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AVIATION SAFETY BULLETIN

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STATE SAFETY PROGRAMME

Safety management principles affect most activities of a civil aviation oversight authority, starting with rulemaking and policy development. Rather than pursuing the causes of the most recent accident, State Safety Programme (SSP) rulemaking is based on comprehensive analyses of the State's aviation system. Regulations are based on identified hazards and analysis of the safety risks of the related consequences. ICAO has introduced new requirements for SMS and SSP in:

- Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes, and Part III — International Operations — Helicopters,*
- Annex 11 — *Air Traffic Services*,
- Annex 13 – *Aircraft accident and incident investigation,*
- and Annex 14 — *Aerodromes, Volume I — Aerodrome Design and Operations* applicable in November 2009.

The Organization will extend the concept and similar requirements to Annex 1 – *Personnel licensing* becoming applicable in November 2010, as well as for Annex 8 – *Airworthiness of aircraft* becoming applicable in November 2013.

In developing the SSP requirements, it was anticipated that the safety management principles would provide a conceptual platform for parallel development between the SSP by the State and the SMS by service providers. An SSP developed from, and based upon safety management principles becomes the bridge that closes a gap that would otherwise inevitably develop between the internal and external safety processes at the civil aviation oversight authority and the internal safety processes of service providers.

As part of the SSP, the State promulgates SMS requirements for service providers requiring providers to demonstrate their safety management capability up front, rather than waiting for accidents, incidents, or assessing non-compliance with safety standards. This allows both civil aviation oversight authorities and service providers to proactively deal with safety risks. SMS requirements under the SSP also provide a structured framework allowing the civil aviation oversight authority and service providers to interact more effectively in the resolution of safety concerns.

As part of Fiji's commitment towards this safety programme, an ICAO State Safety Programme implementation course was arranged and conducted at CAAFI HQ from 13th - 15th September. Course was conducted by Capt. Dan Maurino, the Safety Advisor at ICAO Headquarters in Montreal.

The course helped develop participants knowledge of:

- the Standards and Recommended Practices (SARPs) related to the SSP,
- the ICAO SSP framework, its components and elements,
- the role of Safety assurance (SA) and the relationship between the Acceptable Level of Safety (ALoS) related to an SSP
- and the safety performance of service providers SMS.

It also provided practical guidance on the implementation of the key elements of an SSP, which include the development of the ALoS related to an SSP and the SSP implementation plan.

CAAFI looks forward to continued cooperation and support from the industry and stakeholders as Fiji ventures into this safety programme that will help lift the safety standards in Fiji.

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Electrical Problems: Guidance for Air Traffic Controllers

This article provides guidance for Air Traffic Controllers on what to expect and how to act when dealing with aircraft experiencing the consequences of electrical problems and related system malfunctions. There are some considerations which will enable the Controller, not only to provide as much support as possible to the aircraft concerned, but also maintain the safety of other aircraft in the vicinity and of the ATC service provision in general.

Useful to Know

Depending on the severity of the electrical failure(s), the consequences could be various, ranging from isolated system or subsystem malfunctions and navigational problems to failures having adverse effects on the aircraft's handling and performance. Historically, the electrical failures often result from interconnection breakdown between aircraft systems. For example, a problem with one system could lead to a bus bar failure, potentially resulting in a complete or partial failure of an airplane's avionics system.

An electrical problem may be the first indication of a fire. Modern jet transport aircraft are designed and equipped with at least three AC generators (alternators) of equivalent capacity, one of which will be powered by the APU. There will also be other methods of generating AC power such as a hydraulically powered generator or a ram air generator and the ultimate backup of DC power from at least one main battery. If one of the principal (engine-powered) generators fails, the other generator(s) supply power to the main AC bus bars. In case of failure of more than one of the main generators or their associated mechanical power (or a single failure) following ADD dispatch with an inoperative main generator or APU, then it may be possible to use the hydraulic system to activate a hydraulic motor-driven emergency generator. Different aircraft manufacturers use different sources for back up AC power, e.g back up generators on the Boeing 777 and Ram Air Turbines (RAT) on Airbus types. In a worst case scenario, where these emergency/back up generators fail and the main battery, which has a declared endurance based on specified maximum electrical loading, is depleted, the aircraft becomes electrically unpowered.

It is important to emphasize that a serious electrical problem can, under specific circumstances, constitute a high-risk scenario.

