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**Docket Management Facility**  
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**Reference**

**Federal Aviation Administration** - 81  
**Docket Number:** FAA-2002-6717: Notice No 03-11  
**RIN:** 2120 – A103  
**Action:** NPRM  
**Title:** Extended Operations (ETOPS) of Multi-Engine Airplanes

Air New Zealand is the International Flag Carrier of New Zealand. Although Air New Zealand could be considered small when compared to some other carriers, we are certainly not small in terms of our ETOPS experience. We began ETOPS operations in 1978 with the B737-200 under the all original engine 90 minute rule. In 1985 with B767 aircraft, we were also the very first carrier to utilise ETOPS 180 on a commercial flight. We have now accumulated approx. 190,000 ETOPS flights, of which almost 38,000 have been ETOPS 180.

We also operate 4 engined long range aircraft and by the very nature of our geographic location on the globe, we have become very experienced with Long Range flying.

We thus feel very well qualified to comment on the FAA NPRM which proposes expansion of current ETOPS principles, to include all Pt 121 long range flights.

In summary we support the NPRM, however we do have 8 issues below, which we submit for reconsideration.

**1. Title**

Page 64737 makes lengthy mention of how the working Group struggled with the issue of a name for the program. The FAA have proposed continued use of the term "ETOPS" and that its use be extended to also cover the 3 and 4 engined aircraft. Despite being assured in the NPRM that this will avoid confusion, we are of the opinion that it will create confusion for 2 reasons.

- a. ETOPS is an acronym for Extended range Twin OperationS. It is difficult to accept that use of an acronym applicable to twin engined aircraft, when applied to 3 and 4 engined aircraft will be anything but confusing.
- b. The current FAA AC120-42A and CAANZ AC121-1 provide guidance material on current ETOPS operations. The NPRM changes those requirements, even for Twin Engined aircraft, at the same time as extending its coverage to 3 and 4 engine aircraft. Clearly there is considerable scope for confusion amongst airline Operations and Maintenance staff when the requirements and applicability have changed but the name has not.

Air New Zealand has no difficulty with the term LROPS being used for the new codified rule. That acronym clearly describes its role and purpose. The use of ETOPS also clearly describes its role, operations and purpose applicable to Twin Engined aircraft until the new standard eventually supersedes the old. The two standards have distinct differences and should therefore be referred to differently.

## 2. APU Relight and Operational Capability at altitude

Page 64744 explains a requirement for on going demonstration of APU relight and operational capability at altitude. The Proposed Amendment to Pt 25, Appendix L reads:

*"If in-flight start and run capability is necessary, the APU in-flight operating envelope shall extend to the maximum operating altitude of the airplane, but need not exceed 45,000 feet"*

We are concerned that neither the NPRM or the Proposed Amendment recognises the capabilities of existing APU's. We understand the GTCP-331 APU as installed in the B767 is certified to start up to 35,000ft, while we note that the approved B767 Maximum Operating Altitude is 43,100 ft.

Clearly this APU will not meet the requirements of the proposed amendment and we suggest one of two options.

- a. Revision of the 45,000ft maximum altitude contained in the proposed amendment with 35,000ft, or
- b. A Grand-fathering clause for all current Type Certified installations.

## 3. ETOPS Exposure Index

Page 64733 explains at length the calculation of an ETOPS Exposure Index (EEI). Although the calculation process is clearly understood, we cannot identify its relevance to the proposed rule, as we do not believe it is mentioned anywhere in the Proposed Amendments to 14 CFR Pts 1, 25, 33, 121, or 135.

## 4. Requirement for RFS Category 7 for more than 180 minutes ETOPS

Page 64761 explains the rationale behind the requirements proposed for Rescue Fire Services at an ETOPS alternate. Although the NPRM provides an appropriate summary the case for a lower level of Rescue Fire Service is articulated in sufficient

detail. In terms of risk Air New Zealand recalls a number of studies in the overall need for RFS that indicated the rarity of RFS having saved a passenger. Risk levels worse than  $1 \times 10^{-7}$  should be the criteria used to determine the need for Rescue Fire. In particular the need to increase the level of RFS from 4 to 7 for ETOPS beyond 180 minutes appears to have no sound risk based justification. Given that in most circumstances remote airfields have sufficient RFS to provide coverage for a B737, Air New Zealand can accept the need for some rescue fire to deal with brake fires etc (i.e. RFS Cat 4). We do not however see the need to increase this level to RFS Cat 7 when ETOPS extends beyond 180 minutes. In the South Pacific, in normal circumstance sufficient RFS Cat 7 airfields should be available. RFS Maintenance however often results in a Notamed RFS below Category 7, and as such, significant operational restrictions could at times apply to current B747-400 operations. Air New Zealand believes the RFS Cat should be reduced to 4 in all cases or at the very least provision should be made (not too dissimilar to an MEL) to allow, during RFS vehicle maintenance, use of at least one ETOPS alternate with a RFS Category 4.

#### **5. Requirement for a Passenger Recovery Plan**

Page 64761 also explains the requirements for a passenger recovery plan. Air New Zealand accepts the need to for such a plan at remote ETOPS alternates. The NPRM at this point however does not contain sufficient detail on what is required within a Passenger Recovery Plan. We presume those details will be provided in an AC. It is difficult to comment on this aspect of the NPRM without the detail of what a Plan should contain. In principle however we support the need for a plan that addresses the shelter, food and well being and timely recovery of passengers at the ETOPS alternate.

#### **6. Requirement to divert to closest suitable airport.**

Page 64793 Part 121.565 requires the pilot following an engine shutdown to land at the nearest suitable airport. Although is requirement is consistent with today's ETOPS, the conclusions of the ARAC Working Group and ICAO Operations Panel Working Group appeared to have signalled a more practical requirement that permitted the pilot to consider other factors such as weather conditions and facilities at the suitable airports etc when selecting which airport to divert to. Air New Zealand would fully support inclusion of this added flexibility. Pilots should be able to legally elect to divert to an airport with superior facilities that for example only 15 minutes extra flying time when compared to a remote airfield with potentially more marginal weather/ facilities.

#### **7. Weather criteria for ETOPS alternates.**

In our view, Page 64793 Part 121.624(b) provides insufficient guidance on how to treat INTER (still used by some countries), TEMPO and PROB elements of a weather forecast. As an example, Air New Zealand's policy is to permit nomination of an ETOPS alternate with INTER or TEMPO below alternate minima but not below landing minima. More clarification is desirable in Part 121.624(b).

**8. Requirement for a wind/ temperature adjustments for cargo suppressant diversion time.**

Page 64794 Part 121.633(b) requires for ETOPS beyond 180 minutes for cargo fire suppression time to be adjusted for the affects of wind and temperature. In all other ETOPS calculation the still air standard day calculation is used. The need to take the cargo fire suppressant time and adjust it for wind and temperature will add significant complexity into the computer flight planning or flight despatch calculation processes. Given the remote probability of such a diversion from the critical point on the flight, the complexity added to the day of operation calculations in the view of Air New Zealand, is unreasonable.

We thank you for the opportunity to contribute to this rule change.

Yours sincerely  
Air New Zealand Limited



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