Issue 2, April 2014

ISO 9001:2008 Certified

AVIATION SAFETY BULLETIN

A Publication of:

Civil Aviation Authority of Fiji
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NADI AIRPORT,
REPUBLIC OF FIJI
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Inside this Issue: **Pg:**

They're here...

Drones or Remotely Piloted Aerial / Aircraft Systems (RPAS)

REMOTELY PILOTED AIRCRAFT SYSTEMS UPDATE

Although the Remotely Piloted Aircraft Systems (RPAS) sector is a dynamic and rapidly evolving one, there are existing regulations in place that cover the activity of these aircraft.

The current rules for Remotely Piloted Aircraft Systems (RPAS) were initially developed for model aircraft that are flown recreationally under strict operating conditions.

All pilotless aircraft weighing less than 150 kg, and have the ability to operate 500 meters slant distance or more from the operator and above 200 feet, require a Permission to operate.

The conditions about operating near an aerodrome are particularly important, as is this example, “A person shall not operate a model aircraft in a manner that creates a hazard to aircraft or to persons or property.” Air Navigation Regulations 78 (1) restricts operations within 3 km from a domestic aerodrome and 6 km from an international aerodrome.

Long-term Strategy

Although these regulations cover RPAS operations at the moment, they don’t take into account the rapid growth in this sector, and are not tailored for the range of potential activities.

Activities in populated areas, and flying at heights that other aircraft use, are just two instances of increased risks posed by some RPAS operations.

Work is progressing for the safe operation of RPAS so that risks are properly managed.

The CAAF recognises that the applications of these aircraft can bring social and economic benefits to Fiji.

Currently an Advisory Circular is being prepared.

Later this year, the CAAF intends to publish a longer-term strategy for the integration of RPAS into the Fiji civil aviation system ■

(Article By Treasure Marshall—Air Safety Department)

Acknowledge Skyward Industries for Pictures.

LICENCING DRONE PILOTS—SHALL WE? SHOULD WE?

Let's hear from an enthusiast.

An overseas leading advocate for consumer drones who buzzed an iconic building recently, won a court fight against the aviation regulatory authority. He also shared some ideas for how to regulate drones.

In the advocate's State, the rules for drone regulation are still unclear; this was evident when a judge threw out a fine that the aviation authority had imposed for the operation of the drone.

The advocate photographer, who gained attention when his drone buzzed an iconic building, shared his thoughts in a Journal profile. The gist of it is that the enthusiast thinks drone pilots should be certified, and that governments should impose weight and other restrictions.

He mentioned that there is no doubt that consumer drones have arrived; one can witness a beautiful flight through a country side and even read about one man's aerial view of an event. But the million dollar question is what to do about them; drones?

He said 'I'm against outright bans,' but weight restrictions and even no-go zones are different. 'The amount of damage you can do to a person or to a property grows exponentially with weight,' he noted, so it makes sense to distinguish between five-pound and 50-pound drones - something a Regulators' blanket ban does not do. He further added that he wouldn't object if a drone operator had to seek permission before, say, flying through a tunnel.

'Even some sort of certification of the pilots is what I would expect,' he went on to say, 'because most of the really dangerous situations arise from people not really knowing what they're doing.' He cites the man who recently launched a toy-grade radio-controlled plane from his apartment balcony near a train station, apparently not realizing that signal interference would almost certainly make the drone crash."

He made it clear that it would be silly to require the same set of certifications for drone and airplane pilots, and he calls out France and Australia as 2 countries that have so far done a smart job in regulating drones.

For his State, this enthusiast's prescription makes sense. Until the judge shot it down, the Regulators heavy-handed approach to commercial drones appeared to threaten the potential of a promising new technology. On the other hand, it's fair to say some regulation is needed; ordinary city, town or rural dwellers are right to worry about unmanned planes falling from the sky and, absent any rules; it may only be a matter of time until someone 'shoots' one down.

CAAF welcomes your thoughts for the safety of RPA operations in Fiji. Call us on 6721555 ■

(Article Submitted by Ground Safety Team—Story uplifted from Flight Safety Information Newsletter, March 25' 2014, No. 062)

RUNWAY EXCURSIONS

The International Air Transport Association (IATA) has released the 2013 commercial aviation safety performance data which includes an analysis of aircraft accidents that were attributed to Loss of control in-flight (LOC-I), Controlled-flight-into-terrain (CFIT) and Runway Excursions.

Runway excursions were cited as the most common type of accident, accounting for 23% of all accidents over the past five years (2009-2013) and are the focus of this article.

A Runway Excursion occurs when an aircraft departs the runway in use during its take-off or landing run. This is further categorized into 2 events; a 'Veer-Off' (when the aircraft departs the side of the runway) and an 'Overrun' (when the aircraft departs the end of a runway).

