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AIC

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NIUSKY AIR TRAFFIC MANAGEMENT SYSTEM OPERATIONAL TRANSITIONS

1. INTRODUCTION

- 1.1 Under Project NiuSky, PNG Air Services will be transitioning all Air Traffic Services (ATS) in Port Moresby to a new computerised Air Traffic Management (ATM) system that will progressively facilitate significant safety and efficiency related enhancements.
- 1.2 Transition activities have already commenced in June 2017 and will continue for approximately eighteen (18) months.
- 1.3 The following table details the anticipated transition sequence;

ATS Group	Description	Transition date(s)
Moresby Centre (123.4 MHz)	Within the Port Moresby FIR Class A Airspace (CTA) above FL245	August to November 2017
Moresby Approach & Enroute Radar (119.3 - ACC) (125.8- PY APP)	Approach, Departures and Arrivals within the Port Moresby CLASS C airspace (CTA) below FL245	February to May 2018
Jacksons Tower (118.1 - ADC) (121.7 - SMC)	Aerodrome control and Surface movement within Jacksons AD	February to May 2018
Moresby Flight Service (124.9, 120.9, 127.1, 120.7, 124.1, Moresby HF)	FIS Sectors 1, 2, 3, 7, 8 and 9.	October to December 2018

- 1.4 To support a smooth transition to the new system, PNG Air Services will require operators of aircraft in Papua New Guinea to adjust some aspects of their flight planning and equipment operation.

2. FLIGHT PLANNING REQUIREMENTS

- 2.1 The NiuSky ATM system is driven by a central Flight Data Processing computer that is capable of automatically receiving and processing flight plans and other aircraft movement messages.

- 2.2 Flight plans that do not strictly comply with the format defined in ICAO DOC-4444 PANS-ATM 16th Edition 2016 will be rejected by the system which will likely result in delays in service delivery.
- 2.3 Aircraft operations within PNG airspace without a pre-submitted and accepted Flight Plan will not be permitted.
- 2.4 To minimise delays, operators are encouraged to ensure that all flight plans submitted are in the ICAO DOC-4444 format specified in Para 2.2. (Note: Flight plans submitted via NAIPS are compliant)
- 2.5 Operators are to ensure that the elements contained in Field 15 of the ICAO flight plan are;

- Published waypoints and/or,
- Published air-routes

Entry of non-published points, un-recognised routes or incorrect use of route elements will lead to rejection of the flight plan by the ATM system.

- 2.6 Operators of PNG registered aircraft that are operating domestically and are not using a Flight Number Callsign (FNC) are reminded to flight plan using the three letter aircraft registration only. The 'P2' prefix should only be added if the flight is operating internationally.
- 2.7 PNG Air Services and CASA PNG will be notifying operators of recurrent flight planning errors.

3. SSR CODE ASSIGNMENT

- 3.1 The NiuSky Flight Data Processing system will automatically manage the allocation of SSR codes for each flight plan.
- 3.2 In September 2017, the system will assume responsibility for SSR code allocation for all flights intending to operate within the Port Moresby Controlled Airspace (CTA).
- 3.3 Once the NiuSky system assumes SSR code allocation, the current practice of the use of discrete 'skin codes' for domestic airframes in PNG will cease.
- 3.4 PNG Air Services will be conducting trials of the new code allocation process in late August 2017.
- 3.5 Operators will be notified of the trials and the operational cutover by NOTAM.

4. AUTOMATIC DEPENDENT SURVEILLANCE BROADCAST (ADS-B)

- 4.1 PNG Air Services has installed a pair of ADS-B receivers at Burns Peak (Port Moresby). These receivers are capable of receiving data from suitably equipped aircraft at ranges up to 250 nautical miles.
- 4.2 At the conclusion of the NiuSky transitions, PNG Air Services expects to have deployed a further seven (7) ADS-B sites across PNG. This is expected to provide 'radar-like' surveillance coverage above FL280 across the FIR and low-level coverage in the vicinity of Tokua, Lorengau, Nadzab, Wewak, Gurney and Jacksons airports.
- 4.3 During the preliminary testing of these receivers, a number of avionics setup and flight planning issues have been identified. These errors must be addressed prior to the operational use of ADS-B data.
- 4.4 Operators are to ensure that the carriage of MODE-S transponder and ADS-B OUT equipment is correctly entered in field 10b of the ICAO Flight Plan as per ICAO DOC-4444 PANS-ATM 16th Edition 2016.

MODE-S Transponder	
Field 10b	Meaning
E	Transponder — Mode S, including aircraft identification, pressure-altitude and extended squitter (ADS-B) capability.
L	Mode S, including aircraft identification, pressure-altitude, extended squitter (ADS-B) and enhanced surveillance capability.

ADS-B IN/OUT	
Field 10b	Meaning
B1	ADS-B with dedicated 1090 MHz ADS-B “out” capability
B2	ADS-B with dedicated 1090 MHz ADS-B “out” and “in” capability

- 4.5 The Flight Identification (FLTID) entered into the aircraft avionics must match the Aircraft Identification (Callsign) submitted in Field 7 of the ATS Flight Plan.

For example;

(FPL-ANC-IS
-F100/M-SDFHIRZW/LB1
-AYMH0415 -N0430F310 DCT MH YABAL PY DCT
-AYPY0047 -PBN/A1 COM/SATCOM DOF/170129 REG/P2ANC
EET/YABAL0006 OPR/AIRNIUGINI PER/C **RMK/ANG185**)

The Flight identification (FLTID) is to be entered as **ANC**.

- 4.6 Operators are to ensure that the ADS-B out equipment installed in the aircraft meet the mandate requirements as per CAR Part 91.
- 4.7 ADS-B data transmitted by the avionics contains report quality indicators that Air Traffic Services use to determine whether the data is suitable for use.

Aircraft failing to meet the following ADS-B performance criteria will have their ADS-B data filtered from the system;

Characteristic	Requirement
Position Accuracy	<ul style="list-style-type: none"> Navigation Accuracy Category (NAC) = 5 (or better)
Position Integrity	<ul style="list-style-type: none"> Navigation Uncertainty Category (NUCp) = 3 or better; or Navigation Integrity Category (NIC) = 4 (or better) and Surveillance Integrity Limit (SIL) = 2 (or better)
System Design Assurance (SDA) – for DO260B installations	<ul style="list-style-type: none"> At least 2

- 4.8 PNG Air Services has detected a number of aircraft operating within the Burns Peak ADS-B coverage area that are transmitting quality values below what is operationally acceptable.
- 4.9 The NiuSky ATM system will automatically exclude reports that do not meet the necessary quality standards. This may lead to cases where surveillance services cannot be provided and/or exclusion of the flight from ADS-B mandated airspace.
- 4.10 PNG Air Services and CASA PNG will be notifying operators of aircraft that are transmitting invalid or incorrect ADS-B information.

5. GUIDANCE MATERIAL

- 5.1 During September 2017, PNG Air Services will commence publication of Flight Planning and ADS-B setup guidance material via their website:

www.pngairservices.com.pg/NiuSky/guidance

6. CANCELLATION

This AIC will remain current until further notice.

7. CURRENT AICs

2002: 1.

2003: 1

2004: 1.

2006: 1.

2016: 2, 4.

2017: 1, 4, 5, 6.