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EXTENDED DIVERSION TIME OPERATIONS (EDTO)

1. APPLICABILITY

1.1 This notice is applicable to operator engaged in Commercial Air Transport Operations beyond the threshold time established by DCA for EDTO and lays down the minimum requirements for turbine aeroplanes transiting oceanic areas or routes over land, registered in Myanmar, and engaged in EDTO. Operators shall not operate an aeroplane with two or more engines beyond the threshold time unless approved by DCA for EDTO.

1.2 To be eligible for EDTO the specified airframe/engine combination shall have been certificated to the airworthiness standards of Transport Category aeroplanes by EASA or FAA.

2. DEFINITIONS

(a) **Extended diversion time operations (EDTO)** - Any operation by an aeroplane with two or more turbine engines where the diversion time to an en-route alternate aerodrome is greater than the threshold time established by the DCA.

(b) ***Threshold time.*** The range, expressed in time, established by the DCA, to an en-route alternate aerodrome, whereby any time beyond requires an EDTO approval from the DCA.

3. GENERAL REQUIREMENTS FOR EDTO

3.1 Any operator applying for EDTO approval (Airworthiness aspect) shall submit a request, with the required supporting data; to DCA at least 3 months prior to the proposed start for EDTO with the specific airframe/engine combination.

3.2 The operator shall further furnish details of the procedures/instructions and methodology for continued capability to adhere to conditions lay down at the time of grant of approval in a separate EDTO manual their by personal involved in EDTO. Any amendment to the EDTO manual requires DCA approval.

3.3 The operator requesting EDTO airworthiness approval should also demonstrate to the DCA that it has established an EDTO process that includes the following EDTO elements:

(i) Airframe/engine combination and engine compliance to EDTO/EDTO Type Design Build Standard (CMP) – Evidence that the type design of the aeroplane is approved for extended range operation is normally reflected by a statement in the Aircraft Flight Manual (AFM) and Type Certificate Data Sheet (TCDS) or Supplemental Type Certificate (STC),

(ii) Engineering Modifications – The operator must provide to DCA all titles and numbers of all modifications, additions and changes which were made in order to substantiate the incorporation of the CMP standard in the aeroplanes used in EDTO.

(iii) Compliance with the continuing airworthiness requirements as defined in paragraph 4 of this notice which should include EDTO:

(a) Occurrence Reporting;
(b) Maintenance Programme;
(c) Reliability Programme;
(d) Oil Consumption Monitoring Programme;
(e) Engine Condition Monitoring and Reporting System;
(f) Propulsion System Monitoring Programme;
(g) EDTO Parts Control Programme;
(h) Plan for Resolution of Aeroplae Discrepancies;
(i) Aircraft Performance Monitoring Programme;

(iv) The operator shall establish a programme that results in a high degree of confidence that the propulsion system reliability appropriate to the EDTO diversion time would be maintained.

(v) Initial and recurrent training and qualification programmes in place for all EDTO related personnel.

3.4 Procedures must be established which would preclude an aeroplane being released for EDTO after propulsion system shut down or EDTO significant system failure on a previous flight, or significant adverse trends in system performance, without appropriate corrective action having been taken. Confirmation of such action as being appropriate may, in some cases, require the successful completion of one or more non-revenue or non EDTO revenue flights (as appropriate) prior to being released on an EDTO. As an alternative the first 60 minutes of an EDTO flight can be used as a verification flight.

3.5 The operator conducting EDTO (regardless of the size of its EDTO fleet) must have a centralized entity responsible for monitoring of the EDTO maintenance activities. The certificate holder must develop and clearly define in its EDTO maintenance document specific procedures, duties and responsibilities for involvement of their centralized maintenance control personnel in their EDTO operation.

3.6 Approved copy of customized MEL shall be submitted to DCA along the application.

4. CONTINUING AIRWORTHINESS CONSIDERATIONS

4.1 The continuing airworthiness management organization (CAMO) managing the aircraft for which an EDTO operational approval is requested, ensure that additional requirements

for maintenance and monitoring are to be complied with in addition to the applicable continuing airworthiness requirements of MCAR Part M. They specifically affect:

(a) Occurrence reporting;

(b) Aircraft maintenance programme and reliability programme;

(c) EDTO manual/ Continuing airworthiness management exposition (CAME);

(d) Competence of continuing airworthiness and maintenance personnel.

