



# PNG AIC capacity development case study





# An overview





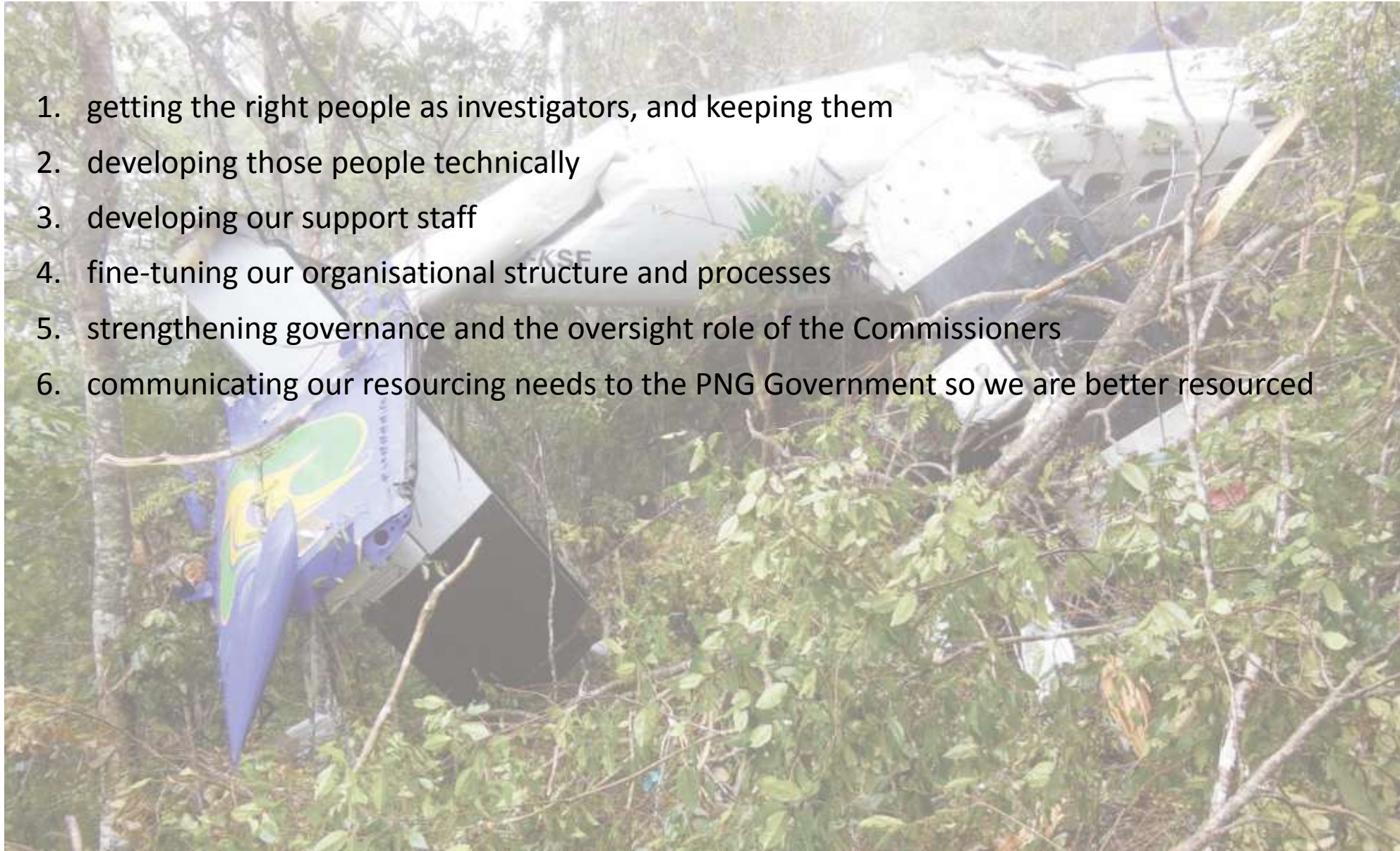
## Marcus Matthews, AIC-ATSB





## Principal challenges

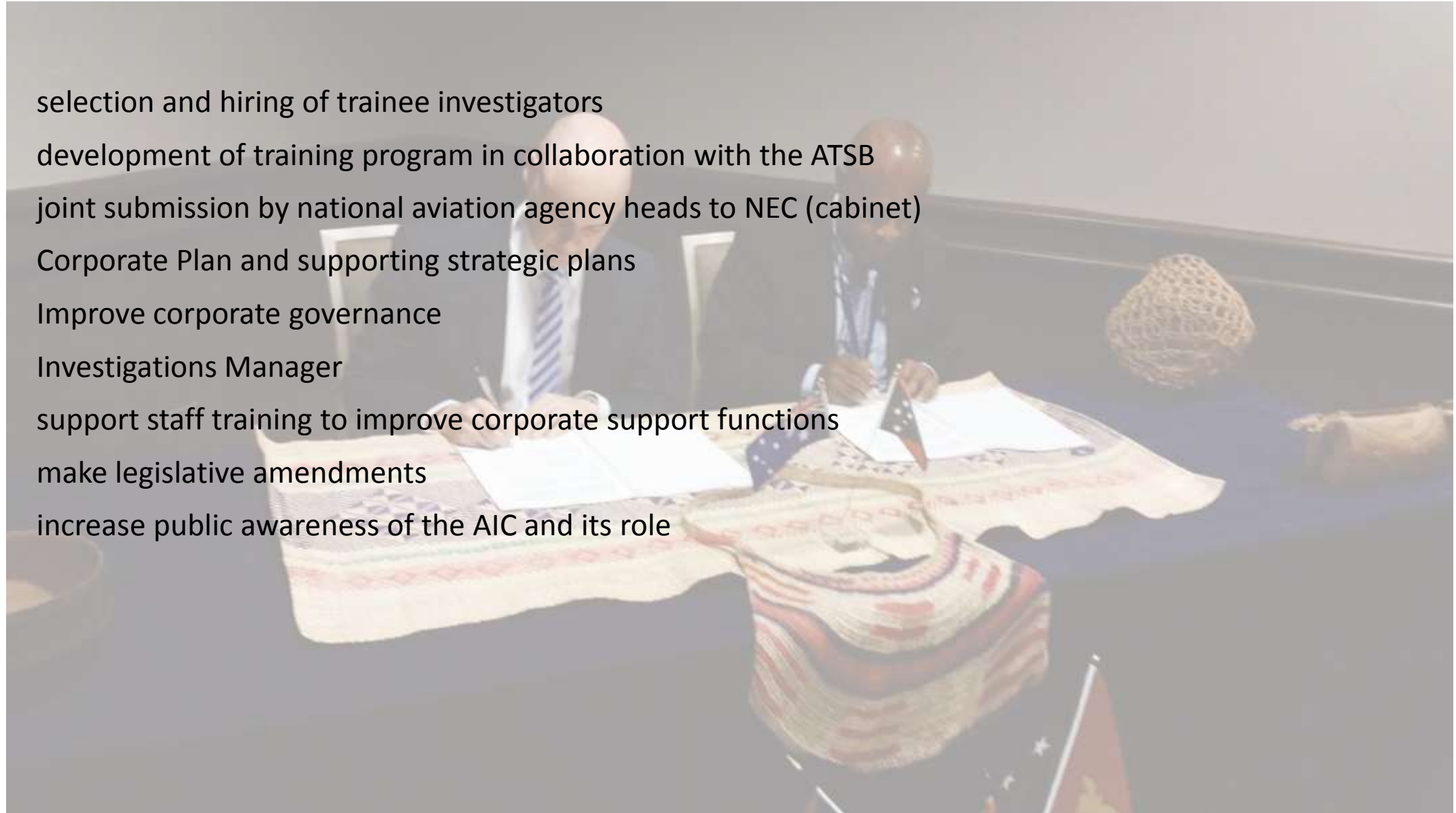
1. getting the right people as investigators, and keeping them
2. developing those people technically
3. developing our support staff
4. fine-tuning our organisational structure and processes
5. strengthening governance and the oversight role of the Commissioners
6. communicating our resourcing needs to the PNG Government so we are better resourced





## The next 5 years

- selection and hiring of trainee investigators
- development of training program in collaboration with the ATSB
- joint submission by national aviation agency heads to NEC (cabinet)
- Corporate Plan and supporting strategic plans
- Improve corporate governance
- Investigations Manager
- support staff training to improve corporate support functions
- make legislative amendments
- increase public awareness of the AIC and its role





