	XX
081 05	4	3	XX	XX	XX	XX
081 06	3	3	XX	XX	XX	XX
081 07	4	3	XX	XX	XX	XX
08108	4	4	XX	XX	XX	XX
Total questions	44	33	XX	XX	XX	XX

Subject : 082 - PRINCIPLES of FLIGHT (Helicopters)						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL(H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	XX	XX	1 : 00	1 : 00	1 : 00	XX
Distribution of questions with regard to the topics of the syllabus						
082 01	XX	XX	5	5	5	XX
082 02	XX	XX	3	3	3	XX
082 03	XX	XX	1	1	1	XX
082 04	XX	XX	12	12	12	XX
082 05	XX	XX	10	10	10	XX
082 06	XX	XX	5	5	5	XX
082 07	XX	XX	5	5	5	XX
08208	XX	XX	3	3	3	XX
Total questions	XX	XX	44	44	44	XX

Subject : 091 - VFR COMMUNICATION						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL(H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	0 : 30	0 : 30	0 : 30	0 : 30	0 : 30	XX
Distribution of questions with regard to the topics of the syllabus						
091 01	5	5	5	5	5	XX
091 02	11	11	11	11	11	XX
091 03	2	2	2	2	2	XX
091 04	2	2	2	2	2	XX
091 05	2	2	2	2	2	XX
091 06	2	2	2	2	2	XX
Total questions	24	24	24	24	24	XX

Subject : 092 - IFR COMMUNICATION						
Theoretical knowledge examination						
Exam length, total number of questions and distribution of questions						
Time allowed (hours)	ATPL(A)	CPL (A)	ATPL(H)/ IR	ATPL (H)	CPL (H)	IR (A) & (H)
	0 : 30	XX	0 : 30	XX	XX	0 : 30
Distribution of questions with regard to the topics of the syllabus						
092 01	5	XX	5	XX	XX	5
092 02	11	XX	11	XX	XX	11
092 03	2	XX	2	XX	XX	2
092 04	2	XX	2	XX	XX	2
092 05	2	XX	2	XX	XX	2
092 06	2	XX	2	XX	XX	2
092 07	XX	XX	XX	XX	XX	XX
Total questions	24	XX	24	XX	XX	24

AMC 2. ARA. FCL. 300 (b) Examination Procedures

THEORETICAL KNOWLEDGE EXAMINATIONS for the En-Route INSTRUMENT RATING (EIR) and the INSTRUMENT RATING (IR) OBTAINED THROUGH the COMPETENCY - BASED MODULAR TRAINING COURSE

The following Tables contain the number of questions, the distribution of questions related to the different syllabus topics and the time allowed for the theoretical knowledge examination.

Subject :					
010		022		033	
AIR LAW		AIRCRAFT GENERAL KNOWLEDGE - INSTRUMENTATION		FLIGHT PERFORMANCE PLANNING - FLIGHT PLANNING and MONITORING	
Theoretical knowledge examination					
Exam length and total questions / EIR FCL. 825 & IR (A) Appendix 6. Aa					
Distribution of questions with regard to the topics of the syllabus					
Time allowed 0 : 30		Time allowed 0 : 20		Time allowed 0 : 40	
010 04	01	022 02	05	033 02	10
010 05	05	022 04	04	033 03	4
010 06	06	022 13	03	033 04	7
010 07	03			033 05	5
010 08	01				
010 09	02				
Total questions : 18		Total questions : 12		Total questions : 26	

Subject :					
040		050		062	
HUMAN PERFORMANCE		METEOROLOGY		RADIO NAVIGATION	
Theoretical knowledge examination					
Exam length and total questions / EIR FCL. 825 & IR (A) Appendix 6. Aa					
Distribution of questions with regard to the topics of the syllabus					
Time allowed 0 : 20		Time allowed 0 : 50		Time allowed 0 : 40	
040 01	01	050 01	05	062 02	15
040 02	07	050 02	03	062 03	03
040 03	04	050 03	01	062 05	05
		050 04	05	062 06	01
		050 05	03		
		050 06	05		
		050 08	01		
		050 09	07		
		050 10	05		
Total questions : 12		Total questions : 35		Total questions : 24	

Subject :					
092					
IFR COMMUNICATION					
Theoretical knowledge examination					
Exam length and total questions / EIR FCL. 825 & IR (A) Appendix 6. Aa					
Distribution of questions with regard to the topics of the syllabus					
Time allowed 0 : 30		Time allowed		Time allowed	
092 01	05				
092 02	10				
092 03	02				
092 04	02				
092 05	02				
092 06	02				
Total questions : 23		Total questions :		Total questions :	

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Subpart CC. SPECIFIC REQUIREMENTS RELATING to CABIN CREW**Section II. Organizations Providing Cabin Crew Training or Issuing Cabin Crew Attestations****AMC 1. ARA.CC.200 (b)(2) Approval of Organizations to provide CC Training or to Issue Cabin Crew Attestations***PERSONNEL CONDUCTING EXAMINATIONS*

For any element being examined for the issue of a Cabin Crew Attestation as required in Part - CC, the person who delivered the associated training or instruction should not also conduct the examination. However, if the organization has appropriate procedures in place to avoid conflict of interest regarding the conduct of the examination and/or the results, this restriction need not apply.