The prevention strategies for runway excursions embraces five areas: flight operations, air traffic management, airport operators, aircraft manufacturers and regulators.

The organizations responsible for these five areas, as far as practicable, need to work together in an integrated manner to address runway safety in the area of runway excursions, runway incursions and runway confusion.

RECOMMENDED MITIGATIONS

The following prevention strategies should be implemented to address the risk factors involved in runway excursions. The focus of this article is on Airport Operators, Air Traffic Management and Regulators.

AIRPORT OPERATORS

Policies

- Ensure that all runway ends have a runway end safety area (RESA) as required by International Civil Aviation Organization (ICAO) Annex 14 or appropriate mitigations such as an arrestor bed;

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RUNWAY EXCURSIONS cont….

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- Define criteria to determine when to close a runway to prevent runway excursions;
- Ensure that runways are constructed and maintained to ICAO specifications, so that effective friction levels and drainage are achieved (e.g runway grooving, porous friction overlay);
- Ensure that the maneuvering area including the runway conform to ICAO Annex 14 specifications;
- Ensure that aircraft rescue and fire fighting (ARFF) personnel are trained and available at all times during flight operations;
- Ensure that ARFF personnel are familiar with crash/fire/rescue procedures for all aircraft types serving the airport;
- Provide means for flight crews to visually determine runway distance remaining.

Standard Operating Procedures (SOPs)

- Ensure that visual aids, specifically touchdown zone location and markings, are visible and in accordance with ICAO Annex 14;
- Ensure that infrastructure restrictions such as changes to the published takeoff run available (TORA) and runway width available are communicated in a timely and effective manner;
- Ensure that runway conditions are reported in a timely manner;
- Provide an active process that ensures adequate runway braking characteristics;
- Mitigate the effects of environmental (e.g. snow, ice, sand) and other deposits (e.g. rubber and de-icing fluids) on the runway.

AIR TRAFFIC MANAGEMENT

Air traffic management/air traffic control (ATM/ATC) has two primary roles in reducing the risk of runway excursions:

- Provide air traffic services that allow flight crews to fly a stabilized approach;
- Provide flight crews with timely and accurate information that will reduce the risk of a runway excursion.

Policies

- Ensure all ATC/ATM personnel understand the concept and benefits of a stabilized approach;
- Encourage joint familiarization programs between ATC/ATM personnel and pilots;
- ATC/ATM and operators should mutually develop and regularly review and update arrival and approach procedures ;
- Require the use of aviation English and ICAO phraseology.

Standard Operating Procedures (SOPs)

- Controllers should assist flight crews in meeting stabilized approach criteria by :
  - ◊ Positioning aircraft to allow a stabilized approach;
  - ◊ Avoiding late runway changes, especially after the final approach fix;
  - ◊ Providing approaches with vertical guidance;
  - ◊ Not using speed control inside the final approach fix.

- Controllers should:
  - ◊ Select the preferred runway in use based on wind direction;
  - ◊ Communicate the most accurate meteorological and runway condition information available to flight crews in a timely manner.

REGULATORS

- Develop a policy to ensure the provision of correct, up-to-date and timely runway condition reports.
- Develop a policy to standardize takeoff and landing data format as a function of runway condition provided to airlines by aircraft manufacturers.
- Develop a standard measurement system for runway condition reporting.

Safety is our highest priority. Improving runway safety is a key focus of the industry's strategy to reduce operational risk. Information sharing, risk analysis, training and analysis of the taxonomy of runway safety are all part of the industry's comprehensive approach to improvement in this area.

The aviation industry is united in its commitment to ensure continuous safety improvement. Importantly, that commitment has made flying ever safer. Over the five years 2009-2013, the industry has shown improvement in both accident rates and fatalities, although year-to-year comparisons may fluctuate.

"Safety is a team effort" ■

(Article Submitted by Ground Safety Team-Story uplifted from IATA 2013 Safety Performance Review & Flight Safety's Runway Excursion)

60 YEARS OF FLYING CAREER IN AVIATION..

*The man behind this commitment to the aviation industry is **Captain John A. Edwards (Jim).** The following is an article from the man who just completed 60 years in aviation.*

Captain Edwards was born on 4th August 1936 in a small village in Staffordshire, England where his father was a coalminer and mother was a house wife. He got educated at King Edward VI Grammar School, Stafford in England.

CAREER IN THE BRITISH AIR CADETS

Jim then joined the No295 (Stafford) Air Cadet Squadron in September 1950. This is where he learnt to Glide and was issued A & B Gliding licence in March 1953. Between the year 1951-1954 Jim was promoted to Corporal, Sergeant, Flight Sergeant and Warrant Officer. In August 1953 he was awarded an Exchange Cadet Visit to Canada. In September 1953 Jim was awarded a Flying Scholarship by the RAF 30 hours flying in a Tiger Moth (solo in 5 hours) at Barton Airfield, Manchester. When completed Jim was issued with Private Pilots Licence on 2nd October 1953.


