

# United Kingdom Overseas Territories Aviation Circular

**OTAC 39-16  
121-20  
135-20**

## **Extended Diversion Time Operations**

**Issue 1.00  
2 November 2020**

**Effective on issue**

### **GENERAL**

Overseas Territories Aviation Circulars are issued to provide advice, guidance and information on standards, practices and procedures necessary to support Overseas Territory Aviation Requirements. They are not in themselves law but may amplify a provision of the Air Navigation (Overseas Territories) Order or provide practical guidance on meeting a requirement contained in the Overseas Territories Aviation Requirements.

### **PURPOSE**

This Overseas Territories Aviation Circular provides information regarding Extended Diversion Time Operations (EDTO) and the requirements of both the AN(OT)O and OTAR Parts 39, 121 and 135 for obtaining an EDTO approval. This guidance is also intended to provide an indication of the level of knowledge and investment in resources (both human and hardware) necessary, before an operator is ready to commence the process of applying for EDTO approval.

### **RELATED REQUIREMENTS**

This Circular relates to OTAR Part 39 Subpart C, OTAR 121.275 and OTAR 135.275.

### **CHANGE INFORMATION**

First issue.

### **ENQUIRIES**

Enquiries regarding the content of this Circular should be addressed to Air Safety Support International at the address on the ASSI website [www.airsafety.aero](http://www.airsafety.aero) or to the appropriate Overseas Territory Aviation Authority.

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## 1. Introduction

This OTAC provides further guidance for obtaining an EDTO approval from an Operations and Airworthiness Perspective. Operators should refer to ICAO Doc 10085 (Extended Diversion Time Operations (EDTO) Manual) for the guidance in each area.

## 2. Flight Operations Considerations

The flight operations considerations including flight beyond 60 minutes from a suitable en-route alternate, flight preparation, aircraft performance data, EDTO considerations for the Flight Operations Manual and training are given in Chapter 3 of ICAO Doc 10085.

## 3. Airworthiness Considerations

3.1 The airworthiness related considerations for certification of aircraft with two and more than two engines are given in Chapter 2 of ICAO Doc 10085. Normally the EDTO certification status is indicated in the Type Certificate Data Sheet issued by the State of Design, and in the Aircraft Flight Manual.

3.2 Maintenance and reliability considerations are given in Chapter 4 of ICAO Doc 10085. These include:

- (a) The EDTO maintenance Programme;
- (b) The EDTO Maintenance Procedures Manual;
- (c) The EDTO CMP produced by the OEM;
- (d) EDTO Significant Systems;
- (e) Parts Control Programme;
- (f) Staff Qualification; and
- (g) Reliability Programmes for EDTO.

## 4. Application

Requests for authorisation of EDTO operations with aeroplanes having two or more engines should be submitted by the candidate EDTO operator with the necessary elements to the applicable aviation authority. A Template for an EDTO application is given in Appendix A.

## 5. EDTO Approval and Operations Specification

The EDTO approval will be indicated on the AOC Operations specification, together with the Threshold Time and Maximum Diversion Time authorised by the AA issuing the EDTO approval.

## Appendix A – Application Template for an EDTO Approval

This form is to be used for applicants seeking Extended Diversion Time Operations (EDTO) approval in accordance with OTAR Part 121.275 and 135.275. Guidance material has been developed for EDTO and is available in ICAO Document 10085 which can be sourced from ICAO or the OTAA. Previously Extended Operations Approval was granted for twin-engine aircraft by the granting of ETOPS approval. Existing ETOPS approvals are valid as an acceptable Alternative Means of Compliance.

Applicants are strongly advised to read the 'EDTO Notes for Completion' before completing the form.

This form is designed to elicit all the required information from those operators requiring EDTO operations approvals. The completed form and supporting documentation should be submitted to the Flight Operations Section of the OTAA.

<b>Section I</b>	<b>Page 1</b>	<b>Operator/Airframe Details</b>	<b>Completion mandatory</b>
<b>Section II</b>	<b>Page 2</b>	<b>EDTO Notes for Completion</b>	
<b>Section III</b>	<b>Page 2</b>	<b>Signature Block</b>	<b>Completion mandatory</b>
<b>Section IV</b>	<b>Pages 3 to 7</b>	<b>Operator's EDTO Operations Manual Matrix</b>	<b>Completion mandatory</b>
<b>Section V</b>	<b>Pages 7 to 11</b>	<b>Applicant's Maintenance Submission</b>	<b>Completion mandatory</b>

### SECTION I. OPERATOR/AIRFRAME DETAILS

<b>1. Applicant Details - required for all Approval requests</b>		
Please give the official name and business or trading name(s), address, mailing address, e-mail address and contact telephone/fax numbers of the applicant. Note: For AOC holders - company name, AOC number and e-mail address will suffice.		
<b>2. Aircraft Details - required for all Approval requests</b>		
Aeroplane type(s), series and registration mark(s).		
Aeroplane Type	Aeroplane Series	Registration