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**SUBPART ATO. SPECIFIC REQUIREMENTS RELATED to ATO's
(APPROVED TRAINING ORGANISATIONS)**

Section I. General

**AMC 1. ARA. ATO. 105 Oversight Programme
GENERAL**

- a)* The audit or inspection of an ATO should be conducted on the basis of checking the facility for compliance, interviewing personnel and sampling any relevant training course for its conduct and standard ;
- b)* In addition to the items required in AMC 1. ARA.GEN.310 (a), such an audit or inspection should focus on :
- 1) information on flight instructors, validity of licences, certificates, ratings and log books ;
 - 2) evidence of sufficient funding ;
 - 3) training aircraft in use, including their registration, associated documents and maintenance records ;
 - 4) aerodromes, operating sites and associated facilities ;
 - 5) facilities with regard to their adequacy to the courses being conducted and number of students ;
 - 6) FSTDs, including their qualification certificates, associated documents and maintenance records ;
 - 7) documentation, in particular documents related to courses, information on the updating system, and training and operations manual(s) ;
 - 8) training records and checking forms ; *and*
 - 9) flight instruction, including pre-briefing, actual flight and debriefing.

**AMC 1. ARA. ATO. 120 Record - keeping
FSTD's**

Records relating to FSTD's should include, as a minimum :

- a) the application for an FSTD qualification ;
- b) the FSTD qualification certificate including any changes ;
- c) a copy of the evaluation programme listing the dates when evaluations are due and when evaluations were carried out ;
- d) initial and recurrent evaluation records ;
- e) copies of all relevant correspondence ;
- f) details of any exemption and enforcement actions ; *and*
- g) any report from other competent authorities relating to initial and recurrent evaluations.

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SUBPART FSTD.**SPECIFIC REQUIREMENTS RELATED to the QUALIFICATION of FSTD's
(FLIGHT SIMULATION TRAINING DEVICES)****AMC 1. ARA. FSTD. 100 (a)(1) Initial Evaluation Procedure*****ASSESSMENT PROCESS LEADING to the ISSUE of an FSTD QUALIFICATION***

a) FSTD's require evaluation leading to qualification. The required process should be accomplished in **2 (two)** distinct steps.

First, a check should be made to determine whether or not the FSTD complies with the applicable requirements. When making this check, the GDCA should ensure that accountability for the issue of an FSTD qualification is clearly defined. In all cases an departments inspector (manager) of the GDCA should be appointed under whose personal responsibility the issue of an FSTD qualification is to be considered.

The **second step** should be the grant (*or refusal*) of an FSTD qualification.

b) When checking compliance with the applicable requirements, the GDCA should ensure that the following steps are taken :

- 1) once an FSTD is contracted to be built, the organization that is to operate the FSTD should ensure that the regulatory standard upon which the FSTD will eventually be qualified against is acceptable to the GDCA of RA. This should be the current applicable version of CS - FSTD (A) or CS - FSTD (H) at the time of application ;
- 2) a written application for an FSTD qualification should be submitted, in a format according to ORA. FSTD. 200, at least 3 months before the date of intended operation. However, the Qualification Test Guide (QTG) may be submitted later, but not less than 30 days before the date of intended evaluation. The application form should be printed in English and any other language(s) of the GDCA choosing ;
- 3) an individual should be nominated by the department director of the GDCA to oversee, and become the focal point for, all aspects of the FSTD qualification process, and to coordinate all necessary activity. The nominated person should be responsible to the department director for confirming that all appropriate evaluations / inspections are made ;
- 4) the ability of the applicant to secure, in compliance with the applicable requirements and certification specifications, the safe and reliable operation and proper maintenance of the FSTD should be assessed ;
- 5) the applicant's proposed compliance monitoring system should be scrutinized with particular regard to the allocated resources. Care should be taken to verify that the system is comprehensive and likely to be effective ;
- 6) the GDCA should inform the applicant of its final decision concerning the qualification within 14 days of completion of the evaluation process irrespective of any temporary qualification issued ;
- 7) on completion of the evaluation process, the application, together with a written recommendation and evidence of the result of all evaluations or assessments, should be presented to the nominated person responsible for FSTD qualification. The presentation should be made by the person with overall responsibility, nominated in accordance with (*b*)(3) ;

- 8) the Director General of the GDCA should only issue an FSTD qualification certificate if he / she is completely satisfied that all requirements have been met. If he / she is not satisfied, the applicant should be informed in writing of the improvements that are required in order to satisfy the GDCA ;
- 9) if an application for an FSTD qualification is refused, the applicant should be informed of such rights of appeal as exist under national regulations.

AMC 2. ARA. FSTD. 100 (a)(1) Initial Evaluation Procedure

GENERAL

- a)* During initial and recurrent FSTD evaluations it should be necessary for the GDCA to conduct an appropriate sample of the objective and subjective tests described in Part - ORA and detailed in CS - FSTD (A) and CS - FSTD (H) , as applicable. There may be occasions when all tests cannot be completed – for example during recurrent evaluations on a convertible FSTD – but arrangements should be made for all tests to be completed within a reasonable time ;
- b)* Following an evaluation, it is possible that a number of defects are identified. Generally, these defects should be rectified and the GDCA notified of such action within 30 days. Serious defects, which affect flight crew training, testing and checking, could result in an immediate downgrading of the qualification level I. If any defect remains unattended without good reason for a period greater than 30 days, subsequent downgrading may occur or the FSTD qualification could be revoked ;
- c)* For the evaluation of an FSTD the standard Form as mentioned in AMC 5. ARA. FSTD. 100 (a)(1) should be used.

