

# OFFICE OF THE CHIEF COMMISSIONER

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Safety recommendation: AIC 20-01/19-2001

Addressed to: National Airports Corporation (NAC)

Date issued: 18 May 2020

**Investigation link: AIC 19-2001** 

**Action status: Issued** 

# Safety deficiency description

On 22 May 2019, at 07:11 UTC (17:11 local), a major power outage occurred at Jacksons International Airport, Port Moresby, National Capital District, which lasted for 13 hours and 29 minutes. During the power outage, four aircraft that conducted scheduled passenger operations (3 domestic and 1 international) under Instrument Flight Rules<sup>1</sup> (IFR) to Jacksons were affected. Two of the aircraft diverted to alternate airports. For the two-remaining aircraft, one was able to continue and land at Jacksons, while the international flight had to delay at the departure airport in order to arrive at Jacksons during daylight.

In the context of the occurrence, Jacksons International Airport was unable to maintain the provision of the services, operational baseline declared in the PNG AIP and required by national regulations and international standards for commercial aircraft operation, including landing and navigation aids, runway and taxiway landings amongst others, due to the failure of both the primary and secondary sources of electrical power.

The lack of services availability affected four aircraft conducting commercial air transport passenger operations. Only one of the aircraft that was informed about the power outage 19 minutes after it commenced was able to continue the approach and landing using other aids that remained available and visual references because the weather conditions showed no restrictions for VMC and natural lighting was still present.

The primary source of power for the airport facilities and services relies on the electrical grid feed by PNG Power Limited, and in the event of a failure of this system such as the one that happened in the context of the investigated occurrence, the secondary power source is expected to enter into operation automatically to restore the operation of the critical facilities, services and aids required for air transport operations.

<sup>&</sup>lt;sup>1</sup> IFR, Rules applied in cloud or whenever external cues are below VFR minima which prohibit non-IFR pilots/aircraft. Source: The Cambridge Aerospace Dictionary.

Nevertheless, at the time of the occurrence the secondary power source was unable to enter into operation as a consequence of faulty and failed essential operational components. The investigation documented that environmental conditions, prolonged use of obsolete components, improper and inadequate maintenance and servicing, lack of technical documentation and proper training for technical personnel contributed to the occurrence.

Additionally, it was determined that the power system configuration and components dated from early 1990's and were expected to be replaced after approximately 15 years, which to the date of this report was not yet achieved.

The AIC has concluded that the power systems at Jacksons International Airport did not meet the operational baseline required to comply with the minimum international standards of ICAO Annex 14 - Aerodromes and national regulations included in CAR Part 139 Aerodrome – Certification and Operation to ensure operational continuity for air transport operations. Upgrading Jacksons Airport power systems will be essential to actually meet the minimum standards to ensure that continuous reliable power is supplied to essential facilities and services, to avoid similar occurrences jeopardizing safety in the future.

#### Recommendation number AIC 20-01/19-2001 to NAC

The PNG Accident Investigation Commission (AIC) recommends that the National Airport Corporation should ensure that all the issues identified in the context of this investigation are rectified in a timely manner to improve and upkeep the Power Systems at Jacksons International Airport to achieve an operational baseline consistent with the minimum international applicable standards of ICAO Annex 14 and national regulations included in CAR Part 139 Aerodrome – Certification and Operation, ensuring the availability of a Secondary power source when required to maintain operational continuity.

### **Action requested**

The AIC requests that NAC note recommendation AIC 20-01/19-2001, and provide a response to the AIC within 90 days of the issue date, and explain (including with evidence) how NAC has addressed the safety deficiency identified in the safety recommendation.

## **Closing Statement**

On 17 August 2020, NAC informed the PNG Accident Investigation Commission of the *Safety Action* taken to address the deficiencies identified in Safety Recommendation AIC 20-01/19-2001 and provided evidence with regard to it. NAC stated that:

- "Immediate action taken to correct and restore power supply back to Jacksons International Airport included:
- i. Disconnection of Southern Substation from the Jacksons International Airport high voltage ring.
- ii. Connection of Southern Substation to 2G Estate PNG Power Source.
- iii. Installation of a new Ring Main Unit, Automatic Transfer Switch for the 180KVA Cummins Local Genset."

NAC also stated that in order to prevent similar occurrences in the future, the entire high voltage facilities and equipment at Jacksons International Airport will be replaced and upgraded. The scope and cost has been already determined but the project will be subject to funding allocation.

The AIC assigned this response as *satisfactory* and recorded the **Status of the AIC recommendation: CLOSED RESPONSE ACCEPTED.** 

**HUBERT NAMANI, LLB** 

Chief Commissioner 8 September 2020