Tiger Moth 1953

THE ROYAL AIR FORCE

Jim joined the RAF as an Officer Cadet in May 1954. Upon completing Officer Training School at RAF Kirton in Linsay from 1st June-30 August 1954, Jim was posted to Canada in September for Flight Training as part of Canada's NATO commitment. Here Jim learnt to fly with Cadets from Canada, UK, Norway, France, and Holland. Initial training was conducted on Harvard Mk4 Aircraft at Claresholm, Alberta 5th October 1954-30th June 1955. Then Jim received Jet Training on T-33s (Silver Stars) at Portage –Le- Prairie, Winnepeg 30th June -14th September 1955. The Royal Canadian Air Force Wings were issued on 16th September 1955. On his return to UK Jim completed the Hunter Operational Conversion Unit at RAF Chivenor on 2nd March - 30th May 1956.

Jim was then posted to 112th Fighter Squadron, at Bruggen, West Germany on 5th June 1956 (two months before his 20th birthday). At Bruggen he flew the Hunter Mk4, a swept wing supersonic jet fighter. The Hunter was operated in both the high altitude interceptor and ground attack roles and was armed with 4, 30 millimeter canon. Jim received an education in mock "dogfights" at the hands of more experienced Canadian and UK fighter pilots. The Squadron was disbanded on 20th May 1957, as part of the British Defence cuts. After a short period in a ground job (Adjutant at Birmingham University Air Squadron) and he was then posted to RAF Workshop for an asymmetric course flying Meteor Mk 7 & 8 from 11th March-18th June 1958.


Hunter MK IV 1956


Camberra PR9 1960

Then from 18th June-24th October 1958 Jim was posted to 231 Operational Conversion Unit at RAF Bassingbourn on a Photo Reconnaissance (PR) flying Canberras Mk PR3 &T4. On 12th November 1958 he was posted to No.58 (PR) squadron at Wyton in Cambridgeshire. The 58 Squadron operated PR7 Canberras in roles from the north of Norway, throughout the Middle East, to South Africa. The PR7 had a service ceiling of 48,000ft. In June 1960 the squadron received the Canberra PR9, this was the ultimate high altitude version of the PR Canberras. It had a service ceiling of 56,000ft which put it above the fighters of the day. Jim then flew the PR9 from 17th August 1960 until he was posted from the squadron on 3rd June 1962.

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60 YEARS OF FLYING CAREER IN AVIATION cont....

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During the time on 58 Squadron he flew PR9 on clandestine missions and was awarded the Commander in Chief's Commendation in January 1963 for this work.

Then on 25th September Jim was posted to the Vulcan Mk1 conversion at No 230 Operational Conversion Unit at RAF Finningley. On completion of the course on the 5th January 1963, he was posted to No 35 (Medium Bomber) Squadron at RAF Station Coningsby which operated Vulcan Mk2 aircraft as part of the Allied Strategic Deterrent. The Vulcan had an excellent performance with a service ceiling of 64,000ft and cruise speed at altitude of Mach 95. Armament was an 8000lb "free fall" Hydrogen bomb. The crew had a target well inside Russia. Captain Edward then spent many days on 15 minute readiness/standby with bomb on board in the aircraft

"ready to go".
Jim resigned from the RAF on 30th April 1964 with the rank of Flight Lieutenant in order to join QANTAS airways in Australia.

QANTAS AIRWAYS

Jim joined QANTAS Airways on 7th May `1964 and commenced training as a Second Officer on B707-300s. He completed S/O Training and started operating on the "line" on 22nd November 1964. Jim then completed First Officer Training on the B707 on 4th January 1968. During this period of operating B707s, Jim bid for and got a 6 month basing in Mexico City operating to Tahiti and Bermuda. He flew the B707 on all the QANTAS Routes until 30th March 1974.

Jim commenced B747 200 F/O training on 12th May 1974 on the simulator with United Airlines in Denver Colorado (Qantas simulator was very busy at this time). The training was completed on 10th July 1974. This aircraft training commenced at Avalon Airfield in Victoria, Australia on 16th July

1974, and completed on 25th July 1974. Captain Edwards then operated as a F/O on all Qantas routes until he started his Command Training on the B747-300 on 14th June 1978.

Command training in QANTAS was a rigorous exercise (not recommended for wimps) and it lasted just over four months: 2 Line Checks, 1 Simulator Check, and 1 Aircraft Handling Check all were completed successfully.

Captain Edwards first flight in Command, was Sydney to San Francisco via Honolulu, on 1st November 1978. According to Captain Edwards flying the B747 in Command on the varied routes of the QANTAS network was the most enjoyable and very fulfilling. This generated many stories and pleasant memories.