**Simbari, E Highlands, Cessna 206G, March 2012**





## Baseline assessment of the AIC's capacity







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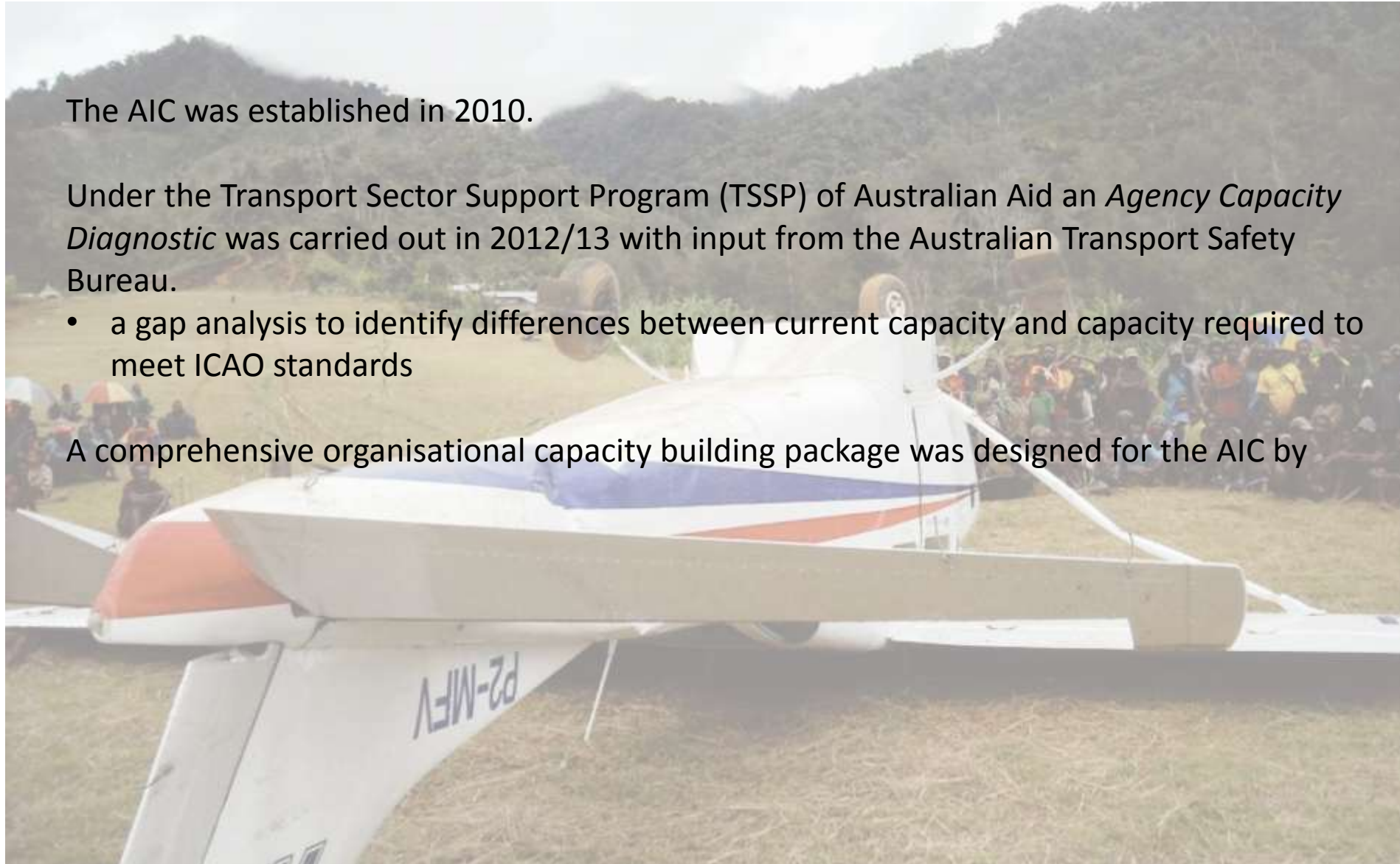
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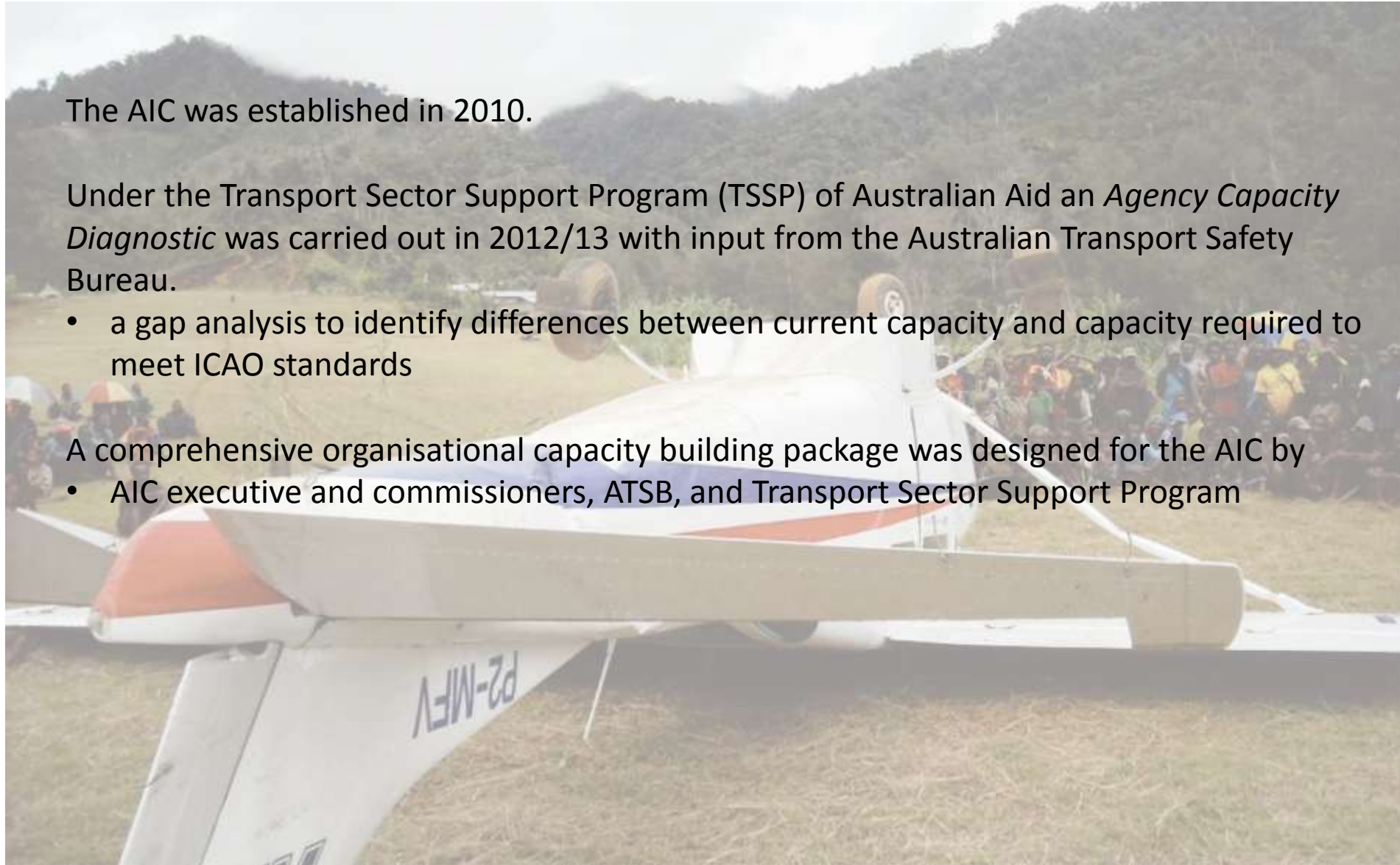
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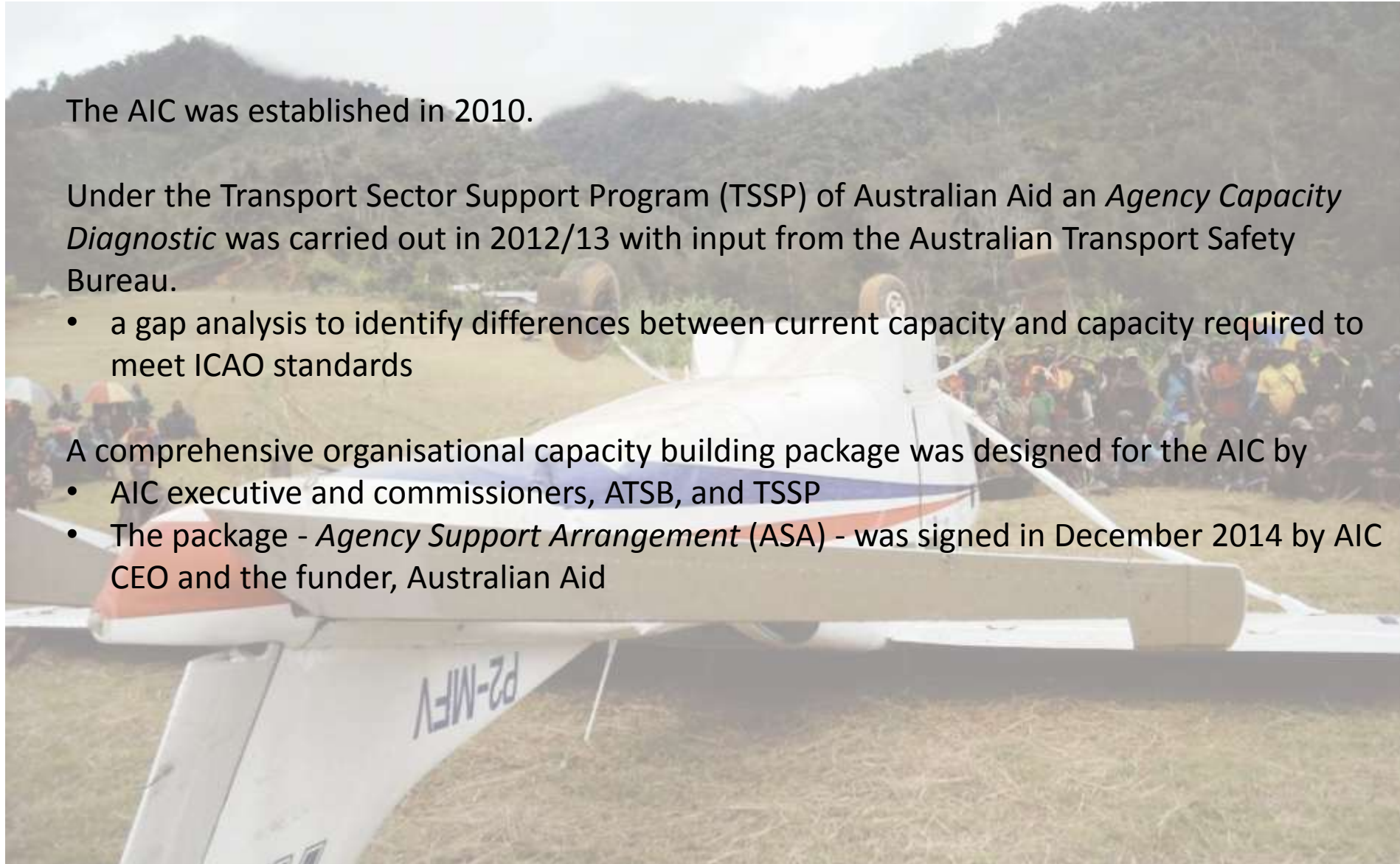
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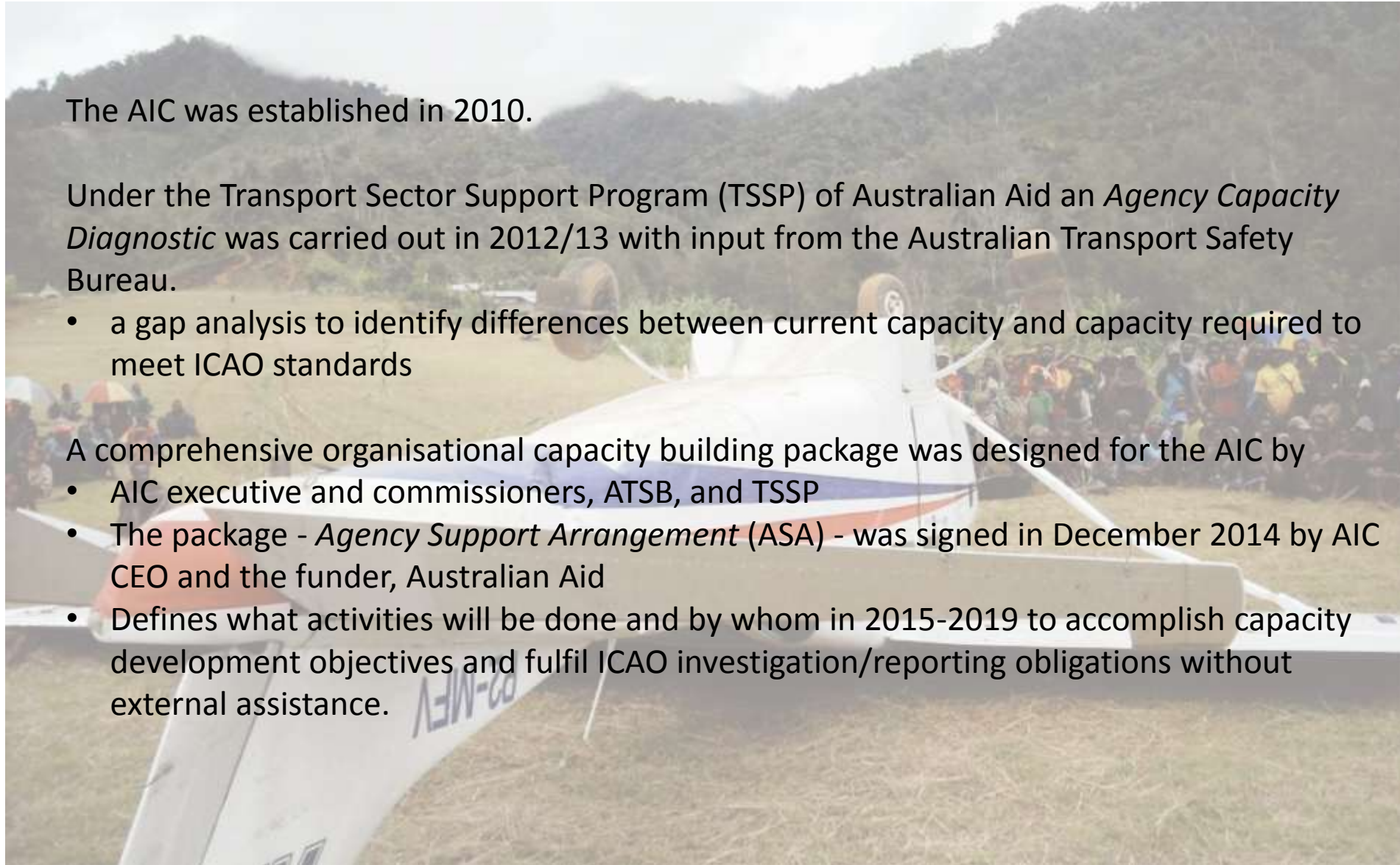
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- AIC executive and commissioners, ATSB, and TSSP
- The package - *Agency Support Arrangement (ASA)* - was signed in December 2014 by AIC CEO and the funder, Australian Aid
- Defines what activities will be done and by whom in 2015-2019 to accomplish capacity development objectives and fulfil ICAO investigation/reporting obligations without external assistance.





