International Civil Aviation Organization

Fifth Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (APAC ATMAS TF/5)

Chengdu, China, 5 – 7 June 2024

Agenda Item 4: ATM Automation System Implementation Experience by States

4.1 ATM Automation System Implementation Issues sharing

4.2 Integration with External Systems

SPACE-BASED ADS-B INTEGRATION IN PHILIPPINE ATM AUTOMATION SYSTEM

(Presented by Philippines)

SUMMARY

This paper presents the Space-Based ADS-B integration in Philippine ATM Automation System.

1. INTRODUCTION

1.1 The Philippine Air Traffic Management Center (PH-ATMC) of the Civil Aviation Authority of the Philippines (CAAP) operates a capacity of thirteen (13) surveillance sensors that includes one (1) ground ADS-B in Manila. The aforementioned ADS-B is enough to cover the entire Philippine airspace with the aid of ADS-C as part of ATC supplemental procedures.

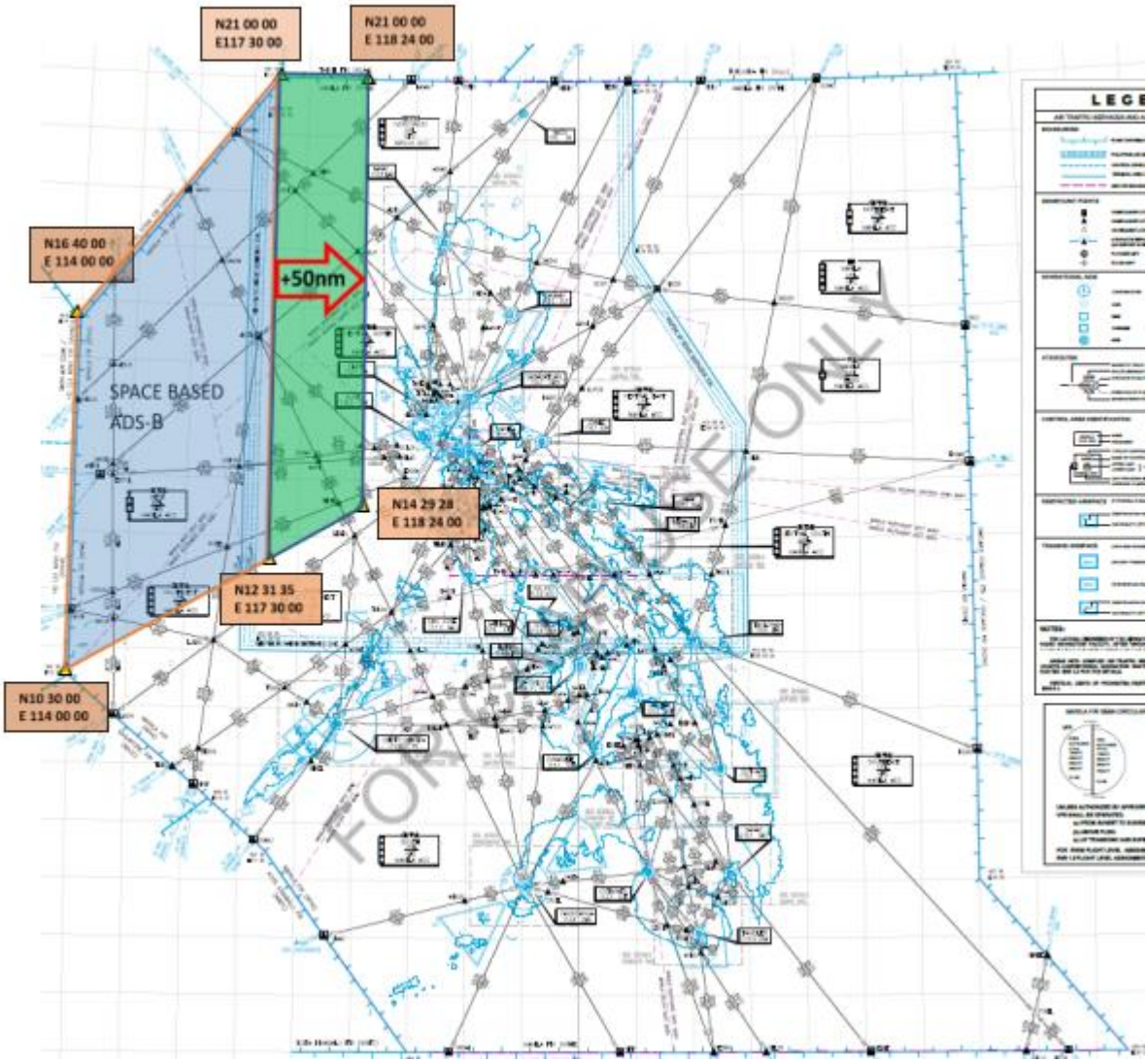
1.2 This paper presents the progress of integration of Space-Based ADS-B data in the Philippine ATM Automation System to address the gap and provides an additional layer of surveillance coverage specifically in the western part of the Philippine Flight Information Region.

2. DISCUSSION

SPACE-BASED ADS B in Philippine ATM System

2.1 The Civil Aviation Authority of the Philippines has ongoing discussions with Aireon for a subscription of Space-Based ADS-B data. The ASTERIX version is CAT 21.2.

2.2 Below, shows the coverage of Space-Based ADS-B in Philippine Airspace. The inner 50NM buffer to the right will no longer be included, instead Aireon will provide 100NM coverage to the outer boundary of Hongkong and Ho Chim Mih FIR's.



2.3 Space-based ADS-B is being used in service by Canada and the United Kingdom and over continental Canadian airspace and site acceptance has been conducted in Singapore and India as presented in CRV OG/7 – IP/03.

TECHNICAL CONSIDERATION

2.4 Safety consideration is one of the priorities for implementation. Hence, the Civil Aviation Authority of the Philippines has signed a software support services contract with the vendor of Philippine ATM Automation System. That includes integration of Space-Based ADS-B.

2.5 Initially, the Space-Based ADS-B data will be transmitted from Aerion through a VPN connection for trials and recording on a separate platform. This is prior to the completion of their Surveillance Data Processing (SDP) at the Philippine ATM Center for final service delivery point.

2.6 There are two (2) proposed methods to send data from Aerion to Philippine ATM System; one is by way of an MPLS line from Telco and the other is from the CRV network. Aireon requires at least 400 kbps of bandwidth for Space-Based ADS-B data transmission up to the service delivery point.

2.7 The date for integration will be at the end of 3Q2024, followed by tuning and with the target of completion and acceptance at the end of 4Q2024.

Conclusion

2.8 With the integration of Space-Based ADS-B into the Philippine ATM Automation System, the surveillance performance in the western oceanic region will significantly increase and give a safe, orderly flow of air traffic at various reporting points.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper; and

b) discuss any relevant matter as appropriate.

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