OPERATIONS ADVISORY NOTICE (OAN)		
OAN Number:**04/18**	Issue Date:**16 February 2018**	Transport Malta Civil Aviation Directorate Flight Operations Inspectorate Transport Malta Malta Transport Centre Pantar Road Lija LJA 2021 Malta
Subject: Implementation of ORO.FC requirements		

FLIGHT CREW TRAINING/CHECKING PROGRAMMES

1.0 PROVISION OF TRAINING HIGHLIGHTS (ORO.FC.145):

1. The need for the operator to comply with the training programmes and syllabi as detailed in the respective operations manual;
2. The need for such programmes and syllabi to be administered by qualified personnel;
3. For CAT operations, the mentioned programmes, syllabi and FSTDs need to be approved by the relevant authority;
4. Any FSTD should replicate, as much as feasibly possible, the actual systems and feel of the aircraft;
5. The operator needs to have in place a monitoring system that alerts of any changes in the actual FSTD which, in turn, would need to be reflected in the training programmes and syllabi if necessary.

2.0 REQUIREMENTS

An insight as to what is required in the training programmes and syllabi is provided by **AMC 1 ORO.FC.230(a)(4)(i)(A) – Recurrent training and checking**. This specific section mentions that aircraft/FSTD training programmes should cover the major failures of aircraft systems for that particular aircraft type and any associated procedures. Such failures would need to be trained/ checked within a 3 year period.

The lack of guidance material in ORO.FC.145 and in AMC 1 ORO.FC.230(a)(4)(i)(A) has had an impact in the manner of how Maltese operators structure their 3-year training programmes and syllabi especially in respect of FSTD training and checking profiles. In order to provide guidance to these operators, TM-CAD is providing recommended practices in the manner of how to compile such training programmes and syllabi.

1. Any new or updated training and checking programmes in the relevant OM-D, falls under the remit *'operations manual changes requiring prior approval*'. In this manner, the training programmes and syllabi are reviewed and approved by the Authority. An ongoing issue that has been encountered relates to operators submitting ready tailored training programmes for the respective aircraft as supplied by their Training Service Providers which, in most cases, are approved ATOs. While EASA approved ATO programmes should meet the intention of the regulations, these programmes would still need to be reviewed by TM-CAD and issued with an appropriate approval as part of the OM-D review process;

2. If the operator intends to compile the training programme and syllabi, the following points would need to be considered:
    - The ground theoretical course and test covering the aircraft major systems for that year within the three year cycle, would preferably reflect the same aircraft systems malfunctions that would be programmed to occur during the simulator detail.

In this respect, TM-CAD solicits the use of Flight Training Devices (FTDs) to supplement the ground based training. Such devices would enable flight crew to gain a better awareness, through the associated visual displays, of how the major systems function in both the normal and abnormal condition. FTDs could also assist the flight crew to practise and consolidate the required procedures prior to the going to the simulator;

- The simulator training and checking would need to include the following non-exhaustive list:
  - Licence proficiency requirements;
  - Major malfunctions for the aircraft systems;
  - LVO;
  - RHS;
  - UPRT;
  - Specific airport recency including steep approach and short field training;
  - LOFT;
  - Other training requirements such as occurrences flagged by the FDM or through MORs that could pose a safety concern for the operator.
  -

The FSTD training and checking phases depend on the number of sessions that the operator deems appropriate after having taken into consideration all the above requirements. As a guide, TM-CAD recommends that:

a. All major malfunctions associated with an aircraft system are tabulated and distributed over the number of sessions that would be scheduled. The QRH would be a useful reference to employ to identify major system failures;

   <u>Note:</u> The interpretation of 'major failures' are those failures which present crew with complex situations that would require crew to demonstrate effective CRM, good prioritization of tasks, and safe & effective decision making, in order to resolve the malfunction. Such failures include, but are not limited to, dual hydraulic failures, dual engine failures, heavy smoke in the cockpit, multiple electrical failures, etc. Major failures are normally stated in the QRH. The purpose of exposing flight crew to major failures is to develop the mental skills, dexterity and resilience to be able to handle such situations.

b. Specific training requirements such as LVO training, UPRT, RHS etc. are also included in the tabulation. The Training Manager or person assigned with the task of drawing up the three-year phase training and checking programme should be cognisant that certain training and checking needs to be carried out at specific time intervals. For example, LVO training would be required to be carried out every six months, pilot incapacitation once every three year cycle. Furthermore, this same person would need to be aware of the time frame to complete specific exercises.