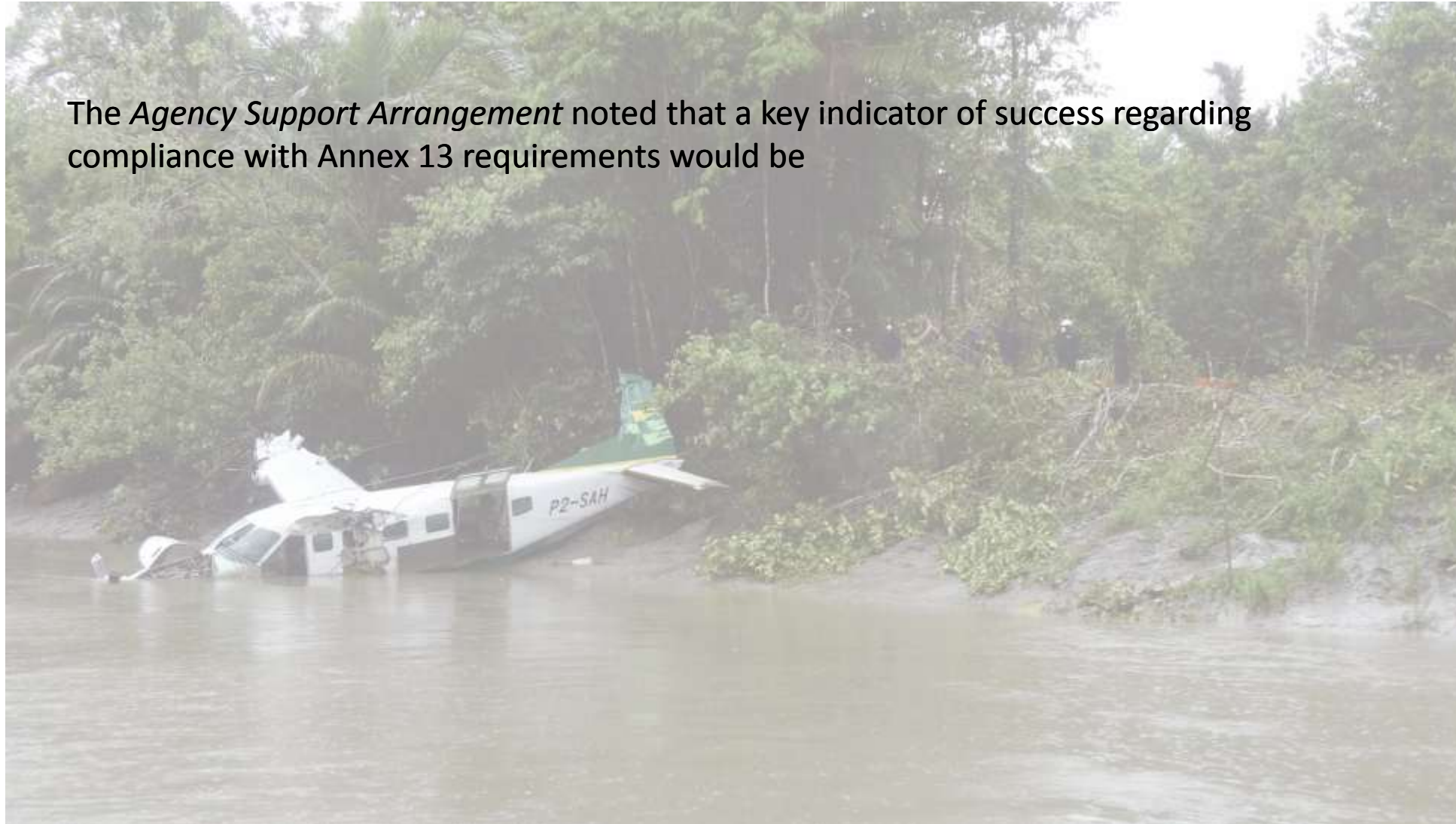
**Kibeni, Western province, C208 Caravan, November 2013, 3 fatalities**





## Solutions

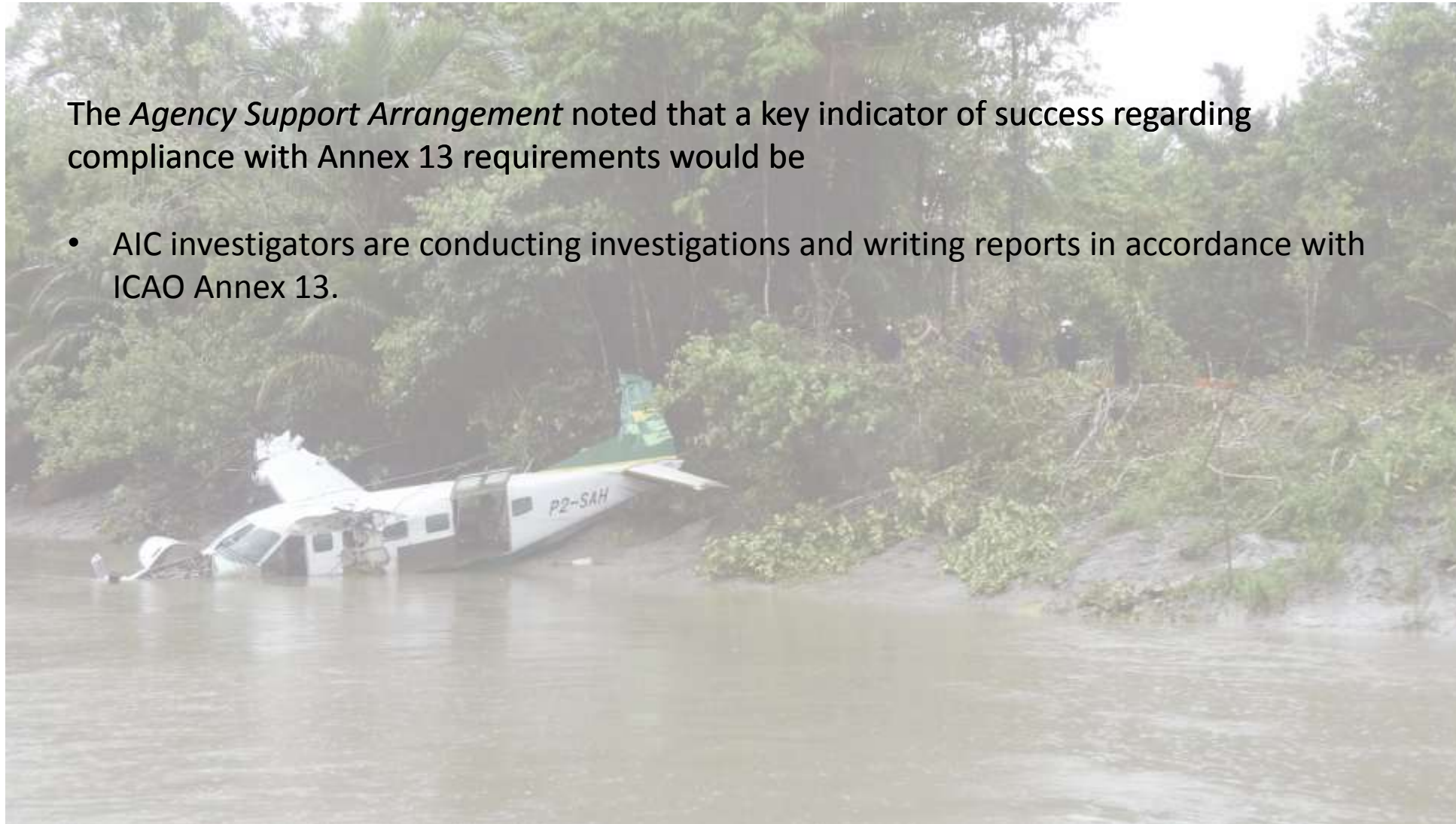
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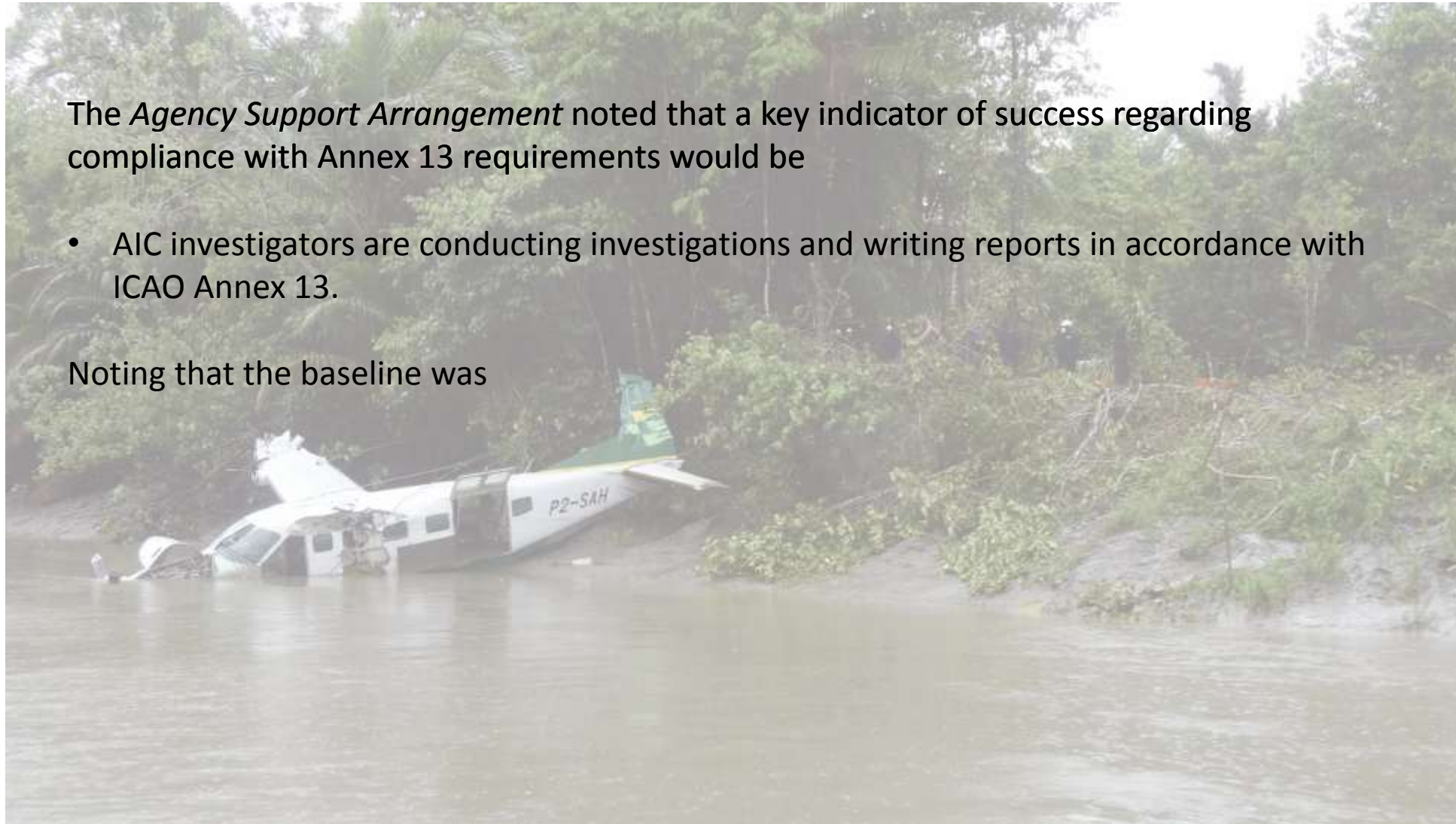


