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Application for EDTO (ETOPS) Approval

FSS-OPS-FORM148

1. GENERAL

General Information			
1.	Applicant:		
2.	Aeroplane Registration:		
3.	Aeroplane Manufacturer:		
4.	Aeroplane Type Designation/Model Designation:		
5.	Aeroplane Serial No.:		
6.	Engine Manufacturer:		
7.	Engine Type Designation / Model Designation:		
8.	APU Manufacturer:		
9.	APU Type Designation:		
Scope of Application		Yes	No
10.	Application for EDTO 90 minutes?		
11.	Application for EDTO 105 minutes?		
12.	Application for EDTO 120 minutes?		
13.	Application for EDTO 138 minutes?		
14.	Application for EDTO 180 minutes?		
15.	Other:		
16.	Initial request for EDTO approval for aeroplane type/model referenced in 1.4?		
17.	Application for accelerated EDTO?		
18.	Application is based on CMP Document Nr.:		
	Revision number:		
	Revision dates:		

2. AIRWORTHINESS

Type Design Approval for referenced Aeroplane Type Designation		
1. The EDTO type approval is reflected in: AFM AFM Supplements Type Certification Data Sheet Supplemental Type Certificate Other:		
2. The Aeroplane Flight Manual/Supplement shows following airworthiness approval for EDTO systems installation: EDTO minutes		
Eligibility for referenced Aeroplane Serial Number	Yes	no
3. Do you comply with the titles and numbers of all modifications, addition and changes which were made in order to substantiate the incorporation of the CMP standard in the aeroplane?		
4. CMP compliance list established?		
Applicant's Experience and Propulsion System Reliability(*)		
5. Number of months/years of operational experience with specific engine/airframe combination:		
6. Total number of long range and/or domestic operations conducted with specific engine/airframe combination: number of domestic sectors: number of long range sectors:		
7. Total number of engine/airframe hours and cycles with specific engine/airframe combination: Total operator's airframe fleet hours: Total operator's airframe fleet cycles: Total operator' engine hours: Hours of operator's high time engine:		
8. In-flight shutdown (IFSD) rate (all causes), including the 12-month rolling average for both operator and the world fleet (IFSD per 1'000 engine flight hours): IFSD rate of operator's fleet: IFSD rate of world fleet:		
9. Unscheduled engine removal rate (URR) for both operator and the world fleet (URR rate per 1'000 engine flight hours): URR of operator's fleet: URR of world fleet:		
10 Records of mean time between failures (MTBF) for major components available? (unit flight hours/number of unit failure)	Yes	No
11 Records of APU start and run reliability available?		
12 Records of delays and cancellations, with the causes, by specific aeroplane systems, available?		
13 Records of the following significant operator events available? (including the phase of flight where the event occurred) Uncommanded power changes? (surge or rollback) Inability to control engine or obtain desired power? In-flight shutdown even		

Supplement to the Maintenance Program and Maintenance Procedures (*)

The applicant is required to establish the following procedures:	To be completed by applicant The procedures are described in (add manual reference, chapter and sub-chapter; e.g. MME 16.4.1):
14 Procedures to preclude simultaneous actions from being applied to multiple similar elements in any EDTO-critical system.	
15 EDTO pre-departure service check (PDSC) for verifying the status of the aeroplane and ensuring that certain critical items are acceptable.	
16 Procedures for reviewing and documenting of log books to ensure proper MEL procedures, deferred items and maintenance checks and that system verification procedures have been properly performed.	
EDTO Manual (*) The applicant should develop a manual for use by personnel involved in EDTO. The purpose of the EDTO Manual is to identify the supplementary procedures and requirements for EDTO operations. This manual should contain the following procedures: Engine/APU Oil Consumption Monitoring Program	
17 Procedures that monitor oil consumption rates for engines and APU for EDTO and non-EDTO flights.	
18 Procedures for calculating oil consumption rate prior to departure to address any sudden shift in consumption.	
19. Procedures for monitoring of long term data for increasing trends.	
Engine Condition Monitoring Program	
Procedures for detecting deterioration of engines at an early stage to allow for corrective action before safe operation are affected.	
Parameters to be monitored, method of data collection and corrective action process.	
Procedures for engine limit margin monitoring to ensure that a prolonged single-engine diversion may be conducted without exceeding approved engine limits.	
Verification Program after Maintenance	
List of primary systems critical to EDTO	
Conditions that require verification flights.	
Procedures for initiating verification actions.	
Procedures that ensure corrective action are taken after engine shut-down and any other significant failure.	
Procedures that identify and reverse adverse trends	
Procedures that preclude repeat items from occurring.	
Procedures that monitor and evaluate corrective actions.	
Procedures that preclude simultaneous actions from being applied	

