STATE OF LIBYA
MINISTRY OF TRANSPORT
CIVIL AVIATION AUTHORITY

دولة ليبيا
وزارة المواصلات
مصلحة الطيران المدني

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Advisory Circular-LYCAA/AC-OPS.021
Simulator User Approval

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0 Introduction

This advisory circular intended to assist the organisation/operator in administrative matters. The administrative requirements and processes will facilitate liaising with the LYCAA (OPS SECTION).
It is to be considered a tool for the organisation/operator in order to ease processes of obtaining required and defined approvals and authorizations issued by the LYCAA. Using this AC will be conducive to establishing compliance with LYCAA requirements and will lead through the respective certification or variation process in regard to administrative tasks.

0.1 Legal References

Libyan law No 6(2005)

LYCARs –AIR OPERATIONS as amended:

- ORO.FC.A.201
- ORO.FC.105 / ORO.FC.120 / ORO.FC.125 / ORO.FC.145
- ORO.FC.205 / ORO.FC.220(e) / ORO.FC.230 / ORO.FC.235 / ORO.FC.245
- SPA.LVO.120
- LYCAA.OPERATION INSPECTOR MANUAL CHAPTER 27

0.2 Purpose of this AC

The AC does not constitute a regulation but, when followed in its entirety, does establish an acceptable means that can be used to obtain a ‘User Approval’ for a flight simulator for training and checking purposes. An applicant may elect to use an alternative means of compliance, however, such alternative means of compliance must meet the objectives of this guidance material and must be acceptable to the LYCAA

0.3 Scope

This AC explains important facts and interrelations to the mentioned topic. It aims at guiding the operator through the LYCAA evaluation process by means of quick reference and self-assessment. Operators are reminded that a training device being qualified according to EASA rules and regulations alone does not authorize an air operator to use the device for conducting training and checking as a specific. User Approval has to be obtained by LYCAA - OPERATIONS SECTION prior usage.

0.4 Organisation / Operator Responsibilities

The operator ensures that the Differential List contains all differences between the training device and the aircraft operated. The Differential List handed in by the operator serves as basis for the approval evaluation process.

LYCAA (OPS-SECTION) as well as the operator must be satisfied that a particular training or checking task as described in the respective syllabi can be conducted in the simulator requested for usage. Despite the valid approval to use the device the operator is responsible for not using a simulator without the device being properly qualified.

Should an operator notice new differences, not yet declared in the Differential List, exist, he is obliged to inform LYCAA accordingly, using the appropriate Difference List.

0.5

1 Approval to use the Device – General Information

1.1 What is the Approval to use the Device?

In order to perform training and checking tasks air operators are obliged to make use of flight simulators to the maximum extent possible. The legislation requires that simulators have to be approved for the tasks intended to be performed on them. Even though simulators will be evaluated by the authorities once a year, where they have to proof objectively and subjectively their performance, such evaluations will not necessarily consider simulator users needs.

Without going too much into details this means that simulators are evaluated against their performance on objectively measurable items, e.g. a simulator has to fulfil the climb performance requirements of the aircraft simulated, initially established by flight tests year by year within a given tolerance band. Simulators are also evaluated against their not objectively measurable performance, e.g. function of switches or the subjective assessment of the simulator flight model compared with the real aircraft.

Such evaluations consider the simulator as it is configured. Obviously simulators can never represent all different options encountered in real aircraft. Differences may exist in almost all areas. Most popular differences are e.g. different types of engines or different avionic options.

The intent of the approval to use the device is to detect such differences between the aircraft operated and the simulator requested to replace the aircraft for training and checking. The knowledge of such differences is needed to assess the feasibility of a specific training device for training and checking purposes. Should a simulator represent the aircraft adequately the approval to use the device can be granted. The following training and checking are subject for approval:

- ORO.FC.120: Operator conversion training
- ORO.FC.125: Differences training and familiarization training
- ORO.FC.130: Recurrent training and checking
- ORO.FC.135: Pilot qualification to operate in either pilot's seat
- ORO.FC.105: Designation as pilot-in-command/commander
  → Area and route training (complex areas or routes)
  → Aerodrome training (category C)
- ORO.FC.A.201: In-flight relief of flight crew members
- ORO.FC.205: Command course
- ORO.FC.220(e): Zero flight time training
- CAT.OP.MPA.290 Ground proximity detection – flight crew training
- CAT.OP.MPA.295 ACAS – flight crew training
- SPA.PBN.100: PBN operation – training for the flight crew
- SPA.LVO.120: Low visibility operations - flight crew training and qualifications
- SPA.ETOPS.100: ETOPS - training for the flight crew
- Others: e.g.. EFB, HUD, FANS etc. (specify)

1.2 Applicability

This process is applicable to all LYCAA certified Air Operator Certificate (AOC)-holders & NCC operators using a FSTD as training device replacing an aircraft.

