THE FORTY-THIRD MEETING OF THE INFORMAL PACIFIC ATC CO-ORDINATING GROUP (IPACG/43)

(Tokyo, Japan 27 – 28 September 2017)

Agenda Item 6: Air Traffic Management (ATM) Issues

Operational Trial for the use of West-Bound high altitude User Preferred Route (UPR) between North America and Asia

(Presented by Civil Aviation Bureau, Japan)

SUMMARY

This paper summarizes possibility of expansion for the use of high altitude User Preferred Routes (UPRs) between Oakland and Fukuoka FIR.

1. Introduction

1.1. JCAB and Oakland ARTCC discussed expansion of airspace that UPR flight procedures can be adopted. The trial for west-bound high altitude UPR has been operated since 31st March 2016.

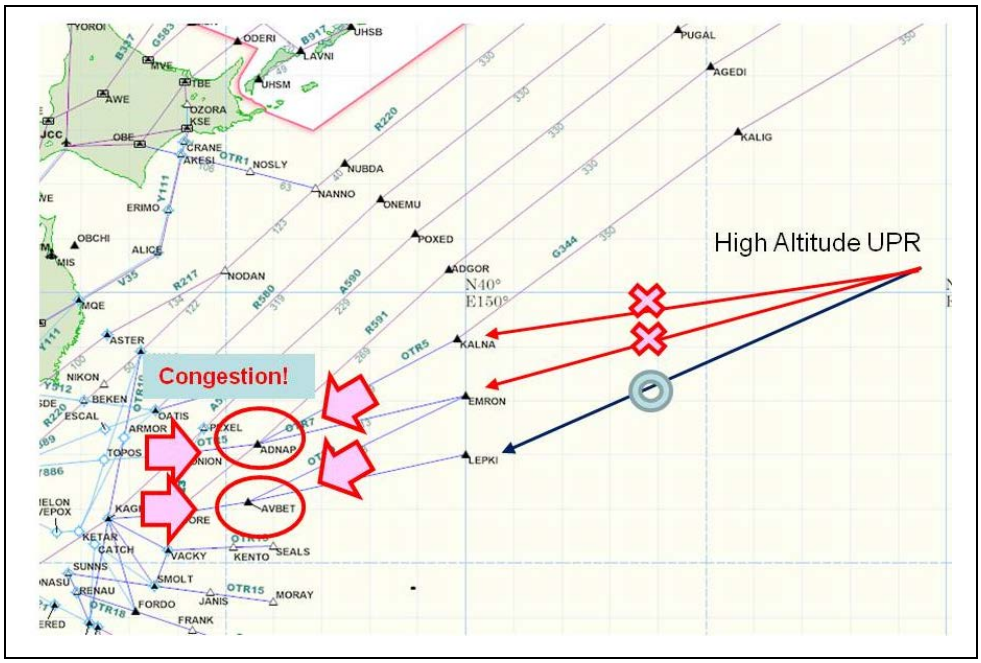
1.2. It was originally applied for the aircraft that can fly at or above FL400 at 180E. However, double aircraft can be applied for the trial on condition that they can fly at or above FL380 at 180E. Therefore, JCAB amended AIC in order to ease restrictions on 13th October 2016.

1.3. There weren't many aircraft that satisfied the conditions at the beginning of the operational trial. Besides, this trial can make altitude separation between high-performance aircraft and former types of aircraft. No issue has been raised so far.

2. Discussion

2.1. IATA/United Airline submitted a request for expansion of the connection gate from LEPKI, which is set as the northernmost gate for the trial of west-bound high altitude UPR, to EMRON, KALNA.

KALNA connects OTR5, and EMRON connects OTR7 and OTR9. LEPKI, which connects OTR11, is the northernmost FIX on the present west-bound high altitude UPR. OTR5 and OTR7 merge at ADNAP, and OTR9 and OTR11 merge at AVBET. Congestion at KALNA and EMRON causes congestion at ADNAP and AVBET, which makes it difficult to approve requested altitudes for airlines.



2.2. JCAB analyzed the types of aircraft, the number of aircraft, and the altitude when they crossed 160E in oceanic sector, Fukuoka FIR from 1st April through 31st May 2016, and from 1st July through 31st August 2017.

2.4. Comparing with 2016, B788 increased by 168% (485→814), and B789 increased by 572% (110→629) in 2017. There was no A359 in April and May 2016 but there were 198 in July and August 2017. In 2017, 63.8% of B788 (519 aircraft), 47.2% of B789 (297 aircraft) and 80.8% of A359 (160 aircraft) flew at or above FL380 at 160E.

1. The rate of increase of high-performance aircraft in oceanic sector, Fukuoka FIR

Type of ACFT	**Number of ACFT (A)** (2016.4.1～2016.5.31)	**Number of ACFT (B)** (2017.7.1～2017.8.31)	**Rate of increase** (B / A)*100
B788	485	814	**168%**
B789	110	629	**572%**
A359	0	198	**198% (+198)**

2. The percentage of aircraft which flew at or above FL380

Type of ACFT	The percentage of aircraft which flew at or above FL380 At 160E (2017.7.1～2017.8.31)
B788	**63.8%**
B789	**47.2%**
A359	**80.8%**

2.5. The table2. does not include figures in case that climb requests were not approved due to related traffic. It means that the density of high-performance aircraft is increasing.

2.6. The concept of high altitude UPR can be operated by altitude separation between high-performance aircraft and former types of aircraft. The density of high-performance aircraft has been varying since the trial began.

3. Conclusion

We suppose it's unnecessary to add instant restrictions to the trial of west-bound high altitude UPR, but we should consider whether to expand the gate to EMRON, KALNA carefully.
JCAB will strive to give further consideration to the operations of high-performance aircraft in Fukuoka FIR in order to improve the efficiency.

4. Action by the meeting