بسم الله الرحمن الرحيم

Maldives Civil Aviation Authority
Republic of Maldives

CAA Form 1814

APPLICATION FOR EXTENDED OPERATIONS (ETOPS) OPERATIONAL APPROVAL

- Applicants are strongly advised to read the 'ETOPS Notes for Completion' before completing the form.
- Please complete the form in BLOCK CAPITALS using black/blue ink or submit electronically.

This form is designed to elicit all the required information from those operators requiring ETOPS operations approvals. The completed form and supporting documentation should be submitted to the Civil Aviation Authority at the address listed in the 'Notes for Completion'.

Section I	Page 1	Operator/Airframe Details	Completion mandatory
Section II	Page 2	ETOPS Notes for Completion	
Section III	Page 2	Submission, Payment and Enquiries	Completion mandatory
Section IV	Page 2	Signature Block	Completion mandatory
Section V	Page 2	Operations Manual Checklist	Completion mandatory
Section VI	Page 2	Airworthiness Checklist	Completion mandatory

SECTION I OPERATOR/AIRFRAME DETAILS

1. Applicant Details – required for all Approval requests

Please fill in the following details. For AOC holders - Company Name, AOC number and email address will suffice.

AOC number (if applicable):	
Official name/ Business/trading name(s):	
Address/Mailing Address:	
Email:	
Telephone no:	
Fax no.	

2. Aircraft Details – required for all Approval requests

Aeroplane types(s), series and registration mark(s)

Aeroplane Type	Aeroplane Series	Registration

SECTION II ETOPS NOTES FOR COMPLETION

1. Applicability

Extended Operators (ETOPS) 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 routs where there are limited diversions available, E.g. trans-Siberia.

The requirements for Operator Approval to carry out ETOPS are laid out in MCAR-OPS 1 and EASA AMC 20-6. Additional guidance can be found in CAP789. Operators are advised to use JAA AMC 20-6 as guidance to determine the eligibility to ETOPS Papproval.

ETOPS is a major process, which will involve all aspects of a company's operation. It is therefore strongly recommended that Flight Operations Section be contacted before submitting an application. It is likely that MNPS, RVSM and RNP-
10 approval will also be required.

2. Operator's ETOPS Approval considerations

1) Propulsion system reliability assessment
2) Aircraft Systems reliability assessment
3) Flight preparation and inflight procedures
4) Etops en-route alternate aerodrome
5) Etops training programs
6) Operations manual amendment/supplement
7) Continuing airworthiness considerations

3. Documents to be included with the application

Checklist in Section V and VI of this application should be submitted along with relevant proof of those documents refered to in the checklist.

Failure to include all relevant documentation and the required fee may result in a delay in processing the application.

SECTION III SUBMISSION, PAYMENT AND ENQUIRIES

Address for submission and enquiries:

Flight Operations Section
Maldives Civil Aviation Authority
11th Floor, Velaanaage
Ameer Ahmed Magu, Male', 20096
Republic of Maldives

Tel: 3324983
Fax: 3323039
Email: safety@aviainfo.gov.mv
Web: www.caa.gov.mv

Send your completed application form to Civil Aviation Authority together with the fee payable in accordance with MCAR-187.

Cheques should be made payable to 'Civil Aviation Authority' and cheques should be drawn on a bank in the United States of America or a bank in the Maldives. If the person wishes to pay by Telex Transfer, the bank details of CAA is available upon request.

SECTION III SIGNATURE BLOCK

Signature: .....

Name (BLOCK LETTERS): .....

Appointment: .....

Date: .....

Please note that a **minimum** of 120 working days will normally be required to check and confirm the information given above - if data is missing or omitted the process may take **considerably** longer.

SECTION V – OPERATION MANUAL CHECKLIST

Please complete your review of your Operations Manual. The ETOPS 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 photocopies of the relevant pages of the Operations Manual, to the address given in paragraph 4 of Section II.

OM PART A			
Subjects	**Requirements**	**Operator's Reference**	**CAA Comments**
Documents/regulations used in compiling ETOPS/Manual/Procedures.	MCAR-OPS 1 EASA AMC 20-6 FAA AC 120-42B		
Brief description of ETOPS.			
Definitions.	Extended Operations. Adequate aerodrome. Approved one-engine inoperative cruise speed. Threshold distance/time. Adequate ETOPS en-route alternate. Equal time points. Rule distance/time ETOPS segment. ETOPS significant system. 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. ETOPS qualified dispatcher personnel. ETOPS qualified operations staff. ETOPS qualified maintenance personnel.		
Training (Initial and Recurrent) and Checking.	Flight crew training and Operations Manuals. Flight crew currency requirements.		
ETOPS Authorisation.	Commander's responsibilities. Statement to show when ETOPS are allowed.		

