

PART 1—DEFINITIONS

1. The authority citation for part 1 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

2. Amend § 1.1 by adding the definitions of “Early ETOPS”, “ETOPS Configuration, Maintenance and Procedures Standard (CMP)”, “ETOPS Significant Systems”, “Extended Operations (ETOPS)”, “Group 1 Systems”, “Group 2 Systems”, and “In-flight shutdown (IFSD)”, to read as follows:

§ 1.1 General Definitions.

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Early ETOPS means obtaining ETOPS type design certification without first gaining service experience on the airplane/engine combination to be certified.

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ETOPS Configuration, Maintenance and Procedures Standard (CMP) means specific airframe and engine configuration minimum requirements, including any special inspection, hardware life limits, Master Minimum Equipment List (MMEL) constraints and maintenance practices found necessary by the FAA to establish the suitability of that airframe and engine combination for ETOPS.

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ETOPS Significant Systems means the airplane propulsion system and any other airplane systems whose failure could adversely affect the safety of an ETOPS flight, or whose functioning is important to continued safe flight and landing during an airplane diversion. Each ETOPS significant system is either a Group 1 or Group 2 system based on the relationship to the number of engines, or to continued safe engine operation.

Extended Operations (ETOPS) means an airplane flight operation in which a portion of the flight is operated beyond a predetermined time threshold, as identified in parts 121 and 135 of this title, from an adequate airport based on an approved one engine inoperative cruise speed under standard conditions in still air.

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ETOPS Group 1 Systems: Group 1 Systems include any systems that relate to the number of engines on the airplane and are important to the safe operation of the airplane on an ETOPS flight. The following provides additional discriminating definitions of an ETOPS Group 1 Significant System:

(1) A system for which the fail-safe redundancy characteristics are directly linked to the number of engines (for

example, hydraulic system, pneumatic system, electrical system).

(2) A system that may affect the proper functioning of the engines to the extent that it could result in an in-flight shutdown or uncommanded loss of thrust (for example, fuel system, thrust reverser or engine control or indicating system, and engine fire detection systems).

(3) A system which contributes significantly to the safety of an engine inoperative ETOPS diversion and is intended to provide additional redundancy to accommodate the system(s) lost by the inoperative engine. These include back-up systems such as an emergency generator or APU.

(4) Any system essential to prolonged operation at engine inoperative altitudes including anti-icing systems for a twin-engine airplane if single engine performance results in the airplane operating in the icing envelope.

ETOPS Group 2 Systems: Group 2 Systems are systems that do not relate to the number of engines on the airplane, but are important to the safe operation of the airplane on an ETOPS flight. The following provides additional discriminating definitions of an ETOPS Group 2 Significant System:

(1) A system the failure of which would reduce the capability of the airplane or the ability of the crew to cope with an ETOPS diversion, (for example, long-range navigation or communication, equipment cooling, or systems important to safe operation on a ETOPS diversion after a decompression.)

(2) Time-limited systems including cargo fire suppression and oxygen if the duration of ETOPS dependent on the availability of such systems.

(3) Systems whose failure would result in excessive crew workload or have operational implications or significant detrimental impact on flight crew or passengers physiological well being for an ETOPS diversion (for example flight control forces that would be exhausting for a maximum ETOPS diversion, system failures that would require continuous fuel balancing to ensure proper Center of Gravity (CG), or a cabin environmental control failure that could cause extreme heat or cold that it could incapacitate the crew or cause physical harm to the passengers).

(4) Any other system specifically installed to enhance the safety of long-range operations including an ETOPS diversion regardless of the applicability of paragraphs (1), (2) and (3) of this definition (for example SATCOM, GPS).

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In-flight shutdown (IFSD) means when an engine ceases to function in

flight and is shutdown, whether self-induced, crew initiated or caused by some other external influence. (The FAA considers IFSD for all causes, for example, flameout, internal failure, crew initiated shutoff, foreign object ingestion, icing, inability to obtain and/or control desired thrust.)

PART 21—CERTIFICATION PROCEDURES FOR PRODUCTS AND PARTS

3. The authority citation for part 21 continues to read as follows:

Authority: 42 U.S.C. 7572; 49 U.S.C. 106(g), 40105, 40113, 44701–44701, 44707, 44709, 44711, 44713, 44715, 45303.

4. Add § 21.4 to read as follows:

§ 21.4 ETOPS reporting requirements.

(a) *Early ETOPS problem reporting, tracking, and resolution.* (1) The holder of a type certificate of an airplane that has been approved for ETOPS without service experience in accordance with section II, paragraph (a), or section III, paragraph (a), of Appendix L of 14 CFR part 25 must establish a system for reporting, tracking, and promptly resolving problems encountered with ETOPS Significant Systems.

(2) The system must contain a means for the prompt identification of problems with ETOPS Significant Systems, for the reporting of such problems to the responsible FAA certification office, and for proffering solutions to and obtaining FAA approval for the resolution of the problems. The implementation of the problem resolution can be accomplished by way of an FAA approved change(s) in the type design, the manufacturing process, or an operating or maintenance procedures.

(3) The reporting system must be in place for the first 250,000 fleet engine hours. For a two-engine ETOPS airplane, the reporting requirement remains in place until the fleet has demonstrated a stable in-flight shutdown rate in accordance with paragraph (b)(2) of this section for the maximum diversion time for which the airplane has been certified.

(4) If the airplane or engine type certificated is a derivative of a previously certificated airplane or engine, the type certificate holder may, with prior authorization from the Administrator, report only on systems that have changed from the original type certificate.

(5) For the early ETOPS service period, an applicant must define the sources and content of in-service data that will be made available to them in support of their problem reporting and