COSCAP North Asia Cooperative Development of Operational Safety & Continuing Airworthiness Programme

New ATS routes plan and the infrastructure for the provision of CNS/ATM in Pyongyang FIR

(Presented by ATMB, GACA, DPR Korea)

Summary

This presentation is to inform of new ATS routes Plan and infrastructure for the provision of CNS/ATM in Pyongyang FIR.

1. Introduction

Pyongyang FIR is not big, but favourably located in the crossway of major regional routes linking Asia with Europe and North America.

Because of this advantageous geographical location, international over-flight operations account for about 80 per cent of the total flight traffic volume and it had been steadily increasing by more than 20% over the years since 1998, when we began ATC service provision to the international over-flight operations through the Pyongyang FIR.

DPR Korea has ratified International Air Services Transit Agreement on Feb 8, 1995.

The ATMB has fully undertaken its commitment to create an efficient and effective infrastructure for CNS/ATM and optimized flight routes for the provision of safe, secure and efficient air navigation services to the international flight operations.

Now three preferred ATS routes will soon be operational under the condition of the agreements with Incheon ACC and Daegu ACC.

2. Discussion

2.1 New ATS routes plan

In the west sector of Pyongyang FIR, we have already established one new ATS route from GOLOT to POINT 2.

When flying through this route, the operators can be benefited in every ways within the segment from BIDIB to GONAV.

The total distance of original route from BIDIB to GONAV is 335NM. But using new ATS route, the total distance from BIDIB to GONAV is 271NM. We can reduce 64NM in the segment from BIDIB to GONAV.

In the east sector of Pyongyang FIR, we established two new ATS routes from RIVAT to MESOV and NULAR to MESOV.

The operators can reduce their flight time in the segments from RIVAT to NOMEX and from NULAR to NOMEX. We can reduce 69NM in the segment from RIVAT to NOMEX.

Finally, the operators can reduce about 9 minutes of their total flight times through our new ATS routes established on the west and east sectors in Pyongyang FIR.

It means the operators can save the fuel of 1200 L per one flight (for the aircraft with 4 engines).

Therefore, we can reduce CO_2 emission.

2.2 Airspace organization

Pyongyang FIR neighbouring with Khabarovsk FIR, Shenyang FIR, Incheon FIR, Daegu FIR and Fukuoka FIR covers approximately 3 hundred thousand square kilometres.

Pyongyang FIR comprises 4 classes of airspace: A, B, E and G.

Fifteen international routes stretch within or through Pyongyang FIR.

2.3 Infrastructure for the provision of CNS/ATM

The ATMB has established a main surveillance system over the Pyongyang FIR by two SSRs located at Pyongyang and Odaejin. And we have established the backup surveillance system over the Pyongyang FIR by three ADS-B ground stations located at Pyongyang, Odaejin and Kalma.

Even we use ADS-B as a backup surveillance system at present, we have a plan to use ADS-B as the main surveillance system in the near future and the preparation is well underway.