to multiple similar elements in any EDTO-critical system	
Reliability Program	
Event-oriented program for EDTO, in addition to the normal reliability program, to allow early identification and prevention of EDTO problems.	
Procedures to ensure reporting of significant individual events (in-flight shut-downs, flight diversions or turnback, un-commanded power changes or surges, inability to control the engine or obtain desired power, problems with systems critical to EDTO and any other event detrimental to EDTO.	
Reporting criteria for the reporting to the FOCA of events reportable through this program.	
Procedures for down-grade / up-grade criteria (diversion time).	
Procedures for monitoring of APU high altitude in-flight start and run capability.	
Propulsion System Monitoring Program	
Procedures for the monitoring of propulsion system in-flight shutdown (IFSD) rate, evaluation of sustained trends and corrective actions.	
Procedures for the monitoring of long term IFSD trends (12 month moving average).	
Reporting criteria for the assessment of propulsion system reliability and monthly reporting to the FOCA of results of operator's assessment.	
Maintenance Training Program	
Training programs to ensure each person, including contract personnel, involved in EDTO is adequately trained on operator's EDTO procedures and is competent to perform his/her duties (EDTO awareness training).	
Procedures for ensuring that maintenance personnel have completed EDTO awareness training and have satisfactorily performed EDTO maintenance tasks under supervision, within the framework of the JAR-145 approved procedures for personnel Authorisation.	
Parts Control Program	
Procedures that ensure that proper EDTO parts are used and EDTO configuration is maintained.	
Control procedures for parts pooling and borrowing.	

3. OPERATIONS

Operating Practices and Procedures (*)	
The applicant must institute EDTO Operating Practices and Procedures. These practices and procedures should cover the following subjects:	<i>To be completed by applicant</i> EDTO Operating Practices and Procedures are described in (add manual reference, chapter and sub-chapter):
Flight planning procedures (EDTO status of aeroplane, review of technical log, use of minimum equipment list (MEL), external inspection, etc.).	
En-route procedures (cross checking procedures to identify navigation errors, selection of other navigation aids in case of loss of RNAV capability, use of INS/IRS navigation systems without automatic radio navigation updating, use of GPS, notification of ATC of navigation equipment problems, contingency procedures, etc.), minimum equipment at the EDTO entry point, alternate routings, position check before entering EDTO airspace, alternate airports, performance data, fuel and oil supply etc.	
Fuel and oil supply for EDTO operations	
Procedures with respect to flight crew response to abnormal situations (response to non-normal events, etc.).	
Post-flight procedures (technical log entries, defects description, etc.).	
Flight Crew Training and Qualification (*)	
The applicant is required to establish the following (covering subjects under 3.1 to 3.5):	To be completed by applicant Description in (add manual reference, chapter and sub-chapter):
Flight crew qualification requirements.	
Description of initial and recurrent training, checking-and training-syllabi	

4. APPLICATION PACKAGE

Documentation to be submitted to the NCAA

Required documents Submitted?

Yes

No

1. Compliance statement which shows how the EDTO criteria have been satisfied (*).

2. CMP Document (latest revision) (*).

3. Sections of the AFM or AFM Supplements that document EDTO airworthiness approval.

4. CMP compliance list showing compliance with the titles and numbers of all modifications, addition and changes which were made in order to substantiate the incorporation of the CMP standard in the aeroplane.

5. EDTO Manual (*).

6. Supplements and revisions to the existing Maintenance Program and Maintenance Procedures (*).

7. Flight crew EDTO training programmes and syllabi for initial and recurrent training (*).

8. Operation manuals and checklists that include EDTO operating practices and procedures (OM-A, OM-B, OM-D, AOM, FCOM, Route Manuals, stand-alone EDTO manual, etc.) (*).

9. Minimum Equipment List (MEL) that include items pertinent to EDTO operations (*).

5. APPLICANT'S STATEMENT

The undersigned certifies the above information to be correct and true and that aeroplane system installation, continuing airworthiness of systems, minimum equipment for dispatch, operating procedures and flight crew training comply with the EDTO.

Name of Post Holder Maintenance:

Signature:

Date:

Name of Post Holder Operations:

Signature:

Date:

Name of Post Holder Training:

Signature:

Date:

(For official use only)

1. EDTO Application and item 4 application package checked for completeness.

AWI Name:

AWI Sign, ASI Stamp, Date:

FOI Name:

FOI Signature, ASI Stamp, Date:

***Note:** Inspectors should refer to:
TGM Vol 4 Part 2 Section B
FSS-OPS-FORM 149 EVALUATION OF EDTO Checklist*