INTERNATIONAL CIVIL AVIATION ORGANIZATION

SIXTH MEETING OF THE PERFORMANCE BASED NAVIGATION TASK FORCE (PBN/TF/6)

Hong Kong, China, 3 – 5 February 2010

Agenda Item 3: APAC Region PBN Implementation

3.4 PBN IMPLEMENTATION ENROUTE

(Presented by the Secretariat)

SUMMARY

This paper presents the status of PBN implementation enroute in Asia and Pacific Regions, and requests the meeting to consider a reporting mechanism of the PBN implementation enroute similar to the PBN Implementation Progress Report Template.

1. INTRODUCTION

1.1 The 20th meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/20, September 2009) adopted Conclusion 20/41 - Asia/Pacific Regional PBN Implementation Plan. The Regional Performance-Based Navigation Implementation Plan dictates that the application of RNAV 10 and RNP 4 navigation specifications is expected in the short term until 2012 on oceanic and remote continental routes. For continental routes, the application of RNAV 5 and RNAV 2 navigation specifications is expected.

1.2 This paper presents the implementation status of PBN enroute in Asia and Pacific Regions and requests the meeting to consider the reporting process on the implementation status of PBN enroute.

2. DISCUSSION

Implementation Status

Oceanic and Remote Continental Airspace

2.1 Over the Pacific, 50 NM lateral separation standard (RNP 10) has been implemented since 1998 and 50 NM longitudinal separation standard since 2005, respectively. The 30 NM lateral and longitudinal separation standards (30/30) have been implemented since 2007 in the respective flight information region (FIR) but the application of 30/30 across the FIR is currently pending because of concern about the availability of data link communications and the unplanned outages reported by the two data link service providers in the Pacific Oceanic Region (POR). The current data link performance does not justify near-term planning for an expanded application of 30/30 including the operation of a 30 NM route structure; however, the operational trial and application on "targets of opportunity" should continue to provide further data for evaluation.

2.2 Over the South China Sea, RNP 10 equipage has been required since 2001 when the ATS route structure was reviewed for the area where the routes were established 60 NM apart. 50

NM lateral and longitudinal separation standards have been implemented since 2008 on L642 and M771. For the other routes, the applicable separation standards remain same. Based on system performance during the first 90 days after the introduction of the 50 NM lateral separation standard between L642 and M771, and the 50 NM longitudinal separation on these routes, it was concluded that the regional lateral and longitudinal target level of safety were satisfied and the safety assessment supported the continued use of RNP 10 (50/50) horizontal separation on L642 and M771, and agreed that the application of the 50/50 horizontal separation shall continue on L642 and M771. The review of ATS routes in this area will be continued by Southeast Asia Route Review Task Force. This activity will be undertaken based on PBN concepts and in accordance with the provisions of the Regional PBN Implementation Plan.

2.3 Over the Bay of Bengal, EMARSSH route structure was implemented in 2002 which was designed to support RNP 10 operations. The routes have been established 50 NM apart. Under the auspices of the Bay of Bengal ATS Coordination Group (BBACG) and the Arabian Sea/Indian Ocean ATS Coordination Group (ASIOACG), the Regional Office had assisted a number of the Bay of Bengal and the Indian Ocean States to designate a number of existing routes as RNAV routes over a widespread area of the Indian Ocean. The Regional Office conducted coordination with ICAO Cairo and Nairobi Offices to ensure that complementary amendments to the respective Basic Air Navigation Plans are progressed. The Bay of Bengal Reduced Horizontal Separation Task Force is looking into the application of the 50 NM longitudinal separation in this area.

2.4 Over the Indian Ocean, Australia would extend RNP 4 operations to the Melbourne FIR to support application of 30 NM/30 NM separations in the oceanic airspace with a target date 12 March 2009

Continental Airspace

2.5 In order to increase airspace capacity, improve efficiency and ensure safety, Japan introduced parallel RNAV 5 routes between major city pairs. However, conventional VOR routes still exist in close vicinity to RNAV 5 routes and are available for flight planning of RNAV 5 non-approved aircraft. This mixture of traffic in the same airspace has caused increased controller workload. Japan decided to introduce RNAV 5 preferential operations, named “Sky Highway”, where the segregated operations of the RNAV and non-RNAV takes place at FL 290, which will be in force from October 2010 in domestic airspace of the Fukuoka FIR.

2.6 A further initiative to increase the air route capacity on B576, the Republic of Korea is planning to construct parallel air routes using RNAV 2 in accordance with the PBN implementation plan.

Reporting Mechanism on the Implementation Status of RNP Enroute

2.7 In order to ensure that appropriate data was available to enable the measurement of suitable regional metrics, APANPIRG/20 agreed to Conclusion 20/4 − Asia/Pacific Performance Metrics. Among others, APAC Metrics 3 was adopted as follows:

APAC Metric 3 *Percentage of en-route and terminal PBN routes implemented on a sub-regional basis in accordance with the regional PBN plan*

2.8 Accordingly, APANPIRG/20 concluded that States, organizations and stakeholders collect and process data to support the regional metrics under Conclusion 20/5 − Data Collection for Regional Metrics.

2.9 Besides, APANPIRG/20 agreed that the common template developed by PBN TF would help in harmonizing the reporting process and adopted following Conclusion.

Conclusion 20/40 - PBN Implementation Progress Report Template

That, States be urged to use the PBN Implementation Progress Report Template provided in Appendix K to the Report on Agenda Item 3.4 for all future reporting of their status of PBN implementation. The Report should be submitted at each of the future PBN Task Force Meeting

2.10 The PBN Implementation Progress Report Template, however, only requires the report of PBN in the terminal and the approach areas and does not cover the enroute applications.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) Note the information on the implementation status of PBN enroute in paragraphs 2.1-2.6;

b) Update the implementation status of PBN enroute;

c) Note that the PBN Implementation Progress Report Template adopted by Conclusion 20/40 only requires the report of PBN in the terminal and the approach areas and does not cover the enroute applications; and

d) Consider the reporting requirement of the PBN application enroute to the future PBN/TF meetings. The data to be included are at least:

i) the number of ATS routes;

ii) the number of PBN application grouped into the type of RNP/RNAV; and

iii) the areas of application, i.e. oceanic, remote continental or continental.

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