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

CENTRAL EAST PACIFIC (CEP) FLEXIBLE TRACK TRIALS

(Presented by Federal Aviation Administration)

SUMMARY

This paper provides information on the operational trials underway to provide flexible tracks between the Continental United States and Hawaii.

1. INTRODUCTION

1.1 A study was completed by MITRE which predicted a possible annual fuel saving of over 15 million pounds by implementing flexible tracks in the CEP. The CEP Flexible Track trial began on 13 January 2009 and was scheduled to end 31 May 2009. The flexible tracks are very similar to the Pacific Organized Track System (PACOTS) Tracks between Hawaii and Asia that have been in use for years. Oakland Air Route Traffic Control Center (ARTCC) System Operations generates four one-way tracks between Hawaii and the Continental United States. For track generation, the city-pairs of KSFO-PHNL and KLAX-PHNL are being used.

2. DISCUSSION

2.1 Analysis indicates that there are days when the current CEP fixed routes are more efficient than the flexible tracks. In those cases the waypoints of the primary CEP Air Traffic Services (ATS) Routes are published. Otherwise, the routes are defined by published waypoints and whole degrees of latitude and longitude.

2.2 The CEP flexible tracks are effective at 1500 Coordinated Universal Time (UTC) each day and remain in effect for a 23-hour period. The effective time for each aircraft is based on the time the aircraft will enter oceanic airspace.

2.3 To ensure that no adverse conditions are created through use of flexible tracks, a strict criterion was established for determining when to flex the CEP routes. CEP flexible tracks are generated using either SHCEP or LHCEP as the primary route and the four routes must be laterally separated from each other. The order of track generation affects the efficiency of subsequent tracks. The city-pairs are analyzed to determine the overall efficiency of the proposed flex tracks, with the ultimate goal being a fuel

savings for all aircraft. The tracks are generated in a manner that does not negatively impact any CEP flexible track by more than 1000 pounds of fuel so long as an overall benefit of 500 pounds of fuel savings can be realized for each city pair.

2.4 The flexible tracks are effective Flight Level 290 (FL290) and above and operators utilizing the flexible tracks will receive priority for altitudes. Aircraft operators not wishing to participate in the operational trials must flight plan for FL280 or below. Higher altitude assignment for non-participating aircraft will be predicated on traffic.

2.5 Aircraft shall file the appropriate Standard Instrument Departure/ Standard Terminal Arrival Route (SID/STAR)/Routing to exit or join the flexible track. The published fixed transition routes within Honolulu Control Facility (HCF) airspace in the Track Definition Message (TDM) will be as follows:

(1) Westbound
- (a) AUNTI APACK MAGGI PHNL
- (b) BOARD BITTA MAGGI PHNL
- (c) CEBEN CLUTS MAGGI PHNL
- (d) DRAYK DENNS MAGGI PHNL
- (e) ELOYI EBBER MAGGI PHNL
- (f) FAPIS FITES LNY PHNL
- (g) SAYTO SCOON LNY PHNL

(2) Eastbound
- (a) PHNL MKK4 APACK AUNTI
- (b) PHNL MKK4 MKK BITTA BOARD
- (c) PHNL MKK4 CLUTS CEBEN
- (d) PHNL MKK4 MKK DENNS DRAYK
- (e) PHNL MKK4 EBBER ELOYI
- (f) PHNL MKK4 FITES FAPIS
- (g) PHNL MKK4 MKK SCOON SAYTO

2.6 The CEP Flex Track trial ran for 38 days in total. During the trial, the CEP Routes were flexed 5 days. For the other 33 days of the trial it was determined that the standard ATS Routes provided an overall greater benefit than the Flexible Tracks. It was expected that the routes would only be flexed 10 to 15 percent of the time so the number of times the tracks were flexed was within expectations.

2.7 On 19 February 2009 a telecom was held with the users of the CEP routes to determine the effectiveness of the CEP Flex Tracks. The operators reported mixed results from the trail. Some operators did not see any real benefits to the trial. Other operators felt there were benefits to be gained at times but there was not an overall benefit. The greatest benefits from the trial were observed when the flex tracks were routed north of the CEP Routes

2.8 Additionally the operators felt there was a lot of extra workload placed on dispatchers when determining how to flight plan in the CEP during the trial. They also felt that some of the flight planning options were removed by having only one route to flight plan between city pairs.

2.9 Operationally, there were some minor air traffic control (ATC) issues that were created by the trial. It was felt that the ATC issues were not a reason to terminate the trial and they could be procedurally resolved.

2.10 The overall consensus of the telecom was that the CEP Flexible Tracks were not providing a benefit with the exception of the instances that the routes proceeded north of the CEP fixed ATS routes. It was agreed by everyone on the telecom to stop the trial early because of observed results and additional workload.

2.11 To take advantage of the benefits that were observed north of the CEP fixed routes, it was agreed that operators could flight plan UPRs north of the CEP ATS routes as long as they flight planned via ATS Routes A332 or A331 in Honolulu Control Facilities airspace.

2.12 The CEP Flexible Track Trial did not yield the projected benefits for the operators. There were some benefits gained by the Trial. The UPRs north of the CEP ATS routes will provide benefits for the operators when certain wind conditions are present.

3 ACTION BY THE MEETING

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