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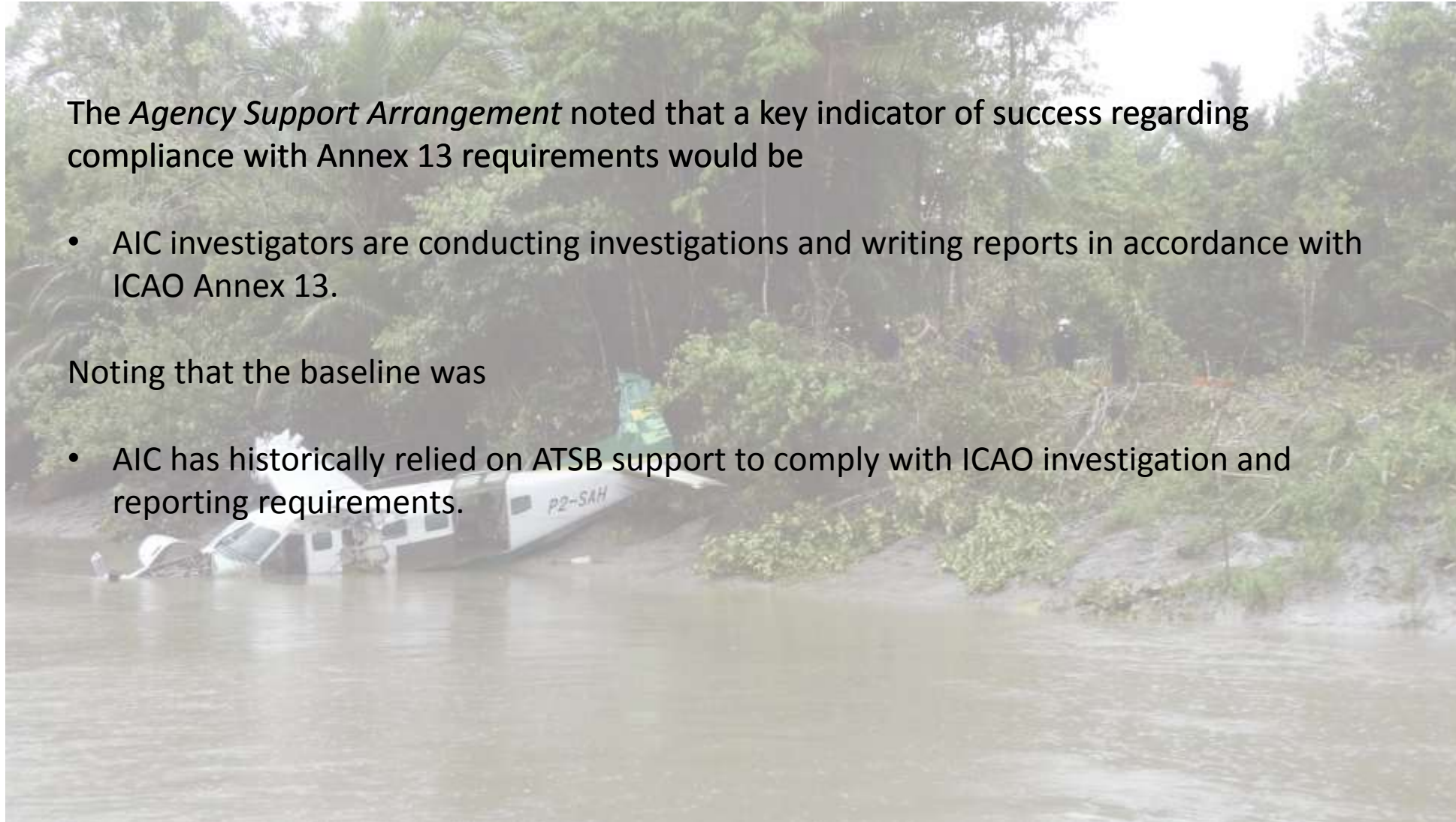
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- AIC has historically relied on ATSB support to comply with ICAO investigation and reporting requirements.





## Air Niugini Training Centre, Port Moresby



## Solutions

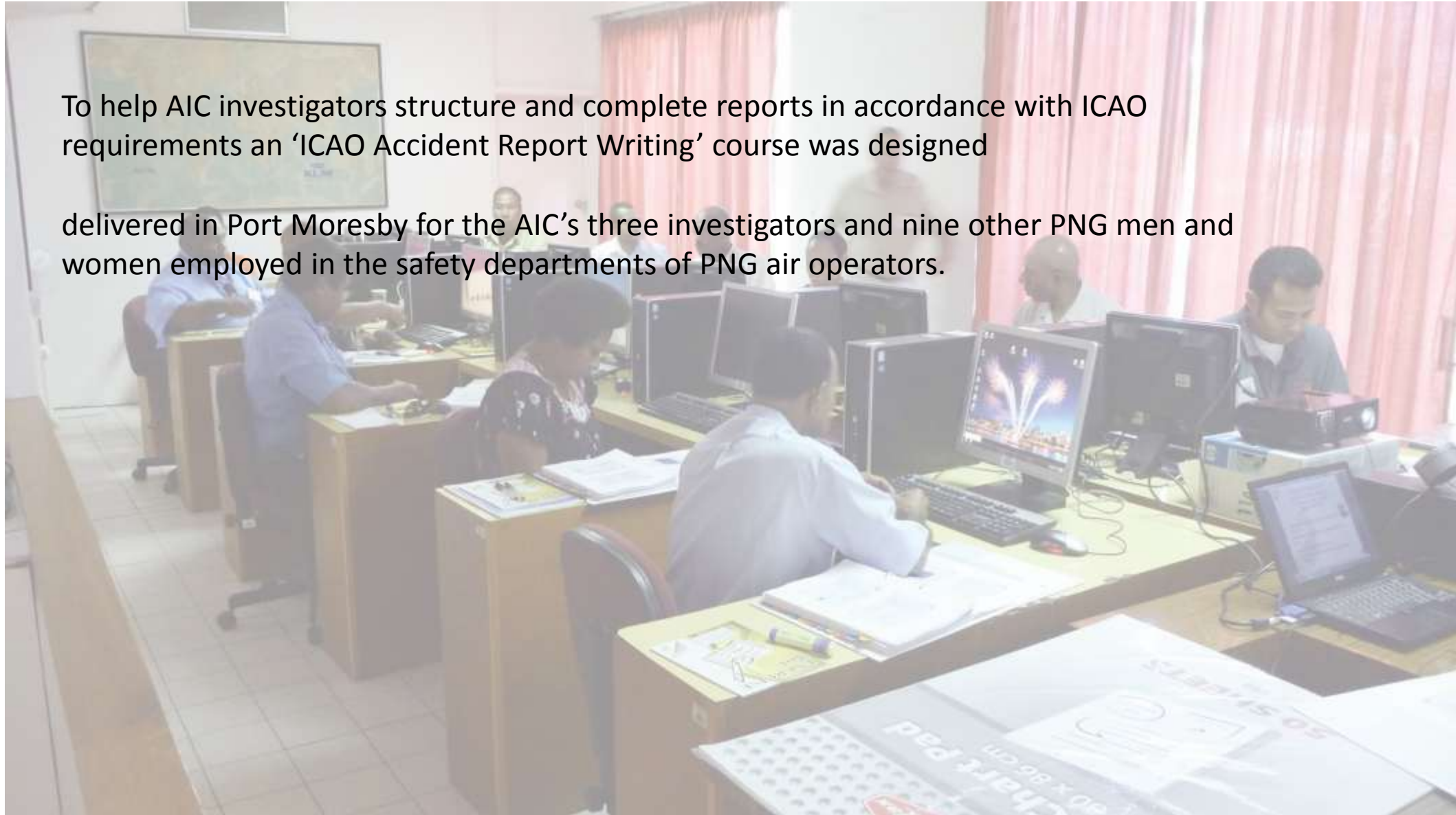
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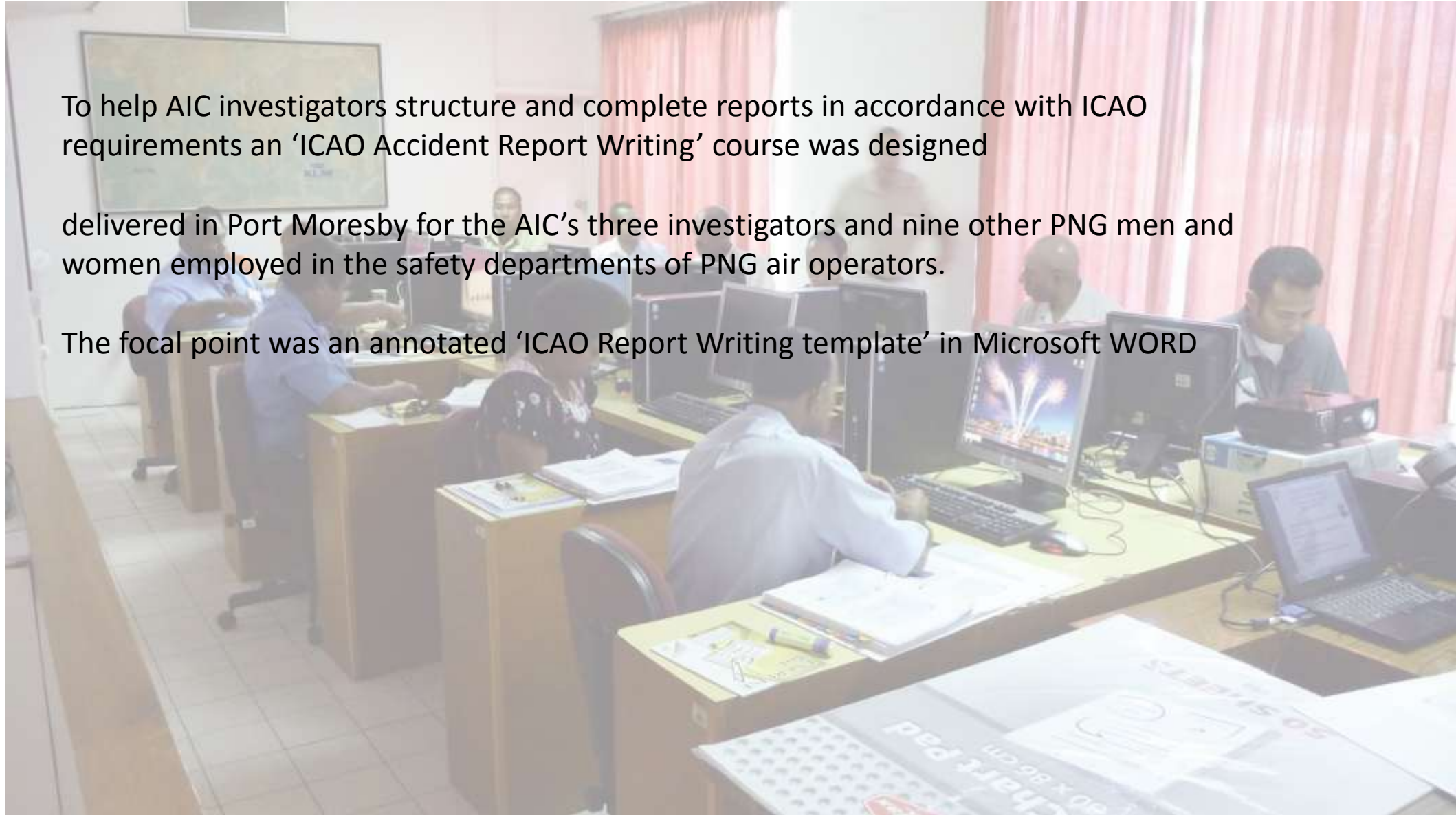


