

AIC Head Office, Level 1, NAQIA Haus, Portion 81, Moera Tobo Rd, 6 Mile PO Box 1709, Boroko 111 National Capital District Papua New Guinea

Telephone: (675) 323 2911
Facsimile: (675) 323 2139
Email: hnamani@aic.gov.pg

Safety recommendation: AIC 20-03/19-2001

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 Rules¹ (IFR) for 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.

I FR, 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 investigation identified that there was a lack of documented processes and procedures for maintaining and operating the power supply system, and a lack of proper training for the technical personnel responsible for the maintenance of the power system.

Recommendation number AIC 20-03/19-2001 to NAC

The PNG Accident Investigation Commission (AIC) recommends that the National Airport Corporation should ensure that all technical officers responsible for the maintenance of the Power Systems at Jacksons International Airport should be equipped with the skills and knowledge for continuous upkeeping of the systems.

Action requested

The AIC requests that NAC note recommendation AIC 20-03/19-2001, 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 provided response to the AIC 20-03/19-2001 stating that:

"The Jacksons International Airport has three (3) highly qualified and competent senior electrical trades person with high voltage license Class II which limited to High Voltage Switching and Safety Procedures. Class II license only permits electrical trades persons to perform high voltage switching only, repair and maintenance, preventative maintenance including HV design and audits are not applicable and these are currently outsourced by NAC to its contractors."

In their response, NAC also proposed a preventative action statement as follows:

"In order to prevent similar occurrences in the future, the management of NAC has taken a proactive approach to replace and upgrade the entire high voltage facilities and equipment at Jacksons International Airport. To date, the project scope and cost estimates have been completed and submitted to CADIP to be funded by ADB.

As part of the high voltage upgrade electrical project, qualified electrical trades personal including electrical engineers will be trained and licensed to perform some of the activities to ensure asset integrity and upkeeping of the system."

According to AIC findings during the investigation and the safety deficiencies identified, NAC technical officers are responsible for maintaining the power system, and without equipping these officers with appropriate skills and knowledge, the risk will remain. The project for upgrading the system NAC is proposing, when implemented, may address the safety deficiencies, however, there is no time frame for the actual implementation and, moreover, in the meantime, the safety deficiencies that gave origin to this Safety Recommendation will not be effectively addressed.

The AIC assigned the response from NAC as unsatisfactory and recorded the Status of the AIC recommendation: CLOSED RESPONSE NOT ACCEPTED.

HUBERT NAMANI, LLB

Attion

Chief Commissioner
8 September 2020