OM PART A (cont.)			
Subjects	**Requirements**	**Operator's Reference**	**CAA Comments**
ETOPS Flight Preparation and Planning.	Aircraft serviceability and MEL. Communication and navigation facilities. Critical fuel scenario. ETOPS alternate aerodrome selection. ETOPS alternate planning minima. Pre-dispatch and post-dispatch weather minima. Computerised flight plan. Delayed dispatch. Maintenance checks (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.		
OM PART B			
Type-related ETOPS Operations.	Identification of ETOPS aeroplanes. Types of ETOPS operations that are approved. Placards and limitations. One-engine inoperative speed.		
Type-specific Planning Requirements.			
ETOPS Fuel Planning	Including critical fuel scenario.		
MEL/CDL	ETOPS-specific MEL/CDL items.		
Aeroplane Systems.	Performance data. Aerodrome technical differences, navigation fit, Communications fit.		
Non-normal Procedures.	Navigation failures. Action to be taken on ETOPS-significant system failure. Low fuel scenario. Crew incapacitation		

OM PART C			
Subjects	**Requirements**	**Operator's Reference**	**CAA Comments**
ETOPS Areas and Routes.	Approved area of operations. ETOPS en-route alternates. Performance restrictions and weather minima for en-route alternatives. Meteorological facilities/information. Low altitude cruise information. Route minimum diversion altitudes. MSA restrictions.		
OM PART D			
Ground, Simulator and Line Training.	General: • ETOPS overview. • ETOPS regulations. • ETOPS type design approval. • Definitions. • Approved one-engine inoperative speed. • Maximum approved diversion time. • Operator's approved diversion time. • ETOPS area of operation. • ETOPS routes. • ETOPS alternate aerodromes and weather minima. • Navigation systems accuracy, limitations and operating procedures. • Meteorological facilities and information. • In-flight monitoring and procedures. • Computerised flight plan. • Charts and position plotting. • Equal time point. • Critical fuel. Normal procedures: • Flight planning and dispatch. • ETOPS fuel requirements. • Route alternate selection – weather minima. • MEL – equipment-specific. • ETOPS service check and technical log. • Pre-flight FSM set-up. • Flight performance progress monitoring. • Flight management, navigation and communication systems. • Aeroplane system monitoring. • Weather monitoring. • In-flight fuel management (to include independent cross-checking of fuel quantity)		

OM PART D (cont.)			
Subjects	**Requirements**	**Operator's Reference**	**CAA Comments**
	Non-Normal procedures: • Diversion procedures and diversion 'decision-making' • Navigation and communication systems, including appropriate flight management devices in degraded modes. • Fuel management with degraded systems. • Procedure for single and multiple failures in flight affection ETOPS sector entry and diversion decisions. • Operating on standby power. • Operational restrictions associated with system failures including any applicable MEL		
ETOPS Simulator Training and Line Flying Under Supervision.	Pilot conversion course. Annual refresher course.		
Flight Operations Staff and Dispatchers.	Outline of training syllabus to include: • ETOPS regulations. • Operational approval. • Aeroplane performance. • Diversion procedures. • Area of operation. • Fuel requirements. • Dispatch considerations: MEL, CDL, weather minima and alternate airports. • Delayed dispatch. • Documentation.		

Any further Comments to Support Your Application:

CAA USE ONLY
Signature , Operations Inspector
Date:

SECTION VI– CONTINUING AIRWORTHINESS CHECKLIST

Operator:		
CAMO Approval:		
Subcontracted CAMO and tasks:	Subcontracted CAMO 1:	
	Tasks:	
	Subcontracted CAMO 2:	
	Tasks:	
	Subcontracted CAMO 3:	
	Tasks:	

AMC 20-6 Revision No. …….. ETOPS Approval Category (Tick as appropriate)	☐	1. Approval for 90 minutes or less diversion time
	☐	2. Approval for diversion time above 90 minutes up to 180 minutes
	☐	3. Approval for diversion time above 180 minutes
	☐	4. Approval for diversion times above 180 minutes of operators of two-engine aeroplanes with a maximum passenger seating configuration of 19 or less and a maximum take-off mass less than 45 360 kg

Appendix 8 - CONTINUING AIRWORTHINESS CONSIDERATIONS References	**Remarks, or SAT/UNSAT**
2. OCURRENCE REPORTING The following items concerning ETOPS should be included: a) in-flight shutdowns; b) diversion or turn-back; c) un-commanded power changes or surges; d) inability to control the engine or obtain desired power; and e) failures or malfunctions of ETOPS significant systems having a detrimental effect to ETOPS flight.	
3.1 MAINTENANCE PROGRAMME:	
The specific ETOPS maintenance tasks identified by the (S)TC holder in the Configuration, Maintenance and Procedures document (CMP) or equivalent should be included in the maintenance programme and identified as ETOPS tasks.	
The maintenance programme should include tasks to maintain the integrity of cargo compartment and pressurisation features, including baggage hold liners, door seals and drain valve condition. Processes should be implemented to	