1.3 Interrelation to OM-D

The different approvals to use a specific device for training and checking by an AOC-holder will be reflected in the OM-D.

Under 'Subcontracted Training Facilities' in the chapter 1.2 **all** used FSTD's shall be listed including the granted approvals.

The following table shows an acceptable means of compliance how to integrate the approval to use the device in the OM -D, chapter 1.2.

Sim ID:	ACFT Type:

Training Organisation Name: Address: Tel.: Fax.:	Approval to use the device for - List of Approvals - Etc.
Operator FSTD (if different to Training Organisation) Name: Address: Tel.: Fax.:	

The 'Differences Reports' shall be integrated in the appendices of the OM-D.

1.4 Differential List

The Differential List forms the base for the evaluation. It is provided to the operator in a matrix format which can be filled in and after completion sent to the LYCAA. Find below the first page of the Differential List containing the explanatory material:

Differential List

Differences between the FSTD and the aircraft on the AOC, as well as procedures not trainable on the FSTD, have to be stated by means of a Differential List.

The Differential List shall describe, in addition to the differences, the 'Level of Compliance', the effect on flight characteristics (FCHAR), the effect on procedures (PROC) and the reference to the Syllabus.

The Differential List shall be integrated in the OM-D.

The attached matrix serves as a guideline only. Neither the list of systems nor the listed examples of differences are complete. The applicant has the full responsibility of completeness of the list with regard to the identification of all differences between his aircraft(s) and the FSTD.

Level of compliance:

Level A: No influence on flight characteristics and/or performance and/or handling and
No influence on procedures (normal or abnormal) differences in presentation or in operation.

Method: Level A difference can be adequately addressed through self-instruction by a crew member through page revisions, bulletins or differences handouts.

Level A introduces for example a different version of a system or component which the crew member has already shown the ability to use and understand. The differences result in no, or only minor, changes in procedures.

- Self instruction via the operations manual or flight crew information.
- Self briefing

Level B: No influence on flight characteristics and/or performance and/or handling but influence on procedures (normal or abnormal) differences in presentation or operation.

Method: Level B differences training can be adequately addressed through aided instruction such as slide/tape presentation, computer based instruction which may be interactive, video or classroom instruction. Such training is typically used for part-task systems requiring knowledge and training with, possibly, partial application of procedures.

- Flight crew information
- Computer based training
- System device training or special instruction by instructor

Level C: Influence on flight characteristics and/or performance and/or handling and
Influence on procedures (normal or abnormal) differences in presentation or operation

Method: Level C differences training should be accomplished by use of “hands on” STDs qualified according to LYCARs Level 1 or higher. The differences affect skills, abilities as well as knowledge but do not require the use of “real time” devices. Such training covers both normal and non-normal procedures (for example for flight management systems).

- Special instruction by instructor
- Selected partial training on another FSTD or aircraft
- Special instruction or training programme
- Waiver because of previous experience

Level D: influence on flight characteristics; and/or influence on procedures (normal and/or abnormal); and/or differences in presentation and/or operation; and FSTD is level D qualified and is used for zero flight-time training (ZFTT).