3. With regards to the actual FSTD training and checking programme once completed, TM-CAD would taken into account:

   - **Time line:**
     A realistic time would be an important element in any training / checking programme as it highlights to the Instructor/Examiner/Authority that the programme can be completed in the allowable time frame for the simulator session. Some extra time should be in-built to cater for possible repetitions.

   - **Exercise blocks:**
     The schedule of each block of exercises within the programme would need to be designed in such a manner that the flight crew would proceed '*as if*' it was a LOFT. This creates a realistic operational scenario that would enhance crew orientation and performance.

If the LOFT is started at any phase of flight other than the take-off position, the instructor would need to set-up the flight deck and programme the flight management system and release the flight crew for the exercise once the crew confirm that they are aware of their current position.

- **Grading system:**
  The grading system needs to be reliable and valid. It has been observed that some operators have difficulty in setting up an adequate grading system that can easily be adopted by instructors. It is recommended that operators ensure that their instructors are properly trained and standardised on how to implement the designated grading system.

  Note: Attached is a sample of a LPC/OPC form with an explanation of a grading system to better clarify the above points.

3.0 CAD ON THE USE OF THE FSTD

The FSTD is a very effective tool that promotes learning if used correctly. Well planned training sessions provide the right environment for flight crew to acquire the required competence and/or to consolidate existing skills when properly facilitated by the Instructor. Operators should ensure that programmes avoid multiple unrelated failures as these could overburden the coping capabilities of the flight crew and lead to an undesirable training experience. The ultimate scope of the FSTD is to provide a positive and safe learning experience for flight crew within a supportive environment.

4.0 INTEROPERABILITY

Interoperability has been a salient issue for CAD. Operators may have AOCs in different EASA member states and thus expect that once the training and checking of their flight crew is conducted in accordance with the approval issued by the competent authority of one member state it would automatically qualify for acceptance and approval by any other member state where another AOC my be located.

CAD has reviewed such a situation and has heeded to the fact that interoperability could be credited provided:

1. There is a commonality in the training / checking programmes in the operational manuals by the member states concerned;
2. The instructors/examiners are acceptable to the respective competent authorities as listed in the OM-D;
3. The training and checking is inspected on a yearly basis by an FOI from TM-CAD;
4. Any amendments to the OM-D by one member state need to be communicated immediately to any other member state in accordance to the procedure ‘operational manual changes requiring or not requiring approval’;
5. Training / checking forms need to be acceptable to the member states concerned and scanned copies of the forms would need to be forwarded to TM-CAD once the training and checking is completed.

In this manner, TM-CAD could accept the interoperability by operators.

5.0 APPENDIX I – SAMPLE OPC/LPC

tm Transport Malta	Flight Crew Training & Checking SIMULATOR REPORT	LPC/OPC 1

RECCURENT CHECK/TRAINING 2017		DATE: / /			
PILOT NAME:	PILOT LICENCE No.:	CAPT LTC TRI TRE		F/O	
INSTRUCTOR NAME:	INSTRUCTOR LICENCE No.:	A320 SIM CODE:		LOCATION:	

PF = CM 1	TIME	STD+	STD	STD-	RMK
PREFLIGHT CHECKS – FMGS SET-UP					
START MLFUNCTION – HOT START					
TAKE-OFF – SID					
ADR 2 FAULT SHORTLY AFTER LIFT-OFF	00:50				
TCAS EVENT AFTER COMPLETING SID	-				
A/P 1 + 2 FAULT– RETURN DEPARTURE AIRPORT – PROCEDURAL APPR.	00:50				
MANUAL ILS APPROACH [**FD OFF**] – WINDSHEAR ON SHORT FINALS					
MISSED APPROACH – VECTORS FOR ILS APPROACH [**FD ON**] – LAND					
TAKE-OFF – ENGINE DAMAGE + FAILURE AT V_R (EOSID)					
ONE-ENGNE ILS APPROACH TO CAT I MINIMA (F/D + A/P = OFF)	00:25				
ONE-ENGINE MISSED APPROACH FROM MINIMA	-				
RADAR VECTORS FOR NPA ONE-ENGINE – LAND	01:15				
TAKE-OFF – HYD B + Y SYSTEM LOW PRESSURE	00:25				
LANDING WITH UNSAFE GEAR INDICATION	-				
	01:40				
REJECTED TAKE-OFF DUE ENGINE FIRE – RVR 125m	00:10				
ENERGENCY EVACUATION	-				
	01:50				