Anticipated Impact on Crew

A wide range of practical problems could arise following onboard electrical failure(s). Depending on the type of failure(s) whether it includes loss of all generators (alternators) and battery power only available (power supply reduced to emergency level), some possible effects on crew are:

- Increased workload. Crew determining the nature and the severity of the problem.
- Turning off non-critical electrical items (such as second radio, passenger cabin lighting and recirculation fans and other non essential electrical systems) in order to isolate and identify the source of the problem and / or to reduce the electrical load.
- A decision to land at the nearest/most suitable airport.

The worst case related scenario is an on board fire in flight which is caused by an electrical fault and cannot be contained readily by the crew.

What to Expect

- Navigation problems. Most aircraft are equipped with stand-by instruments which are either mechanical or independently powered and can be used in case of main navigation system instrument failure.
- Communication loss if the malfunctions affect the radio equipment.
- Loss of Transponder temporarily or completely if it is necessary to reduce electrical load or a failure has occurred on the channel powering the in use transponder.
- Limited readback. Expect crews to minimise the readbacks and possibly to acknowledge ATC instructions by keying the microphone.
- Level changes to maintain VMC.
- Manual gear extension.
- Approach and landing without landing lights.

What to Provide

Best practice embedded in the **ASSIST** principle could be followed: (**A** – Acknowledge; **S** – Separate, **S** - Silence; **I** – Inform, **S** – Support, **T** – Time)

A – acknowledge the emergency, provide position information and suitable vectors if navigational problems are reported.

S – separate the aircraft as necessary, expect the aircraft to request level change in order to maintain VMC.

S – silence the non-urgent calls (as required) and use separate frequency where possible.

I – inform the airport emergency fire rescue services and all concerned parties according to local procedures; as Tower Controller expect airport authorities to execute their emergency plan; inform the supervisor and other sectors/units concerned.

S – support the flight by providing any information requested and necessary such as next suitable aerodrome, type of approach, runway length and aerodrome details, etc.

T – provide time for the crew to assess and deal with the emergency, don't press with non urgent matters.

Defences

When informed about possible/actual electrical failure, be ready to:

- Inform the pilot about nearest suitable aerodrome and pro-

vide radar vectors as necessary.

- Provide airfield and weather information .
- Coordinate and arrange (if applicable) type of approach desired by the crew.
- It is important to avoid a go-around because of ATC action, whether by direct or indirect cause.
- If practicable keep the flight clear of IMC.
- Arrange for Ground Power on arrival (GPU).

Source: http://www.skybrary.aero

ANNEX AMENDMENTS THAT HAVE BECOME EFFECTIVE

The Authority wishes to inform that the following amendments to the Standards and Recommended Practices (Annexes to the Convention on International Civil Aviation) have become effective on 12 July 2010:

1. Amendment 75 to Annex 3 — *Meteorological Service for International Air Navigation*
   Amendment 56 to Annex 4 — *Aeronautical Charts*
   Amendment 17 to Annex 5 — *Units of Measurement to be Used in Air and Ground Operations*
   Amendment 34 to Annex 6 — *Operation of Aircraft,* Part I — *International Commercial Air Transport — Aeroplanes*
   Amendment 29 to Annex 6 — *Operation of Aircraft,* Part II — *International General Aviation — Aeroplanes*
   Amendment 15 to Annex 6 — *Operation of Aircraft,* Part III — *International Operations — Helicopters*
   Amendment 102 to Annex 8 — *Airworthiness of Aircraft*
   Amendment 85 to Annex 10 — *Aeronautical Telecommunications*
   Amendment 13 to Annex 13 — *Aircraft Accident and Incident Investigation*
   Amendment 36 to Annex 15 — *Aeronautical Information Services*
2. The amendments to Annex 3 (except for paragraph 2.2.2); Annex 4 (except for paragraph 5.2.1); Annex 5; Annex 6, Parts I, II and III; Annex 8 (except for material affecting Standards related to aircraft certification); Annex 10; Annex 13, and Annex 15, will become applicable on 18 November 2010.
3. Paragraph 2.2.2 of Annex 3 will become applicable on 15 November 2012; paragraph 5.2.1 of Annex 4 will become applicable on 12 November 2015; and, in Annex 8, material affecting Standards related to aircraft certification will become applicable on 24 February 2013.

