



International Civil Aviation Organization

**The Sixth Meeting of the APANPIRG ATM Sub-Group
(ATM/SG/6)**

Hong Kong, China, 30 July – 03 August 2018

Agenda Item 5: ATM Coordination (Meetings, Route Development, Contingency Planning)

AKARA CORRIDOR

(Presented by IATA)

SUMMARY

This paper presents a proposal to address the issues associated with the management of the airspace known as the 'AKARA corridor' with a view to normalizing service delivery in the area in accordance with ANNEX 11 requirements.

1. INTRODUCTION

1.1 The current and unusual structure to provide Air Traffic Control services in the southern portion of the Incheon FIR known as the AKARA corridor was set up in 1983 via an MoU signed by China, Japan, the Republic of Korea (ROK) and ICAO.

1.2 It is understood this arrangement was agreed due to a lack of infrastructure in the former Taegu FIR and was seen as the best way to provide efficient and safe services at the time.

1.3 Today, some 35 years later, the infrastructure issue is no longer relevant as the ROK possesses state of the art ATM equipment enabling full services, both in terms of surveillance and communications, to be provided throughout the Incheon FIR.

1.4 Traffic volumes have risen significantly since 1983 with levels now at 299,000 flights per annum in the broader AKARA airspace, including 121,000 using the AKARA corridor (A593). (Ref ROK Flimsy 2 to RASMAG/23)

1.5 The three States involved have all worked very hard to make the current complex arrangement work for so long. However, operators within the AKARA corridor have long held safety concerns prompting IATA to issue an 'Operational Notice' on the area, with the most recent version being reissued in November 2017.

1.5 Safety assessments presented to RASMAG on the area noted that due to the high opposite direction passing traffic frequency, only one vertical deviation per annum of more than 0.125 minutes (approximately 7.5 seconds) would breach the Corridor Target Level of Safety (TLS), highlighting the extreme sensitivity of the airspace to any Large Height Deviation (LHD) event. Moreover, operational factors which may contribute to deviations were noted as including the:

- a) operation of several Area Control Centers (ACCs) in the same portion of airspace on different frequencies, which is non-compliant with Annex 11;
- b) possible presence of non-Reduced Vertical Separation Minimum (RVSM) aircraft;

- c) possibility of turbulence (reported regularly southwest and south of Japan), either not allowing adequate height-keeping, or necessitating a descent or climb;
- d) lack of any emergency descent procedures;
- e) possibility of non- or under-reporting (in some cases due to lack of awareness of all traffic due to the Flight Level Allocation Scheme (FLAS));
- f) lack of a voice communication link between Shanghai and Incheon ACCs (including Air Traffic Service (ATS) Inter-facility Datalink Communication – AIDC); and
- g) inconsistent use of Strategic Lateral Offset Procedure (SLOP).

1.6 Based on the above, ATMSG/5 noted that China, ROK and Japan should endeavor to normalize ICAO standard compliance within the AKARA corridor.

2. DISCUSSION

Way Forward

2.1 The Republic of Korea presented a comprehensive summary of current operations in the AKARA airspace at RASMAG/23 (Flimsy 2).

2.2 To meet the ATMSG/5 outcome the ROK indicated they would “seek an opportunity to discuss the matters with concerned Member States and ICAO respectively, to enhance the safe and efficient air traffic management of the airspace and to best serve international air navigation demands. (**Attachment A**)”

2.3 Given the original arrangement was established with three States and ICAO, it is suggested that these States urgently discuss how best to plan and implement a structure to normalize ICAO standard compliance for ATM service delivery within the portion of the Incheon FIR known as the AKARA Corridor. International organisations stand ready to support this effort if required.

Draft Conclusion ATM/SG/6-X: AKARA Corridor ATM Normalisation			
What: That, considering the elevated safety risks and efficiency issues associated with the portion of the Incheon Flight Information Region (FIR) known as the AKARA Corridor that had been reported by RASMAG in recent years, China, Japan and the Republic of Korea were urged to normalize ATM procedures within this airspace as a matter of urgency.		Expected impact: ☒ Political / Global ☐ Inter-regional ☒ Economic ☒ Environmental ☒ Ops/Technical	
Why: To mitigate safety concerns and comply with ICAO standards, as well as to allow greater efficiency in the airspace.		Follow-up: ☒ Required from States	
When: 3-Aug-18		Status: Draft to be adopted by Subgroup	
Who: ☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☒ ICAO HQ ☐ Other:			

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- a) note the information contained in this paper; and
 - b) discuss the draft conclusion
 - c) discuss any relevant matters as appropriate.

