



U.S. Department
of Transportation
**Federal Aviation
Administration**

InFO

Information for Operators

InFO 07004
DATE: 1/26/07

Flight Standards Service
Washington, DC

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info

An InFO contains valuable information for operators that should help them meet certain administrative, regulatory, or operational requirements with relatively low urgency or impact on safety.

SUBJECT: New ETOPS Regulations

PURPOSE: This InFO announces the publication of new regulations on Extended Operations (ETOPS) and explains some of the major revisions and additions to current ETOPS guidance. This InFO is only a brief overview of this significant rulemaking. No attempt has been made to discuss all the particular requirements contained in separate sections. Advisory Circulars covering these new ETOPS requirements for 14 CFR part 121 operations, part 135 operations, and part 25 airplane certification are being developed and will be promulgated in the near future. Likewise, Inspector Handbook guidance will be promulgated to cover these operations.

BACKGROUND: Formerly the term ETOPS signified “*Extended Range Operation with Two-Engine Airplanes.*” ETOPS guidance has been used for over twenty years to allow two-engine airplanes in part 121 operations to deviate from the regulation that limited the distance these airplanes could fly from potential diversion airfields. With over twenty years of successful experience in ETOPS operations, improvements in aircraft technology and reliability, and the prospect of airline operations on routes of increasing distance and remoteness, the FAA and industry agreed that ETOPS guidance should be reviewed, evaluated for potential application to all airplanes, and codified in the regulations. Note that the changes can be characterized by the change in meaning of ETOPS to “*Extended Operations*” since these provisions have broadened to include aircraft with more than two engines and to include both part 121 and part 135 operations. These regulations were posted in the Federal Register on January 16, 2007, and can be accessed at:

HTML:

<http://a257.g.akamaitech.net/7/257/2422/01jan20071800/edocket.access.gpo.gov/2007/07-39.htm>

PDF:

<http://a257.g.akamaitech.net/7/257/2422/01jan20071800/edocket.access.gpo.gov/2007/pdf/07-39.pdf>

DISCUSSION: Codification of current two-engine ETOPS guidance in part 121 accounts for the bulk of the new ETOPS rules and will be recognizable by those familiar with current ETOPS guidance. The regulations also contain an expansion of part 121 ETOPS approvals beyond limitations imposed by current guidance and structured in the same format and manner as previous approval guidance.

The most significant aspect of these new ETOPS regulations is the application of certain elements of current two-engine ETOPS guidance to other airplanes and operators in parts 121 and 135, as well as the codification of the FAA's current Polar Policy guidance for all airplanes. These new regulations effect particular sections of parts 1, 21, 25, 33, 121, and 135.

To emphasize the broader application of ETOPS the acronym, ETOPS is now defined as "*Extended Operations.*" The new ETOPS rules are now applicable to:

Part 121

- All two-engine airplanes more than 60 minutes flying time from an adequate airport (at a one-engine-inoperative cruise speed under standard conditions in still air).
- All passenger-carrying airplanes with more than two engines and more than 180 minutes flying time from an adequate airport (at a one-engine-inoperative cruise speed under standard conditions in still air).

Part 135

- All multi-engine turbine-engine powered airplanes (other than all-cargo operations with airplanes having more than two engines) more than 180 minutes flying time (limited to 240 minutes flying time) from an airport meeting the requirements of part 135, §§ 135.385 or 135.393 and 135.219 at an approved one-engine-inoperative cruise speed under standard conditions in still air.

The ETOPS regulations have a 30-day effectivity date and will be effective on February 15, 2007, but some of the operational requirements under part 121 have delayed compliance dates. Some requirements, such as dispatch, weather minimums, and fuel supply, are already required by either current guidance or ETOPS approvals, and may require minimum adjustment to an operator's ETOPS program within 30 days of publication of the ETOPS rule. For requirements that take additional planning and implementation time—such as updating manuals, crew/dispatcher training to address the elements of the rules that are different from the current practices of two engine ETOPS, or polar operations and passenger recovery plans—the FAA has established a 1-year extended compliance period. Those operations new to ETOPS in part 121 (e.g., application to airplanes with more than two engines) and part 135 (as defined above) have an operational implementation date of one year after the effective date of the regulations.

For those carriers currently approved for ETOPS and currently operating ETOPS flights, there should be minimal, immediate impact. Current ETOPS guidance, codified in these regulations will have, for the most part, the same application. Two changes to current guidance in these regulations are more permissive and can be expected to receive attention from operators. The critical fuel scenario calculation is less restrictive and the area of applicability for the 207-minute ETOPS authority in the Northern Pacific has been expanded. The new two-engine ETOPS authorizations in the regulations will require new airplane-engine combination (AEC) certification before an operator can utilize such authority and the carrier will have to wait until the airplane manufacturer completes such re-certification before applying for these authorizations.

As stated earlier, there is a one-year delayed compliance period for:

- Part 121 passenger-carrying airplanes with more than two engines; and
- Part 135 multi-engine turbine-engine powered airplanes (other than all-cargo operations with airplanes having more than two engines).

After that time these certificate holders must comply with the operational aspects of these new rules. ETOPS for these operators applies only to routings, a portion of which takes the flight further than three hours from an adequate airport at an approved one-engine-inoperative cruise speed under standard conditions in still air. The operational areas defined by these distances are quite small and consist typically of the South Pole and portions of the Southern Atlantic and Pacific Oceans. Currently there are relatively few U.S. operations in this area and consequently this expanded application of the ETOPS rules should have minimal impact on current operations. It will be up to the operator however, to determine what operations will be defined as ETOPS for their airplanes based on an engine-out speed selected by the operator from within the performance parameters of the airplane.

The ETOPS certification requirements for airplanes used in these new ETOPS operations in part 121 and 135 (part 121 passenger-carrying airplanes with more than two engines and part 135 multi-engine turbine-engine powered airplanes other than all-cargo operations with airplanes having more than two engines) have a delayed implementation as well. No airplane manufactured prior to eight years from the effective date of this rule (February 15, 2015) will have to be certified for ETOPS, and may be used by the certificate holder in ETOPS without restriction.

The new Polar flying regulations have been expanded to apply to all airplanes in part 135. In part 121 it includes both the North (above 78 degrees N.) and South (below 60 degrees S.) Polar Areas. The regulation currently does not cover South Polar flying in part 135 since there is no expectation for such flying in the future. If, at a later date, a certificate holder wishes to apply for such part 135 flying, the application will be reviewed on a case-by-case basis.

In the requirements for long-range en route fuel requirements for all flag and supplemental operations, the rule also contains a new requirement for turbine engine powered airplanes with more than two engines (including airplanes on cargo operations) that will require an analysis of

the decompression scenario similar to ETOPS. New part 121, § 121.646(a) requires operators of these airplanes to provide that flights more than 90 minutes from an adequate airport (a threshold similar to part 121, § 121.193) will have fuel for the decompression scenario of part 121, § 121.329. This new rule has an effective date of February 15, 2007. It is expected that in order to comply, a certificate holder need only develop a static planning case using the mean average conditions during the route planning phase.

RECOMMENDED ACTION: Directors of safety, directors of operations (parts 121 and 135), training managers, and pilots should be aware of the new ETOPS regulations and adapt their operations to the requirements in the stipulated timeframes. This is only a brief overview of this significant rulemaking. No attempt has been made to discuss all the particular requirements. If there are immediate questions, contact Robert W. Reich, AFS-220 at FAA Headquarters at 202-267-7262 (email; Robert.Reich@faa.gov).