The Authority will regularly engage the 'Industry Consultative Group' to implement the changes (where required) to comply with the amendments.

Details of amendments can be obtained on request from the Authority.

SAFETY REMINDER

The arrival of winter in the Fiji Islands results in the days being shorter and nights longer when compared to summer. Added to the shorter days is the brief period of twilight which only lasts in these latitudes for approximately 15 minutes.

Analysis of the CAAFI Aviation Quality Database (AQD) shows that during the winter time, incidents involving aircraft/helicopters on a visual flight rules (VFR) flight plan operating after the end of evening civil twilight, increase.

Regulation 113 (1)(a) of the Air Navigation Regulation 1981 (ANR) on Operation of VFR Flights, states that no pilot shall fly an aircraft under VFR at night and non-compliance with this regulation by pilots results in an infringement.

Regulation 113 (2) of the ANR, states that **TRAINING FLIGHTS** may be conducted in a control zone at night as Special VFR flights, a specific approval which is issued by Air Traffic Control.

The issuing of this authorisation is based in part on:

- The weather conditions being experienced within the Control Zone at the time of the request.
- The volume of IFR traffic within the Control Zone at the time of the request.

and it is important that pilots making such a request bear in mind that the authorisation may be declined which will require an alternative course of action.

The AQD also reveals that the most common causes of pilots flying after the end of evening civil twilight are as follows:

- A lack of adequate pre-flight planning;
- Failing to monitor the progress of the flight after departure;
- Self induced commercial pressure;
- And insufficient knowledge of the regulatory requirements.

Accordingly, pilots should familiarize themselves with the information contained in the Fiji Islands AIP, Gen 2.7, Sunrise/Sunset Tables which provides the duration of twilight and the beginning/end of night for airports within the Fiji Islands.

Flight Operations Managers/Chief Pilots also have a regulatory responsibility in ensuring that company and recently recruited expatriate pilots do not infringe the requirements of Regulation 113 (1) (a) of the ANR.

By taking a pro-active approach to safety, especially at this time of the year, operators and pilots will be making a major contribution in ensuring that accidents/serious incidents are kept to a minimum which is **EVERYONE'S RESPONSIBILITY.**

Safety Reminder by: Capt. Norman Walding (Senior Flight Operations Inspector (Domestic) – CAAFI)

Report Your Bird Strikes

CAAFI wishes to emphasize the importance of filing correct and timely bird strike reports to the Authority. Whilst bird strike Reporting is a reactive response to the potential hazard, there is no alternative widely-available means of monitoring potentially hazardous bird activity and this has been recognised by CAAFI and the need to improve the extent of reporting.

Since majority of all strikes with a known location occur on or in the vicinity of an airport, the issue impacts not only on aircraft operators but also on the operational safety of airports. The collection of data on bird strikes is aimed at facilitating the detection of locations where there is a high probability of a significant bird strike hazard and can help to define the nature of the problem. Data on bird strikes (and other wild life strikes) is essential for bird and wildlife management on and around airports and is used by Nadi and Nausori Airport Wildlife Committees. This information is also useful to aircraft fuselage and engine manufacturers, assisting them in the design of bird strike resistant airframe structures and engines. That is why bird strike reports of sufficient quality collected, analysed and finally submitted to ICAO by States are of great value at national, regional and global level.

The Requirement to Report Bird Strikes

By the provisions in ICAO Annex 14, Aerodrome Design and Operations, Volume I, bird strikes are required to be reported at national (member State) level. Section 9.4.2 of the same Annex requires that "Bird strike reports shall be collected and forwarded to ICAO for inclusion in the ICAO Bird Strike Information System (IBIS) database". To facilitate this obligation, States are expected to take appropriate action to collect data from aircraft and airport operators.

Fiji Islands Aeronautical Information Publication (AIP), ENR 5.6 (7), also requests all pilots to report to the Authority all cases if bird strike or incidents where a risk of bird strike has been present.

Report Forms

Bird Strike Reports are to be made on official CAAFI form 'OR 002 – Bird Strike Notification' which can be accessed from the CAAFI website.

What to Report

While all of the information required by CAAFI form OR 002 may not be known, the reporting persons are encouraged to fill in as much information as possible to enable the Authority to do meaningful data analysis. According to the data from the Authority's Aviation Quality Database (AQD), around 70% of reported bird strikes did not identify the bird species.