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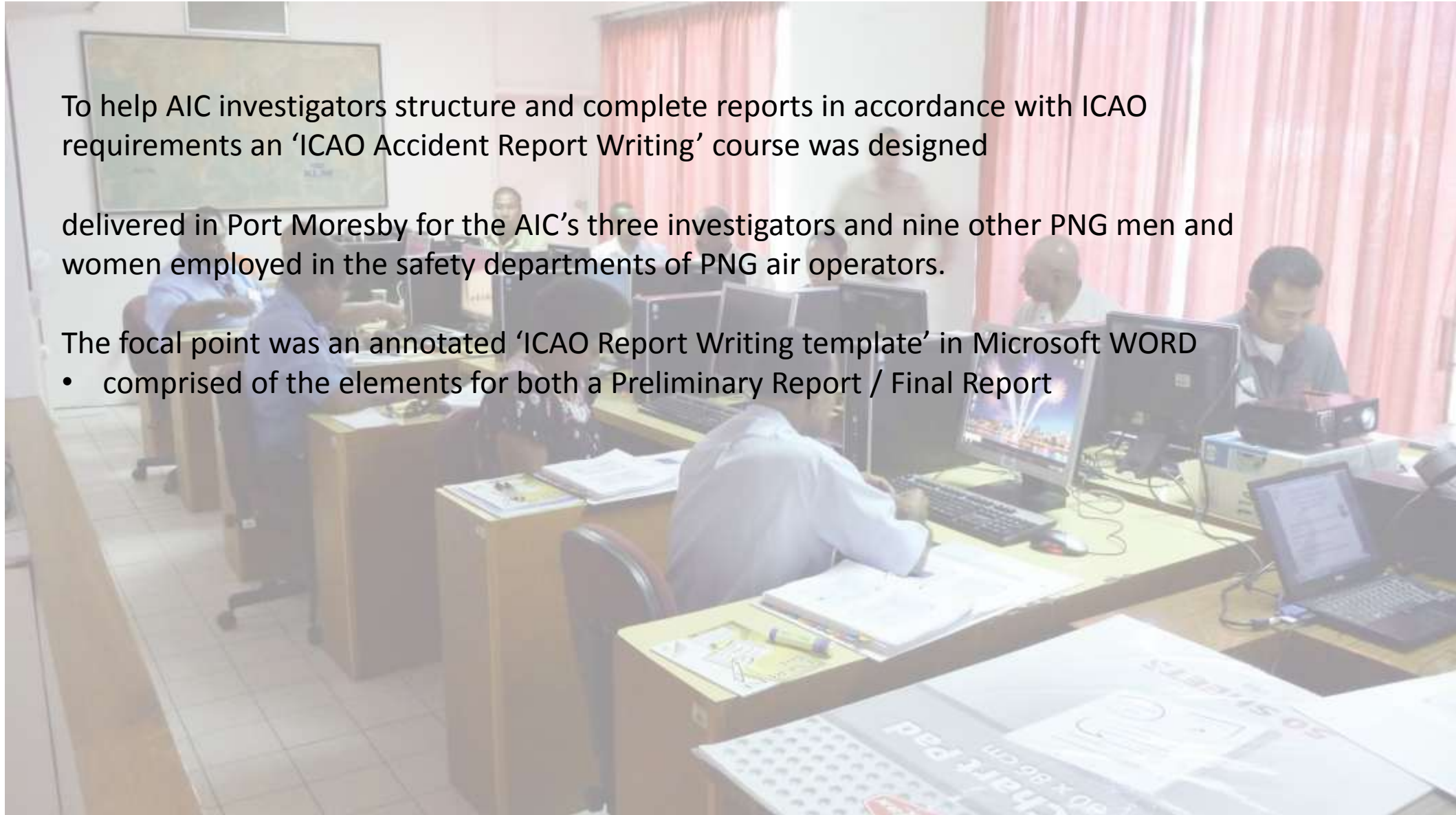
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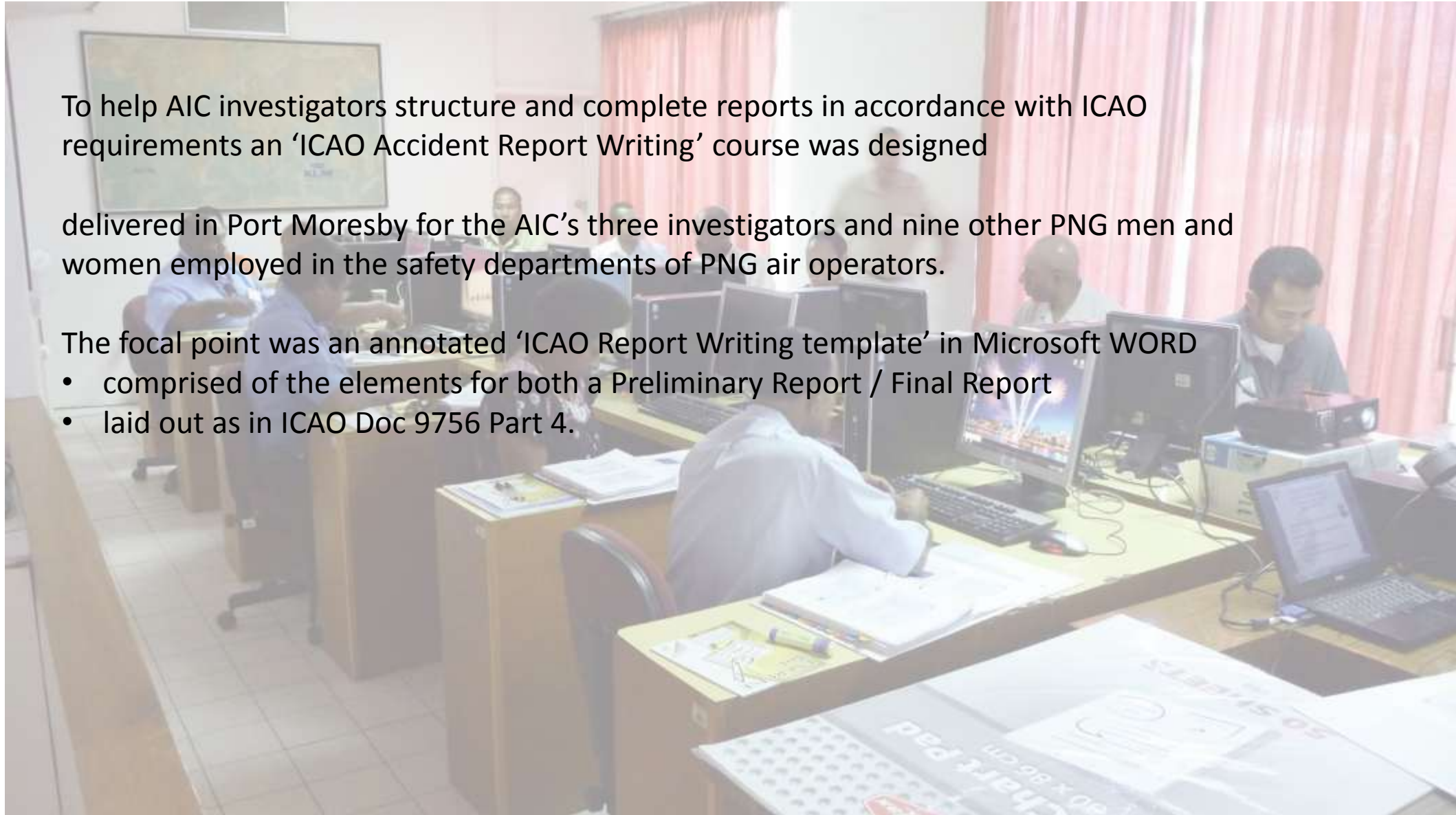
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- laid out as in ICAO Doc 9756 Part 4.





## ICAO RW template 1

### INTRODUCTION

#### SYNOPSIS

The introduction should contain a synopsis which briefly describes the accident. It should provide an overview of the accident flight, a statement of why the accident happened and a brief summary of the injuries and damage.

The synopsis could be described as an executive summary of the Final Report and should usually not exceed one page in length.

#### Note:

The title page, or the inside cover, may contain a statement on the accident prevention objective of the investigation and the Final Report. It may also be stated that it is not the purpose of the investigation and the Final Report to apportion blame or liability.

For example, the following text may be considered: "In accordance with Annex 13 to the Convention on International Civil Aviation, it is not the purpose of aircraft accident investigation to apportion blame or liability. The sole objective of the investigation and the Final Report is the prevention of accidents and incidents."

The title page inside cover may also contain a statement regarding the responsibility for implementing the safety recommendations.

For example, the following text may be considered: "Unless otherwise indicated, recommendations in this report are addressed to the regulatory authorities of the State having responsibility for the matters with which the recommendation is concerned. It is for those authorities to decide what action is taken."

The introduction should contain a reference, usually a footnote, to the time of day used in the report, and the differential between local time and Co-ordinated Universal Time (UTC).

A table of contents, a list of abbreviations used in the report and a list of appendices will enhance the readability of the report.

### 1 FACTUAL INFORMATION

#### 1.1 HISTORY OF THE FLIGHT

Should include:

- Flight number, type of operation, last point of departure, time of departure (local time or UTC), point of intended landing.<sup>1</sup>
- Flight preparation, description of the flight and events leading to the accident, including reconstruction of the significant portion of the flight path, if appropriate.
- Location (latitude, longitude, elevation), time of the accident (local time or UTC), whether day or night, witness accounts.
- Chronology of Events if appropriate (refer to the TJX and Timor CFIT reports) – chronology can refer to flight path plots included as an Appendix*

#### 1.2 INJURIES TO PERSONS

*Requires a 'Yes' or 'No' type of response.*

If 'Yes', should include:

- Number of fatal, serious, minor and nil injuries to crew, passengers and other persons in tabular form

**Table 1: Injuries to persons**

Injuries	Flight crew	Passengers	Total in Aircraft	Others
Fatal	-	-	-	-
Serious	-	-	-	-
Minor	-	-	-	Not applicable
Nil Injuries	-	-	-	Not applicable
TOTAL	-	-	-	-

- Nationalities of passengers and crew, including fatalities and serious injuries for each nationality
- If 'No (injuries)' include a statement such as:

*"There were no injuries to persons as a result of this occurrence."*



## ICAO RW template 2

*The writer must recognize the human suffering that is associated with an accident by using respectful and discreet language in the report. If sensitive information must be reported because it pertains to the causes or safety deficiencies, it should be reported with due sensitivity.*

### 1.3 DAMAGE TO AIRCRAFT

Requires a 'Yes' or 'No' type of response.

Should include a brief statement of the damage sustained by aircraft in the accident, such as *destroyed, substantially damaged, slightly damaged, no damage.*

If 'NO' include a statement such as:

*"The aircraft was undamaged."*

### 1.4 OTHER DAMAGE

Requires a 'Yes' or 'No' type of response.

Should include a brief description of damage sustained by objects other than the aircraft, including details of any significant damage to the environment.

If 'NO' include a statement such as:

*"There was no other damage to property and/or the environment."*

### 1.5 PERSONNEL INFORMATION (Blue text examples)

- (a) Information about each of the flight deck crew members including: age, validity of licences, ratings, mandatory checks, flying experience (total and on type) and relevant information on duty time.

**Note:** If the pilot information is not relevant, for example if the aircraft hit an animal that strayed onto the runway during the landing roll and there were no injuries to the aircraft's occupants. The only items of possible statistical relevance and interest may be the pilots' ages, gender, type of licence, validity of licence, and type rating.

A statement could be added such as:

*"Pilot experience information was not relevant to this accident/serious incident."*

#### 1.5.1 Pilot in Command

Age : xx years  
Gender : M/F

Rating : Boeing 737-300  
Total flying time : 00,000 hours  
Total on this type : 00,000 hours  
Total last 90 days : 000 hours  
Total on type last 90 days : 000 hours  
Total last 7 days : 00 hours  
Total on type last 7 days : 00 hours  
Total last 24 hours : 00 hours  
Total on the type last 24 hours : 00 hours  
Last recurrent training : dd Month yyyy  
Last proficiency check : dd Month yyyy  
Last line check : dd Month yyyy  
Route recency : dd Month yyyy  
Aerodrome recency : dd Month yyyy  
Medical class : One  
Valid to : dd Month yyyy  
Medical limitation : Describe

*Required to wear prescription lenses for distance.*

#### 1.5.2 Copilot

Age : xx years  
Gender : M/F  
Type of licence : ATPL  
Valid to : dd Month yyyy  
Rating : Boeing 737-300  
Total flying time : 00,000 hours  
Total on this type : 00,000 hours  
Total last 90 days : 000 hours  
Total on type last 90 days : 000 hours  
Total last 7 days : 00 hours



## ICAO RW template 3

### 4 SAFETY ACTIONS AND RECOMMENDATIONS

#### 4.1 SAFETY ACTION

*"At the time of writing the Report, the AIC had not been informed of any safety actions resulting from this accident/serious incident."*

Or, if safety action has been taken the following examples:

##### 4.1.1 Safety Action taken by << Organisation >> (eg Operator)

4.1.1.1 *"On ddmm/yyyy, [name of organisation] informed the AIC that it had taken the following safety action to address [XYZ] safety deficiency."*

*Brief details of safety action taken...*

4.1.1.2 *"On ddmm/yyyy, [name of organisation] informed the AIC that it had taken the following safety action to address [XYZ] safety deficiency."*

*Brief details of safety action taken...*

##### 4.1.2 Safety Action taken by << Organisation >> (eg Civil Aviation Authority)

4.1.2.1 *"On ddmm/yyyy, [name of organisation] informed the AIC that it had taken the following safety action to address [XYZ] safety deficiency."*

*Brief details of safety action taken...*

4.1.2.2 *"On ddmm/yyyy, [name of organisation] informed the AIC that it had taken the following safety action to address [XYZ] safety deficiency."*

*Brief details of safety action taken...*

**NOTE:** Whenever possible, the investigation agency should obtain evidence that the safety action has been taken before publishing a safety action statement in the report. For example; obtain photographs, documents etc.