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International Civil Aviation Organization

**The Twenty-Third Meeting of the Regional Airspace Safety Monitoring
Advisory Group (RASMAG/23)**

Bangkok, Thailand, 02-05 July 2018

Agenda Item 3: Reports from Asia/Pacific RMAs and EMAs

OPERATIONAL STATUS OF AKARA CORRIDOR

(Presented by the Republic of Korea)

SUMMARY

This paper presents the operational status of “A593 AKARA Corridor”, located in the southern part of the Incheon flight information region (FIR), which was established in August 1983 with unique air traffic arrangement.

1. INTRODUCTION

1.1 The 1983 Fukue – AKARA Corridor Memorandum of Understanding (MOU), which ICAO signed with China, Japan and the Republic of Korea (ROK), respectively, provides responsibilities to China, Japan and the ROK for the provision of air traffic services for traffic in the area. Consequently, the air traffic control for the portion of airspace around AKARA Corridor is not vested in one ATS unit, but vested in three units - Incheon, Fukuoka and Shanghai Area Control Centers (ACCs) – from each Member State.

1.2 The AKARA Corridor, located in the southern part of the Incheon flight information region (FIR), has eight using altitudes with 280NM length and 50NM width, connecting AKARA and FUKUE fixes.



Figure 1: Airspace Structure around the AKARA Corridor

2. OPERATIONAL STATUS

2.1 The annual traffic volume in the AKARA Corridor airspace has shown 299,000 flights in calendar year 2017, which includes 121,000 flights using AKARA Corridor. The traffic has grown about 9% over the last nine years.

in thousand

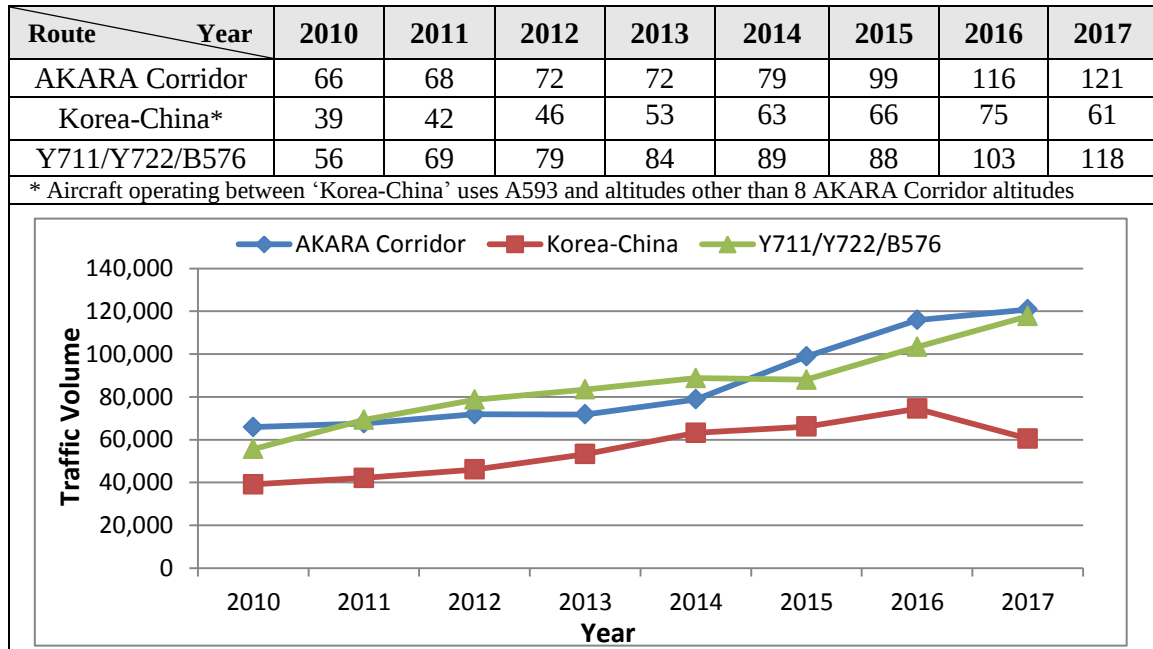


Figure 2: Annual Air Traffic Growth within the AKARA Corridor Airspace

2.2 Figure 3 provides average daily traffic volume within the AKARA Corridor Airspace per timeslot from January to May 2018. It shows that the AKARA Corridor has been congested in daytime, and early morning and evening are peak hours on Y711/Y722/B576.