AMC 3. ARA. FSTD. 100 (a)(1) Initial Evaluation Procedure

INITIAL EVALUATION

- a)* The main focus of objective testing is the QTG. Well in advance of the evaluation date, the aircraft manufacturer and the GDCA should agree on the content and acceptability of the validation tests contained in the QTG data package. This will ensure that the content of the QTG is acceptable to the GDCA and avoid time being wasted during the initial qualification. The acceptability of all tests depends upon their content, accuracy, completeness and recency of the results ;
- b)* Much of the time allocated to objective tests depends upon the speed of the automatic and manual systems set up to run each test and whether or not special equipment is required. The GDCA should not necessarily warn the organization operating an FSTD of the sample validations tests which should be run on the day of the evaluation, unless special equipment is required ;
- c)* The FSTD cannot be used for subjective tests while part of the QTG is being run. Therefore, sufficient time (*at least 8 consecutive hours*) should be set aside for the examination and running of the QTG.
- d)* The subjective tests for the evaluation can be found in CS - FSTD (A) or CS - FSTD (H) , and a suggested subjective test profile is described in AMC 1. ARA. FSTD. 100 (a)(3) . Essentially, 1 working day should be required for the subjective test routine, which effectively denies use of the FSTD for any other purpose ;

e) To ensure adequate coverage of subjective and objective tests and to allow for cost effective rectification and re-test before departure of the inspection team, adequate time (*up to 3 consecutive days*) should be dedicated to an initial evaluation of an FSTD.

AMC 4. ARA. FSTD. 100 (a)(1) Initial Evaluation Procedure

COMPOSITION of the EVALUATION TEAM

a) The GDCA should appoint a technical team to evaluate an FSTD in accordance with a structured routine to gain a qualification level. The team should normally consist of at least the following personnel:

1) a technical FSTD inspector of the GDCA, or an accredited inspector from another competent authority, qualified in all aspects of flight simulation hardware, software and computer modeling or, exceptionally, a person designated by the GDCA with equivalent qualifications; *and*

2) one of the following:

(i) a flight inspector of the GDCA, or an accredited inspector from another competent authority, who is qualified in flight crew training procedures and holds a valid type rating on the aeroplane / helicopter (*or for flight navigation procedures trainer (FNPT) and basic instrument training device (BITD), class rated on the class of aeroplane / type of helicopter*) being simulated; *or*

(ii) a flight inspector of the GDCA who is qualified in flight crew training procedures, assisted by a type rating instructor holding a valid type rating on the aeroplane / helicopter (*or for FNPT and BITD, class rated on the class of aeroplane / type of helicopter*) being simulated; *or, exceptionally,*

(iii) a person designated by the GDCA who is qualified in flight crew training procedures and holds a valid type rating on the aeroplane / helicopter (*or for FNPT and BITD, class rated on the class of aeroplane / type of helicopter*) being simulated and sufficiently experienced to assist the technical team. This person should fly out at least part of the functions and subjective test profiles.

3) where a designee is used as a substitute for one of the GDCA inspectors, the other person shall be a properly qualified inspector of the GDCA or an accredited inspector from another State's competent authority.

b) For a Flight Training Device (FTD) Level 1 and FNPT Type I, one suitably qualified inspector may combine the functions in (a)(1) and (a)(2);

c) For a BITD this team should consist of an inspector from a GDCA and one from another competent authority, including the manufacturer's competent authority, if applicable;

d) Additionally, the following persons should be present:

1) for a Full Flight Simulator (FFS), FTD and FNPT a type or class rated instructor from the ATO operating an FSTD or from the main FSTD user;

2) for all types, sufficient FSTD support staff to assist with the running of tests and operation of the instructor's station.

AMC 5. ARA. FSTD. 100 (a)(1) Initial Evaluation Procedure

FSTD EVALUATION REPORT for INITIAL and RECURRENT EVALUATION
FSTD Evaluation Report

FSTD EVALUATION REPORT			
1.	Date :	... / / 20	
2.	GDCA of RA		
3.	State FSTD code (if applicable)		
4.	EASA FSTD code (if applicable)		
5.	Aircraft Type and Variant		
6.	Class of Aeroplane		
7.	Type of Helicopter		
8.	Engine fit(s) simulated		
2. Contents			
2.1	FSTD Characteristics (<i>Flight Simulation Training Device</i>)		
2.2	Evaluation details		
2.3	Supplementary information		
2.4	Training, testing and checking considerations		
2.5	Classification of items		
Results ;			
3. Evaluation Team			
1.		4.	
2.		5.	
3.		6.	
The conclusions presented are those of the evaluation team.			
<i>The GDCA of RA reserves the right to change these after internal review:</i>			