Near bird strikes must also be reported as they had the potential to be strikes.

Fiji Bird Species

The following are the pictures and brief description of bird species that are known to have had strikes in Fiji.

Common Mynah

The Common Myna is readily identified by the brown body, black hooded head and the bare yellow patch behind the eye. The bill and legs are bright yellow. There is a white patch on the outer primaries and the wing lining on the underside is white.

Barn Owl

The Barn Owl is a pale, long-winged, long-legged owl with a short squarish tail. Depending on subspecies, it measures about 25 –45 cm (9.8–18 in) in overall length, with a wingspan of some 75–110 cm (30–43 in). Tail shape is a way of distinguishing the Barn Owl from true owls when seen in flight, as are the wavering motions and the open dangling feathered legs. The light face with its heart shape and the black eyes give the flying bird an odd and startling appearance, like a flat mask with oversized oblique black eye slits, the ridge of feathers above the bill somewhat resembling a nose. Its head and upperparts are a mixture of buff and grey feathers in most subspecies.

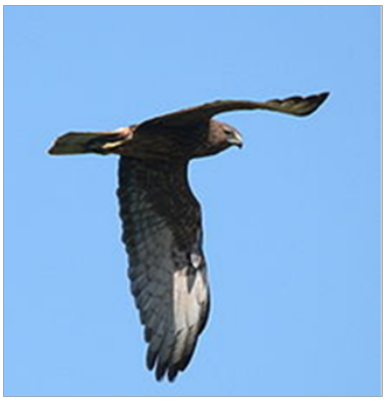
Jungle Mynah

These 23cm long birds have grey plumage, darker on the head and wings. There are large white wing patches obvious in flight, and a white tail tip. The head has a forehead tuft. The bill and strong legs are bright yellow, and there is no bare skin around eye. The sexes are similar, but juveniles are browner. They are usually found close to water or rice fields.

Spotted-neck Dove

Spotted Dove is a long-tailed, slim pigeon, ranging in length from 28 to 32 centimeters (11.2 to 12.8 inches). Its back, wings and tail are pale brown, heavily spotted with buff. In flight, it shows blackish flight feathers bordered on the inner edge with pale grey. Sexes are similar, but juveniles are duller than adults often lacking the patchy neckband when very immature. The head and underparts are pinkish, shading to pale grey on the face and lower belly. There is a black neck patch finely spotted with white. The legs are red.

Hawk *(Swamp Harrier)*



The Swamp Harrier is largely dark brown, becoming lighter with age, and has a distinct white rump. It hunts by flying slowly, low to the ground, on upswept wings. The body length is 50 to 60 cm (20-24 in), and the wingspan is 120 to 145 cm. The recorded weights of adults range from 580 to 1100 g, and females are significantly larger than the males.

Bulbul *(Red-vented Bulbul)*

The Red-vented Bulbul is easily identified by its short crest giving the head a squarish appearance. The body is dark brown with a scaly pattern while the head is darker or black. The rump is white while the vent is red. The black tail is tipped in white.

White Breasted Woodswallow

This woodswallow's soft-plumage is charcoal grey apart from the white underparts. The white-breasted Woodswallow has large, pointed wings and is very agile in powered and gliding flight. This is a nomadic species, following the best conditions for flying insects, and often roosting in large flocks.

Swallow *(Pacific Swallow)*

This species is a small swallow at 13 cm. It has a blue back with browner wings and tail, a red face and throat, and dusky underparts.

Sheath-tailed Bat

Sheath-tailed Bats range from 3.5 to 10 cm in body length. They are generally brown or grey. They have short tails, which project through the tail membrane so that the latter forms a sheath.

Strawberry Finch *(Red Avadavat)*

This small finch is easily identified by the rounded black tail and the bill that is red in all seasons. The rump is red and the breeding male is red on most of the upper parts except for a black eye-stripe, lower belly and wings. There are white spots on the red body and wing feathers.

(Pictures and description of birds sourced from: http://en.wikipedia.org)

FATIGUE AND SLEEP MANAGEMENT

PERSONAL STRATEGIES FOR DECREASING THE EFFECTS OF FATIGUE

Fatigue is the general term used to describe physical and/or mental weariness which extends beyond normal tiredness.

