Twenty First Meeting of the
Informal South Pacific ATS Co-ordinating Group (ISPACG/21)

Auckland, New Zealand, 6-8 March 2007

Agenda Item 4: Review progress on open action items
AI 20-2

Proposed Changes to ATS Routes in the Oakland Flight Information Region and Control Area (CTA) Boundaries

(Presented by the Federal Aviation Administration)

SUMMARY

This working paper provides background on the Federal Aviation Administration (FAA) intent to realign many of the Air Traffic Service (ATS) routes in the vicinities of Guam and Hawaii.

1. Introduction

1.1 In support of the International Civil Aviation Organization's (ICAO) efforts to reduce operator costs and ecological impacts due to aircraft engine emissions, the Federal Aviation Administration has re-evaluated the current Air Traffic Service (ATS) route and airspace structure in the vicinities of Guam and Hawaii.

1.2 The ATS route structure in the Oakland (ZOA) Flight Information Region (FIR) was designed to provide the most efficient movement of air traffic through the airspace utilizing a 100 NM lateral separation standard.

1.3 With the advent of Required Navigational Performance (RNP) operations and the Ocean21 air traffic control automation system, the evaluation indicated that the realignment of the airways north of Guam and around Hawaii will increase efficiency.

1.4 Initial discussion with adjacent South Pacific Air Navigation Service Providers (ANSPs) regarding changes to ATS Routes South of Hawaii resulted in a request for Oakland Center to investigate the mileage savings if the routes were realigned with the existing FIR boundary points. A subsequent assessment revealed that most of the mileage savings could be realized by realigning the routes within the Oakland FIR. Additional savings may be realized from continuing the realignment through adjacent FIRs.

1.5 Oakland presented an initial proposal to realign the ATS Routes northwest of Guam during the last Informal Pacific ATC Coordination Group (IPACG) meeting in October. Japan Civil Aviation Bureau (JCAB) representatives raised some concerns regarding the proposed routes. In consideration of JCAB concerns, ZOA revised

portions of the initial proposal. Those minor revisions provided an improved traffic flow, with no significant change to the mileage savings.

2. Discussion

2.1 A review of the Honolulu Control Facility (HCF) airspace has shown that there is a gap between their radar coverage and the control boundary. This Non-Radar airspace is preventing the use of ADS distance based separation between aircraft entering their airspace. As part of the Hawaiian ATS Route revisions, we are working to move the HCF boundary to the edge of their radar coverage. This will allow the use of ADS Distance based separation standards to be used on flights entering HCF airspace.

2.2 An additional inefficiency was discovered northwest of Hawaii. When the Westbound PACOTS Routes (Tracks A & B) are generated with the Warning Area airspace active, the Fifteen Degree Divergence rule is used. To get Fifteen degrees of divergence between PACOTS Tracks A and B the tracks start at a point inside HCF airspace and diverge to 170W. In order to maintain the 15 degrees divergence until 170W, the PACOTS routes are forced to be 180nm or more apart at 170W. This causes the PACOTS Routes to be in a less favorable location. The proposed HCF/ZOA boundary waypoints will allow for more efficient PACOTS generation.

2.3 Waypoints along the Central East Pacific (CEP) ATS routes are not equally spaced. This makes it more difficult to validate incorrect aircraft estimates. Additionally, the distance between compulsory reporting points in the middle section of the CEP routes is such that the time between reporting points routinely exceeds the 80 minute reporting requirement. Non-compulsory reporting points have also created confusion amongst pilots as to which waypoints should be reported. The CEP waypoints will be revised to improve the safety and efficiency of the routes. The Oceanic Control Boundary (OCB) waypoints off the California coast will remain unchanged. The OCB waypoints on the HCF/ZOA boundary will move west to coincide with the new boundary. Each CEP ATS route will have 3 equidistant intermediary compulsory waypoints established and the noncompulsory waypoints will be removed. The CEP ATS route locations will remain unchanged with one minor exception. The start point for R585 will move approximately 100 nm west.

2.4 ATS Route Changes

The changes to ATS routes are proposed as follows:

ATS Route R585 will be realigned to match the new revised waypoints in the CEP. The start of the route at CITTA will be moved 100NM west. The change is relatively minor and will shorten the route by 0.843NM.

ATS Route R596 would be straightened from TIDEL on the Manila FIR boundary to UNZ. This will provide a savings of 20 NM.

ATS Route R584/R595 would be straightened from KEITH on the Fukuoka FIR boundary to UNZ. This will provide a savings of 11 NM.

ATS Route G339 would be straightened from PAKDO on the Fukuoka FIR boundary to UNZ. This will provide a savings of 19 NM.

ATS Route B586 would be straightened from OMLET on the Fukuoka FIR boundary to UNZ. This will provide a savings of 9 NM.

ATS Route A216 would be extended and straightened from HOOVR on the Guam Boundary to MONPI on the Fukuoka FIR boundary. This will provide a savings of 16 NM.

ATS Route A332 would be straightened from the Honolulu Control Facility (HCF) boundary, northeast of Hawaii, to HEMLO on the Seattle FIR boundary. This will provide a savings of 7 NM.

ATS Route B580 would be straightened from HNL, to BOILS on the Nadi FIR boundary. This will provide a savings of 16NM. A further savings of 7 NM could be realized by straightening the route from BOILS to YSSY.

ATS Route B474 would be straightened from HNL, to ARTOP on the Nadi FIR boundary. This will provide a savings of 24NM.

ATS Route G347 would be straightened from HNL to DUNEY on the Auckland FIR Boundary. This will provide a savings of 26 NM. (Please note that a further savings of 3 NM could be realized by straightening the route from DUNEY to NZAA.)

ATS Route G457 would be straightened from HNL to ELLMS on the Auckland FIR Boundary. This will provide a savings of 17 NM. (Please note that a further savings of 2 NM could be realized by straightening the route from ELLMS to NSTU.)

ATS Route B595 would be straightened from HNL to TENOR on the Tahiti FIR boundary. This will provide a savings of 36 NM. (Please note that a further savings of 2 NM could be realized by straightening the route from TENOR to NTAA.

2.5 FAA will work together with other ANSPs to develop an Action Plan to realign the ATS routes listed above and consider further changes as appropriate. Careful consideration will be given to ensure that route realignments will not create adverse effects.

2.6 After coordination with other ANSPs, FAA will be responsible for completing the necessary ICAO coordination.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:
3.1.1 Endorse the proposal as is or;
3.1.2 Suggest changes to resolve any concerns.