ROK's view regarding WP25 Presented by Japan

1-5 November 2021 | Republic of Korea

Ministry of Land,
Infrastructure and Transport

Regarding paragraph 2.7

- **Paragraph 2.7 says that eliminating FLAS would further decrease the estimated collision risk in the airspace at the RASMAG/26 meeting.**

	AKARA Airspace *(note: based on Dec 2019 traffic sample data)*			
Source of Risk	**Same & Opposite Risk**	**Intersection Risk**	**Total Risk**	**Remarks**
Technical Risk (only A593 with FLAS)	*15.4×10^{-9}*	*0.16×10^{-9}*	*15.6×10^{-9}*	*Past*
Technical Risk (Phase 1 with FLAS)	0.03×10^{-9}	0.23×10^{-9}	0.26×10^{-9}	Current
Technical Risk (Phase 1 without FLAS)	0.02×10^{-9}	0.20×10^{-9}	0.22×10^{-9}	
Technical Risk (Phase 2 with FLAS)	0.01×10^{-14}	0.17×10^{-9}	0.17×10^{-9}	
Technical Risk (Phase 2 without FLAS)	**0.05×10^{-15}**	**0.12×10^{-9}**	**0.12×10^{-9}**	**Best future**

Table 1: Result of fast-time simulation

- **But, the difference in number between with FLAS and without FLAS is minimal and statistically not significant.**
- **FLAS has been employed for a long time as a proven safety measure to avoid traffic conflictions at intersection of north-south and east-west ATS routes.**

Regarding paragraph 2.8

❖ APAC Seamless ANS Plan 7.35

7.35 Priority for FLAS level allocations should be given to higher density ATS routes over lower density ATS routes. FLAS should comply with Annex 2, Appendix 3a unless part of an OTS. FLAS other than OTS should only be utilised for safety and efficiency reasons within:

a) Category R airspace with the agreement of all ANSPs that provide services:

• within the airspace concerned; and

• within adjacent airspace which is affected by the FLAS; or

b) Category S airspace with the agreement of all ANSPs that provide services:

• where crossing track conflictions occur within 50NM of the FIRB; and

• ATS surveillance coverage does not overlap the FIRB concerned, or ATS surveillance data is not exchanged between the ATC units concerned.

❖ Crossing points (PONIK, NIRAT) are located within 50NM of the FIR boundary.

❖ Incheon ACC has full coverage of ATS surveillance over the whole Incheon FIR, however, ATS surveillance data is not exchanged between Incheon ACC and Fukuoka ACC.

ATM/SG/9 - Flimsy 03
05/11/2021

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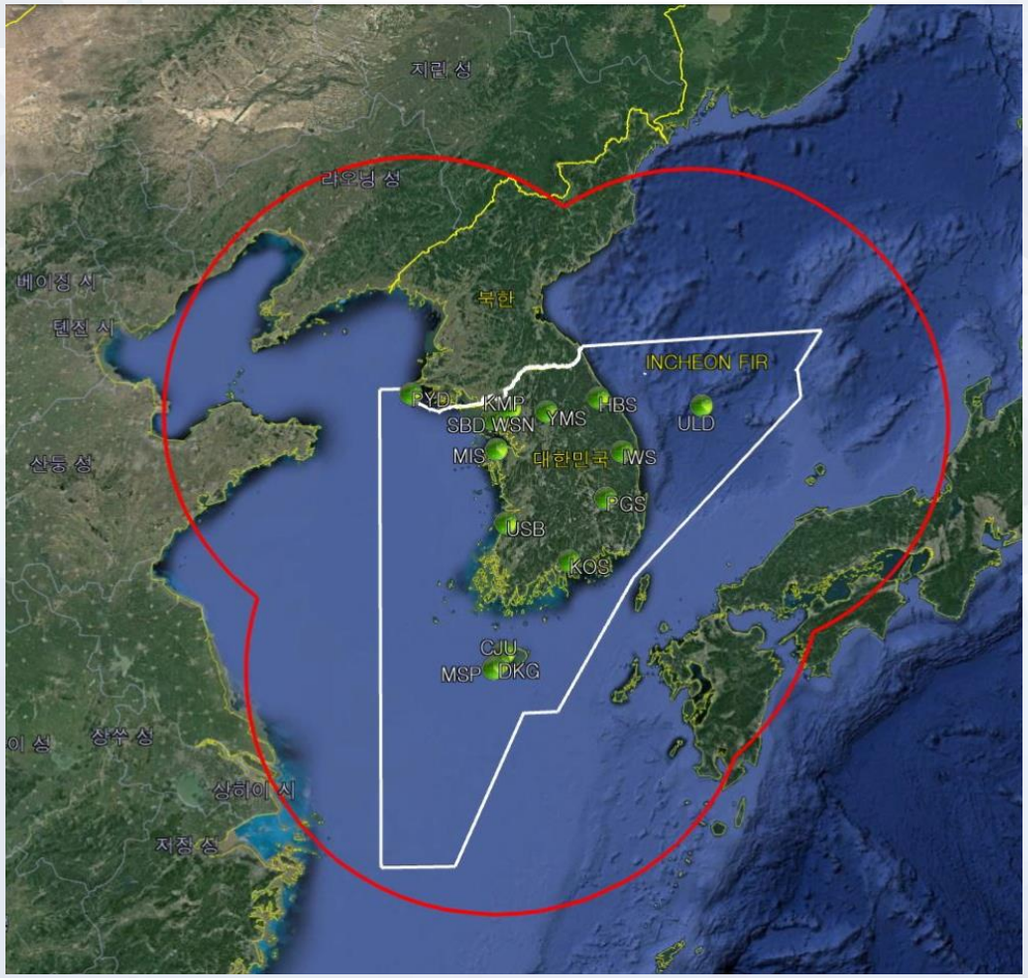
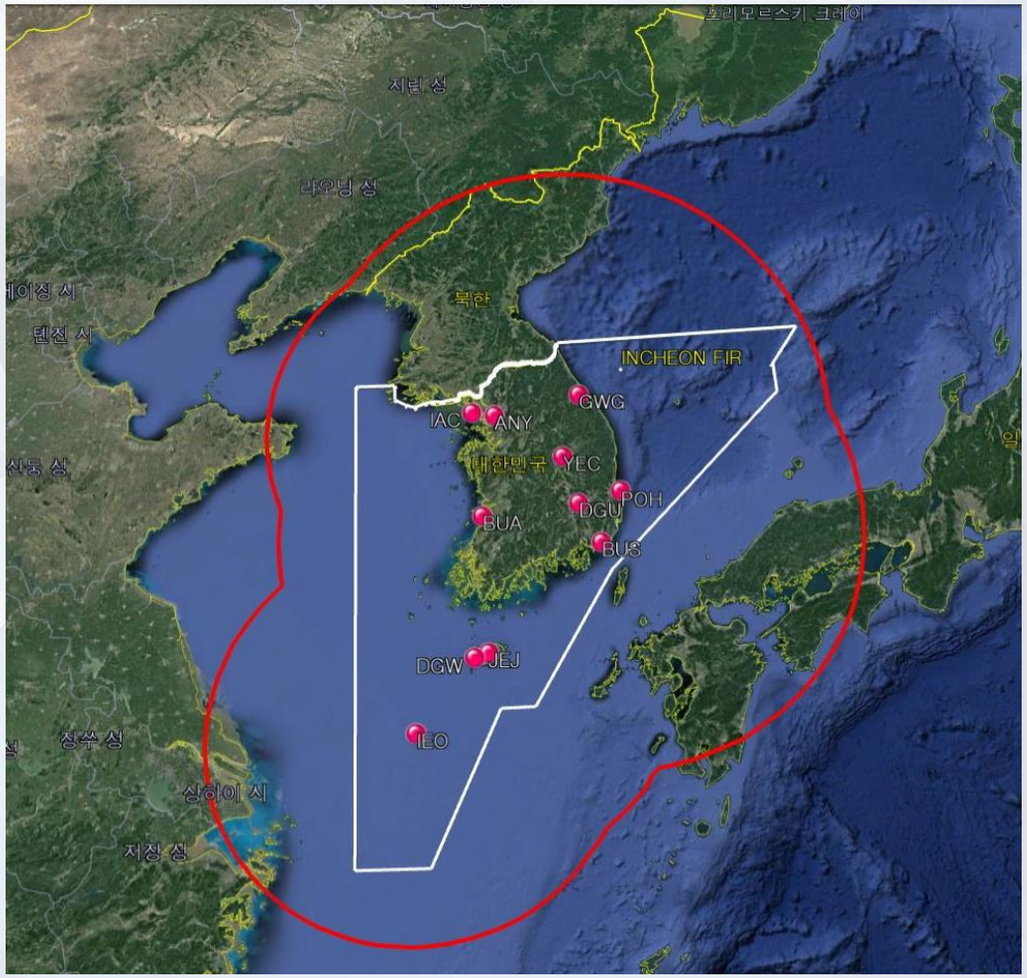
Regarding paragraph 2.8

❖ **ATS surveillance capability of Incheon ACC**



- RADAR COVERAGE

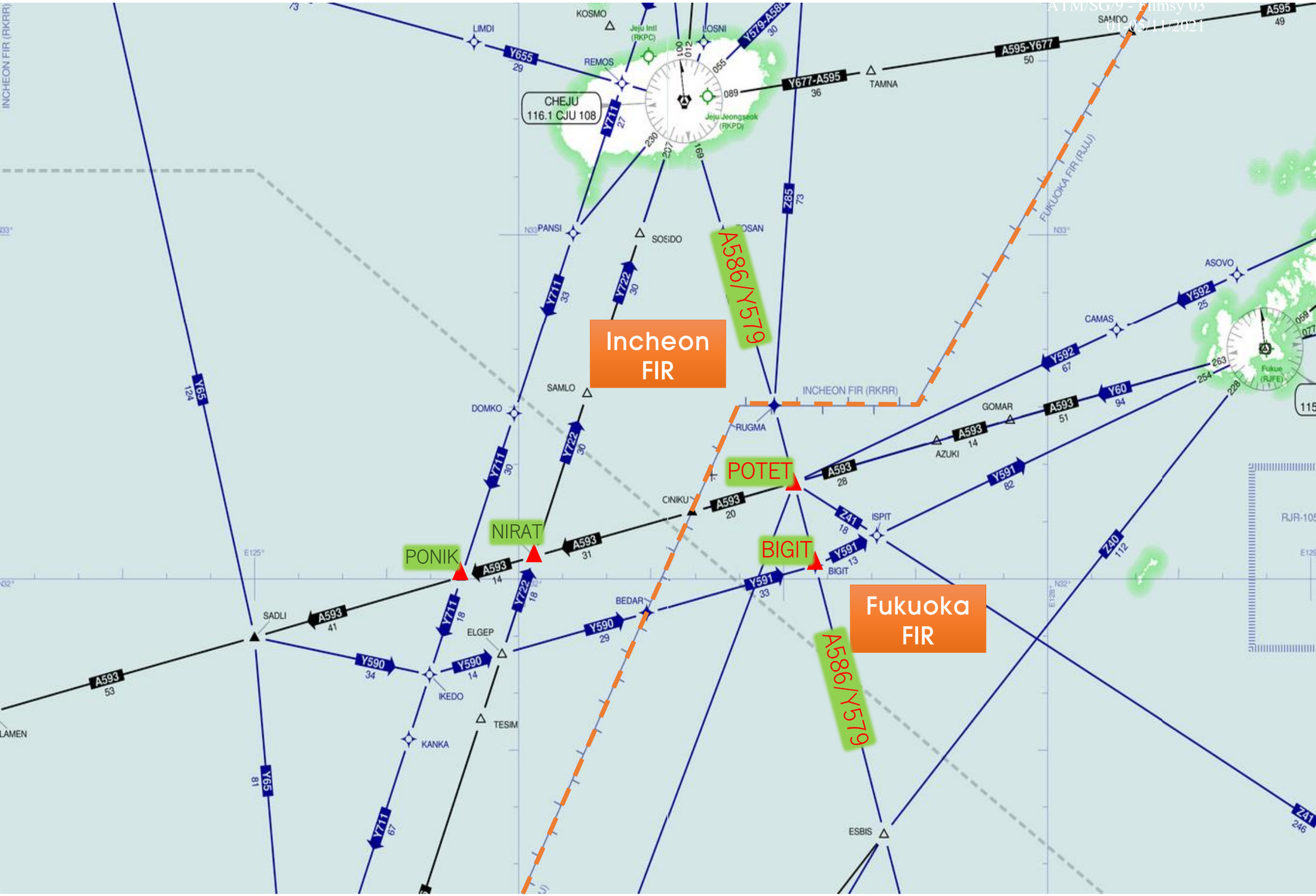


- ADS-B COVERAGE

Regarding paragraph 2.10

2.10 As a side note, there are similar intersection points within Fukuoka FIR too. Those points exist very close to the edge of the AKARA corridor airspace, the FIR boundary between Fukuoka FIR and Incheon FIR. Japan never implements FLAS at the crossing points since changing altitude from/to the FLAS altitude is believed to cause increasing ATC workload and decreasing safety and efficiency of aircraft operators. Besides, the ATS surveillance capability of Fukuoka ACC well covers around the FIR boundary between Fukuoka FIR and Incheon FIR.

- **It is believed that those points which are very close to FIR boundary between Fukuoka FIR and Incheon FIR are "POTET" and "BIGIT".**


Incheon FIR
Fukuoka FIR
A586/Y579
A586/Y579
PONIK
NIRAT
POTET
BIGIT
INCHEON FIR (RKRR)
FUKUOKA FIR (RJJJ)
CHEJU
116.1 CJU 108
Jeju Intl (RKPC)
Jeju Jeongseok (RKPD)
Fukue (RJFE)
KOSMO
LIMDI
REMOS
LOSNI
TAMNA
SAMDO
ASOVO
CAMAS
PANSI
SOSIDO
SAMLO
DOMKO
RUGMA
GOMAR
AZUKI
CINIKU
ISPIT
BIGIT
BEDAR
ELGEP
SADLI
IKEDO
KANKA
TESIM
ESBIS
LAMEN
Y655
Y711
Y722
Y579-A586
Y677-A595
A595-Y677
A595
Z85
Y592
Y60
A593
Y591
Z41
Z40
Y590
Y65

Regarding paragraph 2.10

❖ **Letter of Agreement (LoA) between Incheon ACC and Fukuoka ACC says following as below.**

5. ALTITUDE/FLIGHT LEVEL ASSIGNMENT

a. Altitudes/flight levels shall be assigned in accordance with ICAO Annex2, Appendix 3a), except the flights as follows:

(1) ATS route A586 and RNAV route Y579

(a) From Fukuoka FIR to Incheon FIR

To be odd altitudes/flight levels up to FL410, then odd flight levels at intervals of 4,000 feet.

(b) From Incheon FIR to Fukuoka FIR

To be even altitudes/flight levels up to FL400, then odd flight levels at intervals of 4,000 feet beginning with FL430 except that FL240, FL280, FL300 and FL400 shall not be assigned without prior coordination with Fukuoka ACC.

(2) ATS route A593 and RNAV route Y590/Y591/Y592

(a) From Fukuoka FIR to Incheon FIR

FL240, FL280, FL300 and FL400 shall be assigned.

(b) From Incheon FIR to Fukuoka FIR

FL250, FL290, FL310 and FL390 shall be assigned.

❖ **According to LoA 5.a.(1).(b), Incheon ACC shall not assign FL240, FL280, FL300 and FL400 without prior coordination with Fukuoka ACC. These altitudes are exactly same as FLAS of AKARA airspace. This is also FLAS.**

Result of RASMAG/26

❖ **The final report of the RASMAG/26, Appendix D, says following as below.**

RASMAG/26
Appendix D to the Report

Moving Forward

- ROK is re-configuring their control sectors in the area into Jeju North sector, Jeju South High sector and Jeju South Low sector. The high and low sectors are divided at FL335. This new arrangement will be effective on 23rd September 2021.
- The States concerned are currently under discussion for Phase 2 implementation. The result and target date will be shared as soon as consented between States concerned.
- In response to Japan's proposal to remove FLAS, the ROK confirmed the meeting that the assessment of the FLAS could not take place during Phase 1. The meeting could not come to a conclusion during the breakout session; therefore, the timeframe of the assessment will later be discussed among the States concerned.

ROK's suggestion

- The consensus between three States dated on 25 December 2020 is not the removal of FLAS. The consensus was rather that "KOCA(ROK) will consider Japan in ensuring a fair and equitable use of optimum flight levels".

- After phase 1 implementation as of 25 March this year, as a single ATC unit at crossing points, Incheon ACC of ROK is applying the increased use of Non-FLAS altitudes in consideration of traffic conditions. This means Incheon ACC is providing Fukuoka ACC with active support to enable them to assign Non-FLAS altitudes to the east-west route when there are no aircraft flying on north-south route.

- Since the FLAS is basically a subject of discussion between ATS units, it should be discussed first between States concerned. So ROK suggests discussing FLAS issue with Japan through bilateral meeting.