

re-evaluation of aircraft system capabilities.

28. Add § 121.633 to read as follows:

**§ 121.633 ETOPS: Time limited system planning.**

(a) For ETOPS up to and including 180 minutes, the time required to fly the distance to the planned ETOPS Alternate or Alternates, at the approved one engine inoperative cruise speed, in still air and standard day temperature, may not exceed the time specified in the Airplane Flight Manual for the airplanes most time limited system time minus 15 minutes.

(b) Except as provided in paragraphs (c) and (d) of this section, for ETOPS beyond 180 minutes, the time required to fly the distance to the planned ETOPS Alternate or Alternates, at the all engines operating cruise speed, correcting for wind and temperature, may not exceed the time specified in the Airplane Flight Manual for the airplane's cargo fire suppression system time minus 15 minutes.

(c) Except as provided in paragraphs (b) and (d) of this section, for ETOPS beyond 180 minutes, the time required to fly the distance to the planned ETOPS Alternate or Alternates, at the approved one engine inoperative cruise speed, correcting for wind and temperature, may not exceed the time specified in the Airplane Flight Manual for the airplanes most time limited system time (except for cargo fire suppression) minus 15 minutes.

(d) Three and four-engine turbine powered airplanes not meeting the requirements of paragraph (b) of this section as of the effective date of this regulation may continue ETOPS operations for a period not to exceed 6 years from the effective date of this regulation.

29. Add § 121.646 to read as follows:

**§ 121.646 En route fuel supply: flag and supplemental operations.**

(a) No person may dispatch or release for flight or takeoff a turbine engine powered airplane with more than two engines more than 90 minutes (with all engines operating at cruising power) and less than 180 minutes (at the approved one engine inoperative cruise speed) from an adequate airport unless, considering wind and other weather conditions (including icing), it has enough fuel, assuming a rapid decompression at the most critical point followed by descent to a safe altitude in compliance with the oxygen supply requirements of § 121.333, to fly to an adequate airport and conduct a normal approach and landing with enough fuel

remaining to hold for 15 minutes at 1500 feet above field elevation.

(b) No person may dispatch or release for flight or takeoff a turbine powered airplane in ETOPS unless, considering wind and other weather conditions expected, it has enough fuel to satisfy the following requirements (b)(1) through (b)(4) of this section:

(1) Greater of:

(i) Fuel sufficient to fly to an ETOPS Alternate assuming a rapid decompression at the most critical point followed by descent to a safe altitude in compliance with the oxygen supply requirements of § 121.333, or

(ii) Fuel sufficient to fly to an ETOPS Alternate at the approved one engine inoperative cruise speed assuming a rapid decompression and a simultaneous engine failure at the most critical point followed by descent to a safe altitude in compliance with the oxygen supply requirements of § 121.333, or

(iii) Fuel sufficient to fly to an ETOPS Alternate at the approved one engine inoperative cruise speed assuming an engine failure at the most critical point followed by descent to the one engine inoperative cruise altitude.

(2) Upon reaching the alternate hold at 1500 feet above field elevation for 15 minutes and then conduct an instrument approach and land.

(3) Add a 5% wind speed factor (*i.e.*, an increment to headwind or a decrement to tailwind) on the actual forecast wind used to calculate fuel in paragraph (b)(1)(i) above to account for any potential errors in wind forecasting. If a certificate holder is not using the actual forecast wind based on wind model acceptable to the FAA, allow 5% of the fuel required for paragraph (b)(1)(i) above, as reserve fuel to allow for errors in wind data.

(4) Compensate in paragraph (b)(1)(i) above for the greater of:

(A) The effect of airframe icing during 10 percent of the time during which icing is forecast (including the fuel used by engine and wing anti-ice during this period), or

(B) Fuel for engine anti-ice, and if appropriate wing anti-ice for the entire time during which icing is forecast.

(C) Unless the certificate holder has a program established to monitor airplane in-service deterioration in cruise fuel burn performance and includes in fuel supply calculations fuel sufficient to compensate for any such deterioration, increase the fuel supply by 5% to account for deterioration in cruise fuel burn performance.

(D) If an APU is a required power source, then its fuel consumption must

be accounted for during the appropriate phases of flight.

30. Amend § 121.687 by adding paragraph (a)(6) to read as follows:

**§ 121.687 Dispatch release: Flag and domestic operations.**

(a) \* \* \*

(6) For each flight dispatched as an ETOPS flight, the ETOPS time basis (if any) under which the flight is dispatched.

\* \* \* \* \*

31. Amend § 121.689 by adding paragraph (a)(8) to read as follows:

**§ 121.689 Flight release form: Supplemental operations.**

(a) \* \* \*

(8) For each flight released as an ETOPS flight, the ETOPS time basis (if any) under which the flight is released.

\* \* \* \* \*

32. Add appendix O to read as follows:

**Appendix O to Part 121—Requirements for ETOPS**

The Administrator may approve ETOPS for various areas of operation in accordance with the requirements and limitations specified in this appendix.

**A. ETOPS Authorizations: Airplanes with Two engines**

(a) *75 Minutes ETOPS—(1) Caribbean/Western Atlantic Area.* Approvals may be granted to conduct ETOPS with maximum diversion times up to 75 minutes on Western Atlantic/Caribbean area routes. The airframe and engine combination shall be reviewed by the Administrator to ensure the absence of factors that could prevent safe operations. The airframe and engine combination need not be approved for ETOPS; however, it must have sufficient favorable experience to demonstrate a level of reliability appropriate for 75-minute ETOPS. These operations must comply with the requirements of section 121.633. The certificate holder must employ an FAA approved maintenance program that specifically addresses factors significant to 75-minute ETOPS operations except that a service check before departure of the return flight may not be required.

(2) *Other Areas.* Approvals may be granted to conduct ETOPS operations with maximum diversion times up to 75 minutes on other than Western Atlantic/Caribbean area routes. The airframe and engine combination shall be reviewed by the Administrator to ensure the absence of factors that could prevent safe operations. The airframe and engine combination need not be approved for ETOPS; however it must have sufficient favorable experience to demonstrate a level of reliability appropriate for 75-minute ETOPS. These operations must comply with the requirements of section 121.633. The certificate holder must employ an FAA approved operations and maintenance program that specifically addresses factors significant to 75-minute ETOPS operations.

(b) *90-minutes ETOPS (Micronesia).* Approvals may be granted to conduct ETOPS