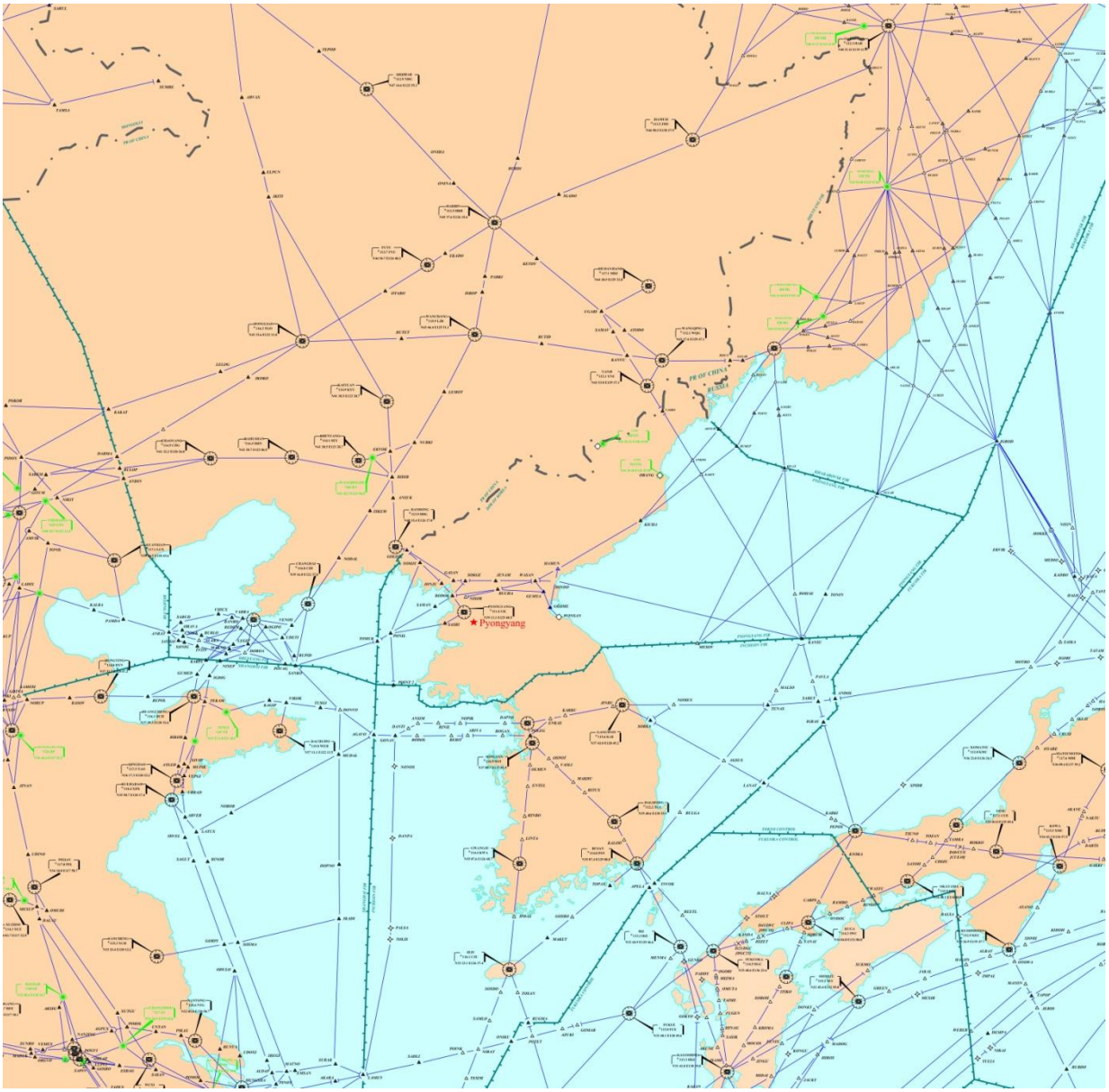
Four VHF stations have been installing and being used for air-ground and ground-air communications in Pyongyang FIR (1 at Pyongyang, 2 at Odaejin and 1 at Samjiyon).