monitor the effectiveness of the maintenance programme in this regard.	
3.1.1 PRE-DEPARTURE SERVICE CHECK	
An ETOPS service check should be developed to verify the status of the aeroplane and the ETOPS significant systems. This check should be accomplished by an authorised and trained person prior to an ETOPS flight. Such a person may be a member of the flight crew.	
3.2 RELIABILITY PROGRAMME:	
3.2.1 GENERAL The reliability programme should be event-orientated and incorporate: a) reporting procedures in accordance with section 2: Occurrence reporting b) operator's assessment of propulsion systems reliability c) APU in-flight start programme d) Oil consumption programme e) Engine Condition Monitoring programme f) Verification programme	
3.2.2 ASSESSMENT OF PROPULSION SYSTEMS RELIABILITY	
a) The operator's assessment of propulsion systems reliability for the ETOPS fleet should be made available to the competent Authority (with the supporting data) on at least a monthly basis, to ensure that the approved maintenance programme continues to maintain a level of reliability necessary for ETOPS operations as established in chapter II section 6.3. b) The assessment should include, as a minimum, engine hours flown in the period, in-flight shutdown rate for all causes and engine removal rate, both on a 12-months moving average basis. Where the combined ETOPS fleet is part of a larger fleet of the same aircraft/engine combination, data from the total fleet will be acceptable. c) Any adverse sustained trend to propulsion systems would require an immediate evaluation to be accomplished by the operator in consultation with the competent authority. The evaluation may result in corrective action or operational restrictions being applied. d) A high engine in-flight shutdown rate for a small fleet may be due to the limited number of engine operating hours and may not be indicative for an unacceptable trend. The underlying causes for such an increase in the rate will have to be reviewed on a case-by-case basis in order to identify the root cause of events so that the appropriate corrective action is implemented. e) If an operator has an unacceptable engine in-flight shutdown rate caused by maintenance or operational practices, then the appropriated corrective actions should be taken.	
3.2.3 APU IN-FLIGHT START PROGRAMME	
The operator should initially implement a cold soak in-flight starting programme to verify that start reliability at cruise altitude is above 95%.	
Once the APU in-flight start reliability is proven, the APU in-flight start monitoring programme may be alleviated.	
The Maintenance procedures should include the verification of in-flight start reliability following maintenance of the APU and APU components, as defined by the OEM, where start reliability at altitude may have been affected	
3.2.4 OIL CONSUMPTION MONITORING PROGRAMME	
The oil consumption monitoring programme should reflect the (S)TC holder's recommendations and track oil consumption trends. The monitoring programme must be continuous and include all oil added at the departure station.	
If oil analysis is recommended to the type of engine installed, it should be included in the programme.	

If the APU is required for ETOPS dispatch, an APU oil consumption monitoring programme should be added to the oil consumption monitoring programme.	
3.2.5 ENGINE CONDITION MONITORING PROGRAMME	
The engine condition monitoring programme should ensure that a one-engine-inoperative diversion may be conducted without exceeding approved engine limits (e.g. rotor speeds, exhaust gas temperature) at all approved power levels and expected environmental conditions. Engine limits established in the monitoring programme should account for the effects of additional engine loading demands (e.g. anti-icing, electrical, etc.), which may be required during the one-engine-inoperative flight phase associated with the diversion.	
The engine condition monitoring programme should describe the parameters to be monitored, method of data collection and corrective action process. The programme should reflect manufacturer's instructions and industry practice. This monitoring will be used to detect deterioration at an early stage to allow for corrective action before safe operation of the aircraft is affected.	
3.2.6 VERIFICATION PROGRAMME	
The operator should develop a verification programme to ensure that the corrective action required to be accomplished following an engine shutdown, any ETOPS significant system failure or adverse trends or any event which require a verification flight or other verification action are established.	
A clear description of who must initiate verification actions and the section or group responsible for the determination of what action is necessary should be identified in this verification programme. ETOPS significant systems or conditions requiring verification actions should be described in the Continuing Airworthiness Management Exposition (CAME).	
The CAMO may request the support of (S)TC holder to identify when these actions are necessary. Nevertheless the CAMO may propose alternative operational procedures to ensure system integrity. This may be based on system monitoring in the period of flight prior to entering an ETOPS area.	
4. CONTINUING AIRWORTHINESS MANAGEMENT EXPOSITION	
The CAMO should develop appropriate procedures to be used by all personnel involved in the continuing airworthiness and maintenance of the aircraft, including supportive training programmes, duties, and responsibilities.	
The CAMO should specify the procedures necessary to ensure the continuing airworthiness of the aircraft particularly related to ETOPS operations. It should address the subjects listed in Appendix 8 as applicable.	
5. COMPETENCE OF CONTINUING AIRWORTHINESS AND MAINTENANCE PERSONNEL	
The CAMO organisation should ensure that the personnel involved in the continuing airworthiness management of the aircraft have knowledge of the ETOPS procedures of the operator.	
The CAMO should ensure that maintenance personnel that are involved in ETOPS maintenance tasks have completed an ETOPS training programme reflecting the relevant ETOPS procedures of the operator.	
Have satisfactorily performed ETOPS tasks under supervision, within the framework of the Part-145 approved procedures for Personnel Authorisation.	

CAA USE ONLY
Signature , Operations Inspector Date: