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|  | Ansökan om ETOPS  *Version 2018-02-20* | | |  |
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| Operatör: | | | | | | |
|  | | | | | | |
| Tillståndsnummer: | | | Ifylld EASA Form 2: | | | |
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|  | | | | Bilaga nummer: | | |
| Relevant elements defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012 are taken into account | | | |  | | |
| Transportstyrelsen | | | | | | |
| Ärendenummer: | | | Handläggare: | | | |
|  | | |  | | | |
| Berörda sektioner/samråd: | | | | | | |
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| Information | | | | | | |
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| Denna checklista är avsedd som stöd vid ansökan om ETOPS (Extended range operations with two-engined aeroplanes).  Ange var i det operativa manualverket (eller i annat styrande dokument) momentet återfinns och detta så detaljerat som möjligt för att underlätta och påskynda granskning och handläggning.  AMC 20-6 (AMC 20 Amd 7) ligger till grund för vad som ska finnas på plats vid ETOPS-operationer och checklistan innehåller punkter ur det dokumentet men som stöd bör AMC 20-6 användas i sin helhet.  Ytterligare information finns också i ICAO Doc 7030 och ICAO Doc 4444.  Om en punkt inte är relevant, markera rutan med N/A.   |  | | --- | | Där grönmarkerade rutor förekommer ska relevanta bilagor sändas in.  Bilagans nummer ska anges i checklistan. | | | | | | | |
| SPA.ETOPS.100 ETOPS | | | | | | |
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| In commercial air transport operations, two-engined aeroplanes shall only be operated beyond the  threshold distance determined in accordance with CAT.OP.MPA.140 if the operator has been granted an  ETOPS operational approval by the competent authority. | | | | | | |
| SPA.ETOPS.105 ETOPS operational approval | | | | | | |
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| To obtain an ETOPS operational approval from the competent authority, the operator shall provide  evidence that: | | | | | | |
|  | | | Bilaga nummer: | TS notering: | | |
| (a) the aeroplane/engine combination holds an ETOPS type design and reliability approval for the  intended operation; | | |  |  | | |

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|  | Bilaga nummer: | TS notering: |
| (b) a training programme for the flight crew members and all other operations personnel involved in these operations has been established and the flight crew members and all other operations personnel involved are suitably qualified to conduct the intended operation; |  |  |
|  | Bilaga nummer: | TS notering: |
| (c) the operator’s organisation and experience are appropriate to support the intended operation; |  |  |
|  | Bilaga nummer: | TS notering: |
| (d) operating procedures have been established. |  |  |
| AMC 20-6 rev. 2 | | |
| Chapter III Operational Approval Considerations | | |
|  | Detaljerade referenser:: | TS notering: |
| Section 5: Accelerated ETOPS Approval |  |  |
|  | Detaljerade referenser: | TS notering: TS notering: |
| Section 6: In-service ETOPS Approval |  |  |
|  | Detaljerade referenser: | TS notering: |
| Section 7: ETOPS Approval Categories |  |  |
|  | | |
| Section 7.1 Requirements common to all ETOPS Approval categories | | |
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| 1. Continuing Airworthiness | Se Appendix 8 |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Release Considerations: 2. MEL 3. Weather 4. Fuel | Se Appendix 4 |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Flight Planning |  |  |
|  |  |  |
| 1. Flight Crew Training | Se Appendix 6 |  |
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| 1. En-route Alternate | Se Appendix 5 |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Communication Equipment (VHF/HF), Data Link, Satellite Communications |  |  |
|  | Bilaga nummer: | TS notering: |
| Section 7.2.1: Approval for 90 minutes or less diversion time |  |  |
|  | Bilaga nummer: | TS notering: |
| Section 7.2.2: Approval for diversion time above 90 minutes up to 180 minutes |  |  |
|  | Bilaga nummer: | TS notering: |
| Section 7.2.3: Approval for diversion time above 180 minutes |  |  |