1. FLIGHT SIMULATION TRAINING DEVICE (FSTD)	
a. Organization Operating the FSTD :	
b. FSTD Location :	
c. FSTD Identification (<i>State / EASA FSTD Code</i>) :	
d. FSTD Manufacturer :	
e. FSTD Identification Serial Number :	
f. First entry into service (<i>month / year</i>) :	
g. Visual System (<i>manufacturer and type</i>) :	
h. Motion system (<i>manufacturer and type</i>) :	
i. Aircraft Type and Variant :	
k. Engine fit(s) :	
l. Engine instrumentation :	
m. Flight instrumentation :	
2. EVALUATION DETAILS	
a. Date of Evaluation :	b. Date of previous Evaluation :
c. Type of Evaluation : <input type="checkbox"/> initial <input type="checkbox"/> recurrent <input type="checkbox"/> special	
d. <i>FSTD Qualification Level Recommended :</i> FFS <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> AG <input type="checkbox"/> BG <input type="checkbox"/> CG <input type="checkbox"/> DG <input type="checkbox"/> SC FTD <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 FNPT <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> MCC BITD <input type="checkbox"/>	
<i>Technical criteria primary reference document :</i>	

Validation Data Roadmap (VDR) ID - N° :					
3. SUPPLEMENTARY INFORMATION					
Company representative(s) (<i>FSTD Operator, Main FSTD user</i>)					
FSTD seats available					
Visual data bases used during evaluation					
Other					
4. TRAINING, TESTING and CHECKING CONSIDERATIONS					
CAT I	RVR	m	DH	ft	
CAT II	RVR	m	DH	ft	
CAT III A	RVR	m	DH	ft	
CAT III B	RVR	m	DH	ft	
<i>(lowest minimum)</i>					
LVTO	RVR	m			
Recency					
IFR - Training / Check					
Type Rating					
Proficiency Checks					
Autocoupled Approach					
Autoland / Roll out guidance					
ACAS I / II					
Windshear Warning System					
Predictive Windshear					
WX - Radar					
HUD / HUGS					
FANS					
GPWS / EGPWS					
ETOPS capability					
GPS					
Other					

5. CLASSIFICATION of ITEMS	
UNACCEPTABLE	An item that fails to comply with the required standard and, therefore, affects the level of qualification or the qualification itself.
	If these items will not be corrected or clarified within a given time limit, the GDCA of RA should have to vary, limit, suspend or revoke the FSTD qualification
RESERVATION	An item where compliance with the required standard is not clearly proven and the issue will be reserved for a later decision.
	Resolution of these items will require either : 1. a GDCA of RA policy ruling ; <i>or</i> 2. additional substantiation.
UNSERVICEABILITY	A device that is temporarily inoperative or performing below its nominal level
LIMITATION	An item that prevents the full usage of the FSTD according to the training, testing and checking considerations due to the unusable devices, systems or parts thereof.
RECOMMENDATION for IMPROVEMENT	An item that meets the required standard, but where considerable improvement is strongly recommended.
COMMENT	Self - explanatory
PERIOD of RECTIFICATION	As set out in AMC 2. ARA. FSTD. 100 (a)(1) point (b) :
	Following an evaluation, it is possible that a number of defects are identified. Generally, these defects should be rectified and the GDCA notified of such action within 30 days. Serious defects, which affect flight crew training, testing and checking, could result in an immediate downgrading of the qualification level, or if any defect remains unattended without good reason for a period greater than 30 days, subsequent downgrading may occur or the FSTD qualification could be revoked.
6. RESULTS	
6.1	Subjective / Functional
	A. Unacceptable
1.	
	B. Reservation
1.	
	C. Unserviceability
1.	
	D. Restriction
1.	
	E. Recommendation for Improvement
1.	
	F. Comment
1.	
6.2	Objective
	A. Unacceptable
1.	
	B. Reservation
1.	
	E. Recommendation for Improvement
1.	
	F. Comment
1.	

7. EVALUATION TEAM			
Name	Position	Organisation	Signature
	Technical Inspector or person designated by the GDCA of RA		
	Flight Inspector or person designated by the GDCA of RA		
		<i>[FSTD user]</i>	
		<i>[Organisation operating the FSTD]</i>	
Signed : for the GDCA of RA			

GM 1. ARA. FSTD. 100 (a)(1) Initial Evaluation Procedure*INITIAL EVALUATION*

A useful explanation of how the validation tests should be run is contained in the “RAeS Aeroplane Flight Simulator Evaluation Handbook“ (*February 1995 or as amended*) produced in support of the ICAO Doc. 9625, “Manual of Criteria for the Qualification of Flight Simulators“.

