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Our Ref: AIC 15-R16/13-1007

Safety recommendation: AIC 15-R16/13-1007

Addressed to: Civil Aviation Safety Authority of PNG

Date issued: 7 August 2015

Investigation link: AIC 13-1007

Action status: Issued

Safety deficiency description

On 19 October 2013, an Avions de Transport Régional ATR42-320 freighter, registered P2-PXY (PXY) and operated by Air Niugini, taxied to depart from runway 25 at Madang Airport. The take-off roll was normal until the pilot in command tried to rotate at V_R (which the flight crew had calculated to be 102 knots). He subsequently reported that the controls felt very heavy in pitch and he could not pull the control column back in the normal manner. Flight data recorder (FDR) information indicated that approximately 2 seconds later the PIC aborted the takeoff and selected full reverse thrust. He reported later that he had applied full braking. It was not possible to stop the aircraft before the end of the runway and it continued over the embankment at the end of the runway (Figure 2) and the right wing struck the perimeter fence.

The investigation found that the aircraft load was in excess of the maximum permissible weight, and cargo zone 'A' at the front cargo area was significantly heavier than the structural limit for the aircraft, which placed the aircraft in a nose heavy configuration. Air Niugini's lack of robust loading supervision and procedures for the ATR 42/72 aircraft, and the inaccurate weights provided by the consignor/client company likely contributed to the overload.

The investigation also found the following:

- The Madang Airport runways do not have runway end safety areas (RESA) at either end. The PNG Civil Aviation Rules permit ATR 42/72 and Fokker 100 aircraft to operate into Madang and other airports within PNG that do not have a RESA.

While the evidence strongly suggests that PXY would not have been able to be stopped in the available length even if a RESA had been available, this must be viewed as a greater safety hazard for the higher weight faster take-off speed jet aircraft such as the Fokker 100.

- The Madang runway did not conform to the International Civil Aviation Organization (ICAO) Annex 14 Standard.

The PNG Civil Aviation Rule 139.53 makes provision for PNG operators of aircraft carrying more than 20 passengers on regular public transport flights to operate to and from Madang even though Madang Airport's runway does not have RESA at either end.

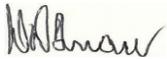
- Article 38 to the Convention on International Civil Aviation imposes an obligation on signatory States to notify ICAO of any differences between their national regulations (rules) and practices and the International Standards contained in the Annexes.
- At the time of the accident the CASA PNG has not notified the ICAO of the difference in its CAR's from the ICAO Annex 14 RESA Standard.

Recommendation number AIC 15-R16/13-1007 to the Civil Aviation Safety Authority of PNG

The Accident Investigation Commission recommends that the Civil Aviation Safety Authority of PNG ensure that PNG airline operators' (Air Niugini; Airlines PNG; Travel Air Ltd; Hevilift (PNG) Ltd) published procedures mitigate the risks associated with a runway end safety area (RESA) not being available at PNG airports, other than Port Moresby International (Jacksons Airport). The runway end safety area requirements are contained in ICAO Annex 14 Volume 1.

Action requested

The AIC requests that the Civil Aviation Safety Authority of PNG note recommendation AIC 15-R16/13-1007 above, and provide a response to the AIC within 60 days of the issue date, and explain (including with evidence) how CASA PNG has addressed the safety deficiency identified in the AIC investigation report AIC 13-1007.



David Inau, ML

Chief Executive Officer

Civil Aviation Safety Authority of PNG (CASA) response

Despite reminders being sent to CASA, the AIC did not receive a response from CASA addressing the identified safety deficiency.

PNG Accident Investigation Commission (AIC) assessment of Civil Aviation Safety Authority of PNG (CASA) response

As a result of the AIC not receiving a response from CASA addressing the identified safety deficiency with respect to AIC 15-R16/13-1007 addressed to CASA, the AIC assigned this nil response an **unsatisfactory** rating, and records the **Status of the AIC Recommendation: Active**



David Inau, ML

Chief Executive Officer

13 October 2015

Civil Aviation Safety Authority of PNG (CASA) response

The AIC wrote to CASA on 24 November 2016 listing this among the recommendations to CASA that were still outstanding. On 29 November 2016, the Director of CASA PNG informed the AIC that:

CASA undertook a review of CAP Part 139 in 2015 and amended Part 139 Aerodromes – Certification and Operations to include the requirement for runway end safety area (RESA). CASA also consulted with the industry and stakeholders on this matter and after careful consideration made a decision that RESA is imposed by ICAO for international airports for international operations and that CASA is obligated to comply with this requirement at international level but as far as practicable apply this at domestic airports where there are practical limitations at airports with land use and so forth.

The amended Part 139 became effective on 1 January 2015 however; a Transition rule Part 20 is in place to enable implementation of RESA by the aerodrome operator by 1 April 2018. Monitoring of this implementation will then be undertaken by CASA as part of its safety oversight of the aerodrome operators.

Rule 139.53(c) (2) states the requirement for domestic air operations within PNG.

In respect to Article 38 to the Convention on International Civil Aviation, PNG does not need to file differences with ICAO as it is compliant with international standards reflected in CAR 139.53 (c) (1) for international operations.

Rule Part 100 on Safety Management System require air operators to publish procedures to identify hazards and set strategies to mitigate the risks associated with their operations including operations into aerodromes where RESA does not exist.

PNG Accident Investigation Commission (AIC) assessment of Civil Aviation Safety Authority of PNG (CASA) response

The AIC has reviewed the CASA PNG response addressing the identified safety deficiency with respect to AIC 15-R16/13-1007 addressed to CASA. The AIC assigned this response a **satisfactory** rating, and records the **Status of the AIC Recommendation: Closed.**



David Inau, ML

Chief Executive Officer

7 December 2016