Physical fatigue concerns the inability to exert force with ones muscles to the degree that would be expected. It may be an overall tiredness of the whole body, or be confined to particular muscle groups. Physical fatigue most commonly results from physical exercise or loss of sleep. Physical fatigue often leads to mental fatigue.

Mental fatigue, which may include sleepiness, concerns a general decrease of attention and ability to perform complex, or even quite simple tasks with customary efficiency. Mental fatigue often results from loss or interruption of the normal sleep pattern and is therefore of great concern to pilots and ATCOs, who are frequently required to work early in the morning or at night.

Sleep patterns are naturally associated with the body's circadian rhythms. Shift patterns and transit across time zones can interrupt circadian rhythms so that, for example, it may be difficult for flight crew or pilots on duty in the early hours of the morning or flight crew operating long-haul routes through multiple time zones to achieve satisfactory rest prior to commencing duty.

Following are the personal strategies for decreasing the effects of fatigue.

TIPS FOR ALL SHIFT WORKERS

- Avoid:
  - − Working on days off on other jobs.
  - − Working every day of the week.
  - − Extended work hours.
  - − Long commutes.
- Decrease the number of night shifts worked in a row.
- Get sufficient sleep on days off.
- Make a nutrition plan. If you do not pack a lunch, avoid restaurants that serve only fried, fast or greasy food. If you must eat from vending machines, try to avoid foods high in carbohydrates, such as cold cut sandwich meats and chips.
- Start a shift with a meal of proteins to increase alertness; finish the shift with carbohydrates (sugars, starches) to facilitate sleep.
- Eat at or before 1 a.m. and after 5 a.m.. Eat only light snacks - such as fruit, soup and toast - at night.
- Avoid meals of more than 600 calories as they can induce sleepiness.
- Some people find a milky drink or light carbohydrate snack promotes sleep.
- Avoid drinking caffeinated and alcohol beverages for at least 4-6 hours before sleep.
- Fresh air and room temperature between 15 and 18 degrees.
- Soaking in hot water before going to bed can ease the transition into a deeper sleep.
- Only get into bed when you are tired.
- Sleep on your back.
- Naps can be helpful.
- A nap before a night shift can be helpful.
- Keep your bedroom dark when you go to bed.
- Try to eliminate noises that disturb your sleep.
- Play soft, soothing music to help you fall asleep.
- Wait more than one-half hour before going to bed after reading or watching television.
- Try to avoid cigarettes and other nicotine sources before bedtime.
- Be careful, most medications interfere with your rest. Consult your doctor.
- Exercise and relaxation techniques can be beneficial for sleep.
- Be careful on your ride home. Sleep can quickly overcome when you least expect.

FOR WORKERS THAT WORK ROTATING SHIFTS

- When not working night shifts, plan on:
  - Obtaining 8 hours of sleep each night.
  - One continuous sleep period each day without naps or other sleep periods.
  - Starting your sleep time prior to 3 a.m. and ending your sleep prior to 11 a.m.
- Avoid rotating shifts more than once a week. Make sure it rotates in a forward direction – day, evening, night – rather than backward: night, evening, day.
- Plan on:
  - Trying to get 9 hours sleep per day.
  - If possible, wait to start your main sleep period until you hit your circadian midday dip – around 2 to 3 p.m., and sleep for 9 continuous hours. If unable to wait to sleep or have other time constraints during the day, start your first sleep period as soon after work as possible. Calculate how many more hours you need to equal 9 and try to get those either starting at the midday dip or prior to going to work for the following shift. If you choose this second option remember to leave at least 1 hour between when you wake up and when you are to report to duty.
- A couple of days before starting a night shift, go to bed a bit later at night and wake up later in the morning.
- Ensure that you have a quiet place to sleep during the day.
- Put a "Do Not Disturb" sign on the front door.

Source: ('Personal Strategies for Decreasing Effects of Fatigue in Air Traffic Control', prepared by DAS/HUM EUROCONTROL, 2004)

FREE CALL

SAFETY MESSAGE LINE

Phone your safety concerns to CAAFI –

0800 6725 799

Profiling - In Tandem with Technology

Profiling play a valuable role in any passenger security system at the airport environment, specifically where the latest screening and detection technologies are available. These latest technologies are very useful tools; however, unless they are used intelligently, their end-value is dramatically reduced.

