



**THE THIRTY-NINTH MEETING OF THE
INFORMAL PACIFIC ATC CO-ORDINATING GROUP
(IPACG/39)**

(Fukuoka, Japan, 3-7 February 2014)

Agenda Item 5: Air Traffic Management (ATM) Issues

ACHIEVEMENTS OF IPACG MEETINGS THROUGH THE PAST TWENTY FIVE YEARS

(Presented by the Federal Aviation Administration & the Civil Aviation Bureau of Japan)

SUMMARY

This information paper highlights the achievements of the IPACG meetings during the last 25 years. It is recognized that implementation of RNP 10, RVSM, ADS/CPDLC, UPR, DARP Trials and ADS-C Distance based separations in the NOPAC/CENPAC are some of the significant achievements.

1. Introduction

1.1 In 1988, the Federal Aviation Administration (FAA) proposed to the Civil Aviation Bureau of Japan (JCAB) to establish an informal meeting which would consider methods for increasing airspace capacity and improving flight efficiency over the North and Central Pacific. The JCAB agreed to establish the informal meeting because the Kansai airport project and the second runway project of the Narita Airport were in progress, and it was expected that there would be an increase in trans-Pacific flights in those days. The informal meeting was named the Informal Pacific ATC Coordinating Group (IPACG). The IPACG meeting was the first bilateral group of this kind where both users and providers regularly convened to collectively solve regional problems.

1.2 The memorable IPACG/1 meeting was held at the Sheraton Hotel in Anchorage from 17-21 July 1989. The Co-chairs of the IPACG/1 were Mr. Louis McCaughey of FAA and Mr. Mamoru Yasuno of JCAB. (Mr. Yasuno was absent because of other business.) There were 34 participants, from the FAA, JCAB, Canadian air navigation service provider (ANSP), the International Civil Aviation Organization (ICAO), International Air Transport Association (IATA) and International Association of Air Line Pilots' Association (IFALPA).

1.3 Since then, a total of 38 IPACG meetings have been held during the last 25 years. The accomplishments include the introduction of new systems and new operational procedures for airspace capacity expansion and improvement in efficiency for aircraft operating in the North Pacific/Central Pacific (NOPAC/CENPAC) airspace.

1.4 In current circumstance of aviation with rising fuel prices and environmental concerns, the IPACG meetings, during which airline operators and ANSPs discuss the challenges given to the aviation community, will be even more important.

2. Significant Achievements of the IPACG meetings

2.1 RNP10 (Required Navigation Performance)

2.1.2 RNP 10 was introduced to the NOPAC airways from April 1998 safely and successfully. RNP 10 was then introduced to the CENPAC from December 1998, and in the Hawaiian PACOTS from October 2002. Currently the NOPAC and CENPAC airspace are operating as RNP 10-mandated airspace.

2.2 RVSM (Reduced Vertical Separation Minimum)

2.2.3 From 24 February 2000, RVSM was implemented between flight level (FL) 290 and FL390 in the Tokyo, Anchorage and Oakland Flight Information Regions (FIRs). At the IPACG/15 held in August 2000 in Tokyo, the Tokyo ACC reported an improvement in departure delay from the Narita Airport. The average departure delay from Narita Airport before RVSM implementation had been in the order of 15-19 minutes while, after RVSM implementation, was of the order of 4-6 minutes.

2.2.4 The exclusive RVSM airspace was expanded to FL290-FL410 in the Tokyo, Anchorage and Oakland FIRs from 2005.

2.3 ADS/CPDLC (Automatic Dependent Surveillance/Controller Pilot Data Link Communications)

2.3.3 The IPACG FIT developed a data-link operation manual for ANSP/Users, the *North and Central Pacific Operations Manual (NCPOM)*. In order to harmonize with the South Pacific region, the NCPOM and the *South Pacific Operations Manual (SPOM)* were combined into a single manual named the *Pacific Operations Manual (POM)* at the IPACG/18 held in Tokyo, in October 2002. The *FANSI/A Operations Manual (FOM)* was created from the POM when the Indian Ocean and Bay of Bengal groups joined in the standardized FANS manual movement in March 2004.

