

within the authorized ETOPS maximum diversion time approved for the operation being conducted or an area designated by the Administrator as an area of ETOPS applicability. An ETOPS area of operation is calculated at a one-engine inoperative cruise speed (approved) under standard conditions in still air.

(2) The Administrator designates the following areas as ETOPS areas in which the planning, operational, and equipment requirements for ETOPS apply:

(i) NOPAC: The North Pacific Air Traffic Service routes and adjacent airspace between Anchorage and Tokyo Flight Information Region.

(ii) North Pacific: Pacific Ocean areas north of 40° N latitudes including NOPAC ATS routes, and published PACOTS (Pacific organized track system) tracks between Japan and North America.

(iii) Polar areas—North Pole: The entire area north of 78° N latitude.

(iv) Polar areas—South Pole: The entire area south of 60° S latitude.

ETOPS dual maintenance means maintenance actions performed on the same element of identical, but separate ETOPS maintenance significant systems, during the same routine or non-routine visit. This is to recognize and preclude common cause human failure modes without proper verification process or operation test prior to ETOPS.

(1) For turbine engine powered airplanes with two engines—A maintenance action performed on the same element of identical but separate ETOPS significant systems during the same routine or non-routine visit.

(2) For turbine engine powered airplanes with more than two engines—A maintenance action performed on the same element of identical but separate ETOPS significant systems on 2 engines of a 3 engine aircraft, or more than 1 engine per side of a 4 engine aircraft during the same routine or non-routine visit.

ETOPS entry point means, for turbine engine powered airplanes, the first point on the route of an authorized flight which is more than 60 minutes from an adequate airport for airplanes with two engines, or 180 minutes from an adequate airport for airplanes with more than two engines, or a point designated as an entry point in an area designated by the Administrator as an area of ETOPS applicability. The ETOPS entry point is calculated at a one-engine inoperative cruise speed (approved) under standard conditions in still air.

ETOPS maintenance significant system means:

(1) A system for which the redundancy characteristics are directly linked to the number of engines; or

(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; or

(3) A system that contributes significantly to the safety of a diversion.

ETOPS qualified personnel means maintenance personnel that have completed the certificate holder's ETOPS training program.

Maximum diversion time means for the purposes of ETOPS in part 121 the diversion time, under standard conditions in still air at the One Engine Inoperative Cruise Speed (Approved).

One engine inoperative cruise speed means, for the purposes of those sections of part 121 applicable to ETOPS, a speed within the certified operating limits of the airplane, selected by the certificate holder and approved by the FAA, that is used for calculating fuel reserve requirements and the still air distance associated with the maximum approved one engine inoperative diversion distance for the flight.

16. Amend § 121.97 by revising paragraph (b)(1)(ii) to read as follows:

§ 121.97 Airports: Required data.

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(b) * * *

(1) * * *

(ii) Public protection including the availability of facilities at each airport or in the immediate area sufficient to protect the passengers and crew from the elements and to see to their welfare.

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17. Amend § 121.99 by adding paragraphs (c) and (d) to read as follows:

§ 121.99 Communications facilities.

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(c) For ETOPS where voice communication facilities are available, voice communications must be provided. The certificate holder must consider potential routes and altitudes necessary for diversion to ETOPS alternates in determining whether voice communication facilities are available. Where voice communication facilities are not available or is of poor quality, and voice communication is not possible, communications using alternative systems must be substituted.

(d) For ETOPS beyond 180 minutes the certificate holder must have an additional communication system that is capable of providing immediate satellite based voice communications of landline telephone-fidelity. The system must provide communication capability

between the flight crew and air traffic services and the flight crew and the certificate holder. The certificate holder must consider potential routes and altitudes necessary for diversion to ETOPS alternates in determining whether immediate, satellite based voice communications are available. Where immediate, satellite based voice communications are not available, or are of poor quality, communications using alternative systems must be substituted.

18. Add § 121.106 to read as follows:

§ 121.106 ETOPS alternate: Rescue fire fighting service (RFFS).

(a) Except as provided in paragraph (b) of this section, the following rescue fire fighting service must be available at each airport designated as an ETOPS alternate listed in a dispatch or flight release.

(1) For ETOPS up to 180-minute diversion length, the designated ETOPS alternates must have rescue fire fighting capability equivalent to that specified by ICAO Category 4.

(2) For Two-Engine 207-Minute operations the designated ETOPS Alternates must have rescue fire fighting capability equivalent to that specified by ICAO Category 4. In addition, at least one adequate airport within the 207-minute diversion time must have rescue fire fighting capability equivalent to that specified by ICAO Category 7.

(3) For all other ETOPS operations beyond 180 minutes, the designated ETOPS alternates must have rescue fire fighting capability equivalent to that specified by ICAO Category 7.

(b) If the equipment and personnel required in paragraph (a) are not immediately available at the airport, the airport may still be listed on the dispatch or flight release if the required RFFS capability can be augmented from the local fire fighting assets. Such equipment and personnel must be available on arrival of the diverting airplane and must remain as long as the diverting airplane requires the services. A 30-minute response time for augmentation by the local fire department is adequate if the initial notification to respond can be initiated while the diverting airplane is enroute.

19. Add § 121.122 to read as follows:

§ 121.122 Communications facilities.

(a) Each certificate holder conducting supplemental operations must show that a two-way radio communication system or other means of communication approved by the Administrator is available at points that will ensure reliable and rapid communications, under normal operating conditions over the entire