Profiling of passengers is often considered in a negative light – discriminatory and a violation of civil liberties. These are valid arguments sometimes. However, there is crude profiling and there is professional profiling. Any profiling procedure is only as discriminatory as the rules and processes which govern it. In a professionally applied passenger profiling process, the risk of discrimination can be considerably reduced and controlled.

Most profiling programmers are strictly based on the identification of criteria – sometimes referred to as threat indicators or suspicious signs. Those who meet the criteria are then subjected to additional screening procedures.

It is nearly impossible to make simple profiling completely non-discriminatory. The only way is to make the criteria non-discriminatory. In that case the procedure will fail because, in today's world, there are some countries and nationalities that are more prone and exposed to terrorist activity than others. So we are in a bit of a quandary. Discriminate and face the accusation of racism or build a weak system that is ineffective.
There is, however, a third way – one that is called Comprehensive Profiling.

Comprehensive Profiling

When applying Comprehensive Profiling, discrimination is minimized, controls are in place to avoid abuse and there is no automatic "fit the mould" and "Please step this way….". The application of profiling criteria is only the first stage of Comprehensive Profiling and not the deciding Factor. The profiling criteria simply prompt the profiler to begin an interview. There is no need to mention nationality, even though that might be the reason the profiler was prompted to ask additional questions.

In a Comprehensive Profiling process, the detection of indicators is the first tier, the interview is the second tier and the use of additional technology the third. Depending on the indicators and the answers from the passenger, the profiler may decide the threat that was inferred by the initial indicator is no longer perceived to be a threat. This decision is achieved by asking questions and requesting further documentation in order to alleviate the concern. In most cases, the passenger is released to the flight. In the end, Comprehensive Profiling allows the passenger an "out" from the third tier.

The interviewing part of the process is the challenge for the profiler. The imagination, common sense, logic, strength of character and speed of thought, combined with an ability to "read" the passenger, and slightly intimidate them whilst striving to provide exceptional customer service during the entire process are the key skills. It takes high quality training and plenty of practice.

Discrimination Control

Comprehensive Profiling includes two other important discrimination control factors - standardization and supervision.

The criteria for selection to interview is standardized and objective. There is no allowance for subjectivity. The criteria must be simple, clear and easy for the profiler to apply. In this way, one profiler will react the same way as another to the presentation of a specific indicator in behavior, appearance or travel documents. The indicator will be presented, the profiler will be prompted to react and the questions will be asked. Whoever the profiler is, the outcome will be the same. The objective of the interview is to clear the suspicion and release the passenger whenever possible.

Standardization reduces discrimination by ensuring these criteria are applied objectively and uniformly.

The profiler cannot arbitrarily apply a criteria of their own pertaining to race, religion, or ethnicity and cannot bring their own personal opinion in the process. Standardization reduces the Level of discrimination and leaves no room for abuse of procedures.

There is no effective 100% non- discriminatory profiling process for the detection of illegal immigrants, terrorists or drug smugglers. However, there are ways to minimize discrimination by developing a multi-tiered, clearly defined system which can be closely monitored and controlled.

Advances Made in Profiling Procedures and Technology

Profiling systems traditionally rely on negative indicators. Some more advanced profiling systems include positive indicators as well. Such so-called Positive Profiling provides a favorable security impression of some of the passengers. Positive indicators can reduce the profiling requirement allowing some passengers to move through the process faster. In this way more time can be dedicated to higher risk passengers.

Profiling systems based solely on computer analysis are currently being used. These systems analyze ticket details and, to a certain extent, passport and flight history. The shortcoming of these systems is the lack of human interaction. Computerized profiling cannot "read passengers" and consequently many important behavioral indications are lost, including signs of nervousness, lying, a breaking of eye contact or a change in attitude. However, there are computer-based systems which do not replace the face-to-face interview but assist the profiler and streamline the process by providing valuable time to interview higher risk passengers.

Recent advances have been made in the ticketing and checking-in of passengers, namely the use of e- tickets and self ser vice check-in kiosks, designed to ease the airport experience for the passenger and lower the cost to the carrier. This has

proved problematic for profilers. The flight ticket has always been an important document for profilers to examine, yet the emergence of the e-ticket is not standardized, not controlled, difficult to read and often important details are missing. However, as often happens, the challenge presented by circumstance has turned out to be beneficial to the profilers. Objectives-e-ticketing means more data is readily available for analysis. Another seen benefit of e-ticketing was the data that was formerly obtained by the profiler from a printed ticket, which was sometimes badly printed or handwritten, was now cleanly available on a computer screen.