3. Action by the meeting

3.1 The meeting is invited to note the information on this paper.

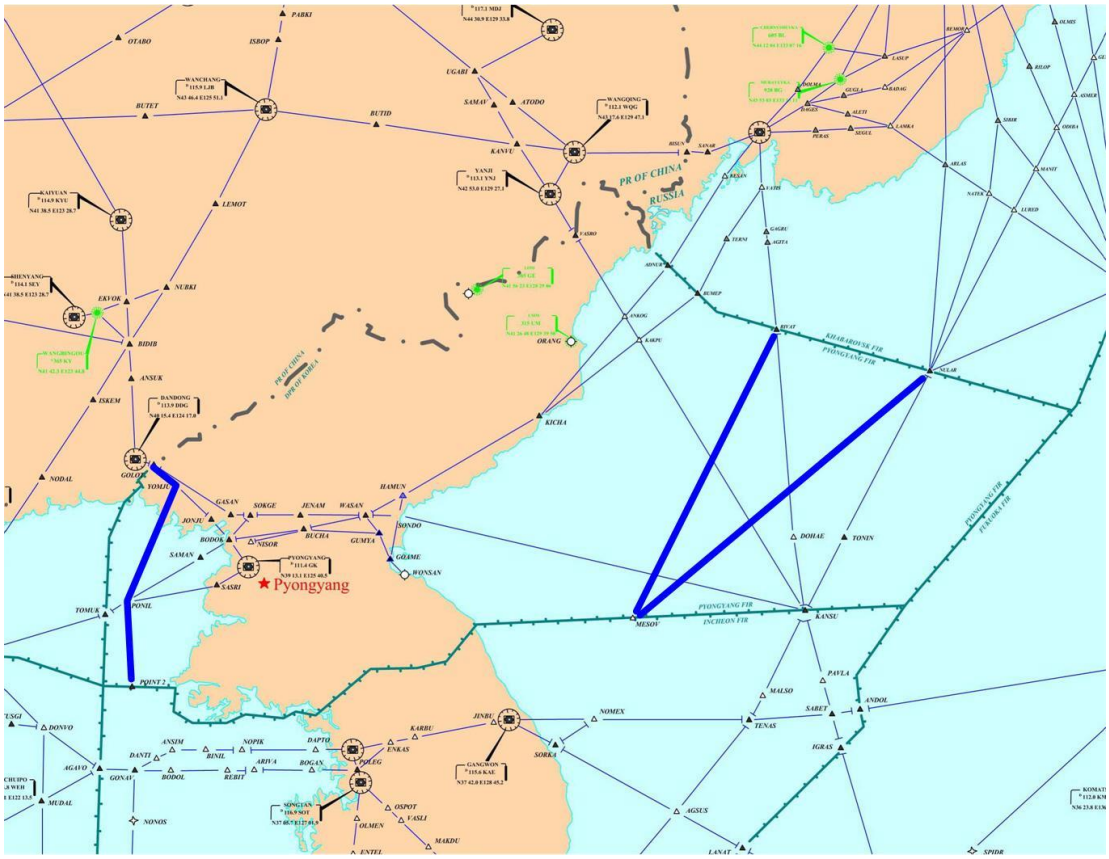
Attachment A

Air routes structures of Pyongyang FIR and neighbouring FIRs



Attachment B

New ATS routes of Pyongyang FIR



Attachment C