#### 4.2 RECOMMENDATIONS

*"As a result of the investigation into the accident involving [Aircraft, registered] at [place], on ddmm/yyyy, the AIC issued the following recommendations to address safety issues*

##### 4.2.1 Recommendation to [Organisation >> (eg Operator)

4.2.1.1 *"The AIC recommends that the [Organisation] review the [insert text] to ensure that ..."*

4.2.1.2 *"The AIC recommends that the [Organisation] ensure that its pilots receive simulator training covering the [insert text] to ensure that ..."*

##### 4.2.2 Recommendation to << Organisation >> (eg Civil Aviation Authority)

4.2.2.1 *"The AIC recommends that the <<Organisation >> review the [insert text] to ensure that ..."*

4.2.2.2 *"The AIC recommends that during airworthiness audit / surveillance inspections, the <<Organisation >> should ensure that ..."*



# Reports

CONTACT : PNG ACCIDENT INVESTIGATION COMMISSION



tion Commission: To prevent accidents, not apportion blame or liability

**7 NEWS**

Media releases

reports have been released 12 June 2016

[K AC 10-1005](#)

[Y AC 12-1003](#)

[612-1002](#)

NOTE for any press statements relating aircraft accidents and incidents, must from the Chairman of the Commission or the Executive Officer.



**REPORTS**

[P2-8001-00-105](#)

[AK 11-1010 P2-ACJ Preliminary Report](#)

[AK 11-1010 P2-ACJ Final Report](#)

[AK 11-1010 P2-ACJ Animation video](#)

[Click here to download InsertView for viewing the animation video](#)

[AK 12-1004 P2-MHC Final Report](#)

[AK 13-1007 P2-PXY Preliminary Report](#)

[AK 13-1008 P2-SAH Preliminary Report](#)

[AK 14-1002 P2-HWV Preliminary Report](#)

[AK 14-1003 P2-RNR Preliminary Report](#)

[AK 14-1004 P2-RIF Preliminary Report](#)

[AK 14-1005 P2-RSF Preliminary Report](#)



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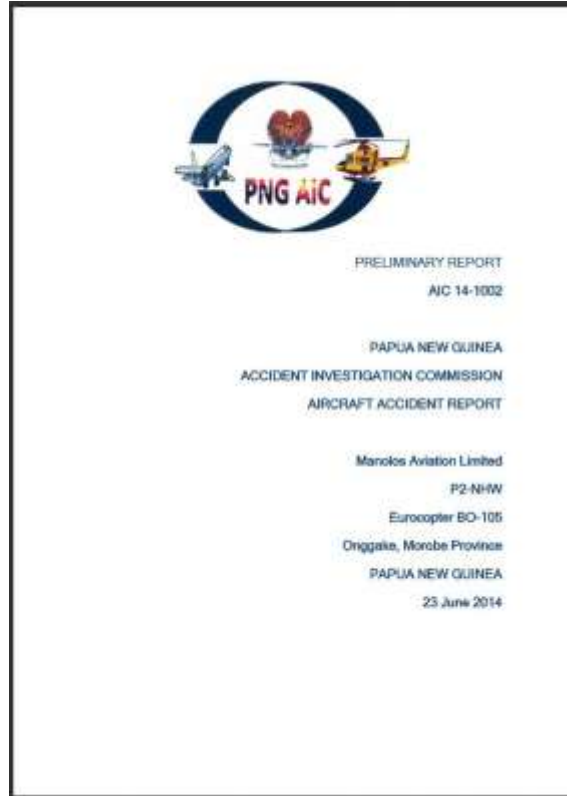
[AK-14-1004 P2-BIF Preliminary Report](#)

[AK-14-1005 P2-KSF Preliminary Report](#)





## Reports P2-NHW







Reports P2-RNB



# Reports P2-RNB

**2 FACTUAL INFORMATION**

**2.1 HISTORY OF THE FLIGHT**

On 19 July 2014, a Pacific Aerospace PAC P-750 XTUL, single engine aircraft, registered P2-RNB and owned and operated by Niugini Aviation, was on a charter flight from Koroia to Oidubuta (Figure 1) in Western Province. The aircraft departed Koroia around 1000 local time with the pilot and six passengers, and a cargo of store goods and passengers' baggage. It was the first time the pilot had ever been to Oidubuta, a one-way airstrip with terrain rising to the north north east.

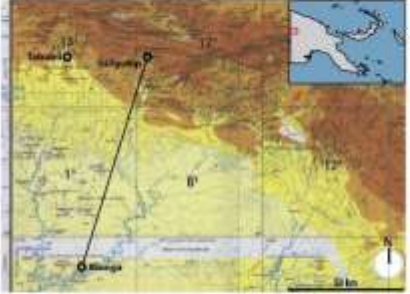


Figure 1: Map of flight area

On arrival at Oidubuta, the pilot positioned the aircraft for a landing towards the south north east on runway 07. The weather in the area was reported to have been suitable for an approach to land. The passengers reported hearing the stall warning horn during the approach and said that it had continued to sound for some time. The pilot attempted to discontinue the approach and to go-around, but the aircraft was too low and slow to out-clear the rising terrain and the aircraft crashed approximately 3 km to the north north east of the airstrip.

1 The correct spelling of the operator's company name is 'Niugini Aviation', not 'Niugini Aviation'.

2 The 24-hour clock is used in this report to describe the local time of the Local Mean Time (LMT), as per the event occurred. Local Mean Time was Coordinated Universal Time (UTC) + 10 hours.





Reports P2-IHP





## Reports P2-IHP

caused by the heavy landing.

### 2.4 OTHER DAMAGE

There was no other damage to property or the environment.

### 2.5 FLIGHT CREW

#### 2.5.1 Pilot-in-Command

Name : Craig William Andrew Knightley  
 Age : 42 years (20 November 1971)  
 Gender : Male  
 Type of licence : CPLB No. P21817 (CASA, PNG, CAAF, TAA, NZ CAA, CASA (Australia))  
 Valid to : 23 July 2014 (valid with current medical)  
 Rating : Single Engine Helicopter – AS150, RH407 Multi Engine Helicopter – BH 212  
 Total flying time : 11,336 hours  
 Total on this type : 903 hours  
 Total last 90 days : 44.4 hours  
 Last recurrent training : 24 August 2013  
 Last proficiency check : 24 August 2013  
 Last line check : 24 August 2013  
 Recency recovery : 24 August 2013  
 Aerobically recency : 24 August 2013  
 Medical class : One  
 Valid to : 27 July 2014  
 Medical limitation : Nil

### 2.6 INJURIES TO PERSONS

Injuries	Flight crew	Passengers	Total in Aircraft	Others
Fatal	-	-	-	-
Severe	-	-	-	-
Minor	-	-	-	Not applicable
Nil injuries	1	13	14	Not applicable
<b>TOTAL</b>	<b>1</b>	<b>13</b>	<b>14</b>	-





Reports P2-KSF





## Reports P2-KSF

Note: landings on RWY03, takeoffs on RWY11 at Waigapu.

### 1.11 FLIGHT RECORDERS

KSF was fitted with a cockpit voice recorder (CVR) manufactured by L-3 Communications, part number 2305-1025-00. The CVR was installed in the tail of the aircraft and was recovered in good condition from the accident site by the operator's engineers. The aircraft was also fitted with a video camera/data logger installed in the cockpit. The device was a Vision 1600, manufactured by Agassiz. This unit was recovered from the wreckage by the AIC on the day of the accident. The CVR and video camera were transported to the ATSB by an AIC staff member for data download.

### 1.12 WRECKAGE AND IMPACT INFORMATION

#### 1.12.1 General Description of the Wreckage

KSF impacted Mt Laves, just below the summit on the northern side, heading 176 degrees. The position of the accident site on Mt Laves is shown in Figures 3 and 4.



Figure 3: KSF accident site on Mt Laves, with Jacksons Airport in the distance





**Near Wabo, Gulf Province, Bell 206L, February 2015**





P2-HFZ





P2-HFZ

Sling-loading over a short distance.



P2-HFZ

Sling-loading over a short distance.

Sudden loss of power while moving an electrical generator.

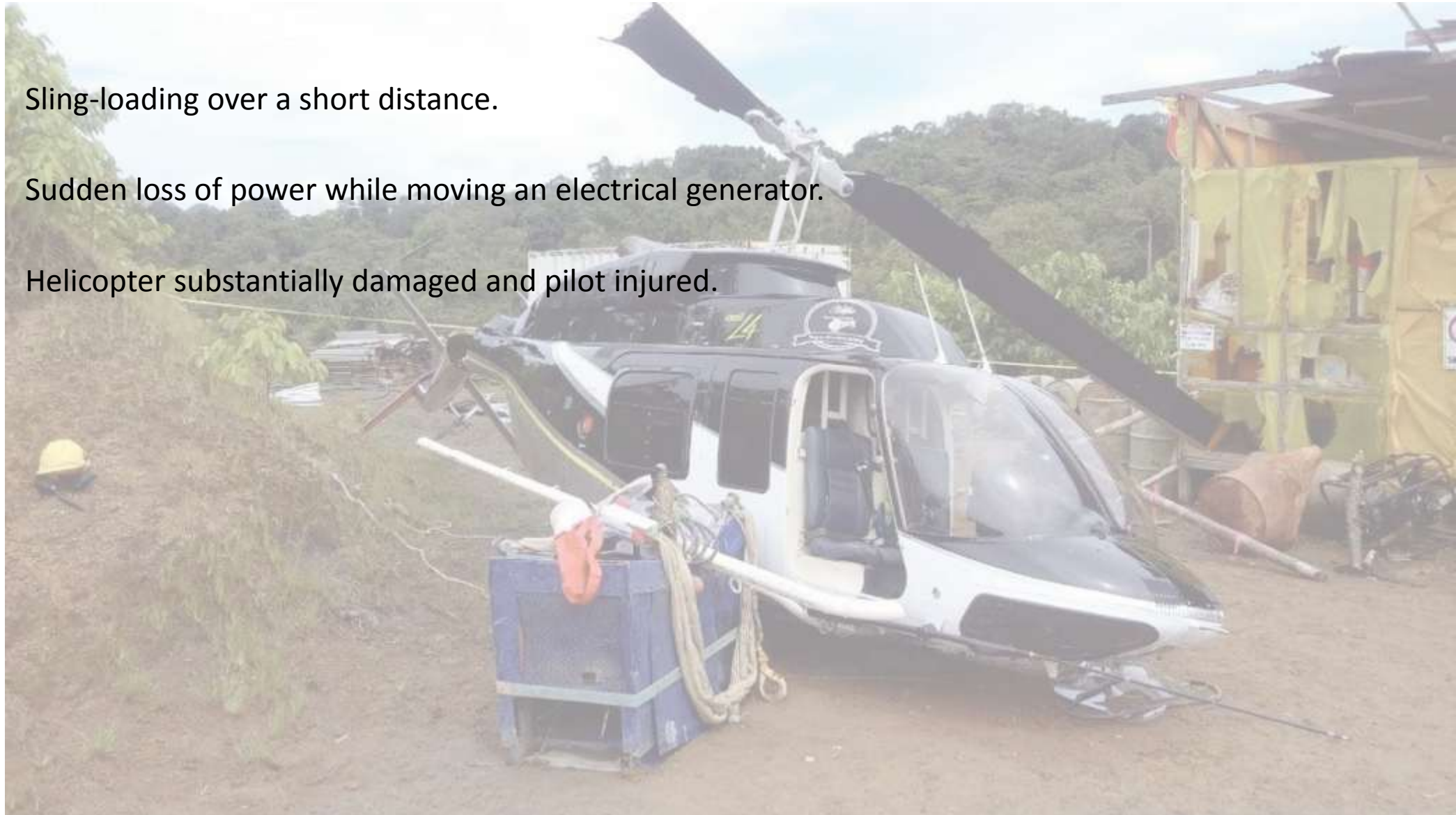


P2-HFZ

Sling-loading over a short distance.