2.3.4 JCAB began applying the ADS 50 nautical miles (NM) longitudinal separation standard for climb/descend to the airways R220 and R580 from April 2005. JCAB expanded ADS application in the Fukuoka FIR step by step. Presently, regular operation of ADS 50 NM longitudinal separation has been implemented and a trial operation of ADS 30/30 NM is in progress.

2.3.5 FAA began applying the ADS 50 NM longitudinal separation standard in the Oakland FIR from October 2005, and had begun trial operation of the ADS 30/30NM from March 2007. ADS 30/30 is now an operational standard throughout Oakland Oceanic FIR.

2.3.6 On 16 June 2009, JCAB ATMC and Anchorage Air Route Traffic Control Center (ARTCC) began utilizing ADS 50 NM longitudinal cross boundary separation between aircraft crossing the RJJJ and PAZN common boundary.

2.3.7 On 23 May 2011, JCAB Air Traffic management Center (ATMC) and Oakland ARTCC began applying ADS 30 NM lateral and longitudinal separation between aircraft transiting the common boundary.

2.3.8 On 27 November 2011, JCAB ATMC and Anchorage ARTCC began applying ADS 30 NM lateral and longitudinal separation between aircraft transiting the common boundary.

2.4 UPR (User Preferred Route)

2.4.1 The IPACG/26, held in Alaska in May 2007, agreed to expand the UPR trial between Japan and New Zealand/New Caledonia which was conducted in the South Pacific into the Fukuoka FIR. JCAB proposed to study with FAA/airlines the introduction of UPRs or flex routes between Japan and Australia.

2.4.2 IATA asked to introduce UPRs between Japan and Hawaii at the IPACG/27 held in Tokyo in November 2007. The IPACG/27 agreed to conduct paper trials in order to evaluate impact to ATC operations and other PACOTS tracks.

2.4.3 In 2008, UPR trials began between Japan and Hawaii. They have since become standard operations and are conducted in concert with PACOTS Tracks A, B, 11 and 12.

2.4.4 UPR implementation has continued with reference to several Pacific Organized Track System (PACOTS) Tracks. The overall opinion of the users and ANSPs is favourable with few negative impacts to ATC operations and many positive impacts by reducing fuel consumption and carbon dioxide (CO₂) emissions have been reported to the IPACG meetings.

2.5 PACOTS Improvements

2.5.1 Procedures were developed to merge PACOTS C and D in the Oakland Oceanic FIR when there was an operational advantage. After a short operational trial which began in January 2010, the procedure became fully operational on 17 May 2010.

2.6 Others

2.6.1 The IPACG meetings have achieved many significant results in other programs in addition to RNP 10, RVSM, ADS/CPDLC and UPRs. There are many improvements to PACOTS operations, including the implementation of AIDC, development of ATFM terminology, and preparation for Y2K that occurred through the cooperation and discussions at IPACG meetings.

2.6.2 Limited operational Dynamic Airborne Reroute Procedures (DARP) trials using west bound aircraft (Hawaii to Narita) commenced on 30 April 2011. FAA and JCAB continue to investigate expansion to additional city pairs and will soon begin operational trials for eastbound DARP operations, initiated within Fukuoka FIR.

2.6.3 FAA and JCAB have developed improved operational contingency procedures for significant events, e.g., volcanic activity. Partnering with Russia, JCAB and FAA will continue to coordinate procedures to be used in the event of a volcanic eruption or significant event that disrupts efficient ATC operations.

3. Action by the meeting

3.1 The meeting is invited to:

- a) Note the many important achievements of past IPACG meetings,
- b) See the attached synopsis of IPACG meetings over the past 25 years, inclusive of IPACG/39, and
- c) Continue to support the activities of IPACG meetings.