Twenty-Third Meeting of the
Informal South Pacific ATC Co-ordinating Group (ISPACG/23)

Santiago, Chile, 26-27 March 2009

Agenda Item 4: Review Open Action Items

REALIGNMENT OF ATS ROUTES IN THE VICINITY OF HAWAII AND ADJUSTMENT OF THE HONOLULU CONTROL FACILITY BOUNDARY

(Presented by Federal Aviation Administration)

SUMMARY

This paper provides information on the realignment of ATS routes in the Pacific and adjustment of the Honolulu Control Facility boundary to increase efficiency levels.

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 re-evaluated the Air Traffic Service (ATS) Route and airspace structure in the vicinity of Hawaii.

1.2 The ATS Route structure in the Oakland Oceanic Flight Information Region (FIR) was designed to provide the most efficient movement of air traffic utilizing a 100 nautical mile (NM) lateral separation standard. Required Navigational Performance operations and the use of the Ocean21 air traffic control automation system, now allow the ATS Routes to be realigned in order to increase efficiency.

1.3 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 potential mileage savings if the routes were realigned with the existing FIR boundary points. Subsequent analysis indicated that most of the mileage savings to be realized by realigning the South Pacific routes occurred within the Oakland Oceanic FIR.

1.4 To further increase efficiency, it was determined that an adjustment to the Honolulu Control Facility (HCF) boundary was warranted. Oakland Center worked with HCF to create an airspace volume where reliable radar coverage exists and sufficient airspace area is included to efficiently accommodate the volume of traffic that operates within the HCF boundary. The realignment of the airspace now allows for a seamless transition between the HCF radar environment and the Oakland Oceanic Ocean21 environment. The revised boundary now allows for the use of Automatic Dependent Surveillance (ADS) distance-based separation between aircraft transiting the common boundary.

1.5 Additionally, the area along the western portion of the HCF boundary was analyzed to determine if a more efficient method could be developed for the initial points of Pacific Organized Track System (PACOTS) Tracks A and B. Since the inception of the PACOTS, outbound tracks have been created to employ the 15-degree divergence rule. The westbound PACOTS tracks were required to diverge by 15-degrees until 170W to achieve lateral separation. This significantly reduced the efficiency of one or both routes, depending on the prevailing winds. To allow for more efficient track creation, the western side of the new HCF boundary is made up of a series of waypoints spaced approximately 63 NM apart.

1.6 The Central East Pacific ATS Routes were reviewed, as well. Analysis indicated that the number and placement of waypoints along the routes needed to be addressed. By reducing the number of waypoints and making the spacing between them equidistant, the validation of aircraft estimates is simplified. Although a direct correlation to increased fuel efficiency is not associated with this realignment, an indirect benefit may be realized since response times for altitude change requests have been reduced.

2. DISCUSSION

2.1 Realignment of ATS Routes in the vicinity of Hawaii and adjustment of the HCF boundary occurred on 10 April 10 2008. The realignment of the South Pacific ATS Routes is estimated to save 1,210,000 kilograms (kg) of fuel (3,823,600 kg of carbon dioxide) annually.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information presented in this paper. No action is required.