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|  | ΑΙΤΗΣΗ ΓΙΑ ΠΙΣΤΟΠΟΙΗΣΗ non ETOPS (180 min)Application Form for non ETOPS (180 min) Approval(Airworthiness & Operational Approval Conformance Document) |

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| --- | --- | --- |
| REFERENCES | ISSUE DATE | TITLE |
| **965/2012 CAT.OP.MPA.140** | 10/2012 | Technical requirements and administrative procedures related to Air Operations |
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| --- |
| OPERATOR : |
| **Aircraft MFG** |  | **Aircraft Type** |  | **Aircraft Series** |  |
| **Registration****Marks** | **MFG****Serial No** |  |
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# Introduction

As prescribed in 965/2012 -**CAT.OP.MPA.140** (a)(2)-, an operator may not operate a twin turbo-jet powered airplane having a maximum approved passenger seating configuration of 19 or less and a MTOM less than 45.360Kg beyond 120 minutes from an adequate aerodrome at the one engine inoperative cruise speed calculated in accordance with **CAT.OP.MPA.140** (b) unless approved by the HCAA.

This 120 minute threshold may be exceeded by no more than 60 minutes. In order for operations between 120 and 180 minutes to be approved, due account should be taken of the aeroplane’s design and capabilities (as outlined below) and an operator’s experience related to such operations.

Operator successfully operates under such operation since .............. and has accumulate sufficient experience in order to obtain an approval to exceed the normal threshold of 120 min to 180 min for Type …………………………………………**.**

This compliance document based on:

* 965/2012 - **CAT.OP.MPA.140** (a)(2),
* 965/2012 - **AMC1 CAT.OP.MPA.140**

# Systems capability

Airplanes should be certificated to CS-25 as appropriate or equivalent (e.g. FAR-25). With respect to the capability of the airplane systems, the objective is that the airplane is capable of a safe diversion from the maximum diversion distance with particular emphasis on operations with one engine inoperative or with degraded system capability. To this end, the operator should give consideration to the capability of the following systems to support such a diversion:

## Propulsion systems

The airplane engine should meet the applicable specifications prescribed in CS-25 and CS-E or equivalent (e.g. FAR-25, FAR-E), concerning engine TC, installation and system operation. In addition to the performance standards established by the Agency or competent authority at the time of engine certification, the engines should comply with all subsequent mandatory safety standards specified by the Agency or competent authority, including those necessary to maintain an acceptable level of reliability. In addition, consideration should be given to the effects of extended duration single-engine operation (e.g. the effects of higher power demands such as bleed and electrical).

## Airframe systems

With respect to electrical power, three or more reliable as defined by CS-25 or equivalent (e.g. FAR-25) and independent electrical power sources should be available, each of which should be capable of providing power for all essential services which should at least include the following:

(i) sufficient instruments for the flight crew providing, as a minimum, attitude, heading, airspeed and altitude information;

(ii) appropriate pitot heating;

(iii) adequate navigation capability;

(iv) adequate radio communication and intercommunication capability;

(v) adequate flight deck and instrument lighting and emergency lighting;

(vi) adequate flight controls;

(vii) adequate engine controls and restart capability with critical type fuel (from the stand-point of flame-out and restart capability) and with the airplane initially at the maximum relight altitude;

(viii) adequate engine instrumentation;

(ix) adequate fuel supply system capability including such fuel boost and fuel transfer functions that may be necessary for extended duration single or dual-engine operation;

(x) such warnings, cautions and indications as are required for continued safe flight and landing;

(xi) fire protection (engines and auxiliary power unit (APU));

(xii) adequate ice protection including windshield de-icing; and

(xiii) adequate control of the flight crew compartment and cabin environment including heating and pressurization.

The equipment including avionics necessary for extended diversion times should have the ability to operate acceptably following failures in the cooling system or electrical power systems.

For single-engine operations, the remaining power electrical, hydraulic, and pneumatic should continue to be available at levels necessary to permit continued safe flight and landing, and to provide those services necessary for the overall safety of the passengers and crew. As a minimum, following the failure of any two of the three electrical power sources, the remaining source should be capable of providing power for all of the items necessary for the duration of any diversion. If one or more of the required electrical power sources are provided by an APU, hydraulic system or air driven generator/ram air turbine (ADG/RAT), the following criteria should apply as appropriate:

1. to ensure hydraulic power (hydraulic motor generator) reliability, it may be necessary to provide two or more independent energy sources;
2. the ADG/RAT, if fitted, should not require engine dependent power for deployment; and
3. The APU should meet the criteria in 2.3 below paragraph.

## APU

The APU if required for extended range operations, should be certified as an essential APU and should meet the applicable CS-25 and CS-APU provisions or equivalent (e.g. FAR-25).

 **2.4** **Fuel supply system**

Consideration should include the capability of the fuel supply system to provide sufficient fuel for the entire diversion taking account of aspects such as fuel boost and fuel transfer.

 Engine Events and corrective action.

* All engine events and operating hours should be reported by the operator to the airframe and engine supplemental type certificate (STC) holders as well as to the HCAA.
* These events should be evaluated by the operator in consultation with the HCAA and with the engine and airframe (S)TC holders. The competent authority may consult the Agency to ensure that world wide data are evaluated.
* Where statistical assessment alone is not applicable, e.g. where the fleet size or accumulated flight hours are small, individual engine events should be reviewed on a case-by-case basis.
* The evaluation or statistical assessment, when available, may result in corrective action or the application of operational restrictions.
* Engine events could include engine shutdowns, both on ground and in-flight, excluding normal training events, including flameout, occurrences where the intended thrust level was not achieved or where crew action was taken to reduce thrust below the normal level for whatever reason, and unscheduled removals.
* Arrangements to ensure that all corrective actions required by the Agency are implemented.

# Maintenance:

The maintenance programme in accordance with Annex I to Regulation (EC) No 2042/200326 (Part-M) should be based upon reliability programmes including, but not limited to, the following elements:

* 1. Engine oil consumption programmes: such programmes are intended to support engine condition trend monitoring; and
	2. Engine condition monitoring programme: a programme for each engine that monitors engine performance parameters and trends of degradation that provides for maintenance actions to be undertaken prior to significant performance loss or mechanical failure.

# Flight Crew Training:

Flight crew training for this type of operation should include, in addition to the requirements of Subpart FC of Annex III (ORO.FC), particular emphasis on the following::

##  Fuel management

Verifying required fuel on board prior to departure and monitoring fuel on board en-route including calculation of fuel remaining. Procedures should provide for an independent cross-check of fuel quantity indicators, e.g. fuel flow used to calculate fuel burned compared to indicate fuel remaining. Confirmation that the fuel remaining is sufficient to satisfy the critical fuel reserves.

##  One-engine inoperative performance data

Procedures for single and multiple failures in-flight that may give rise to go/no-go and diversion decisions – policy and guidelines to aid the flight crew in the diversion decision making process and the need for constant awareness of the closest weather-permissible alternate aerodrome in terms of time. One Engine Inoperative (OEI) performance data: drift down procedures and OEI service ceiling data.

##  Weather reports and flight requirements

Weather reports and flight requirements: meteorological aerodrome reports (METARs) and aerodrome forecast (TAF) reports and obtaining in-fl ight weather updates on the en-route alternate (ERA), destination and destination alternate aerodromes. Consideration should also be given to

forecast winds including the accuracy of the forecast compared to actual wind experienced during flight and meteorological conditions along the expected fl ight path at the OEI cruising altitude and throughout the approach and landing.

##  Pre-departure check

A pre-departure check, additional to the pre-flight inspection required by Part-M should be reflected in the operations manual. Flight crew members who are responsible for the pre-departure check of an airplane should be fully trained and competent to do it. The training programme required should cover all relevant tasks with particular emphasis on checking required fluid levels.

# MEL

The MEL should take into account all items specified by the manufacturer relevant to operations in accordance with this AMC.

# Dispatch/Flight Planning Requirements:

The operator’s dispatch requirements should address the following:

## Fuel and oil supply

An airplane should not be dispatched on an extended range flight unless it carries sufficient fuel and oil to comply with the applicable operational requirements and any additional reserves determined in accordance with sub-paragraphs (a)(i) (ii) and (iii) below.

(i) Critical fuel scenario

The critical point is the furthest point from an alternate aerodrome assuming a simultaneous failure of an engine and the pressurization system. For those airplanes that are type certificated to operate above Flight Level 450, the critical point is the furthest point from an alternate aerodrome assuming an engine failure. The operator should carry additional fuel for the worst case fuel burn condition (one engine vs two engines operating), if this is greater than the additional fuel calculated in accordance with CAT.OP.MPA, as follows:

A. Fly from the critical point to an alternate aerodrome:

- At 10 000ft; or

- At 25 000ft or the single-engine ceiling, whichever is lower, provided that all occupants can be supplied with and use supplemental oxygen for the time required to fly from the critical point to an alternate aerodrome; or

- At the single-engine ceiling, provided that the airplane is type certificated to operate above Flight Level 450.

B. Descend and hold at 1 500 feet for 15 minutes in ISA conditions;

C. Descend to the applicable MDA/DH followed by a missed approach (taking into account the complete missed approach procedure); followed by

D. A normal approach and landing.

(ii) Ice protection

 Additional fuel used when operating in icing conditions (e.g. operation of ice protection systems (engine/airframe as applicable)) and, when manufacturer’s data is available, take account of ice accumulation on unprotected surfaces if icing conditions are likely to be encountered during

a diversion;

(iii) APU operation

If an APU has to be used to provide additional electrical power, consideration should be given to the additional fuel required.

## Communication facilities

The availability of communications facilities in order to allow reliable two-way voice communications between the aeroplane and the appropriate ATC unit at OEI cruise altitudes.

## Aircraft Technical Log

Review to ensure proper MEL procedures, deferred items, and required maintenance checks completed.

## En-route alternate aerodrome(s)

Ensuring that ERA aerodromes are available for the intended route, within the distance flown in 180 minutes based upon the OEI cruising speed which is a speed within the certificated limits of the aeroplane, selected by the operator and approved by the competent authority, confirming that, based on the available meteorological information, the weather conditions at ERA aerodromes are at or above the applicable minima for the period of time during which the aerodrome(s) may be used.

**Table 1: Planning minima**

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| --- | --- | --- |
| **Approach facility** | **Alternate aerodrome ceiling** | **Weather minima****RVR/VIS** |
| PA | DA/H +200 ft | RVR/VIS +800 m |
| NPA | MDA/H +400 ft | RVR/VIS +1 500 m |

**8. GENERAL APPLICANT INFORMATION**

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| **General Information**  |
| 8. 1 | Applicant:  |
| Contact person (Name): |
| Tel: |
| Fax/e-mail:  |
| Aeroplane Registration:  |
| Aeroplane Manufacturer:  |
| Aeroplane Type Designation:  |
| Aeroplane Serial No.:  |
| MAPSC:  |
| MTOM:  |
| Engine Manufacturer:  |
| Engine Type Designation:  |
| APU Manufacturer:  |
| APU Type Designation:  |
| Total operator's airframe fleet hours:  |
| Total operator's airframe fleet cycles :  |
| Total operator' engine hours:  |
| 8.2 | Area of operation as defined in the AOC :***(Note****: Operator has to check the Area of Operation as defined in the AOC and the Area of operation for non-ETOPS .)**Operator response Refer to Attachment xx:* |
| 8.3 | 1) AIRCRAFT EASA TCDS Number :*Operator response Refer to Attachment xx:* |
|  | 2) ENGINE EASA TCDS Number :*Operator response Refer to Attachment xx:* |
|  | 3) APU Manufacter/Type :*Operator response Refer to Attachment xx:* |
|  | *(Note 1 : In case that EASA TCDS not available refer to FAA TCDS or as applicable)**(Note 2: TCDS should be attached to this conformance report)* |
| 8.4 | 1) Operator Fleet size:Aeroplane types operated & Registration Number(s):*(Note: Operator has to submit a copy of the latest current AOC approval )**Operator response Refer to Attachment xx:* |
|  | 2) Number of month’s/years of operational experience with specific engine/airframe combination: *Operator response :* |
|  | 3) Number of domestic sectors:*Operator response:* |
|  | 4) Number of long range sectors:*Operator response :* |
|  | 5) Unscheduled engine removal rate (URR) for the operator fleet (URR rate per 1000 engine flight hours):*Operator response :* |
|  | 6) In-flight shutdown (IFSD) rate (all causes) including the 12-month rolling average for the operator fleet (IFSD per 1000 engine flight hours)*Operator response :* |
| 8.5 | The requested aircraft for non-ETOPS 180 has additionally the following approvals :RVSM □ B-RNAV □ RNP-10 □ MNPS □ AWO □ P-RNAV □ Other □*Operator response Refer to Attachment xx:* |
| 8 .6 | This is an initial request for ETOPS long range operations for airplane type referenced in 8.1 ?  YES NO *Tick as applicable* |
| 8.7 | 1. Aircraft capability to support 180 minutes reflected in :*(Note :The operator has to submit the document reflecting the ETOPS capability to support 180 mins AFM/TCDS/etc)**Operator response Refer to Attachment xx:* |  |  |
|  | 2. Previous reliability reports / Effectiveness of AMP *(Note : Operator has to submit Reliability reports for the previous 12 mo)**Operator response Refer to Attachment xx:* |  |  |
|  | 3. Engine Trend monitoring ETM performed in house YES □ NO □ ETM is contracted YES □ NO □ Provisions for early detection YES □ NO □ *(Note : 1 Operator has to submit ETM reports for the previous 12 mo)* *2. In case that ETM is contracted a copy of the contract must be attached to this conformance report)**Operator response Refer to Attachment xx:* |  |  |
|  | 4. Oil consumption  Procedure to monitor oil consumption *(Note : Operator has to submit Oil consumption Procedure/ Reports for the previous 12 months* *Operator response Refer to Attachment xx:* |  |  |
|  | 5.Pre-departure check :  Copy of Pre-departure check should be attached to this conformance doc *(Note : A pre-departure check, additional to the pre-flight inspection required should be reflected in the Operator’s CAME to ensure that all maintenance actions are complete and all fluid levels are at prescribed levels for the flight duration)**Operator response Refer to Attachment xx:* |  |  |
|  | 6 .Pre-departure check training *Operator training should be attached to this conformance report* *Note:1) Pre-departure checks should be conducted and certified by an organization appropriately approved/accepted in accordance with PART-145 or by an appropriately trained flight crew member prior to an extended range flight .* *2) Maintenance personnel should have an ETOPS familiarization training**Operator response Refer to Attachment xx:* |  |  |
|  | 7 .Procedure to support critical tasksPart 145 In house : Part 145 :Contracted *Note 1) : 145.A.65 (b) 3 Safety and quality policy, maintenance procedures and quality system**With regard to aircraft line and base maintenance, the organization shall establish procedures to minimize the risk of multiple errors and capture errors on critical systems, and to ensure that no person is required to carry out and inspect in relation to a maintenance task involving some element of disassembly/reassembly of several components of the same type fitted to more than one system on the same aircraft during a particular maintenance check. However, when only one person is available to carry out these tasks then the organisation’s work card or worksheet shall include an additional stage for re-inspection of the work by this person after completion of all the same tasks.**Note 2: Refer to Contracted Part 145 Organization and how Note 1 is assured.**Operator response Refer to Attachment xx:* |  |  |
|  | 8. Reporting malfunctions 1. *Procedure should be established by the operator to report malfunctions related to ETOPS critical systems including all power plant events to the Airframe and Engine manufacturers as well as to the HCAA. (Refer to AMC 20-8)*