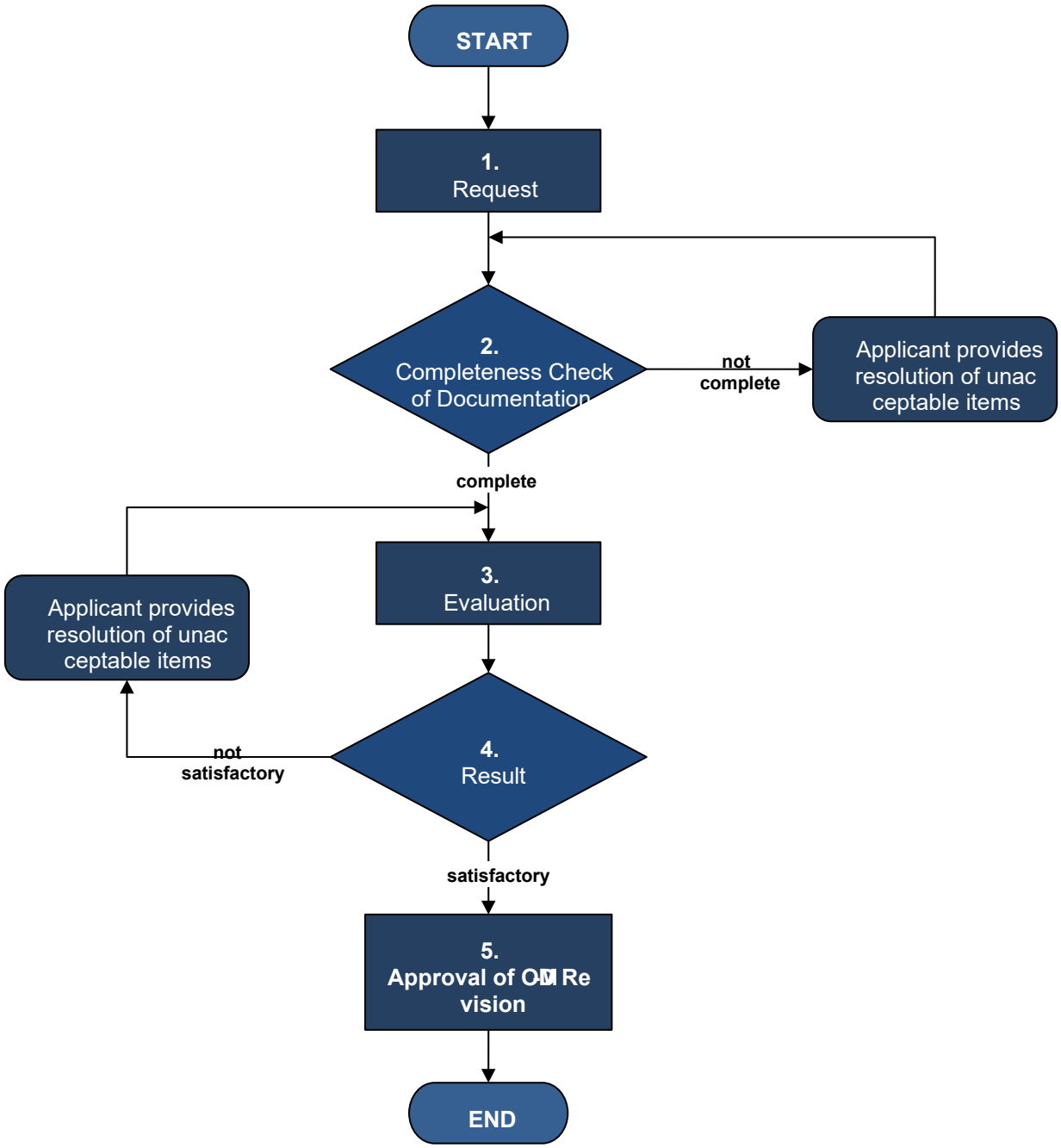
Method: Level D differences training should be accomplished by use of:

- Partial training on another FSTD or aircraft
- Special instruction or training programme
- Waiver because of previous experience

1.5 Tabulated Process

1	Request to gain Approval for a FSTD	An application for Approval has to be forwarded to the LYCAA for each device intended to be used for training, checking and testing by the AOC-holder. The following forms have to be used and are found on the FSD-OPS.SECTION : - Application Form - Approval to use an FSTD-Device- - Differential List ACFT to FSTD Copies of the following documents have to be submitted together with the application forms, if the FSTD or training organisation is not in the field of responsibility of the LYCAA. • FSTD-Certificate + specification. • Last FSTD evaluation report FSTD-Operator may be advised to forward the document directly to the LYCAA (www.caa.gov.ly)
2	Completeness check	A completeness check will be performed by the LYCAA. The applicant will receive feedback within 30 days.
3	Evaluation	To determine whether the FSTD gains the Approval, an evaluation by the LYCAA will be performed.
4	Result	After the evaluation the LYCAA will possibly agree with proposed FSTD and the established differential training (if any required). If the result is not satisfactory (i.e. the proposed differential training is not sufficient to compensate for the differences between FSTD and aircraft), the applicant will be informed and a corrected application has to be handed in by the applicant.
5	Granting approval to use the device	The use of the device is approved with the acceptance of the revision of the OM-D containing the relevant FSTD information. In any case an 'Approval' looses validity should the simulator concerned fail to qualify according to the requirements of LYCARs

1.6 Flowcharted Process



2 Approval to use the Device Evaluation

2.1 User Approval Application Form (LYCAA/FSD/OPS FRM 021)

On the second part of the application it shall be assured that the approvals applied for are in accordance with the training and checking considerations of the simulator according to the evaluation report and certificate. Most of the tick-boxes are self-explanatory. **Find an example below**.

Approval for the use of FSTD - Application

SCOPE

Tasks to be trained

☐ ORO.FC.120	Operator Conversion Training	
☐ ORO.FC.125	Differences and Familiarisation Training	
☐ ORO.FC.130	Recurrent Training and Checking	
☐ ORO.FC.135	Pilot qualification to operate in either pilot's seat	
☐ FCL.060	Recent experience	
☐ ORO.FC.105	Designation as Pilot-in-Command / Commander	
	Area and Route Training (complex aircraft/multi)	
☐ ORO.FC.A.201	In-flight Relief of Flight Crew Members	
☐ ORO.FC.205	Command Course	
☐ ORO.FC.220(e)	Zero Flight Time Training	
☐ CAT.OP.MPA.290	Ground Proximity Detection - Flight Crew Training	
☐ CAT.OP.MPA.295	ACAS - Flight Crew Training	
☐ SPA.PBN.100	PBN Ops - Flight Crew Training	
☐ SPA.LVO.120	Low Visibility Ops - Flight Crew Training	
☐ SPA.ETOPS.100	ETOPS - Flight Crew Training	
☐ Other	e.g. EFB, HUD, FANS	*(specify)*

Simulator Evaluation

4. Training, testing and checking considerations

CAT I:	RVR	550 m	DH	200 ft	YES
CAT II:	RVR	300 m	DH	100 ft	YES
CAT III (lowest minimum):	RVR	125 m	DH	0 ft	YES
LVTO:	RVR	125 m			YES
Recency					YES
IR Training					YES
IR Proficiency Check					YES
IR Skill Test (MPA only)					YES
Type Rating Training					YES
Type Rating Proficiency Check					YES
Type Rating Skill Test					YES
Zero Flight Time Training Capability					YES
Autocoupled Approach					YES
Autoland / Roll Out Guidance					/
ACAS I / II					YES
Windshear Warning System / Predictive Windshear					/
WX-Radar					/
HUD / HUGS					/
FANS					NO
GPWS / EGPWS					YES
ETOPS Capability					NO
GPS					

Assure that the applied approvals (left side), are considered to be available for training or checking on the simulator (right side).

2.2 Differential List

The first page of the Differential List shall be read carefully. It contains important information. After understanding the explanations, the rest is self-explanatory. However find below some details to the Differential List.

Example:

In the following table an example is presented in red colour.

ACFT Type on AOC	Boeing 737-700	Simulated ACFT Type	Boeing 737-700	FSTD-ID No	NL 164

Systems acc. ATA Chapter	Level of Compliance	Differences	Reference to Syllabus	FCHAR	PROC
33 Lights	☐ A ☐ C ☐ n/a ☐ B ☐ D ☐ no Differences			☐ Yes ☐ No	☐ Yes ☐ No
34 Navigation	☐ A ☐ C ☐ n/a ☒ B ☐ D ☐ no Differences	Aircraft Heading reference switch installed FSTD Heading reference switch not installed	Differences ACFT to FSTD Iss 01 / Rev 00 01 Sep 2012	☐ Yes ☒ No	☒ Yes ☐ No
35 Oxygen	☐ A ☐ C ☐ n/a ☐ B ☐ D ☐ no Differences			☐ Yes ☐ No	☐ Yes ☐ No
36 Pneumatic	☐ A ☐ C ☐ n/a ☐ B ☐ D ☐ no Differences			☐ Yes ☐ No	☐ Yes ☐ No
42 Integrated Modular Avionics / Avianics Data Communication Network	☐ A ☐ C ☐ n/a ☐ B ☐ D ☐ no Differences			☐ Yes ☐ No	☐ Yes ☐ No
45 Central Maintenance System / Onboard Maintenance System	☐ A ☐ C ☐ n/a ☐ B ☐ D ☐ no Differences			☐ Yes ☐ No	☐ Yes ☐ No
49 Auxiliary Power Unit	☐ A ☐ C ☐ n/a ☐ B ☐ D ☐ no Differences			☐ Yes ☐ No	☐ Yes ☐ No
71 Power Plant - General	☐ A ☐ C ☐ n/a ☐ B ☐ D ☐ no Differences			☐ Yes ☐ No	☐ Yes ☐ No
73 Engine Fuel and Control	☐ A ☐ C ☐ n/a ☐ B ☐ D ☐ no Differences			☐ Yes ☐ No	☐ Yes ☐ No
74 Ignition	☐ A ☐ C ☐ n/a ☐ B ☐ D ☐ no Differences			☐ Yes ☐ No	☐ Yes ☐ No

2.3 Category C Aerodromes

In order to use a Category C Aerodrome (Special Airport competence) in a simulator the scenery needs to be evaluated and found sufficiently adequate for such training. Not only visual presentation of the scene has to be evaluated but also for example its interface to terrain database, obstacle database (function of EGPWS), etc.

The operator is required to provide proof of usability of a Cat C aerodrome for training. Evaluation is done by the respective inspector.

Effectively: This AC will be in effect from the date of issue.

End of Advisory Circular