INTERNATIONAL CIVIL AVIATION ORGANIZATION

TWENTY-SECOND MEETING OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG/22)

Bangkok, Thailand, 5-9 September 2011

Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.2: ATM/AIS/SAR

GLOBAL HAWK OPERATIONS IN THE PACIFIC

(Presented by the United States of America)

SUMMARY

This paper provides the updated status of United States Pacific Air Force Global Hawk Remotely Piloted Aircraft (RPA)/Unmanned Aircraft Systems (UAS) (RQ-4) aircraft operations in the Pacific.

Strategic Objectives:
*A: **Safety** – Enhance global civil aviation safety*

Global Plan Initiatives:
GPI-6 Air traffic flow management
GPI-9 Situational awareness

1. INTRODUCTION

1.1 The majority of this paper was presented at 21st meeting of ATM/AIS/SAR Sub-Group of APANPIRG in Jun 11. This updated paper provides additional information that was generated from discussion at the meeting.

1.2 The United States Pacific Air Force (PACAF) in cooperation with the United States Department of Defense has based the Global Hawk Remotely Piloted Aircraft (RPA) in the Pacific Region. These aircraft provide high altitude (below FL600), long endurance (up to 30 hours) surveillance and reconnaissance capability in support of regional stability initiatives.

1.3 Three Global Hawk aircraft currently operate out of Andersen Air Force Base, Guam located in the Marianas Islands. In accordance with standing Federal Aviation Administration (FAA) policy, access to the United States National Airspace System (NAS) is provided under an approved Certificate of Authorization (COA). This COA utilizes a Temporary Flight Restriction (TFR), segregating its operation from normal aircraft operations while outside of Class A airspace. Within Class A airspace, all aircraft are afforded standard IFR separation services from ANSPs. As technology improves that will provide an equivalent level of safety as “see and avoid”, the segregated airspace operations will no longer be required.

2. DISCUSSION

2.1 The Global Hawk RPA files an international IFR flight plan, flies standard ATS routes to the maximum extent possible. Routes are pre-programmed into aircraft computer systems, but pilots on the ground are able to comply with standard ATC instructions. Communications between the pilot on the ground and ANSPs are maintained directly through the aircraft. While the aircraft is in the terminal environment, communications are relayed directly with and through line-of-sight (LOS) radios and beyond LOS, communications are relayed through satellites in real time.

2.2 Global Hawk has an FAA approved Airworthiness Certificate using guidance from MIL-HDBK-516a pursuant to USAF Policy Directive 62-6. The unmanned aircraft system (UAS) is comprised of configurable elements including associated remote pilot stations and required Command and Control (C2) links such as KU SATCOM. Other features include, flight planning software, aircraft health monitoring, and launch and recovery elements (LRE). The LRE located at Andersen Air Force Base provides Line of Sight launch and recovery capability and transitions C2 and communications to a remote pilot on the ground. Navigation is provided through a certified RNAV/GPS system.

2.3 Recent Global Hawk flight operations include successful Search and Rescue missions of a lost vessel near the eastern Manila FIR and over twenty five long endurance flights in the Fukuoka FIR in support of Operation TOMODACHI following the devastating earthquake and tsunami. Pacific Air Forces (PACAF) is currently working with the Korean Ministry of Land, Transport and Maritime Affairs on an application for operational approval for the Global Hawk in the Incheon FIR in support of security initiatives.

2.4 Pacific Air Forces is diligently coordinating numerous regional emergency and divert locations in the unlikely event of such a situation occurs. Several locations have been negotiated and secured in the spirit of ICAO Civil/Military Cooperation initiatives and Doc 9554 (*Manual Concerning Safety Measures Relating to Military Activities Potentially Hazardous to Civil Aircraft Operations)* describing coordination between military units and ATS units and the requirements to establish and maintain close cooperation with military authorities responsible for activities that may affect flights of civil aircraft.

2.5 Pacific Air Forces also acknowledges the March 14, 2011 ICAO Circular 328-AN/190 *Unmanned Aircraft Systems* and issues relating to due regard for the safety of navigation of civil aircraft, safe integration of UAS into non-segregated airspace, licensing and medical qualification of UAS crew, technologies for detect and or sense and avoid systems, frequency spectrum (including protection from unintentional or unlawful interference). Development of separation standards from other aircraft, Standards and Recommended Practices (SARPs), with supporting Procedures for Air Navigation Services (PANS) to improve routine operation of UAS throughout the world in a safe, harmonized and seamless manner comparable to that of manned operations are paramount.

2.6 Pacific Air Forces intends to participate in the upcoming ICAO Asia/Pacific Regional Civil/Military Cooperation Seminar/Workshop in early 2012 and will be able to provide input on regional UAS procedures.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper and encourage open dialogue with all States regarding development of SARPS and PANS for integration of RPAs in the region.

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