4.2 Operator's propulsion system reliability for the type of aircraft shall be good enough to perform EDTO. An assessment will be made of the operator's ability to achieve and maintain the level of propulsion system reliability achieved by the world fleet. This assessment should include trend comparisons of the operator's data with other operators as well as the world fleet average values and the application of a qualitative judgment that considers all of the relevant factors. The operator's past record of propulsion system reliability with related types of engines should also be reviewed, as well as its record of achieved systems reliability with the airframe-engine combination for which authorization is sought to conduct EDTO.

4.3 The following items, as part of the operator's reliability programme, shall be reviewed by the applicant to ensure that they are adequate for EDTO-

(a) Engineering modifications

The operator shall provide to DCA the titles and numbers of all modifications, additions and changes which were made in order to substantiate the incorporation of the configuration maintenance and procedures (CMP) standard in the aeroplanes used in EDTO.

(b) Maintenance procedures

Following approval of the changes in the maintenance and training procedures, substantial changes to maintenance and training procedures, practices or limitations established to qualify for EDTO shall be submitted to DCA before such changes may be adopted. Such procedures shall include but are not limited to:

(i) EDTO training for maintenance personnel;

(ii) maintenance procedure to ensure that same aircraft technician does not perform maintenance on the same element of identical but separate EDTO significant systems during the same check or visit;

(iii) maintenance procedures to preclude identical action being applied to multiple similar elements in any EDTO significant system; and

(iv) parts control procedures;

(c) Reliability reporting

The reliability reporting programme as supplemented accepted, shall be implemented prior to and continued after approval of EDTO. Data from this process should result in

a suitable summary of problem events, reliability trends and corrective actions and should be provided regularly to DCA and to the concerned airframe and engine manufacturers.

(d) Modifications and inspections implementation

Approved modifications and inspections which would maintain the reliability objective for the propulsion system and airframe systems as a consequence of AD actions, updated instruction for continued airworthiness and revised CMP standards shall be promptly implemented. Other recommendations made by the engine and airframe manufacturers should also be considered for prompt implementation. This would apply to both installed and spare parts.

(e) Aeroplane dispatch procedures

Procedures and centralized control processes shall be established which would preclude an aeroplane's being dispatched for EDTO after propulsion system shut-down or primary airframe system failure on a previous flight, or significant adverse trends in system performance, without appropriate corrective action having been taken. Confirmation of such action as being appropriate may, in some cases, require successful completion of one or more non-revenue or non-EDTO revenue flights (as appropriate) prior to dispatch on an EDTO.

(f) Maintenance programme

The operator's maintenance programme shall ensure that the airframe and propulsion systems will continue to be maintained at the level of performance and reliability necessary for EDTO, including such programmes as an engine condition monitoring programme and an engine oil consumption monitoring programme.

(g) Considerations affecting contracted maintenance

Maintenance personnel involved in EDTO should be aware of any potential additional requirements of the maintenance programme associated with it and should be trained accordingly. When maintenance is contracted, the operator should ensure that the maintenance and all airworthiness flight dispatch procedures are performed to the requirement as defined in the operator’s Continuing Airworthiness Management Exposition or EDTO Manual, and personnel are trained in accordance with its training programme.

5. AIRWORTHINESS FLIGHT DISPATCH

Although many of the airworthiness flight dispatch considerations may already be incorporated into approved programmes for other aeroplanes or non-EDTO, the nature of EDTO necessitates a re-examination of these programmes to ensure that they are adequate for this purpose. Systems redundancy levels appropriate to EDTO shall be reflected in the

Minimum Equipment List (MEL), designed in accordance with Master Minimum Equipment List (MMEL). An EDTO-significant system is a system whose failure or degradation could adversely affect the safety of an EDTO flight or whose continued functioning is important to the safe flight and landing of an aeroplane during an EDTO diversion. Such systems may include, but are not limited to:

- electrical, including battery;
- hydraulic;
- pneumatic;
- flight instrumentation;
- fuel;
- flight control;
- ice protection;
- engine start and ignition;
- propulsion system instruments;
- navigation and communications;
- auxiliary power-units;
- air conditioning and pressurization;
- cargo fire suppression;
- engine fire protection;
- emergency equipment; and
- any other equipment required for EDTO.

6. CONTINUING SURVEILLANCE

The fleet average in-flight shut-down (IFSD) rate for the specified airframe-engine combination will continue to be monitored by the operator. DCA should also monitor all aspects of the operation it has authorized to ensure that the level of reliability achieved in EDTO remains at the necessary level and that the operation continues to be conducted safely. In the event that an acceptable level of reliability is not maintained, significant adverse trends exist, or if significant deficiencies are detected in the type design or the conduct of the EDTO operation, DCA should initiate a special evaluation, impose operational restrictions, if necessary, and stipulate corrective action for the operator to adopt to resolve the problems in a timely manner. The DCA should be alerted when a special evaluation is initiated and provide for its participation.

7. EVALUATION PROCEDURES

Operator shall evaluate and submit recommendations of the followings to DCA_

A. Verify the Compliance of the Aircraft with the Configuration, Maintenance, and

Procedures Document produced by the manufacturer for EDTO operations.

B. Evaluate the Current Maintenance Program to evaluate the following information for EDTO suitability_

(1) The date of type design and the review of each engine/airframe combination

(2) The in service experience for each engine/airframe combination, to include the following_

(a) The number of months/years of operational experience with each specific engine/airframe combination

(b) The total number of EDTO and/or domestic operations conducted with the specific engine/airframe

(c) The engine/airframe hours and cycles, to include both total and high time engines

(d) The in-flight shutdown rate (all causes), including the 12-month and 6-month rolling average for both the EDTO and the world fleet

(e) The unscheduled engine removal rate for both the world fleet and the operator

(f) The mean time between failure (MTBF) for major components

(g) The record of APU starts and run reliability

(h) The records of delays and cancellations, with the causes, by the specific aircraft systems

(i) The records of significant operator events, including the phase of flight where the event occurred, such as:

* Un-commanded power changes (surge or rollback)
* Inability to control the engine or obtain desired power
* In-flight shutdown events

C. The Operator must ensure the following necessary special maintenance requirements has been incorporated into Continuing Airworthiness Management Exposition or EDTO manual as part of the maintenance programme _

(1) Verification program, to include:

* A list of primary systems
* Conditions that require verification flights
* Procedures for initiating verification actions
* Procedures that monitor and evaluate corrective actions
* Procedures that verify the implementation of corrective action
* Procedures that preclude repeat items from occurring
* Procedures that identify and reverse the adverse trends

(2) Engine condition-monitoring program, to include:

* Scope of program, e.g., data collection and analysis

* Notification procedures for deterioration
* Deterioration monitoring limits for internal engine parts

(3) Reliability program, to include:

* Reporting criteria
* Procedures to ensure reporting of significant individual events (engine shutdowns, flight diversions, etc.)

(4) Engine/APU oil consumption monitoring program, to include:

* Established limits of consumption
* Procedures for use and verification prior to the start of each extended range leg

(5) Extended range parts control, to include:

* Methods of verification of proper parts
* Control procedures during parts pooling and borrowing

(6) Maintenance training program, to ensure:

* Personnel are aware that an EDTO authorization is in place
* Personnel, including contract personnel, are adequately trained on the special programs required by an EDTO authorization

(7) Continuing analysis and surveillance program, to include:

* Ensuring the continued integrity of the EDTO maintenance programs
* Ensuring that adjustments are made, as required, to the EDTO programs

(8) Procedures that accomplish the following:

* Preclude simultaneous actions from being applied to multiple similar elements in any EDTO critical system
* Identify EDTO related tasks on routine work forms and related instructions
* Develop an EDTO overwater service check to verify the status of the aeroplane and ensures certain critical items are acceptable.