**SECTION II. EDTO NOTES FOR COMPLETION**

<b>1. Applicability</b>	
<p>Extended Operations (EDTO) applies to operators wishing to use twin-engined aircraft more than 60 minutes' flying time from a suitable diversion aerodrome. Such routes could be long ocean crossings, polar routes or routes where there are limited diversions available, e.g. trans-Siberia.</p> <p>The requirements for Operator Approval to carry out ETOPS (Acceptable Means of Compliance) are laid out in OTAR Part 121.275/135.275 under the EDTO regulations. Further guidance can be sourced in EASA AMC 20-6 and in UK CAA CAP 789.</p> <p><b>EDTO is a major process, which will involve all aspects of a company's operation. It is therefore strongly recommended that the OTAA be contacted before submitting an application. It is likely that HLA/MNPS, RVSM and RNP-10 approval will also be required.</b></p>	
<b>2. Operator's ETOPS Operations Manual Matrix</b>	
<p>Section IV of this application form is the Operator's EDTO Operations Manual Matrix. All applicants should complete Column 4 of this matrix in full. If more than one type of aircraft/fleet is included in a single application a completed matrix should be included for each aircraft/fleet. <b>Failure to complete the EDTO Operations Manual Matrix may result in a delay in processing your application.</b></p>	
<b>3. Documents to be included with the application</b>	
<p>Copies of all documents referred to in Column 4 of the Operator's EDTO Operations Manual Matrix should be included when returning the completed application form to the OTAA. Original documents should not be sent; photocopies are sufficient. Do not send complete manuals, only the relevant sections/pages will be required.</p> <p>The issue of an ETOPS approval will incur a charge. Details of charges can be found in the OTAA's Fees and Charges Schedule.</p> <p><b>Failure to include all relevant documentation and the correct fee may result in a delay in processing your application.</b></p>	
<b>4. Submissions and Enquiries</b>	
OTAA Address	OTAA Contact Details (Eg telephone, email)

**SECTION III. SIGNATURE BLOCK**

Signature:	
Name:	
Appointment:	
Date:	
<p>Please note that a <b>minimum</b> of 120 working days will normally be required to process and issue an EDTO approval. If data is missing or omitted, the process may take <b>considerably</b> longer.</p>	

**SECTION IV. OPERATOR'S EDTO/ETOPS OPERATIONS MANUAL MATRIX**

Please complete your review of your Operations Manual. The EDTO flight operations minimum requirements are given in the table below.

Enter the Operations Manual references in the last column and return the matrix, together with scans/photocopies of the relevant pages of the Operations Manual, to the email/address given in Box 4 of Section II.

Operations Manual	Subjects	Requirements	Operator's Operations Manual Reference or Document Reference
<b>Part A General</b>	Documents/regulations used in compiling EDTO Manual and Procedures.	OTAR Part 121 OTAR Part 135 ICAO Doc 10085 EASA AMC 20-6 FAA AC 120-42B	
	Brief Description of EDTO		
	Definitions	Extended Operations. Adequate aerodrome. Approved one-engine inoperative cruise speed. Threshold distance/time. Adequate EDTO en-route alternate. Equal time points. Rule distance/time. EDTO segment. EDTO significant system. •Group 1 (primarily 2 engine aircraft) •Group 2 (all engine aircraft) Maximum approved diversion time. Dispatch	
	Criteria	Company AOC defined operating area. List of certified aircraft types/engine combinations.	
	Approval	Approved Diversion Time	
	Qualifications	Crew qualifications. EDTO qualified dispatcher personnel. EDTO qualified operations staff. EDTO qualified maintenance personnel.	

Operations Manual	Subjects	Requirements	Operator's Operations Manual Reference or Document Reference
	Training (Initial and Recurrent) and Checking.	Flight crew training and Operations Manuals. Flight crew currency requirements.	
	EDTO Authorisation.	Commander's responsibilities. Statement to show when EDTO is permitted.	
	EDTO Flight Preparation and Planning.	Aircraft serviceability and MEL. Communication and navigation facilities. Critical fuel scenario. Critical fuel reserve. EDTO alternate aerodrome selection. EDTO alternate planning minima. Pre-dispatch and post-dispatch weather minima. Computerised flight plan. Delayed dispatch. Maintenance check (pre-departure service check). Verification flights.	
	Flight Crew Procedures	Crew responsibilities. Flight documentation/chart handling. Fuel management. Weather monitoring. Change of routing. Diversion decision-making. Icing. Crew workload management.	
<b>Part B Type Specific</b>	Type-related ETOPS Operations.	Identification of EDTO aeroplanes. Types of EDTO operations that are approved. Placards and limitations. One-engine inoperative speed.	
	Type-specific Planning Requirements.		
	ETOPS Fuel Planning.	Including critical fuel scenario.	
	MEL/CDL	EDTO-specific MEL/CDL items.	
	Aeroplane Systems.	Performance data. Aerodrome technical differences, navigation fit, communications fit.	