*2) These events should be evaluated by the operator in consultation with the HCAA**Operator response Refer to Attachment xx:* |  |  |
|  | 9. MELRelative section of Aircraft MEL related to “extended range operations” should be provided *Note: The MEL should take into account all items specified by the manufacturer relevant to ETOPS operations.**Operator response Refer to Attachment xx:* |  |  |
|  | 10. Long Range Navigation SystemManufacturer : Type installed : Model: TSO-S/W version :*Operator response Refer to Attachment xx:* |  |  |
|  | 11. Communication systems:The operator has to refer to the Communication Systems installed on the aircraft. VHF □ HF □ SATCOM □ ACARS □ Other □(Note : Refer also to the number installed) *Operator response Refer to Attachment xx:* |  |  |
|  | 12. Operator copy of Aircraft tech Log Page :(Note : Operator has to submit a copy of a ATLS page)Operator response Refer to Attachment xx: |  |  |

# Operation Compliance Check List

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| **ITEM** | **COMPLIANT** | **REFFERENCE/REMARK** |
| **9.1 Operation Manual**  | YES NO |  |
| Does the Operation Manual refers to non-ETOPS operation Note: Operator has to submit appropriate sections of O.M. |  |  | Operator response Refer to Attachment xx: |
| **9.2 Flight Crew Training:**  |  |  |
| 1. Fuel management

Verifying required fuel on board prior to departure and monitoring fuel on board en-route including calculation of fuel remaining. Procedures should provide for an independent cross-check of fuel quantity indicators. Confirmation that the fuel remaining is sufficient to satisfy the critical fuel reserves. |  |  | *Operator response Refer to Attachment xx:* |
| 1. Procedures for single and multiple failures in flight that may give rise to go/no-go and diversion decisions
 |  |  | Operator response Refer to Attachment xx: |
| 1. Policy and guidelines to aid the flight crew in the diversion decision making process and the need for constant awareness of the closest suitable alternate aerodrome in terms of time.
 |  |  | *Operator response Refer to Attachment xx:* |
| 1. One-engine inoperative performance data Drift down procedures and one-engine inoperative service ceiling data.
 |  |  | *Operator response Refer to Attachment xx:* |

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| **ITEM** | **COMPLIANT** | **REFFERANCE/REMARK** |
| 1. Weather reports and flight requirements

Weather reports and fl ight requirements: meteorological aerodrome reports (METARs) and aerodrome forecast (TAF) reports and obtaining in-fl ight weather updates on the en-route alternate (ERA), destination and destination alternate aerodromes. Consideration should also be given to forecast winds including the accuracy of the forecast compared to actual wind experienced during flight and meteorological conditions along the expected fl ight path at the OEI cruising altitude and throughout the approach and landing. |  |  | Operator response Refer to Attachment xx: |
| 1. Pre-departure check

Flight crew members who are responsible for the pre-departure check of an airplane should be fully trained and competent to do so. The training program required, which should be accepted by the HCAA, should cover all relevant maintenance actions with particular emphasis on checking required fluid levels. |  |  | Operator response Refer to Attachment xx: |
| 1. MEL
 |  |  | Operator response Refer to Attachment xx: |
| **Dispatch/Flight Planning Requirements:**  |  |  |
| 1. Fuel and oil supply

Procedures established to dispatch an aeroplane for an extended range flight in order to verify that it carries sufficient fuel and oil to comply with the applicable operational requirements and any additional reserves determined in accordance with **A.** Critical fuel scenario**B**. Ice protection**C.** APU operation |  |  | Operator response Refer to Attachment xx: |
| 1. Communication facilities