He then decided to resign from Qantas in 1989 to go farming on 2000 acres at Cowra in NSW.

BLACK PINE FARM

Captain Edwards career change began by taking up the wool production at Black Pine Farm from July 1989-October 1990.

It did not take very long for him to realize that resigning from Qantas and leaving aviation was a major mistake. To ease this pain he then flew for a small charted company between November 1989 and March 1990. Flying C410s and C337s around NSW out of Cowra airport .

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60 YEARS OF FLYING CAREER IN AVIATION cont....

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HIGHLAND PACIFIC CREWING

To get back to aviation Jim formed a company, in partnership with another ex Qantas Captain called Highland Pacific Crewing from October 1990-June 1992.

The Highland Pacific Crewing was formed as a Partnership to lease pilots to airlines who required Check and Training B747 Captains. The first contract was with Air Pacific in Fiji. Jim trained and checked pilots on the B747-300 on routes between Fiji, Sydney, Tokyo and Los Angeles. Captain Edward recalls this was a very interesting and pleasant time working with the Fijian pilots. The contract was then completed in August 1991. The Highland Pacific partnership split up after a disagreement.

ALL NIPPON AIRWAYS

In September Captain Edwards was selected by *ALL Nippon Airways*, Japan, to undergo a course of training to meet Japanese Civil Aviation Bureau (JCAB) standards for the issue of a Japanese ATPL (from August 1991 – July 1994). The duration of this training was seven months and was very rigorous. The theme of this training was to learn the Japanese way, in order to fit into the *All Nippon* organization. After the initial difficult ground school the course became more enjoyable as it progressed through the simulator phase, and finally onto the aircraft. The final check for the issue of the licence was conducted by a JCAB Inspector on the aircraft at an airport on a small Japanese Island near Okinawa. It was very comprehensive and probably the "toughest" flight test in Captain Edwards career. Upon the completion of the training, in the words of his instructor he had become a "*samurai*". This training was then completed in February 1993. Captain Edwards flew his first flight from Sydney to Tokyo on 8th February 1993. He then became **the first foreign Captain** to fly *All Nippon's* passenger B747s. Captain Edwards recalls the following two years were thoroughly enjoyable, based in Sydney and flying to Tokyo and Los Angeles with mainly all Japanese crews. It was very sad when the contract was cancelled due to the Japanese financial "bubble" bursting in 1994. Unfortunately the contract pilots had to go first, however the disappointment was sweetened somewhat when *All Nippon* paid out the 9 months of the rest of the contract at full flight pay.

ANNSETT INTERNATIONAL

With so much of experience in his hands Captain Edwards was again recruited as a contract Check and Training Captain to train B747 crews on the B747-200 for the newly formed *ANSETT International Airways* (from 15th August 1994 – 30th June 1995). This time Captain Edwards was responsible for training and checking pilots to CASA standards to facilitate the establishment of a new international service between Australia, Hong Kong and Japan. The contract lasted until *ANSETT International* had set up their own check and Training establishment in June 1995. In August 1996 Captain Edwards turned 60 years of age and had to retired from commercial flying. This was the age limit for captains at that time. He reluctantly returned to the farm.

CIVIL AVIATION AUTHORITY of FIJI (CAAF)

In September a pilot friend telephoned Captain Edwards at the farm to tell him that CAAF were looking for an Inspector with B747-200 experience. He caught the next aircraft to Fiji and was accepted as a Flight Operations Inspector (from 01st August 1996 till to-date). Captain Edwards was back in Fiji and back in aviation, however this was a different kind of aviation experience according to him as it was necessary to learn many new rules. In February 1997 Jim attended an ICAO Seminar and Workshop in Bangkok on Flight Safety Oversight.

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60 YEARS OF FLYING CAREER IN AVIATION cont….