Operations Manual	Subjects	Requirements	Operator's Operations Manual Reference or Document Reference
	Non-normal Procedures.	Navigation failures. Action to be taken on EDTO-significant system failure. Low fuel scenario. Crew incapacitation.	
<b>Part C Route and Aerodrome Instructions</b>	ETOPS Areas and Routes.	Approved area of operation. EDTO en-route alternates. Performance restrictions and weather minima for en-route alternates. Meteorological facilities/information. Low altitude cruise information. Route minimum diversion altitudes. MSA restrictions. Route-specific oxygen requirements.	
<b>Part D Training</b>	Ground, Simulator and Line Training.	General: <ul style="list-style-type: none"> <li>•EDTO overview.</li> <li>•EDTO regulations.</li> <li>•EDTO type design approval.</li> <li>•Definitions.</li> <li>•Approved one-engine inoperative speed.</li> <li>•Maximum approved diversion time.</li> <li>•Operator's approved diversion time.</li> <li>•EDTO area of operation.</li> <li>•EDTO routes.</li> <li>•EDTO alternate aerodromes and weather minima.</li> <li>•Navigation systems accuracy, limitations and operating procedures.</li> <li>•Meteorological facilities and information.</li> <li>•In-flight monitoring and procedures.</li> <li>•Computerised flight plan.</li> <li>•Charts and position plotting.</li> <li>•Equal time point.</li> <li>•Critical fuel.</li> </ul>	



Operations Manual	Subjects	Requirements	Operator's Operations Manual Reference or Document Reference
		<p>Normal procedures:</p> <ul style="list-style-type: none"> <li>•Flight planning and dispatch.</li> <li>•EDTO fuel requirements.</li> <li>•Route alternate selection - weather minima.</li> <li>•MEL - equipment-specific.</li> <li>•EDTO service check and technical log.</li> <li>•Pre-flight FMS set-up.</li> <li>•Flight performance progress monitoring.</li> <li>•Flight management, navigation and communication systems.</li> <li>•Aeroplane system monitoring.</li> <li>•Weather monitoring.</li> <li>•In-flight fuel management (to include independent cross-checking of fuel quantity).</li> </ul> <p>Non-normal procedures:</p> <ul style="list-style-type: none"> <li>•Diversion procedures and diversion 'decision- making'.</li> <li>•Navigation and communication systems, including appropriate flight management devices in degraded modes.</li> <li>•Fuel management with degraded systems.</li> <li>•Procedures for single and multiple failures in flight affecting EDTO sector entry and diversion decisions.</li> <li>•Operating on standby power.</li> <li>•Operational restrictions associated with system failures including any applicable MEL considerations.</li> </ul>	
	ETOPS Simulator Training and Line Flying Under Supervision.	Pilots conversion course. Annual refresher course.	

Operations Manual	Subjects	Requirements	Operator's Operations Manual Reference or Document Reference
	Flight Operations Staff and Dispatchers.	Outline of training syllabus to include: <ul style="list-style-type: none"><li>•EDTO regulations.</li><li>•Operational approval.</li><li>•Aeroplane performance.</li><li>•Diversion procedures.</li><li>•Area of operation.</li><li>•Fuel requirements.</li><li>•Dispatch considerations: MEL, CDL, weather minima and alternate airports.</li><li>•Delayed dispatch.</li><li>•Documentation.</li></ul>	

**SECTION V. APPLICANT'S MAINTENANCE SUBMISSION**

Please complete your review of your Maintenance Manual and Procedures Manual to confirm compliance with Chapters 3 and 4 of ICAO Doc 10085. The EDTO flight maintenance minimum requirements are given in the table below.

Enter the appropriate Manual references in the last column and return the matrix, together with photocopies of the relevant pages of the appropriate Manuals, to the address given in paragraph 4 of Section II