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|  | Bilaga nummer: | TS notering: |
| Section 7.2.4: 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   1. Type Design 2. Operations Approval |  |  |
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| Section 8: ETOPS Operations Manual supplement | Se Appendix 7 |  |
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| Section 9: Flight Preparation and In-Flight Procedures | Se Appendix 4 |  |
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| Section 10: Operational Limitations | Se Appendix 3 |  |
|  |  |  |
| Section 11: ETOPS En-Route Alternate Aerodromes | Se Appendix 5 |  |
|  |  |  |
| Section 12: Initial/Recurrent Training | Se Appendix 7 |  |
|  |  |  |
| Section 13: Continuing Surveillance | Se Appendix 1,2 och 8 |  |
| Appendix 1 – Propulsion System Reliability Assessment | | |
|  | Detaljerade referenser: | TS notering: |
| 1. Assessment Process |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Reliability Validation Methods |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Risk Management and Risk Model |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Engineering Assessment criteria for acceptable reliability validation methods |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Early ETOPS occurrence reporting & tracking |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Continued Airworthiness of Type Design |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Design Organisation Approvals |  |  |
| Appendix 2 – Aircraft Systems Reliability Assessment | | |
|  | Detaljerade referenser: | TS notering: |
| 1. Assessment process |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. System Safety Assessment ’SSA’ (including reliability analysis) |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Reliability Validation methods |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Continuing Surveillance |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Continued Airworthiness |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Design Organisation Approval |  |  |
| Appendix 3 – Operational Limitations | | |
|  | Detaljerade referenser: | TS notering: |
| 1. Area of Operation |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Operator’s Approved Diversion Time |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Issue of the ETOPS Operations Approval by the Competent Authority |  |  |
|  | Bilaga nummer: | TS notering: |
| 1. Specification of the particular airframe/engine combinations, including the current approved CMP document required for ETOPS as normally identified in the AFM. |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Authorised area of operation |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Minimum altitudes to be flown along planned and diversionary routes |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Operator’s Approved Diversion Time |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Aerodromes identified to be used, including alternates, and associated instrument approaches and operating minima |  |  |
|  | Bilaga nummer: | TS notering: |
| 1. The approved maintenance and reliability programme for ETOPS |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Identification of those aeroplanes designated for ETOPS by make and model as well as serial number and registration |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Specification of routes and the ETOPS diversion time necessary to support those routes |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. The one-engine-inoperative cruise speed, which may be area specific, depending upon anticipated aeroplane loading and likely fuel penalties associated with the planned procedures |  |  |

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|  | Bilaga nummer: | TS notering: |
| 1. Processes and related resources allocated to initiate and sustain ETOPS operations in a manner that demonstrates commitment by management and all personnel involved in ETOPS continued airworthiness and operational support |  |  |
|  | Bilaga nummer: | TS notering: |
| 1. The plan for establishing compliance with the build standard required for Type Design Approval, e.g. CMP document compliance. |  |  |
| Appendix 4 – Flight Preparation and in-flight procedures | | |
|  | Detaljerade referenser: | TS notering: |
| 2. Minimum Equipment List (MEL) |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. electrical |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. hydraulic |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. pneumatic |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. flight instrumentation, including warning and caution systems |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. fuel |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. flight control |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. ice protection |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. engine start and ignition |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. propulsion system instruments |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. navigation and communications, including any route specific long range navigation and communication equipment |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. auxiliary power-unit |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. air condition and pressurisation |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. cargo fire suppression |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. engine fire protection |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. emergency equipment |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. systems and equipment required for engine condition monitoring |  |  |
|  | | |
| In addition, the following systems are required to be operative for dispatch for ETOPS with diversion times above 180 minutes: | | |
|  | Detaljerade referenser: | TS notering: |
| 1. Fuel Quantity Indicating System (FQIS) |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. APU (including electrical and pneumatic supply to its designed capablity |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Automatic engine or propeller control system |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Communication system(s) relied on by the flight crew to comply with the requirement for communication capability |  |  |
|  | | |
| 3. Communication and Navigation Facilities. For releasing an aeroplane on an ETOPS flight, the operators should ensure that: | | |
|  | Detaljerade referenser: | TS notering: |
| 1. Communications facilities are available to provide under normal condtions of propagation at all planned altitudes of the intended flight and the diversion scenarios, reliable two-way voice and/or data link communications, |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Visual and non-visual aids are available at the specified alternates for the anticipated types of approaches and operating minima. |  |  |
|  | Detaljerade referenser: | TS notering: |
| 4. Fuel Supply   1. General |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Critical Fuel Reserve |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Critical Fuel Scenario |  |  |
|  | Detaljerade referenser:: | TS notering: |
| 1. Icing |  |  |
|  | Detaljerade referenser: | TS notering: |
| 5. Alternate Aerodromes |  |  |
|  | Detaljerade referenser: | TS notering: |
| 6. In-Flight Re-planning and Post-dispatch weather minima |  |  |
|  | Detaljerade referenser: | TS notering: |
| 7. Delayed Dispatch |  |  |

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|  | Detaljerade referenser: | TS notering: |
| 8. Diversion Decision making   1. Aircraft configuration/weight/systems status |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Wind and weather conditions en route at the diversion altitude |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Minimum altitudes en route to the diversion aerodrome |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Fuel required for the diversion |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Aerodrome condition, terrain, weather and wind |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Runways available and runway surface condition |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Approach aids and lighting |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. RFFS capability at the diversion aerodrome |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Facilities for aircraft occupants – disembarkation & shelter |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Medical facilities |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Pilot’s familiarity with the aerodrome |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Information about the aerodrome available to the flight crew |  |  |
|  | Detaljerade referenser: | TS notering: |
| 9. In-flight monitoring |  |  |
|  | | |
| 10. Aeroplane Performance data | | |
|  | Detaljerade referenser: | TS notering: |
| 11. Operational Flight Plan |  |  |
| Appendix 5 – ETOPS En-route Alternate Aerodromes | | |
|  | Detaljerade referenser: | TS notering: |
| 1. Selection of en-route alternate aerodromes |  |  |
|  | Detaljerade referenser: | TS notering: |
| 2. Dispatch minima – En-route alternate aerodromes |  |  |
|  | Detaljerade referenser: | TS notering: |
| 3. En-route alternate aerodrome planning minima – advanced landing system |  |  |

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| Appendix 6 – ETOPS Training Programme- The ETOPS Training Programme should provide initial and recurrent training for flight crew as follows: | | |
|  | | |
| 1. Introduction to ETOPS Regulations | | |
|  | Detaljerade referenser: | TS notering: |
| 1. Brief overview of the history of ETOPS |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. ETOPS Regulations |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Definitions |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Approved One-Engine-Inoperative Cruise Speed |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. ETOPS Type Design Approval – a brief synopsis |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Maximum approved diversion times and time-limited systems capability |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Operator’s Approved Diversion Time |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Routes and aerodromes intended to be used in the ETOPS area of operations |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. ETOPS Operations Approval |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. ETOPS Area and Routes |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. ETOPS en-route alternates aerodromes including all available let-down aids |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Navigation systems accuracy, limitations and operating procedures |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Meteorological facilities and availability of information |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. In-flight monitoring procedures |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Computerised Flight Plan |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Orientation charts, including low level planning charts and flight progress charts usage (including position plotting) |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Equal Time Point |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Critical fuel |  |  |

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| Normal Operations | | |
|  | Detaljerade referenser: | TS notering: |
| a. Flight planning and dispatch  (1) ETOPS Fuel requirements  (2) Route Alternate selection – weather minima  (3) Minimum Equipment List – ETOPS specific  (4) ETOPS service check and Tech log  (5) Pre-flight FMS Set-up |  |  |
|  | Detaljerade referenser: | TS notering: |
| b. Flight performance progress monitoring  (1) Flight management, navigation and communication systems  (2) Aeroplane system monitoring  (3) Weather monitoring  (4) In-flight fuel management – to include independent cross checking of fuel quantity |  |  |
|  | | |
| 1. Abnormal and contingency procedures: | | |
|  | Detaljerade referenser: | TS notering: |
| * 1. Diversion Procedures and Diversion ’decision making’ |  |  |
|  | Detaljerade referenser: | TS notering: |
| * 1. Navigation and communication systems, including appropriate flight management devices in degraded modes |  |  |
|  | Detaljerade referenser: | TS notering: |
| * 1. Fuel management with degraded systems |  |  |
|  | Detaljerade referenser: | TS notering: |
| * 1. Initial and recurrent training which emphasises abnormal and emergency procedures to be followed in the event of foreseeable failures for each area of operation, including:   (1) Procedures for single and multiple failures in flight affecting ETOPS sector entry and diversion decisions. If standby sources of electrical power significantly degrade the cockpit instrumentation to the pilots, then training for approaches with standby generator as the sole power source should be conducted during initial and recurrent training.  (2) Operational restrictions associated with these system failures including any applicable MEL considerations. |  |  |
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| 1. ETOPS Line Flying under supervision (LIFUS) | | |
|  | Detaljerade referenser: | TS notering: |
| During the introduction into service of a new ETOPS type, or conversion f pilots not previously ETOPS qualified where ETOPS approval is sought, a minimum of two ETOPS sectors should be completed including an ETOPS line check.  ETOPS subjects should also be included in annual refresher training as part of the normal process. |  |  |
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| 1. Flight Operations Personnel other than flight crew | | |
|  | Detaljerade referenser: | TS notering: |
| The operator’s training programme in respect to ETOPS should provide training where applicable for operations personnel other than flight crew (e.g. dispatchers), in addition to refresher training in the following areas:   * 1. ETOPS Regulations/Operations Approval   2. Aeroplane performance/Diversion procedures   3. Area of Operation   4. Fuel Requirements   5. Dispatch Considerations MEL, CDL, weather minima and alternate airports   6. Documentation |  |  |
| Appendix 7 – Typical ETOPS Operations Manual supplement | | |
|  | Detaljerade referenser: | TS notering: |
| Part A – General  Part B – Aeroplane Operating Matters  Part C – Route and Aerodrome instructions  Part D – Training |  |  |
| Appendix 8 – Continuing Airworthiness Considerations | | |
|  | Detaljerade referenser: | TS notering: |
| 1. Applicability |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Occurrence reporting |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Maintenance Programme and Reliability Programme |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Continuing Airworthiness Management Exposition (CAME) |  |  |
|  | Detaljerade referenser: | TS notering: |
| 1. Competence of Continuing Airworthiness and Maintenance Personnel |  |  |