Current CNS infrastructure of Pyongyang FIR

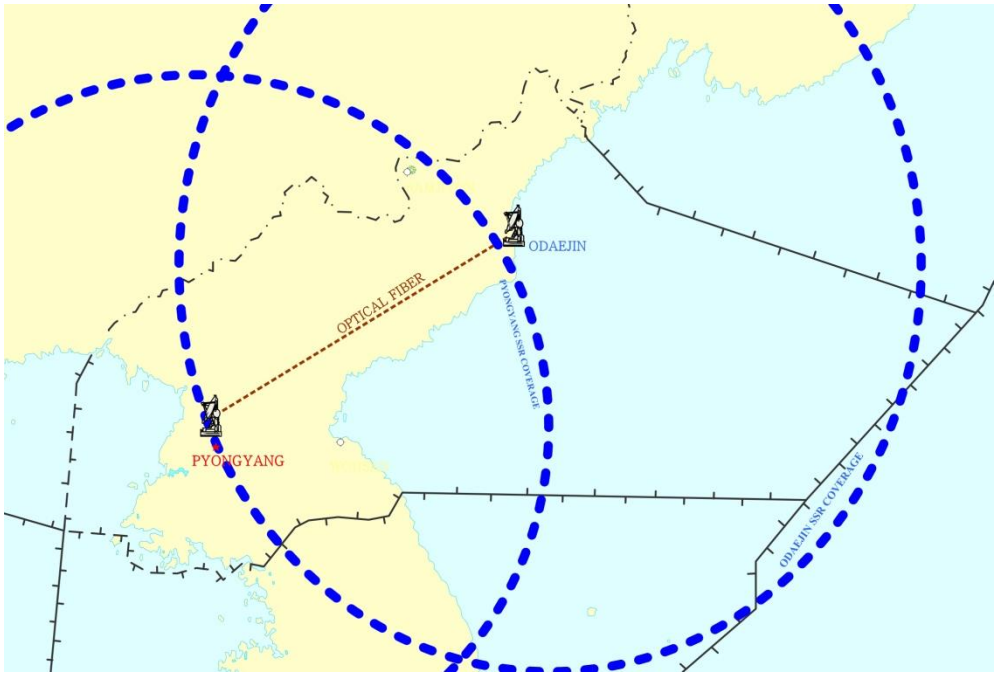


Figure C-1: Layout and coverage of SSRs

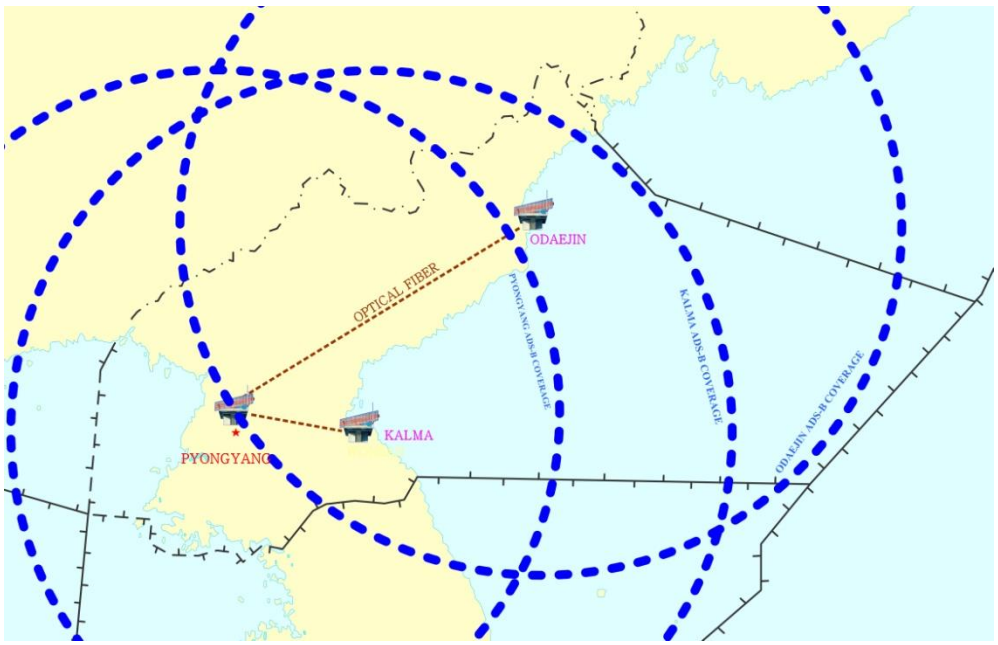


Figure C-2: Layout and coverage of ADS-B ground stations

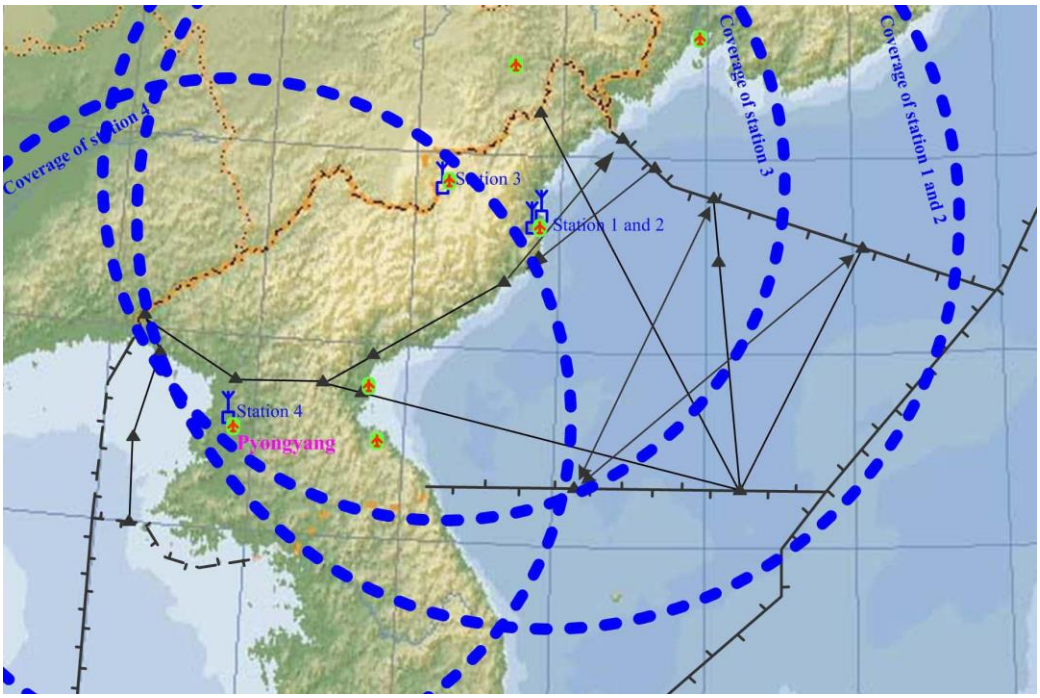


Figure C-3: Layout and coverage of VHF stations