PF = CM 2	TIME	STD+	STD	STD-	RMK
TRANSIT COCPIT PREPARATION					
TAKE-OFF – SID					
TCAS EVENT AFTER COMPLETING SID	-				
QUICK CLIMB TO FL 330	*00:15*				
EXPLOSIVE DECOMPRESSION + EMERGENCY DESCENT	*BREAK*				
LEVEL OFF AT FL 090 – CLEAR PRESSURISATION FAILURE	*02:05*				
PROCEDURAL APPROACH TO FINALS	-				
MANUAL ILS APPROACH [**FD OFF**] – WINDSHEAR ON SHORT FINALS	00:35				
MISSED APPROACH – VECTORS FOR ILS APPROACH [**FD ON**] – LAND	-				
	02:40				
TAKE-OFF – ENGINE DAMAGE + FAILURE AT V_R (EOSID)					
ONE-ENGNE ILS APPROACH TO CAT I MINIMA (F/D + A/P = OFF)	00:20				
ONE-ENGINE MISSED APPROACH FROM MINIMA	-				
RADAR VECTORS FOR NPA ONE-ENGINE – LAND	03:00				

SHORT FIELD TRAINING CM1 = PF	TIME	STD+	STD	STD-	RMK
REJECTED TAKE-OFF AT V_1 - 10 KTS	00:15 - 03:15				
TAKE-OFF – ENGINE FAILURE AT V_R – RESTORE					
ILS / NPA / VISUAL APPROACH – LAND					
RIGHT HAND SEAT TRAINING CM1 = PF	**TIME**	**STD+**	**STD**	**STD-**	**RMK**
REJECTED TAKE-OFF AT V_1 - 10 KTS	00:20 - 03:35				
ENGINE FAILURE AT V_2 - TAKE-OFF					
ILS APPROACH (MANUAL FLYING) TO CAT I MINIMA					
MISSED APPROACH ONE-ENGINE					
ONE-ENGINE X-WIND LANDING – EVACUATION DUE HEAVY SMOKE/FIRE					
LVO RECURRENCY TRAINING CM1 = PF	**TIME**	**STD+**	**STD**	**STD-**	**RMK**
TAKE-OFF – 125M – REJECTED TAKE-OFF AT V_1 - 5 KTS	00:25 - 04:00				
TAKE-OFF – 125M – ENGINE DAMAGE + FAILURE AFTER V_R - RESTORE					
REPOSITION ON FINALS: ➢ FAILURE BELOW 1,000' AAL – GO-AROUND					
FAILURE BELOW ALERT HEIGHT: ➢ NO AUTOLAND WARNING – LAND					
FAILURE BELOW ALERT HEIGHT: ➢ WITH AUTOLAND WARNING – GO-AROUND					

LOFT FLIGHT	COMPLETED / NOT COMPLETED*

REMARKS:

I declare that I have completed _____(minimum 3 in number) of CAT _____simulated/ actual approaches down to a DH of _____ft / RVR _____m.

Pilot Signature _____

I certify that the above mentioned crew member has been found competent to exercise the privilege of his/her* license as P1 / P2* and has completed the LPC/OPC in accordance with Lao Airlines standard operating procedures and standards. Furthermore, I am satisfied with the CRM skills shown and with the performance standard attained so as to revalidate the type and instrument rating / RHS qualification / short field and narrow runaway operation*.

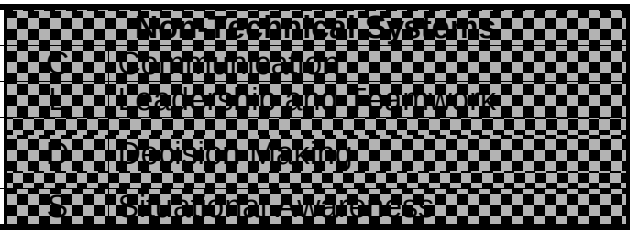
** Delete as required*

GRADING USED – see attached sheet:
STD+ – Very Good Standard / **STD** – Good Standard / **STD-** – Below Acceptable Standard / **RMK** – Remark (H,A,K,E,C,L,D,S)

Pilot signature:	Examiner signature:	Head of Training signature:

6.0 APPENDIX II – SAMPLE OPC/LPC GRADING SHEET

Technical Systems	
H	Handling Skills
A	Automation System Usage
K	Knowledge of Systems & Procedures
E	Execution of Procedures



H = Handling Skills	STD+	STD	STD-
Handling skills not smooth and accurate. Deviations from allowable limits maintained and not corrected for. Lack of positive aircraft control seen at times.			✓
Handling skills are smooth and accurate. Occasional minor deviations within allowable limits are quickly corrected. Positive control of aircraft seen at all times. Recommendable flying techniques used most of the time.		✓	
Handling skills are smooth and so accurate that there is no deviation for target limits. Positive control of aircraft maintained at all times. Mastery seen in recommended flying techniques.	✓		

E = Execution of Procedures	STD+	STD	STD-
Procedural steps performed slowly and with difficulty showing a lack of familiarity with appropriate procedures. Unable to use effectively Standard Operating Procedures.			✓
Correct procedures applied with little or no hesitation in a timely a manner. Very good application of Standard Operating Procedures.		✓	
Execution of all procedures carried out in an effective and timely manner. Standard Operating Procedures applied in an exemplary manner.	✓		

A = Automation System Usage	STD+	STD	STD-
Very basic understand of automated flight. Automation generally used appropriately but evidence of errors even in basic modes seen due to lack of understanding of the various modes and interaction with other systems.			✓
Good knowledge of automated systems and limitations. Automated flight used appropriately most of the time.		✓	
Complete understanding and correct use of automated systems at all times. Exceptional knowledge of underlying principles and limitations of automated flight.	✓		

K = Knowledge of System and Procedures	STD+	STD	STD-
Recalls aircraft limitations and apply system knowledge and operating procedures with difficulty and at times in error.			✓
Easily recalls aircraft limitations and system knowledge with the related operating procedures easily despite the occasional error.		✓	
Error free understanding of aircraft limitations. Very good system knowledge and applicable operating procedures.	✓		

Technical Systems	Non-Technical Systems	
H = Handling Skills	C	Communication
A = Automation System Usage	L	Leadership and Teamwork
K = Knowledge of Systems & Procedures	D	Decision Making
E = Execution of Procedures	S	Situational Awareness

C = Communication	STD+	STD	STD-
Isolated attempts seen to convey vital information to other crew and no attempt made to ensure that information given was understood. No effort made to obtain feedback about a developing situation on board.			✓
Clear and concise communication maintained with other crew members. Interacts and obtains feedback from other crew about a developing situation on board.		✓	
Communication with other crew stands out for clarity and ease of information transfer. Interacts and obtains feedback from other crew to optimize team performance at all times.	✓		

L = Leadership and Team Work	STD+	STD	STD-
Difficulty in coordinating crew actions and workload resulting in unsafe situations developing. Lack of leadership and inappropriate task management result in essential items barely being completed in the time available.			✓
Tasks and workload organized to achieve efficient flight management. Effective crew leadership resolves all situation to a good, safe outcome.		✓	
Tasks and workload management organized so efficiently that flight management appear easy without any stress. All situation are resolved to a good, safe outcome in a collaborative manner.	✓		

D = Decision Making	STD+	STD	STD-
Difficulty in defining the problem and generating suitable options. Risks and outcomes not always properly considered or evaluated. Overall poor decision-making.			✓
Systematic decision making taking into account essential factors with due consideration to safety. May, at times, not consider all possible options however reviews and evaluates outcomes of decisions taken.		✓	
Clearly defines the problem while taking into account all essential factors and makes effective decisions by exercising the best possible option. Allows for contingencies in the decision process and continually evaluates outcomes.	✓		

S = Situational Awareness	STD+	STD	STD-
Level of awareness is such that clearly evident and developing situation that will cause the aircraft to breach clearances, violate procedures or place it in danger are only reacted to with difficulty and not anticipated. Unable to consistently respond to threats and errors that may lead to undesirable aircraft states.			✓
Good level of situational awareness such that an evident and developing situation that may cause the aircraft to breach clearances, violate procedures or place it in danger are anticipated and dealt with immediately. Threat and error management incorporated into flight management.		✓	
High level of situational awareness such that subtle clues that may be of a possible threat to aircraft safety are dealt with immediately. Threat and error countermeasures are well integrated into flight management.	✓		

Flight Operations Inspectorate