The availability of communications facilities in order to allow reliable two-way voice communications between the airplane and the appropriate air traffic control unit at one-engine inoperative cruise altitudes. |  |  | Operator response Refer to Attachment xx: |

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| **ITEM** | **COMPLIANT** | **REFFERENCE/REMARK** |
| 1. Aircraft Technical Log review to ensure proper MEL procedures, deferred items, and required maintenance checks completed.
 |  |  | *Operator response Refer to Attachment xx:* |
| 1. En-route alternate aerodrome(s)

Ensuring that en-route alternate aerodromes are available for the intended route, within 180 minutes based upon the one-engine inoperative cruise speed which is a speed within the certificated limits of the airplane |  |  | *Operator response Refer to Attachment xx:* |
| One-engine inoperative cruise speed selected by the Operator and accepted by the Hellenic Civil Aviation Authority.  |  |  | *Operator response Refer to Attachment xx:* |
| Procedures established confirming that, the weather conditions at en-route alternate aerodromes are at or above the applicable minima for the period of time during which the aerodrome(s) may be used |  |  | *Operator response Refer to Attachment xx:* |
| **9.3 Operator Quality Compliance Monitoring and SMS regarding non-ETOPS**  |  |  |  |
| Refer how the QCM system monitors the non-ETOPS operations |  |  | *Operator response Refer to Attachment xx:* |

# APPLICATION PACKAGE

|  |  |
| --- | --- |
| **Documentation to be submitted to the HCAA** | Submitted?  |
| Yes  | No  |
| 10.110.210.310.410.5 | This Compliance statement filled in which shows how the criteria of **AMC1 CAT.OP.MPA.140(c)**, have been satisfied (Type Certificate Holder assistance may be required) .  |  |  |
| The supporting documents as required by paragraphs 8 and 9 (as Attachments)  |  |  |
| Flight crew ETOPS long range training program and syllabi for initial and recurrent training as per 9.2. |  |  |
|
| Operation manuals and checklists that include ETOPS long range operating practices and procedures (OM-A and/or OM-B and/or OM-D and/or OM C and /or AOM and/or FCOM and/or stand-alone Long Range manual). As per 9.19.3 Operator Quality Compliance Monitoring and SMS regarding non-ETOPS as per Par. 9.3 |  |  |
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# OPERATOR'S STATEMENT

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| The undersigned certifies the above information to be correct and true and that airplane system installation, continuing airworthiness of systems, minimum equipment for dispatch, operating procedures and flight crew training comply with the requirements of 965/2012 - **CAT.OP.MPA.140** (a)(2), 965/2012 - **AMC1 CAT.OP.MPA.140(c)** |
| **Name of Maintenance Manager:**  | **Signature:**  | **Date:**  |
| **Name of Flight Operations Manager:**  | **Signature:**  | **Date:**  |
| **Name of raining Manager:**  | **Signature:**  | **Date:**  |
| **Name of Compliance Monitoring Manager (965/2012)** | **Signature:**  | **Date:**  |
| **Name of Nominated Quality Manager (EC 2042)** | **Signature:** | **Date:**  |

**FOR OFFICIAL USE ONLY HCAA APPROVAL**

|  |  |  |  |
| --- | --- | --- | --- |
| **Subject**  | **Responsible** | **Date**  | **Signature**  |
| 1. Compliance list for non-ETOPS long range operations airplanes application package checked for completeness | AWI/FOI |  |  |
| 2. Airworthiness Approval granted.  | AWI |  |  |
| 3. Operational Approval granted (AOC, AOC Extract, or Letter of Authorisation).  | FOI |  |  |
| 4. Non-ETOPS long range approval process administratively completed  | AWI/FOI |  |  |
|  ***non-ETOPS long range Approval*** *Name: Date: Signature:*  |