International Civil Aviation Organization

The Third Meeting of the APANPIRG ATM Sub-Group (ATM /SG/3)

Bangkok, Thailand, 03-07 August 2015

Agenda Item 4: ATM Systems (Modernization, Seamless ATM, CNS, ATFM)

U.S. DEPARTMENT OF DEFENSE AIRCRAFT ADS-B EQUIPAGE UPDATE

(Presented by United States of America)

SUMMARY

This paper presents information on progress of U.S. Department of Defense aircraft ADS-B equipage and modernization efforts.

1. INTRODUCTION

1.1 The U.S. Department of Defense (DoD) is modernizing the fleet to meet current and future NextGen, global ATS and PBN requirements, with the goal to minimize cost and maximize operational capabilities. Aircraft modification schedules are being developed consistent with available funding and combined with other aircraft modifications to reduce non-recurring software and hardware costs. It is estimated that it will cost the DoD approximately $5.6 billion to equip all the aircraft with ADS-B Out.

2. DISCUSSION

2.1 In the U.S., ADS-B Out is the only clear-cut, mandated NextGen avionics requirement the FAA is imposing upon the DoD, which is effective on January 1, 2020. In the Asia Pacific region, state ANSP's have already mandated ADS-B compliance for numerous routes and airspace based on the Revised Surveillance Strategy for the APAC Region and the Regional PBN Implementation Plan. Based on the Fiscal Year (FY) 2016 budget, approximately 44 % of DoD aircraft will be equipped with ADS-B Out by January 1, 2020. The preponderance of these aircraft are airlift/cargo types that operate globally. Additional funding has been requested and if obtained, ADS-B upgrades starting in FY 2016 could equip approximately 70% of DoD aircraft with ADS-B Out by January 1, 2020. With this current plan, the remaining DoD aircraft fleet (approximately 30%) would meet ADS-B Out requirement in 2027.

2.2 Global PBN requirements could reasonably be expected to impact the ability of the U.S. DoD to continue to retain assured airspace access without causing unnecessary reduction in the safe and efficient use of civil airspace by all aircraft. The DoD fleet is approximately 50% certified for RNAV 1 and 60% for RNAV 2, which will enable departure, enroute, and arrival navigation utilizing PBN procedures. The DoD fleet is approximately 60% equipped for GPS approaches, which will enable non-precision approaches utilizing PBN procedures. The DoD fleet is approximately 7% equipped for LPV approaches, which will enable precision approaches utilizing PBN procedures. There is not currently a comprehensive plan/schedule for all DoD aircraft to be equipped for PBN procedures as it is not mandated in most airspace.

2.3 Although Article 3 of the Chicago Convention exempts state (military, customs, police service) aircraft from applicability of civil mandates, the U.S. DoD acknowledges that the sharing of surveillance data, such as ADS-B, is a major safety benefit to civil and military air traffic. In Asia-Pacific, U.S. DoD and state aircraft are afforded this exemption to the maximum extent possible and prefer to use the state aircraft exemption methodology versus operating due regard for the safety of navigation of civil aircraft.

3. CONCLUSION

3.1 The meeting is invited to note the information contained in this paper; and discuss any relevant matters as appropriate.

…….