Sudden loss of power while moving an electrical generator.

Helicopter substantially damaged and pilot injured.





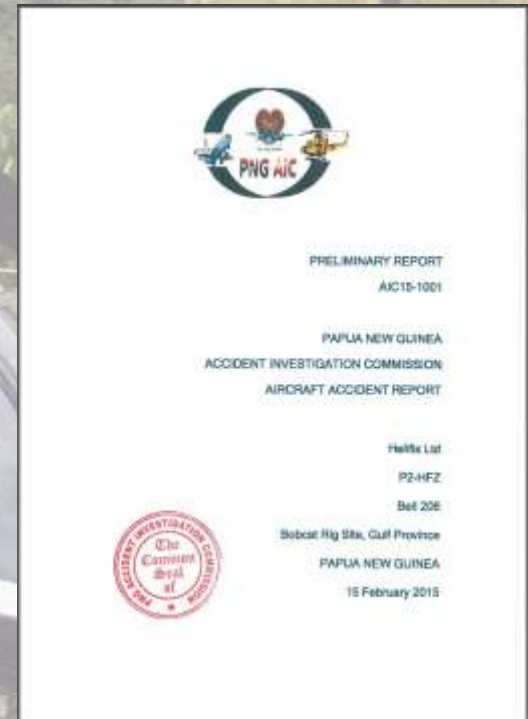
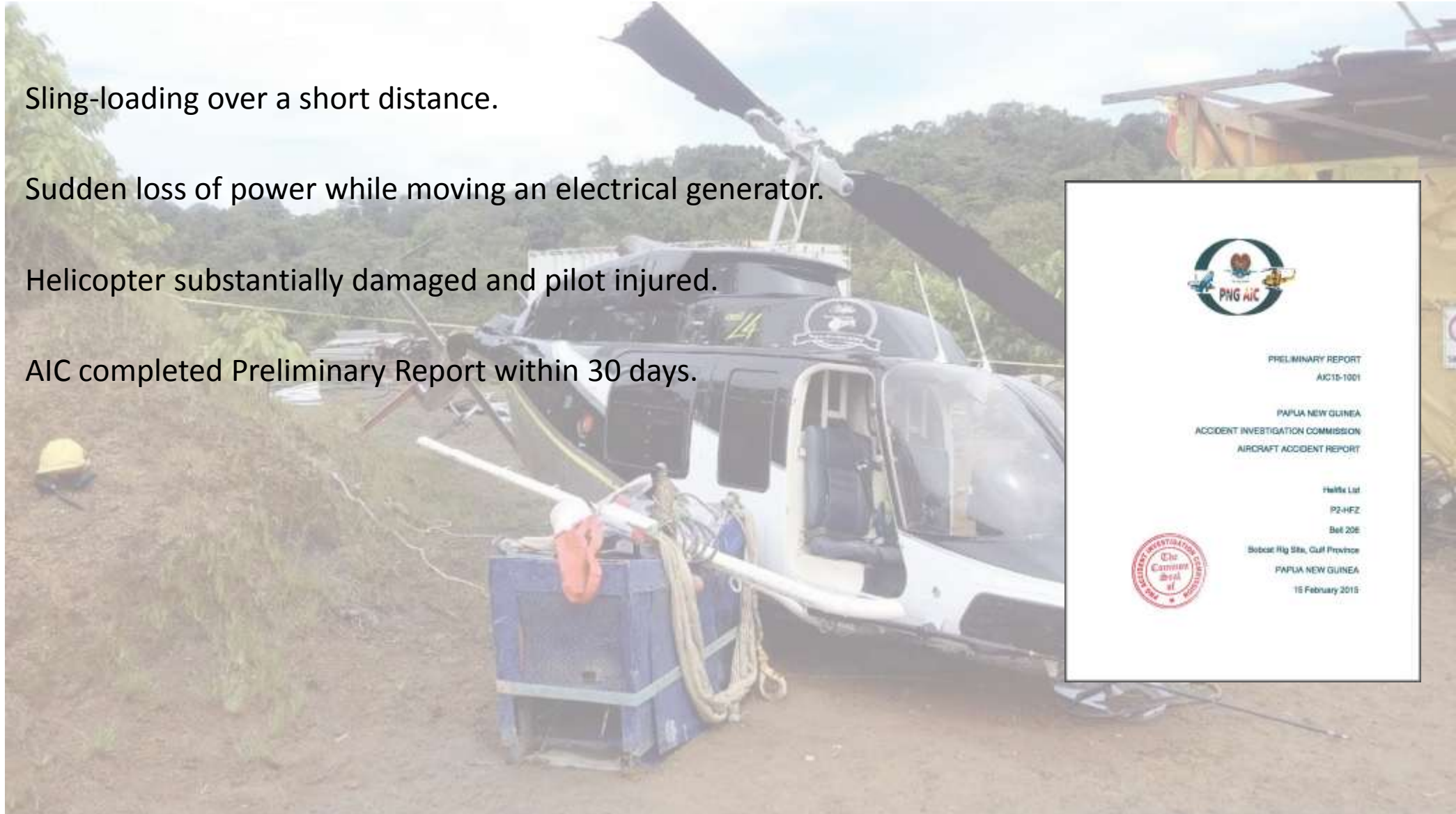
P2-HFZ

Sling-loading over a short distance.

Sudden loss of power while moving an electrical generator.

Helicopter substantially damaged and pilot injured.

AIC completed Preliminary Report within 30 days.





## P2-HFZ

Sling-loading over a short distance.

Sudden loss of power while moving an electrical generator.

Helicopter substantially damaged and pilot injured.

AIC completed Preliminary Report within 30 days.

Engine sent for testing in Australia.



PRELIMINARY REPORT  
AIC15-1001

PAPUA NEW GUINEA  
ACCIDENT INVESTIGATION COMMISSION  
AIRCRAFT ACCIDENT REPORT

Helix List

P2-HFZ

Bel 20E

Sobocig Rig Site, Cull Province

PAPUA NEW GUINEA

15 February 2015





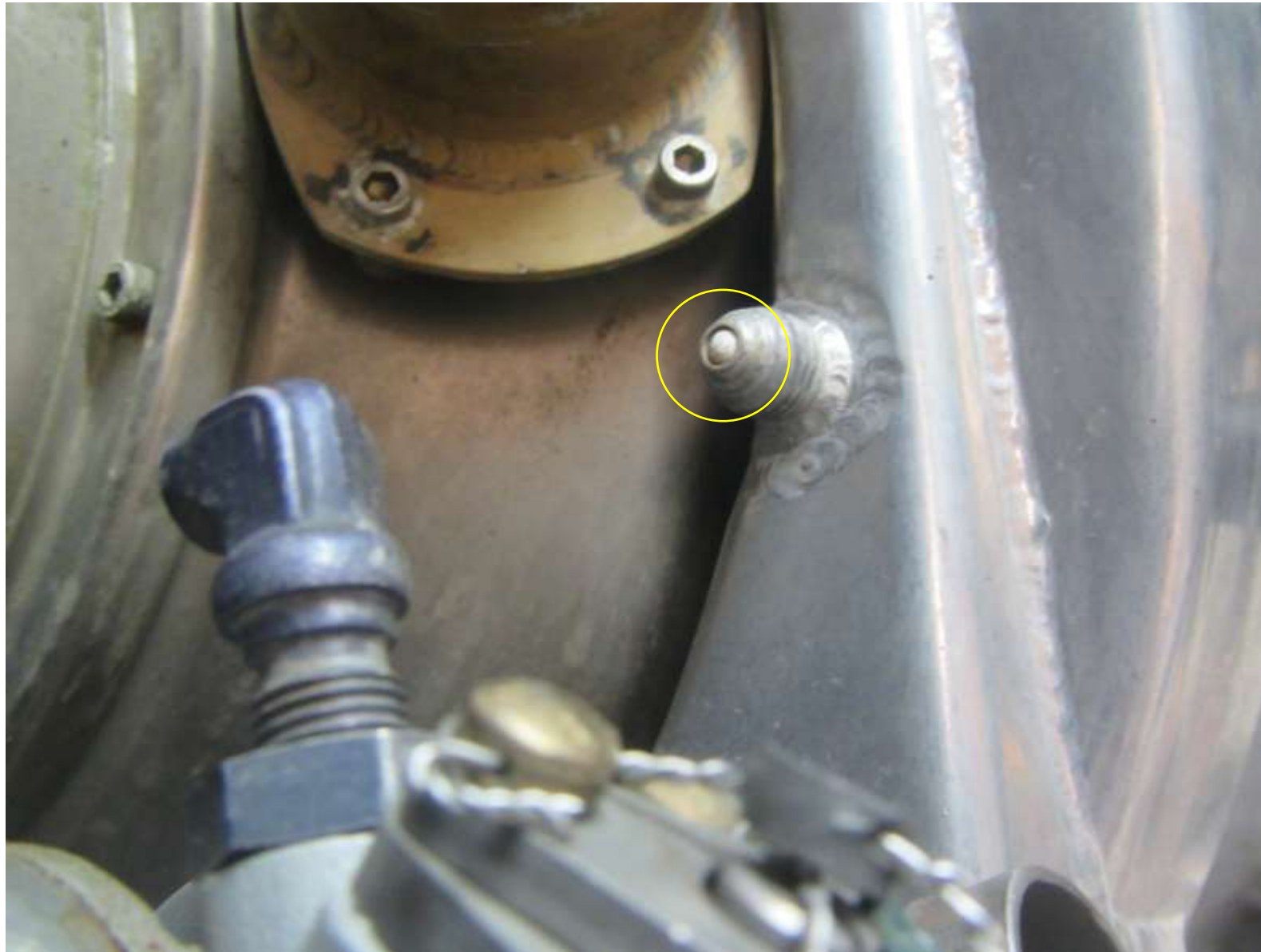
## P2-HFZ engine testing in Australia



**Ceramic pressure blast bead stuck in P3 air line**



Ceramic pressure blast bead stuck in P3 air line





## Report findings &gt; recommendations



AIC also found the logbook entries for the last maintenance and on two previous occasions had not been signed in accordance with *Civil Aviation Rule 43.105, Certifying release-to-service after maintenance.*



Report findings > recommendations

Final Report has been drafted and is in the Directly Involved Party process.



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Final Report has been drafted and is in the Directly Involved Party process.

Includes 3 AIC Safety Recommendations





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AIC safety recommendation AIC 15-R05/15-1001 to CASA PNG

The Accident Investigation Commission recommends that CASA PNG should note the operator's maintenance certification non-compliance with the requirements of *Civil Aviation Rule 43.105, Certifying release-to-service after maintenance*.