Item	Subjects	Requirements	Operator's Maintenance Manual Reference or Document Reference
<b>Aircraft certification</b>	Previous ETOPS certification	If issued prior to EDTO remains valid	
	EDTO certification	EDTO CMP available Aircraft configured accordingly Continued validity (2.2.5 of Doc 10085)	
<b>Maintenance Procedures (only applicable to 2 engine aircraft)</b>	MP elements	EDTO maintenance procedures manual <ul style="list-style-type: none"> <li>•Rules and operator's EDTO programme</li> <li>•Scope of authorisation (routes, fleet)</li> <li>•Responsibilities</li> <li>•Processes</li> <li>•EDTO maintenance procedures</li> <li>•EDTO training</li> </ul> EDTO CMP document <ul style="list-style-type: none"> <li>•Identified responsible person</li> <li>•MP includes the tasks and related time intervals identified in the CMP</li> </ul> Aeroplane maintenance programme for EDTO <ul style="list-style-type: none"> <li>•Planning of scheduled EDTO and non-EDTO tasks</li> <li>•Additional tasks from CMP</li> <li>•Unscheduled maintenance affecting EDTO significant systems</li> </ul>	

Item	Subjects	Requirements	Operator's Maintenance Manual Reference or Document Reference
		<ul style="list-style-type: none"> <li>• Applicability of EDTO MP when not conducting EDTO or mixed operations</li> </ul> <p>EDTO significant systems</p> <ul style="list-style-type: none"> <li>•Group 1 (primarily 2 engine aircraft)</li> <li>•Group 2 (all engine aircraft)</li> <li>•System failure affects safety of flight (prevents a diversion)</li> <li>•System which is needed to continue safely to a diversion</li> </ul> <p>EDTO-related maintenance tasks/EDTO qualified staff</p> <ul style="list-style-type: none"> <li>• Received EDTO training</li> <li>• Requirements in MPM</li> <li>• Tasks identified in MPM</li> <li>• Tasks which demand qualified staff</li> <li>• Removal/installation of engine or APU</li> <li>• Removal/installation of a component and involving work on fuel/ oil/ hydraulic/electric/ pneumatic systems (VFG, fuel pump, oil system, gearbox, etc.) which could lead, in case of improper execution, to the loss of the concerned engine.</li> </ul> <p>Parts control programme</p> <p>EDTO service check</p> <p>Reliability programme</p> <p>Propulsion system monitoring</p>	

Item	Subjects	Requirements	Operator's Maintenance Manual Reference or Document Reference
		Verification programme <ul style="list-style-type: none"> <li>•Dual maintenance limitations</li> <li>•Engine condition monitoring programme</li> <li>•Oil consumption monitoring programme</li> <li>•APU in-flight start monitoring programme</li> <li>•Control of the aeroplane's EDTO status: EDTO release statement</li> <li>•EDTO training</li> </ul>	
	APU in-flight	Notification of requirement to crews In-flight start instructions: <ul style="list-style-type: none"> <li>•Number of attempts</li> <li>•Allowable altitudes</li> <li>•Time required in cruise (cold soak limits)</li> <li>•Documentation methods</li> </ul>	
	Maintenance Verification Flight	Identification of verification flight requirement. (may be conducted on EDTO flight prior to EDTO entry) Crew instructions on identification of affected systems (what to monitor or exercise) Documentation methods	

Item	Subjects	Requirements	Operator's Maintenance Manual Reference or Document Reference
	EDTO significant system discrepancies and applicability to maintenance programme	Systems included: <ul style="list-style-type: none"> <li>•Electrical, including battery</li> <li>•Hydraulics</li> <li>•Pneumatics</li> <li>•Flight Instrumentation</li> <li>•Fuel Systems</li> <li>•Flight Controls</li> <li>•Ice Protection</li> <li>•Engine start and ignition</li> <li>•Engine systems</li> <li>•Navigation and communications</li> <li>•Engines</li> <li>•Auxiliary Power Units</li> <li>•Air conditioning and pressurization</li> <li>•Cargo fire suppression</li> <li>•Engine fire protection</li> <li>•Emergency equipment</li> <li>•Any other significant EDTO equipment</li> </ul>	
	EDTO flight release after non-technical diversion	Procedures for flight crew release •Inclusion in FOM Part A	
	Filtering of selected EDTO related tasks	Refer to Figure 4.7-1 in ICAO Doc 10085	
	EDTO Service Check	General requirements Content of service check Policy (refer to Figure 4.9-1) Execution of service check Physical check versus cockpit check	
	Reliability Programme	Purpose APU in-flight start monitoring Propulsion system:	

<b>Item</b>	<b>Subjects</b>	<b>Requirements</b>	<b>Operator's Maintenance Manual Reference or Document Reference</b>
		<ul style="list-style-type: none"> <li>•Engine condition monitoring programme</li> <li>•Oil consumption monitoring</li> </ul> In-flight shutdown (IFSD) rate and monitoring Event tracking Assessment of EDTO reliability indicators Verification actions Dual Maintenance procedures	
	EDTO Release statement	Contents Downgrading and restoration <ul style="list-style-type: none"> <li>• Twin engine aircraft</li> <li>• More than two engine aircraft</li> </ul>	
	EDTO Maintenance training	Initial Recurrent	

**Any Further Comments to Support Your Application:**