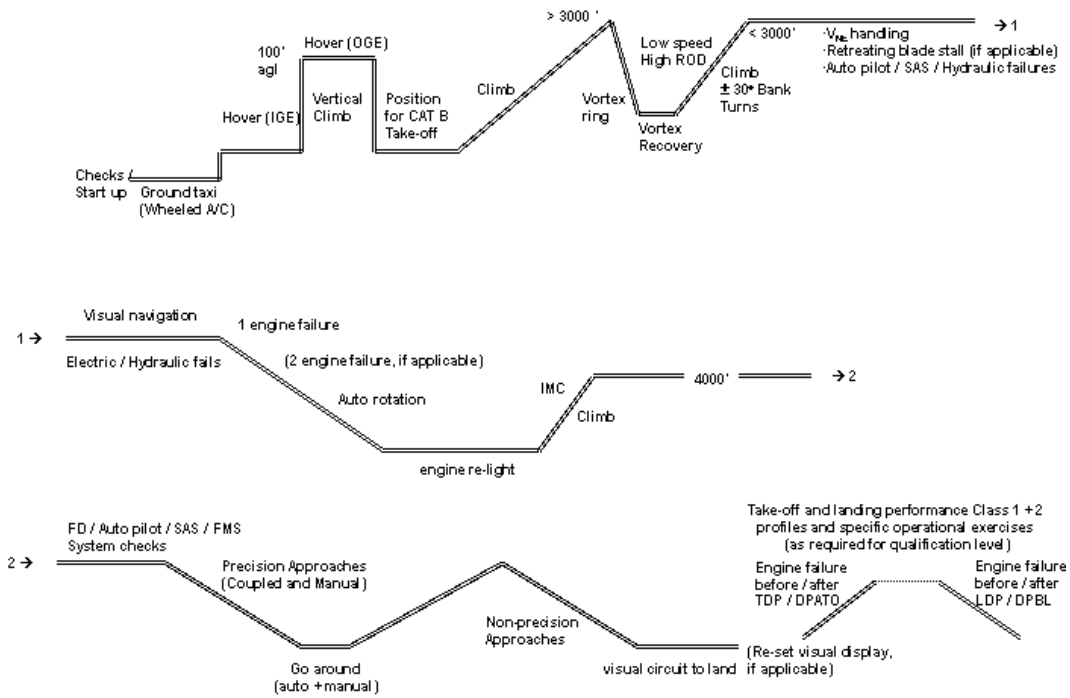
AMC 1. ARA. FSTD. 100 (a)(3) Initial Evaluation Procedure*FUNCTIONS and SUBJECTIVE TESTS – SUGGESTED TEST ROUTINE*

- a)* During initial and recurrent evaluations of an FSTD, the GDCA should conduct a series of functions and subjective tests that together with the objective tests complete the comparison of the FSTD with the aircraft, the class of aeroplane or type of helicopter ;
- b)* Functions tests verify the acceptability of the simulated aircraft systems and their integration. Subjective tests verify the fitness of the FSTD in relation to training, checking and testing tasks ;
- c)* The FSTD should provide adequate flexibility to permit the accomplishment of the desired and required tasks while maintaining an adequate perception by the flight crew that they are operating in a real aircraft environment. Additionally, the instructor operating station (IOS) should not present an unnecessary distraction from observing the activities of the flight crew whilst providing adequate facilities for the tasks ;
- d)* It is important that both the GDCA and the organization operating an FSTD understand what to expect from the routine of FSTD functions and subjective tests. Part of the subjective tests routine for an FSTD should involve an uninterrupted fly-out (*except for FTD Level 1*) comparable with the duration of typical training sessions in addition to assessment of flight freeze and repositioning. An example of such a profile is to be found under points (*f*) and (*g*) (for BITD point (*h*)) ;
- e)* The GDCA and organizations operating FSTD, who are unfamiliar with the evaluation process should contact the EASA or the competent authority of another State with adequate expertise in this field ;
- f)* Typical Test profile for an FSTD Aeroplane :

Typical Test Profile for an FSTD - Aeroplane :

1. Taxi
2. ATC Clearance
3. R / W Turns, Etc... 5,000
4. Instrument Departure (SID)
5. R - Climb Performance
6. 5000 Ft.
7. Engine Slams
8. Engine Out Climb
9. FL 070
10. V + Trim \pm 20 KT
11. Clime
12. FL 180
13. Cabin Depress (*Warn Masks*)
14. Engine Shut-down
15. Engine-out Drift Down
16. FL 050
17. Eng-out En-route Climb Performance
18. Relight at FL 140 (*Windmill or Internal*)
19. Cruise Climb
20. FL 350 (*Cabin Pressure*)
21. Cruise Trims
22. M_{MO} (*Warning Controls*)
23. APU Function
24. Engine Shut-down
25. Engine-out Drift Down
26. FL 290
27. Engine Relight
28. High Speed Descent
29. FL 150
30. V_{MO} (*Warning Controls*)
31. Low Speed Exercise
32. Stalls Exercise
33. FL 100
34. L / G & Flaps - Hydraulic non Normal
35. RAT Exercise
36. Instrument Arrival
37. ILS Normal Approach
38. G / A
39. Climb 5000 ft to Circuit Pattern
40. Visual Circuit (*Left & Right*)
41. ILS Normal Approach
42. Normal Land

g) Typical Test Profile for an FSTD Helicopter :



h) Typical subjective Test Profile for BITD's (approximately 2 hours) - items and altitudes, as applicable :

- (1) instrument departure, climb performance
- (2) level-off at 4 000 ft
- (3) fail engine (*if applicable*)
- (4) engine out climb to 6 000 ft (*if applicable*)
- (5) engine out cruise performance (*if applicable*), restart engine
- (6) all engine cruise performance with different power settings
- (7) descent to 2 000 ft
- (8) all engine performance with different configurations, followed by instrument landing system (ILS) approach
- (9) all engine go-around
- (10) non-precision approach
- (11) go-around with engine failure (*if applicable*)
- (12) engine out ILS approach (*if applicable*)
- (13) go-around engine out (*if applicable*)
- (14) non-precision approach engine out (*if applicable*), followed by go-around
- (15) restart engine (*if applicable*)
- (16) climb to 4 000 ft
- (17) manoeuvring
- (18) normal turns left and right
- (19) steep turns left and right
- (20) acceleration and deceleration within operational range
- (21) approaching to stall in different configurations
- (22) recovery from spiral dive
- (23) auto flight performance (*if applicable*)
- (24) system malfunctions
- (25) approach.