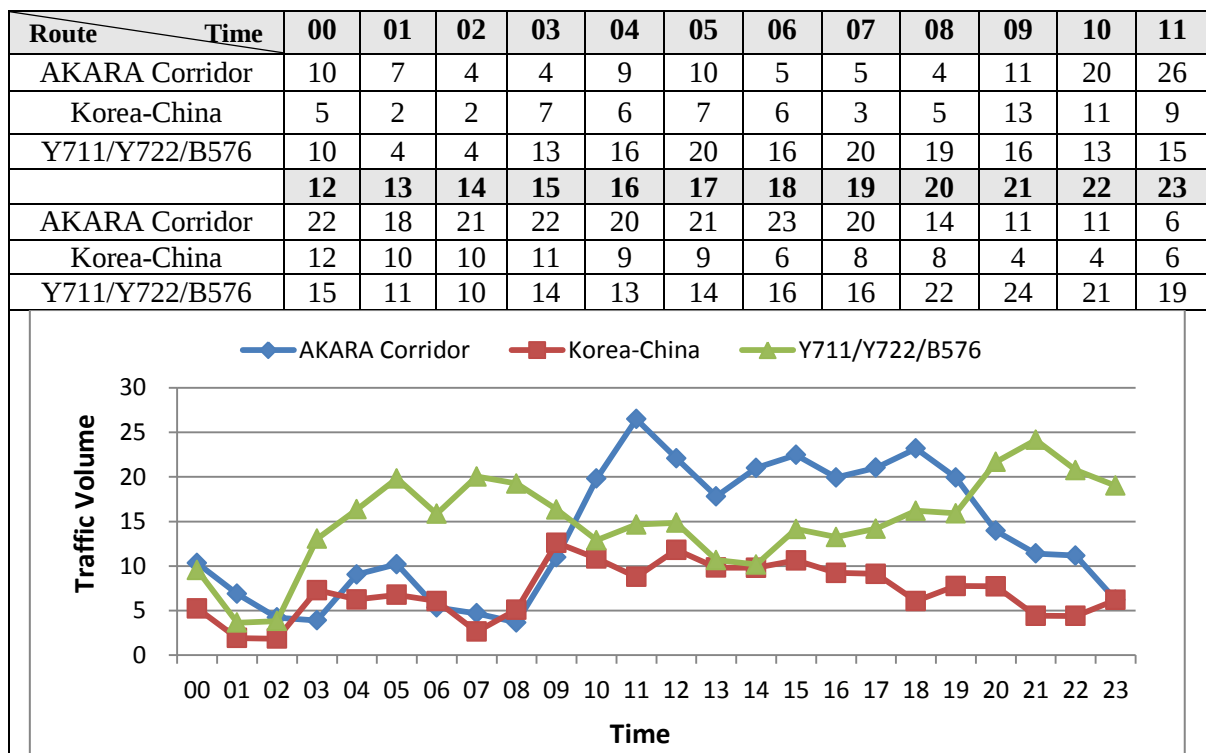


Figure 3: Average Daily Air Traffic Volume per Timeslot between January and May 2018

2.3 In addition, more than 85% of traffic uses altitudes at or below FL310 for the AKARA Corridor, and 95% of traffic uses at or above FL320 on Y711/Y722/B576.