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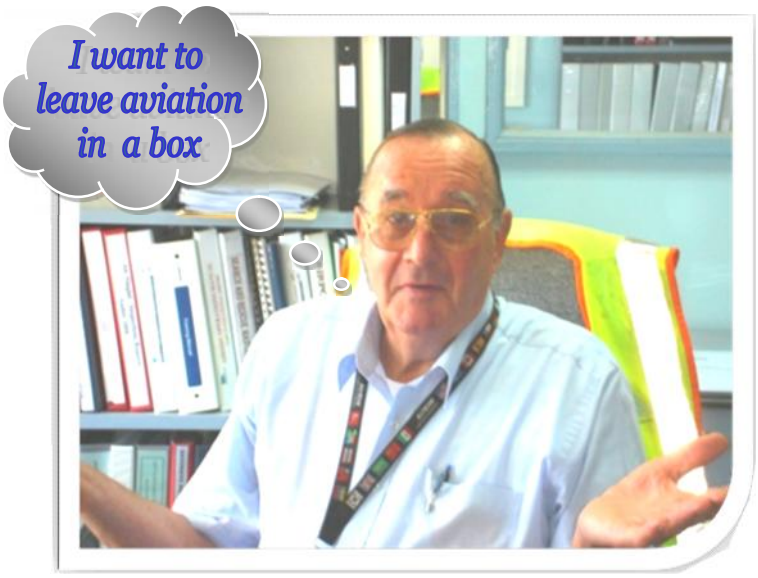
During this seminar he learnt many of the new rules. His knowledge developed on how each CAA integrated within ICAO and complied with the 18 ICAO Annexes, while drafting their own laws. At this time he was the only Flight Operations Inspector (FOI) in CAAF therefore he was responsible for the approval of ***all*** check captains and ***all*** licensing checks on ***all*** the aircraft in Fiji. During the early years with CAAF Captain Edwards wrote all the licensing flight and simulator checks for all the aircrafts in Fiji. He also conducted checks in the Solomon's and Tonga for the respective governments and he also helped to write many of the manuals which are the basis of today's Standard Documents (SDs).


Captain Jim Edwards

In October 2002 Captain Edwards was promoted to the post of Controller Air Safety (CAS). This opportunity gave him to manage the Air Safety Department (ASD) and the Aircrew Licensing Section. In March 2003 he successfully completed a B747-400 Type Rating Course at Boeing Training, Seattle, USA. He then over sighted the introduction of the aircraft into Fiji. During this period he also completed a Type Rating on the B737NG in the simulator in Boeing Training from Brisbane, Australia. This was a very busy period and as CAS he managed the introduction of three new airlines into Fiji. One of these was the Air Wakaya operating a single engine C208 Caravan. He then helped another FOI, Wal Scott to write the SD-Single Engine IFR operation. The C208 has been a success story despite quite a bit of resistance early to it's introduction. Following this he completed an Accident Investigation course in Brisbane and an ICAO/NTSB Regional Aircraft Accident Investigation Workshop in Bangkok in 2005. During this period he conducted investigations on six aircraft accidents and several serious incidents. Captain Edward's was head of the ASD during the two ICAO Audits of CAAF in November 2003 and in January 2006. He was also head of the ASD in June 2008 when CAAF was ISO 9001-2000 accredited by the Bureau Veritas of New Zealand.

In October 2008 Captain Edwards's position within the CAAF was changed to Senior Flight Operations Inspector (International). This new post took him out of the Executive area and into International operations. Captain Edwards welcomed this challenge as his expert ability has been in the area of "*hands on*" for Aviation. During this period he completed Type Rating checks on the BE20 Super King Air and the PA34 Piper Seneca. In June/July he attended a Foreign Operators Validation and Surveillance Course run by CO-SCAP in Bangkok. All Foreign Operators wishing to carry passengers into Fiji must now obtain a Foreign Air Operators Certificate (FAOC) and the issue of the FAOC was now been his responsibility. Following a course at ALTEON in Brisbane on the new (future) GNSS/RNP approaches, he became responsible for their introduction into Fiji, and for the training and checking of pilots in Air Pacific and Pacific Sun in the use of this relatively new technology.

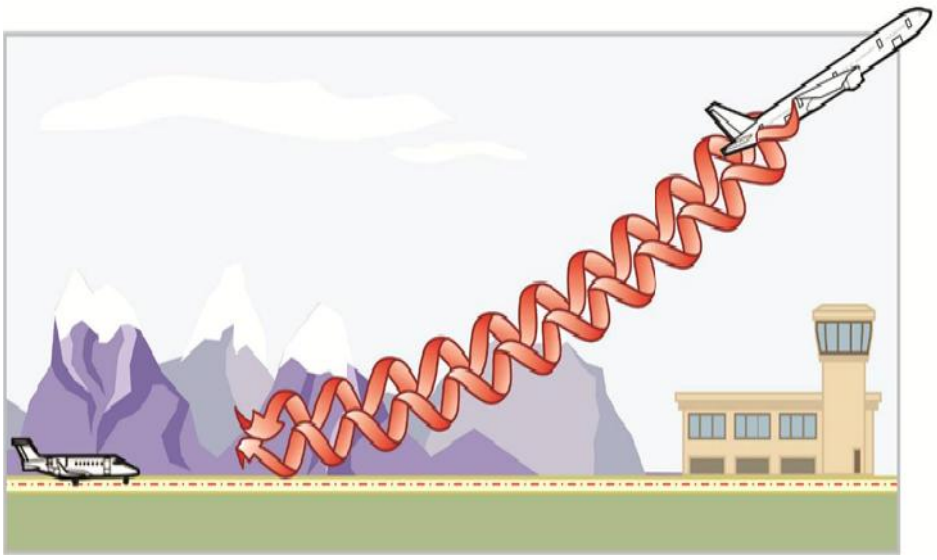


To date Captain Edwards have conducted ***1423 Flight Checks/ Audits*** on ***13 different aircraft types*** in Fiji. He is **TYPE** Rated on the B747 Classic and 400, B737 Classic and NG, BE20, C208, BN2A PA34, C337, and the C172RG. In September 2013 Captain Edwards completed **60 years in aviation**, *without a break* or *an accident*.