GM 1. ARA. FSTD. 100 (a)(3) Initial Evaluation Procedure

GENERAL

A useful explanation of functions and subjective tests and an example of subjective test routine checklist may be found in the “RAeS Airplane Flight Simulator Evaluation Handbook“ Volume II (*February 1995 or as amended*) produced in support of ICAO Doc. 9625, “Manual of Criteria for the Qualification of Flight Simulators“.

AMC 1. ARA. FSTD. 110 Issue of an FSTD Qualification Certificate
BASIC INSTRUMENT TRAINING DEVICE (BITD)

- a)* The GDCA should only grant a BITD qualification for the BITD model to a BITD manufacturer following satisfactory completion of an evaluation ;
- b)* This qualification should be valid for all serial numbers of this model without further technical evaluation ;
- c)* The BITD model should be clearly identified by a BITD model number. A running serial number should follow the BITD model identification number ;
- d)* The GDCA should establish and maintain a list of all BITD qualifications it has issued, containing the number of the BITD model with a reference to the hardware and software configuration.

AMC 1. ARA. FSTD. 115 Interim FSTD Qualification

NEW AIRCRAFT FFS / FTD QUALIFICATION – ADDITIONAL INFORMATION

- a)* Aircraft manufacturers' final data for performance, handling qualities, systems or avionics are seldom available until well after a new or derivative aircraft has entered service. Because it is often necessary to begin flight crew training and certification several months prior to the entry of the first aircraft into service, it may be necessary to use aircraft manufacturer-provided preliminary data for interim qualification of FSTDs. This is consistent with the possible interim approval of Operational Suitability Data (OSD) relative to FFS in the type certification process under Part-21 ;
- b)* In recognition of the sequence of events that should occur and the time required for final data to become available, the GDCA may accept the use of certain partially validated preliminary aircraft and systems data, and early release ("red label") avionics in order to permit the necessary programme schedule for training, certification and service introduction ;
- c)* Organizations seeking qualification based on preliminary data should, however, consult the GDCA as soon as it is known that special arrangements will be necessary, or as soon as it is clear that preliminary data will need to be used for FSTD qualification. Aircraft and FSTD manufacturers should also be made aware of the needs and agree on the data plan and FSTD qualification plan. There should be periodic meetings to keep the interested parties informed of the project's status ;
- d)* The precise procedure to be followed to gain GDCA acceptance to use preliminary data should vary from case to case and between aircraft manufacturers. Each aircraft manufacturer's new aircraft development and test programme is designed to suit the needs of the particular project and may not contain the same events or sequence of events as another manufacturer's programme or even the same manufacturer's programme for a different aircraft. Hence, there cannot be a prescribed invariable procedure for acceptance to use preliminary data. Instead there should be a statement describing the final sequence of events, data sources, and validation procedures agreed by the FSTD operator, the aircraft manufacturer, the FSTD manufacturer and the competent authority. The approval by the Agency of the definition of scope of the aircraft validation source data to support the objective qualification as part of the OSD can also be an interim approval in case of preliminary data. The preliminary data to be used should be based on this interim approval ;

e) There should be assurance that the preliminary data are the manufacturer's best representation of the aircraft and reasonable certainty that final data will not deviate to a large degree from these preliminary, but refined, estimates. First of all there should be an interim approval of OSD relative to flight simulators in the type certification process under Part-21. Furthermore, the data derived from these predictive or preliminary techniques should be validated by available sources including, at least, the following :

- 1) *Manufacturer's Engineering Report.* Such reports explain the predictive method used and illustrate past successes of the method on similar projects. For example, the manufacturer could show the application of the method to an earlier aircraft model or predict the characteristics of an earlier model and compare the results to final data for that model ;
- 2) *Early Flight Tests Results.* Such data will often be derived from aircraft certification tests, and should be used to maximum advantage for early FSTD validation. Certain critical tests, which would normally be done early in the aircraft certification programme, should be included to validate essential pilot training and certification manoeuvres. These include cases in which a pilot is expected to cope with an aircraft failure mode, including engine failures. The early data available will, however, depend on the aircraft manufacturer's flight test programme design and may not be the same in each case. However it is expected that the flight test programme of the aircraft manufacturer includes provisions for generation of very early flight tests results for FSTD validation.

