Twenty Sixth Meeting of the
Informal South Pacific ATS Co-ordinating Group (ISPACG/26)

Nadi, Fiji, 1-2 March 2012

Agenda Item 4: AI-26-1 Weather Deviations

WEATHER DEVIATION REQUESTS PROCESSING

Presented by the Federal Aviation Administration

SUMMARY

This information paper provides a briefing on the processing of Weather Deviation Requests in the Oakland Oceanic FIR.

1. INTRODUCTION

1.1. The ATOP Ocean21 air traffic control system has revolutionized the FAA oceanic controller's ability to respond in a timely manner to aircraft weather deviation requests. Prior to implementing the Ocean21 system controllers were required to manually scan and detect traffic conflictions. This was a time consuming complicated process that delayed controller responses to weather deviation requests.

1.2. With the Ocean21 system, conflict probe searches and identifies potential conflicts within a few seconds. The Ocean21 conflict probe will expand the aircrafts route width left, right or in both directions to the requested deviation distance. The Ocean21 conflict probe does have a maximum weather deviation limit of 128 nautical miles. If future conflicts are created by the weather deviation, the controller can instruct the aircraft to rejoin the cleared route of flight by a time or a waypoint. The conflict probe factors in the rejoin route instructions and will advise the controller if the clearance has resolved the potential conflict. The controller knows, almost instantaneously, if a requested weather deviation request can be approved and issued to an aircraft; or the controller can quickly revise the clearance and determine a conflict free alternative.

1.3. Weather deviation requests near a boundary with another ATSU can delay responses to aircraft weather deviation requests. Prior to approving the weather deviation request, controllers may first have to complete coordination with the affected ATSU. This coordination can be automated between ATSUs that have implemented the AIDC version 2 standards. The ability to get a weather deviation approved via AIDC helps reduce weather deviation response time. Anchorage, Fukuoka, Auckland, Nadi and

Oakland oceanic control facilities have implemented the AIDC version 2 standards for Weather Deviations in a CDN message. When an Ocean21 sector receives an AIDC message with a weather deviation, the controller processes the message and conflict probe automatically advises the controller if conflicts are created by the weather deviation. This allows FAA controllers to quickly respond to weather deviation coordination.

2. DISCUSSION

2.1. To present some data on FAA controllers' responses to weather deviation requests, CPDLC weather deviations were reviewed for a 15-day period in October. For this review only CPDLC requests were analyzed because of their standardized message format. During those 15 days, Oakland received 1749 CPDLC weather deviation requests. Of those 1749 requests only 29 aircraft were advised UNABLE. Of those 29 UNABLE advisories, 17 of the aircraft were issued alternate options to deviate around the weather.

2.2. The average response time to a CPDLC weather deviation request during those 15 days was 81 seconds. This average includes the extra time when controllers are required to coordinate a weather deviation with an adjacent ATSU first or move another aircraft to make a deviation possible. Over 54% of the requests were responded to within 60 seconds. ARINC completed analysis for a sample of 100 HF voice requests for weather deviations and found that HF voice aircraft received a weather deviation clearance in an average of 2 minutes and 38 seconds.

2.3. Oakland reviewed 15 days of AIDC data for flights requesting a weather deviation requiring re-coordination between Auckland/Nadi and Oakland oceanic control facilities. During the 15-day period, 296 aircraft required re-coordination of a weather deviation between Auckland/Nadi and Oakland Oceanic. The 296 aircraft includes both HF and CPDLC aircraft. With AIDC, re-coordination required an average of 57 seconds between the facilities.

3. ACTION BY THE MEETING

3.1. The meeting is invited to note the information in this paper.