It's not the end or a full stop for this Aviation pioneer hence from 1st April 2014 he retired from CAAF and is being replaced by a local pilot, Captain M. W. Tuisue. He hopes to continue in Aviation provided he can continue to pass his 1st Class medicals and 6 monthly checks.

To quote Captain Edwards ***"I want to leave aviation in a box"*** ■

AIRCRAFT WAKE TURBULENCE (PART 1)



Wake turbulence is turbulence that forms behind an aircraft as it passes through the air. This turbulence includes various components, the most important of which are wingtip vortices and jet wash. Jet wash refers simply to the rapidly moving gases expelled from a jet engine, it is extremely turbulent, but of short duration. Wingtip vortices, on the other hand, are much more stable and can remain in the air for up to three minutes after the passage of an aircraft.

This document therefore presents basic information on wake vortex behaviour, alerts pilots to the hazards of aircraft wake turbulence, and recommends operational procedures to avoid wake turbulence encounters.

Every aircraft in flight generates wake vortices. These disturbances are caused by a pair of counter-rotating vortices trailing from the wing tips in cruise and nominally from the outboard edge of the outboard flap on approach and landing. The vortices from an aircraft can pose a hazard to encountering aircraft. For instance, the wake of larger aircraft can impose rolling moments that exceed the roll control authority of smaller encountering aircraft. Further, turbulence generated by vortices can damage aircraft components and equipment as well as cause personal injuries. Pilots must learn to envision the location and movements of the vortices generated by other aircraft and to adjust their flight path accordingly.

VORTEX GENERATION

Lift is generated by the creation of a pressure differential over the wing surfaces. The lowest pressure occurs over the upper wing surface and the highest pressure under the wing. This pressure differential triggers the rollup of the airflow aft of the wing resulting in swirling air masses trailing downstream of the wing. After the rollup is complete, the wake consists of two counter-rotating cylindrical vortices (see Figure 1).

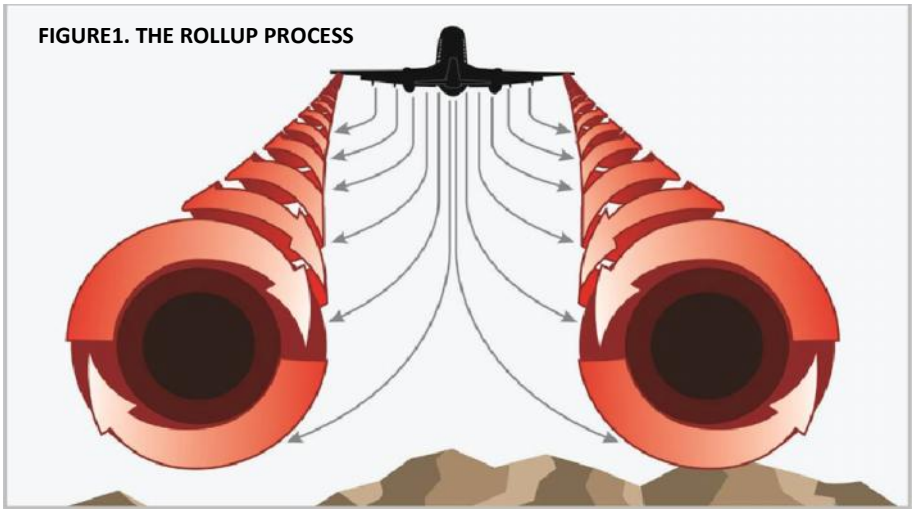


FIGURE1. THE ROLLUP PROCESS

VORTEX STRENGTH

a. Terminal Area The strength of the vortex is governed by the weight, speed, and wing shape and span of the generating aircraft. Whilst the use of flight control devices such as flaps will change the vortex characteristics of an aircraft, the factors which vary most significantly by phase of flight are weight and speed, the vortex strength increases proportionately with an increase in aircraft operating weight or decrease in aircraft speed. Peak vortex speeds up to almost 300 feet per second have been recorded.

b. **En Route** Air density is also a factor in wake strength. Even though the speeds are higher in cruise at high altitude, the reduced air density may result in wake strength comparable to that in the terminal area. In addition, for a given separation distance, the higher speeds in cruise result in less time for the wake to decay before being encountered by another aircraft.