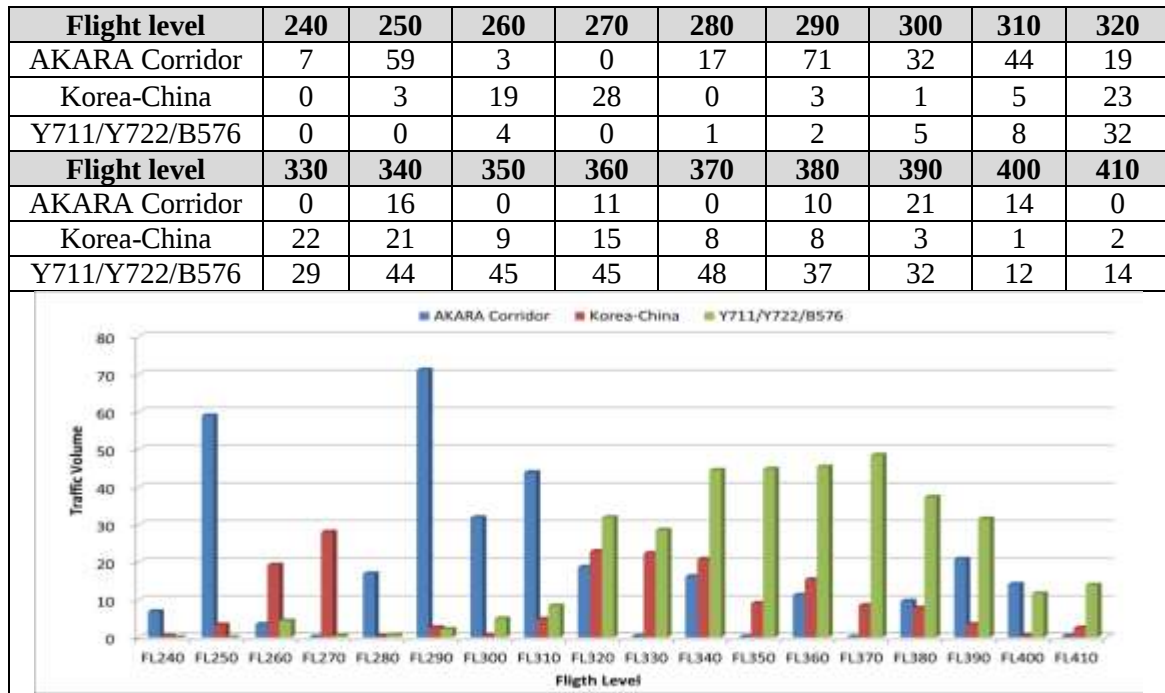


Figure 4: Average Daily Traffic Volume per Flight Level between January and May 2018

2.4 The 90% of aircraft using A593 includes Chinese, Japanese and U.S national carriers, and for Korea-China Route, 85% of aircraft are Korean and Chinese national carriers.

	A593 Corridor				Korea-China			
Nationality of Carriers	Japan	China	U.S	Others	Korea	China	U.S	Others
Traffic Volume	11,404	27,517	5,681	4,580	13,460	8,477	1,165	2,926
Rate (%)	23%	56%	12%	9%	52%	33%	4%	11%

Table 1: Air Traffic Volume per Nationality of Carrier between January and May 2018

2.5 The proportion of aircraft departing or landing within China and Japan covers 90% of the traffic, and 10% are the over-flying aircraft.

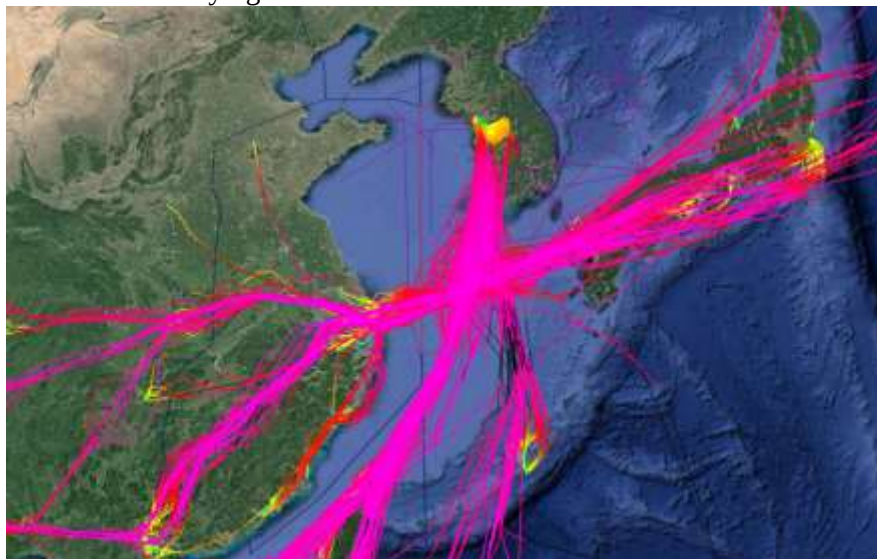


Figure 5: Flight track of the AKARA Corridor Airspace

Airport	Land or depart within Japan				Over flight	Land or depart within China				Over flight
	RJAA	RJBB	RJTT	Others		ZSPD	ZGGG	ZSHC	Others	
Traffic	6,012	4,977	2,723	4,384	2,026	12,558	1,375	639	3,806	1,744
Rate(%)	30(%)	25(%)	14(%)	22(%)	10(%)	62(%)	7(%)	3(%)	19(%)	9(%)

Table 2: Air Traffic Volume per Departing and Landing Airports

3. CURRENT ISSUES AND FUTURE PLAN

3.1 Given that the safety concerns on the unique arrangement of AKARA Corridor airspace have been raised consistently in the international aviation community. The current arrangement of the AKARA Corridor, not complying international standards and practices, indicates that it is less than optimum and will not meet the desirable safety level and future air traffic growth. Hence, the ROK is of the opinion that certain proactive action is necessary.

3.2 In this connection, the ROK has reviewed the current situation of AKARA Corridor airspace in January this year, and initiated safety assessment of the airspace, allocation of monitoring sector exclusively for the AKARA Corridor, and review on how to normalize its system etc.

3.3 Moreover, noting that the Fifth Meeting of the APANPIRG Air Traffic Management Sub-Group (ATM/SG/5, Bangkok, 31 July to 04 August 2017) urged the relevant States to endeavor to normalize ICAO standard compliance within the AKARA Corridor, the ROK will seek an opportunity to discuss the matters with concerned Member States and ICAO respectively, to enhance the safe and efficient air traffic management of the airspace and to best serve international air navigation demands.

4. ACTION BY THE MEETING

4.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

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