Self-service check-in kiosks bring their own challenges to profiling. After a careful study, it was understood that the first level of passenger screening could be done at the check-in kiosk, given that the passenger's flight details are obtained and analyzed in advance of their arrival. Accordingly, a kiosk can issue a boarding pass with pre-determined printed negative or positive code which will assist the profiler or the check in agent - whoever is conducting the face to face interview. In certain cases, granted, certain criteria or name - matches, the kiosk will not issue a boarding pass at all and will simply refer the passenger to a profiler for a detailed security interview prior to the passenger approaching the check-in counter.

Conclusion

Advancements in the procedures to increase effectiveness and control discrimination are in constant development and the use of technology has made the process more and more efficient. Technology will be in constant development and cannot always be applied to all passengers and their baggage, due to cost and other practical limitations. In order to stay one step ahead of the terrorists, we must use our available technology intelligently and apply it to passengers that present the greatest risk. An intelligent security system uses a combination of profiling to identify the likely threat and advanced technology to clear that threat.

Source: Aviation Security International Magazine (Volume 15, Issue 5) - by Mark Kenney

MANDATORY OCCURRENCE BRIEFS

This column has briefs of selected occurrences in a de-identified way and the action taken after the investigation was completed. These briefs are published in the interests of improvement to aviation safety and not to apportion blame.

Improper Parking at the Terminal

Aircraft inbound from NFNA with 44 POB taxied to the apron and was advised of NOTAM - 'Aircraft on stand 9, 10, 11, 12, 13, 14, 15 and 16 shall park tail to the Terminal Building to avoid propeller accidents'. The aircraft failed to comply with the NOTAM and parked sideways to the Terminal building.

Action - Issue of improper parking discussed in the Ramp Safety Meeting; Page NFFN AD 2 - 53.1 of the Fiji Islands-AIP Clearly describe that Aircraft stand No. 9, 10, 11, 12, 13, 14, 15 and 16 should avoid park tail to terminal to AVOID Propeller accidents effective: 18 DEC 08; The requirement communicated with the operator. Observations done following the notification to the operator have seen that aircrafts parked along this Gate have exercised the park to tail concept.

Aircraft landing back during take-off

On spooling up 35 Tq for the take off on runway 27, pilots noticed that the right hand engine T5 gauge was bordering on the caution range at 71ºc. On rotation during Vr on the climb out, pilots initially noticed that the right hand T5 gauge started rising and hitting the red line of the T5, and then the Left hand Ng gauge moved up all the way passing 100% and hitting the red line. Crew requested for tower clearance to land back at Nadi and were cleared to join Right downwind for runway 27.

Engineering Action:

Left hand Ng indicator transposed for evaluation. Engine ground run carried out which confirmed indicator to be defective. Left hand indicator was replaced and right hand indicator reinstalled. Calibration check carried out on T5 systems on right hand engine. Fuel nozzle replaced with reference to Maintenance manual. Defect still existed when engine ground run was carried out so bleed valve also replaced which rectified the defect.

Swearing and Physical Abuse from PAX

A passenger was walking up/down cabin acting "strange". She then proceeded to toilet, pushing past other pax to galley. She asked a cabin attendant for scotch and because of her strange behavior, the attendant asked her to take it easy with the scotch. To this she started talking abusively, pointing her finger at the attendant then all of a sudden grabbing the attendant's neck in a choke hold. The attendant held her back and told her to go back to her seat. As she was going to her seat, she yelled and was swearing.

Action: On arrival into NAN, the Fiji Police officers escorted and charged the unruly passenger. The passenger is now awaiting court proceeding in Fiji.

LH Windshield Damaged

During flight passing through FL 185, LH Windshield damaged starting from top left hand corner. LH Windshield heating faulted after 5 sec. Pressurized normal. Aircraft returned to Nadi Airport.

Action: Investigation carried out and determined possible cause of damage was the failure of the windshield heating element to operate normally as arching marks between inner and outer layers were evident; resulting in thermal expansion and causing the windshield outer glass to crack. The L/H windshield was replaced and subsequent system tests carried out and normal.