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AIRCRAFT WAKE TURBULENCE (PART 1) CONT...

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INDUCED ROLL

a. **Roll Control Capability -** The most likely encountered hazard is an induced rolling moment that can exceed the roll control capability of the encountering aircraft. The capability of an aircraft to counteract the roll imposed by the wake vortex primarily depends on the wing span and counter control responsiveness of the encountering aircraft.

b. Counter Control - is usually effective and induced roll minimal in cases where the wingspan and ailerons of the encountering aircraft extend beyond the rotational flow field of the vortex. It is more difficult for aircraft with short wingspans (relative to the vortex-generating aircraft) to counter the imposed roll induced by vortex flow (see Figure 2, Induced Roll). Pilots of short-span aircraft, even of the high performance type, must be especially alert to vortex encounters. The wake of larger aircraft requires the respect of all pilots (see Figure 3, Wake vs. Aircraft Size) ■

(Article By Capt Tui -ASD—Story uplifted from FAA AC.)

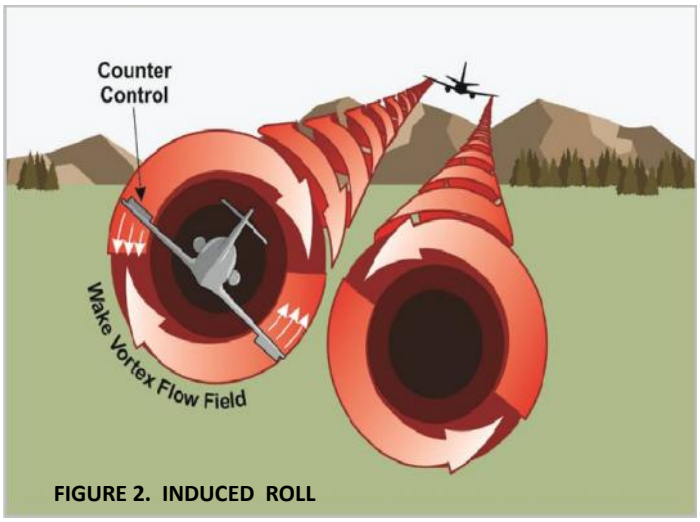


FIGURE 2. INDUCED ROLL

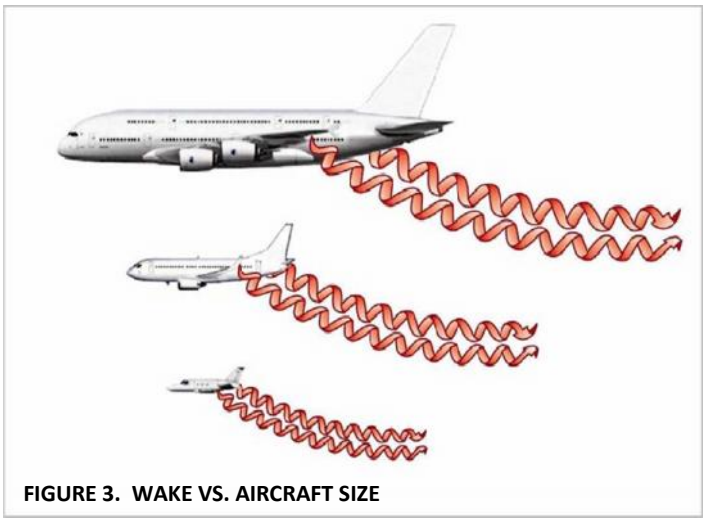


FIGURE 3. WAKE VS. AIRCRAFT SIZE

SMS—HANDLING EMERGENCY / EMERGENCY RESPONSE PLAN

Even the most safety-conscious aviation organization can have an accident. An effective SMS can greatly reduce the likelihood, but can never entirely eliminate human error. It is a wise organization that, through emergency preparedness, has a plan on how to cope with an accident without waiting for one to occur. Commercial operations must provide, at a minimum, accident and incident reporting procedures and procedures for reporting overdue aircraft. Airports are already required to comply with extensive Emergency Preparedness regulations outside the SMS regulatory requirements. Handled well, an accident response plan can help everyone cope with a highly stressful event. Handled poorly, an accident can destroy the reputation of an organization.

There is little that is complicated about an accident response plan. It really is just a matter of thinking in advance about the steps to follow and organizing them on paper. It does not have to be lengthy or involved. Here is the typical content:

- Whom to notify initially
- Care of survivors
- Emergency call list
- Notification of Next of kin
- Public relations handling
- Record keeping
- Accident scene protection/ investigation
- Personnel briefings
- Useful forms for on-duty personnel

The response plan must be useful to those who might be on duty at the time, must contain key data and guidance and everyone must know where copies are located. It would be useful to include a few minutes of discussion of the response plan in the recurrent training program for staff. Large operations carry out simulated emergency exercises as part of staff training to ensure the plan works (coordination with various agencies and stakeholders) and to provide everyone with a chance to practice their roles in a controlled situation. Even small operations can benefit from a practice run of their plan.