AIC safety recommendation AIC 15-R05/15-1001 to CASA PNG

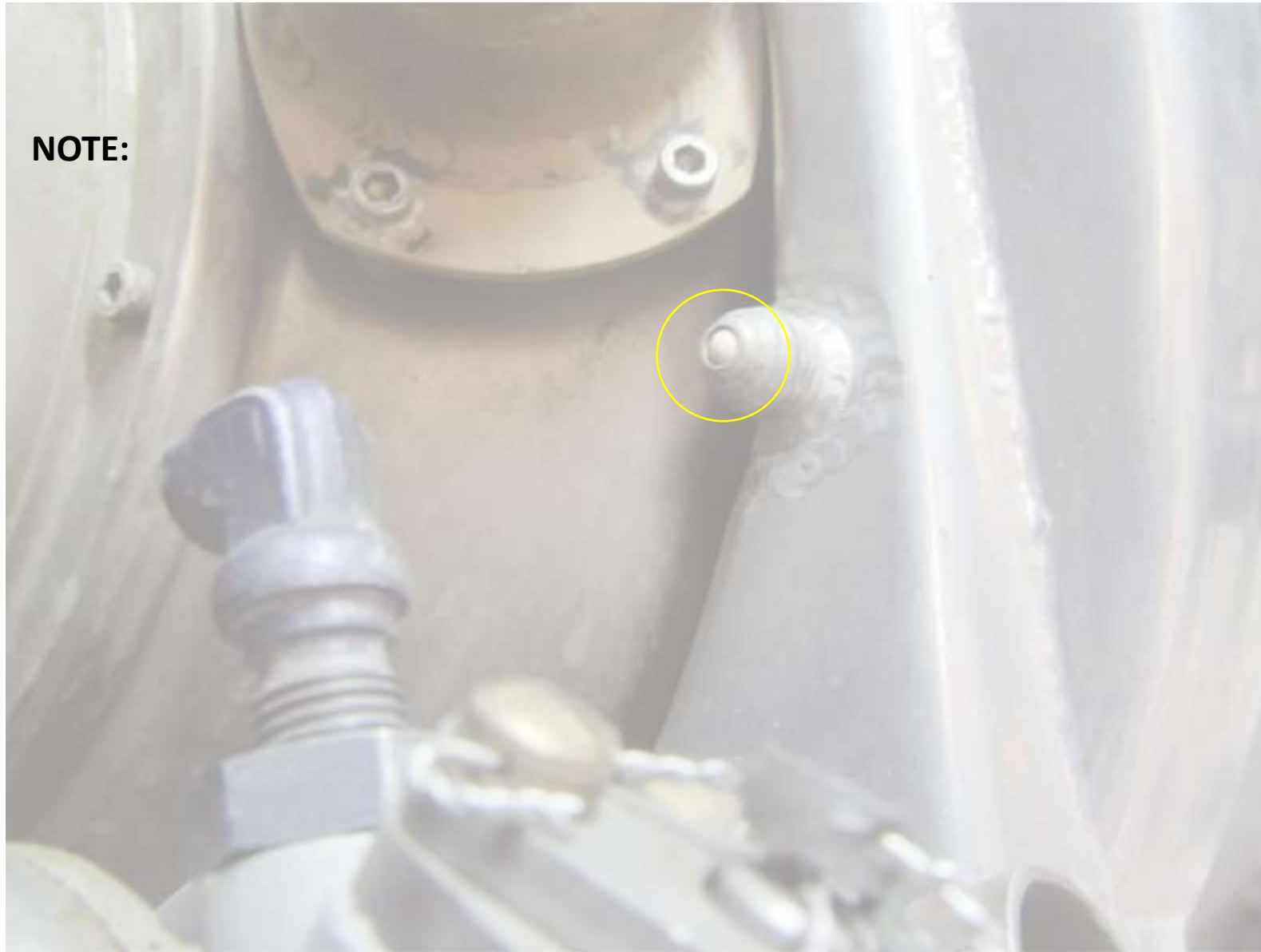
The Accident Investigation Commission recommends that Helifix Ltd review its maintenance control recording and documentation procedures to ensure on-going compliance with the requirements of *Civil Aviation Rule 43.105, Certifying release-to-service after maintenance*.

AIC safety recommendation AIC 15-R05/15-1001 to CASA PNG

The Accident Investigation Commission recommends that Gas Turbine Overhaul Pty Ltd review its maintenance practices to ensure that pressure bead blasting during cleaning and polishing cannot cause foreign object ingestion/damage during engine overhaul.

Report findings > recommendations

**NOTE:**



Report findings > recommendations

**NOTE:**

**The safety recommendations above are not yet in the public domain and should not be promulgated by any party other than the PNG AIC.**





**Safety benefits .....**





## Expected safety benefits

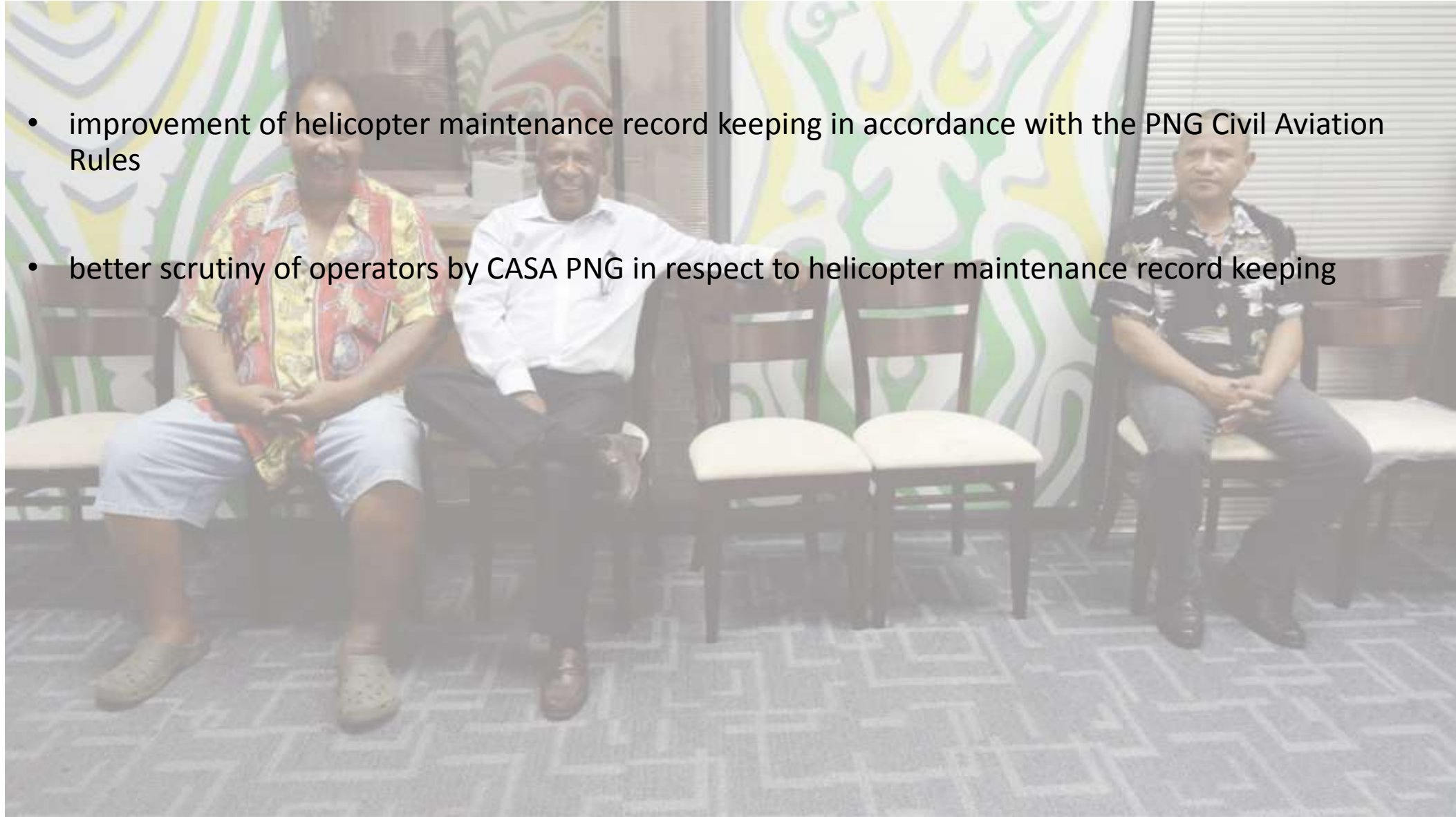
- improvement of helicopter maintenance record keeping in accordance with the PNG Civil Aviation Rules





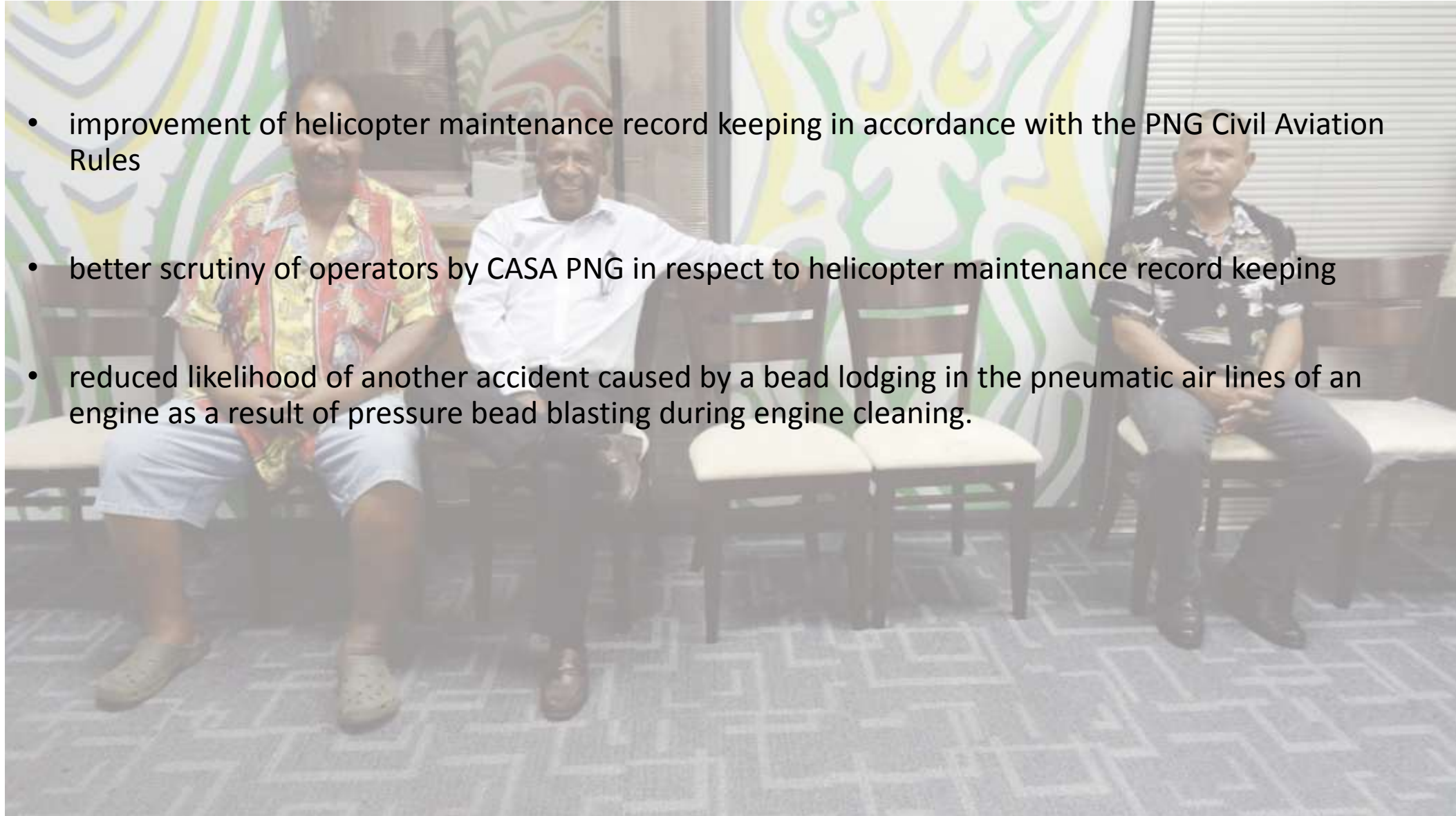
## Expected safety benefits

- improvement of helicopter maintenance record keeping in accordance with the PNG Civil Aviation Rules
- better scrutiny of operators by CASA PNG in respect to helicopter maintenance record keeping



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- improvement of helicopter maintenance record keeping in accordance with the PNG Civil Aviation Rules
- better scrutiny of operators by CASA PNG in respect to helicopter maintenance record keeping
- reduced likelihood of another accident caused by a bead lodging in the pneumatic air lines of an engine as a result of pressure bead blasting during engine cleaning.





## Lunchtime in Port Moresby





Lunchtime in Port Moresby



**THANK YOU**

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