f) The use of preliminary data is not indefinite. The aircraft manufacturer's final data should be available within 6 months after the aircraft's first "service entry" or as agreed by the competent authority, the organization and the aircraft manufacturer, but usually not later than 1 year. When an organization applies for an interim qualification using preliminary data, the organization and the competent authority should agree upon the update programme. This should normally specify that the final data update will be installed in the FSTD within a period of 6 months following the final data release unless special conditions exist and a different schedule agreed. The FSTD performance and handling validation would then be based on data derived from flight tests. Initial aircraft systems data should be updated after engineering tests. Final aircraft systems data should also be used for FSTD programming and validation ;

g) FSTD avionics should stay essentially in step with aircraft avionics (*hardware and software*) updates. The permitted time lapse between aircraft and FSTD updates is not a fixed time but should be minimal. It may depend on the magnitude of the update and whether the QTG and pilot training and certification are affected. Permitted differences in aircraft and FSTD avionics versions and the resulting effects on FSTD qualification should be agreed between the organization and the competent authority. Consultation with the FSTD manufacturer is desirable throughout the agreement of the qualification process ;

h) The following describes an example of the design data and sources which might be used in the development of an interim qualification plan :

- 1) The plan should consist of the development of a QTG based upon a mix of flight test and engineering simulation data. For data collected from specific aircraft flight tests or other flights, the required designed model and data changes necessary to support an acceptable proof of match (POM) should be generated by the aircraft manufacturer ;

2) In order that the two sets of data are properly validated, the aircraft manufacturer should compare their simulation model responses against the flight test data, when driven by the same control inputs and subjected to the same atmospheric conditions as were recorded in the flight test. The model responses should result from a simulation where the following systems are run in an integrated fashion and are consistent with the design data released to the FSTD manufacturer :

- (i) propulsion ;
- (ii) aerodynamics ;
- (iii) mass properties ;
- (iv) flight controls ;
- (v) stability augmentation ;
- (vi) brakes and landing gear.

i) For the qualification of FSTD of new aircraft types, it may be beneficial that the services of a suitably qualified test pilot are used for the purpose of assessing handling qualities and performance evaluation.

GM 1. ARA. FSTD. 115 Interim FSTD Qualification

NEW AIRCRAFT FFS / FTD QUALIFICATION – ADDITIONAL INFORMATION

a) A description of aircraft manufacturer-provided data needed for flight simulator modeling and validation is to be found in the IATA Document *Flight Simulator Design and Performance Data Requirements (Edition 6, 2000 or as amended)* ;

b) The proof of match should meet the relevant tolerances in AMC 1.CS - FSTD (A).300 respectively AMC 1. CS - FSTD (H). 300.

AMC 1. ARA. FSTD. 120 Continuation of an FSTD Qualification

GENERAL

a) **Objective Testing.** During recurrent evaluations, the competent authority should wish to see evidence of the successful running of the QTG between evaluations. The competent authority should select a number of tests to be run during the evaluation, including those that may be cause for concern. Again adequate notification would be given when special equipment is required for the test ;

b) Essentially the time taken to run the objective tests depends upon the need for special equipment, if any, and the test system, and the FSTD cannot be used for subjective tests or other functions whilst testing is in progress ;

c) For a modern FSTD incorporating an automatic test system, four hours would normally be required. FSTDs that rely upon manual testing may require a longer period of time ;

d) **Subjective Testing.** Essentially the same subjective test routine should be flown as per the profile described in AMC 1. ARA. FSTD. 100 (a)(3) with a selection of the subjective tests taken from CS - FSTD (A) or CS - FSTD (H), as appropriate ;

e) Normally, the time taken for recurrent subjective testing is about 4 hours, and the FSTD should not perform other functions during this time ;

f) To ensure adequate coverage of subjective and objective tests during a recurrent evaluation, a total of 8 hours should be allocated, (*4 hours for a BITD*). However, it should be remembered that any FSTD deficiency that arises during the evaluation could necessitate the extension of the evaluation period.

AMC 2. ARA. FSTD. 120 Continuation of an FSTD Qualification*COMPOSITION of the EVALUATION TEAM*

a) The composition of the evaluation team for a recurrent evaluation should be the same as for the initial evaluation (see AMC 4. ARA. FSTD. 100 (a)(1)).

On a case-by-case basis (except for BITD), when a specific FSTD in operation by a specific organization is being evaluated, the competent authority may reduce the evaluation team to :

- 1) the competent authority's flight inspector ; *and*
- 2) a Type Rated Instructor (or Class Rated Instructor for FNPT) from a main FSTD user.

b) Evaluations with a reduced evaluation team in line with (a) may only take place if :

- 1) this composition is not being used prior to the second recurrent evaluation ;
- 2) such an evaluation is followed by an evaluation with a full competent authority evaluation team ;
- 3) the competent authority's flight inspector performs some spot checks in the area of objective testing ;
- 4) no major change or upgrading has been applied since the directly preceding evaluation ;
- 5) no relocation of the FSTD has taken place since the last evaluation ;
- 6) a system is established enabling the competent authority to monitor and analyze the status of the FSTD on a continuous basis ; *and*
- 7) the FSTD hardware and software has been working reliably for the previous years.

This should be reflected in the number and kind of discrepancies (technical log entries) and the results of the compliance monitoring system audits.

c) In the case of a BITD, the recurrent evaluation may be conducted by one suitably qualified flight inspector only, in conjunction with the inspection of any ATO, using the BITD.

