International Civil Aviation Organization

The Eighth Meeting of the APANPIRG ATM Sub-Group

Video Teleconference, 23 – 27 November 2020

Agenda Item 3: Performance Frameworks and Metrics

FUKUE-AKARA CORRIDOR CONSULTATIONS UPDATE

(Presented by the Republic of Korea)

SUMMARY

This paper aims to provide updates on the progress of consultations between the parties concerned since APANPIRG/30 with respect to efforts to address safety and capacity issues associated with the provision of Air Traffic Services (ATS) in the Fukue-AKARA Corridor situated in Incheon Flight Information Region (FIR).

1. INTRODUCTION

1.1 The high-level coordination meeting on the Fukue-AKARA Corridor in the Incheon Flight Information Region (FIR) was held in Montréal, Canada, on 10 October 2018 during the Thirteenth Air Navigation Conference (AN-Conf/13). ICAO and three States concerned, ROK, China and Japan, have thereafter organized four rounds of Technical Working Group (TWG) meetings.

***Note**- TWG1 held in Beijing, China from 16 to 17 January 2019, TWG2 held in Tokyo, Japan from 19 to 20 March 2019, TWG3 held in Jeju, ROK from 3 to 4 July 2019, TWG4 held in Bangkok, Thailand from 7 to 8 November 2019*

1.2 "Update on the Fukue-AKARA Corridor in the Incheon flight information region" was presented by the ICAO secretariat during the Thirtieth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/30) held in Bangkok, Thailand, from 4 to 6 November 2019.

1.3 A potentially satisfactory compromise was presented by the ICAO Secretary General during the 218th session of ICAO Council held in Montréal, Canada, on 19 November 2019, garnering broad support from the parties concerned for its details proposed in the paper, to provide continuing support for the work of a renewed TWG to implement the new ATS route structure (See appendix A). China, Japan and ROK expressed their support and commitment to work together to resolve the AKARA corridor matter. This paper presents to update on the progress of consultations between parties concerned thereafter.

2. DISCUSSION

Developments of the consultations among States concerned.

2.1 negotiations between China and ROK stalled due to the sudden outbreak of the coronavirus disease, however, both sides continued consultations in writing since May this year on detailed technical items requiring dialogues. Subsequently, China and ROK recently held a video teleconference through which both sides could find a workable approach to make the implementation of previously agreed compromise possible. Both sides also agreed to make best efforts to reach consensus on relevant issues as early as possible.

2.2 China and ROK have completed the installation of Direct Speech Circuit (DSC) for the ATC coordination between Shanghai ACC and Incheon ACC on April this year and agreed to use direct speech circuit (DSC) as an official method of ATC coordination, and put DSC on trial operation for emergency/contingency situation from the end of November this year.

2.3 The Japan and ROK have decided a new waypoint name for parallel operation in the Corridor area. With the JCAB's prior coordination, ROK conducted a flight inspection for navigational aid in the Corridor area to test if there would be any problem with ROK providing ATS for the region and found no issue in frequency exchange and radar coverage.

2.4 The Japan and ROK discussed from December 2019 to July 2020 the revision and/or update of the existing LOA between Incheon ACC and Fukuoka ACC. Both sides have come to an agreement on the draft LOA only except Flight Level Allocation Scheme (FLAS). Both sides also held a video teleconference recently in order to discuss the implementation of previously agreed compromise for the Corridor area.

2.5 The ROK completed operational readiness for the new ATS arrangement internally, for example, finalizing the coordination plan for the Incheon ACC's sectorization, updating the ATC program, providing ATCOs with training and adjusting manpower relocation in preparation for new system.

Developments of the safety management by ROK.

2.6 ***Strengthened Monitoring***. The Incheon ACC has been operating a dedicated air traffic controller and inspector position since August 2019 to double up the monitoring of traffic flow during the peak time in the Corridor area. They are mostly working on data-block correlation of Chinese and Japanese aircraft so as to have them easily identifiable and separated from Incheon ACC controlled aircraft, and monitoring has also been strengthened to prevent safety issues even amid the contingency situation such as adverse weather.

2.7 ***ADS-B Establishment and Implementation***. With the completion of ADS-B establishment in all areas of Incheon FIR on May 20, 2020, the SCAN cycle of the air route radar used by Incheon ACC was shortened from 5 to 12 seconds to 4 seconds. The radar display method used by Incheon ACC is a fusion of en-route radar and ADS-B data. The shorter monitoring cycle with the ADS-B has allowed air traffic controllers to identify more accurate data blocks and significantly improved blind area.

2.8 ***NOTAM Issuance***. The traffic volume and abnormal conditions of the Corridor has been on the continuous rise, raising flight safety concerns. Against the backdrop, ROK issued a NOTAM for Corridor area on September 6, 2019, to actively manage safety and to call attention to flight safety of airlines and pilots operating in the Corridor area.

2.9 ***Safety assessment***. ROK conducted quantitative safety assessment as an independent vertical safety assessment of the Corridor via a research institute. While PARMO used the combined TSD from the four FIRs - Shanghai, Taipei, Fukuoka, and Incheon - in the assessments, ROK confined the scope of its assessment to the Incheon FIR, resulting in different parameter values between the two assessments in terms of spatial scope, flight hours, etc. As this assessment is its first stand-alone attempt,

ROK is seeking cooperation from an organization with internationally recognized credentials. The ROK also conducted a series of qualitative safety risk assessments which identified some risk elements within a tolerable level, meaning acceptable based on risk mitigation but it may require management decision.

2.10 ***Simulation analysis***. The ROK has used Total Airspace and Airport Modeler by Boeing (TAAM) simulation tool against the current route structure and a potentially satisfactory compromise. As a result, a potentially satisfactory compromise was come out more efficient in terms of time and fuel savings that is expected to reduce about 1.2 minute of flight time and 82kg of fuel for each flight, and also safer so that it reduces passing frequency that is defined as any two flights passing through the intersection points (PONIK, NIRAT) within +/- 60 seconds of time interval and with +/- 1,000ft of vertical separation.

3. CONCLUSION

3.1 The ROK, China, Japan, and ICAO were working toward the target implementation date of 23 April 2020, but the negotiations have been delayed due to the sudden outbreak of the coronavirus disease. Despite of it, the parties concerned has recently resumed consultations in writing and through video teleconference.

3.2 While the current pandemic has temporarily reduced the air traffic volume, safety concern may resurge at any time with the expected increase of traffic in the future. As such, ROK is convinced that now is the timely moment for the transition to the new ATS structure, and wish to highlight the concerted efforts of the parties concerned in the course of the completion.

4. ACTION BY THE MEETING

4.1 The meeting is invited to:

a) note the information contained in this paper; and

b) note that the current reduced traffic volume might allow a timely opportunity to make a stable transition to the new system, especially given the time needed for preparation work.

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Appendix A. Proposed new ATS route structure