AMC 1. ARA. FSTD. 130 Changes*GENERAL*

a) The organization operating an FSTD who wishes to modify, upgrade, de-activate or re-locate its FSTD should notify the GDCA. When considering applications for a change of the existing FSTD qualification level, the GDCA should ensure that accountability for the change is clearly defined ;

b) An department inspector of the GDCA should be appointed under whose personal authority an FSTD qualification may be changed ;

c) The written application for a change, including appropriate extracts from the qualification test guide indicating proposed amendments should be submitted in a format and manner as specified by the GDCA. This application should be submitted no later than 30 days before the date of intended change, unless otherwise agreed with the GDCA ;

d) On receipt of an application for a change of the existing FSTD qualification level, the GDCA should conduct such evaluations and inspections as are necessary to ensure that the full implications of the request have been addressed by the organization operating the FSTD ;

e) During the processing of a change request, the continued adequacy of the compliance monitoring should be reviewed ;

f) When the request has been considered and examined, the GDCA should decide on the depth of inspection of the FSTD that is required ;

- g)* The department inspector, if satisfied that the organization operating the FSTD remains competent and the qualification level of the FSTD can be maintained, should issue revised FSTD qualification documentation, as appropriate ;
- h)* The GDCA should inform the organization operating the FSTD of its decision within 30 days of receipt of all documentation where no evaluation is required, or within 14 days of any subsequent evaluation ;
- i)* Such documentation includes the appropriate extracts from the QTG amended, when necessary, to the GDCA of RA satisfaction.

GM 1. ARA. FSTD. 130 Changes

QUALIFICATION of NEW TECHNOLOGY or SYSTEMS

Where an update to an FSTD involves a change of technology or the addition of a new system or equipment that is not covered by the qualification basis used for the existing qualification, an evaluation of such changes may not be possible using this original qualification basis. For these cases, the specific changes can be qualified by using newer Certification Specifications, new AMCs or alternative means of compliance, that apply to these changes, without affecting the overall qualification of the FSTD. This approach should be documented.

**AMC 1. ARA. FSTD. 135 Findings and Corrective Actions -
FSTD Qualification Certificate**

GENERAL

- a)* The GDCA inspection and monitoring process should confirm the competent authority's continued confidence in the effectiveness of the compliance monitoring system of the organization operating an FSTD, and its ability to maintain an adequate standard ;
- b)* If the GDCA is not satisfied, the organization operating an FSTD should be informed in writing of the details of the conduct of its operation which are causing the GDCA concern. The GDCA should require corrective action to be taken within a specified period (*see AMC 2. ARA. FSTD. 100 (a)(1) point (b)*) ;
- c)* In the event that an organization operating an FSTD fails, in spite of warning and advice, to satisfy the GDCA concerns, a final written warning should, whenever possible, be given to the organization together with a firm date by which specified action to satisfy the GDCA should be taken. It should be made clear that failure to comply may result in enforced limitation or suspension of the FSTD's qualification ;
- d)* Circumstances may, however, preclude recourse to the process described under (*a*) to (*c*). In such cases the GDCA duty to preserve quality of training, testing and checking is of paramount importance and therefore the GDCA may immediately limit or suspend any FSTD qualification which it has issued.

**AMC 2. ARA. FSTD. 135 Findings and Corrective Actions -
FSTD Qualification Certificate
SUSPENSION and LIMITATION**

- a)** When a decision has been taken to suspend, or limit, an FSTD qualification certificate, the organization operating an FSTD should be informed immediately by the quickest available means ;
- b)** In the event of full suspension of an FSTD qualification certificate, the organization operating an FSTD should be instructed that the FSTD concerned cannot be used for any credited training, testing or checking. The "quickest available means" will in most situations mean the use of a facsimile or email message ;
- c)** This should be followed by a formal letter giving notice of suspension, or limitation, restating the requirement to cease operations as applicable, and also setting out the conditions on which suspension may be lifted ;
- d)** If it becomes apparent to the GDCA that all operations have ceased over a period in excess of 6 months, the GDCA should consider opening the warning process described in AMC 1. ARA. FSTD. 135, points (a) to (d) ;
- e)** The FSTD qualification certificate should not remain suspended indefinitely. Further steps may be taken by the organization operating an FSTD to reinstate the FSTD qualification or, in default, should be taken by the GDCA to revoke the FSTD qualification certificate. Should an organization operating an FSTD wish to dispute the suspension of its FSTD's qualification certificate, it should be informed of such rights of appeal as exist under national regulations. If an appeal is lodged, the FSTD qualification may remain suspended until the appeal process is complete ;
- f)** Suspension of an FSTD qualification certificate may be lifted on appeal or if the organization operating an FSTD restores the FSTD to its previously acceptable standard ;
- g)** In neither case should operations be permitted to restart until it has been demonstrated that the cause of the suspension or limitation has been rectified. The GDCA may require a special evaluation depending on the severity of the problem ;
- h)** The GDCA should issue a formal notice of the lifting of suspension before the organization operating an FSTD is permitted to resume use of an FSTD.

**AMC 3. ARA. FSTD. 135 Findings and Corrective Actions -
FSTD Qualification Certificate
REVOCATION**

- a)** The GDCA should give the organization operating an FSTD notice that it intends to revoke the FSTD qualification followed by a formal letter of revocation ;
- b)** Should an organization operating an FSTD wish to dispute this revocation, it should be informed of such rights of appeal as exist under applicable regulations. Once revoked, there can be no further activities under the terms of the FSTD qualification.