A response plan may have different components for different personnel depending on the size of an organization. Front line staff must have clear simple instructions and procedures to follow in the immediate aftermath of an accident but components of a plan for the management or for the person assigned the task of dealing with the media will include more detailed information for dealing with emergency authorities, insurance companies, media and next of kin ■

(Article By Treasure Marshall—Air Safety Department)

ANNEX 19 – AN OVERVIEW

The proposal for an Annex dedicated to Safety Management came about at the ICAO High-level Safety Conference 2010. The benefits identified for this approach included the ability to:

- Address safety risks proactively;
- Manage and support strategic regulatory and infrastructure developments;
- Re-enforce the role played by the State in managing safety at the State level, in coordination with service providers;
- Stress the concept of overall safety performance in all domains.

All of the safety management provisions in Annex 19, 1st edition, were transferred or duplicated from safety management provisions previously contained in 6 different Annexes, with the exception of:

1. The Safety Management System (SMS) framework now applies to organizations responsible for the type design and manufacture of aircraft;
2. The four components of the State Safety Programme (SSP) framework are elevated to the status of Standard in chapter 3;
3. The State Safety Oversight (Appendix 1) are applicable to the oversight of all product and service providers; and
4. The Safety Data Collection Analysis and Exchange (Chapter 5) and the Legal Guidance for the Protection of Safety Information from Safety Data Collection and processing systems (Attachment B) complement the SSP.

The overall cost impact is light because Annex 19 is mostly based on existing provisions gradually introduced since 2001.

- Impact to the States:
  - Administrative work for the review and amendment of existing legislation and regulations as required;
  - Update to references to existing Annex provisions;
  - Notification of differences to Annex 19, if any (State Letter 8/3 13/30 refers).
- Impact to the service providers and general aviation operators:
  - Updates to operations manuals and other materials.

Applicability date of Annex 19, 1st Edition was 14 November 2013. In addition, the Safety Management Manual (SMM) third Edition, Doc 9859 published to support Annex 19, 1st Edition.

The implementation of safety management provisions are additionally highlighted in ICAO's newly-amended Global Aviation Strategy Plan (GASP), which prioritizes the implementation of a State safety oversight system as a prerequisite to the establishment of a SSP.

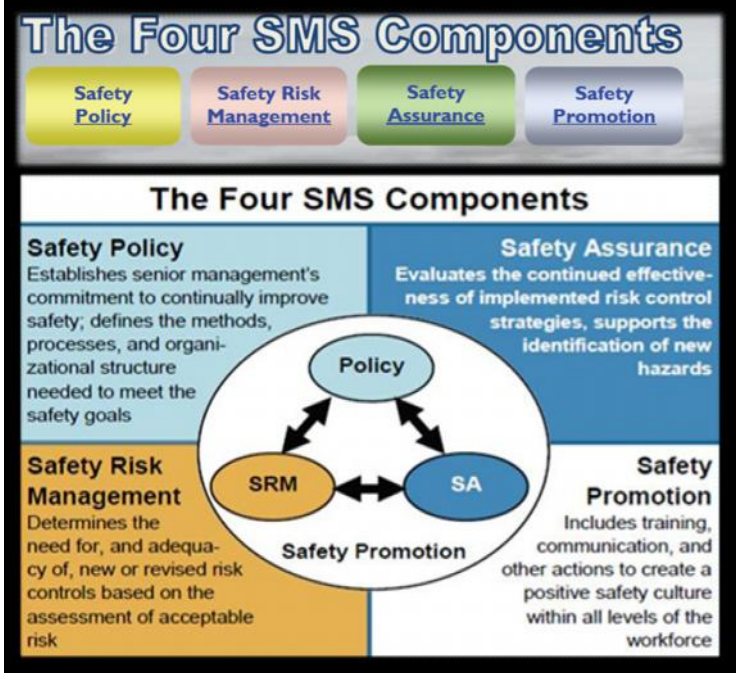
For further information on Annex 19 please contact the Civil Aviation Authority of Fiji ■

(Article By Ground Safety Department)

WHO OWNS SMS?

An organisation's SMS does not reside in a particular department or group of people.

Everyone in the organisation has Safety accountability within their area of responsibility.



FUEL –RELATED ACCIDENTS

There is much that pilots should know about fuel and fuel management. There are five things you can do to reduce your chances of having a fuel-related accident:

1. **Known How Much Fuel You Have**—You can't know how far you can go unless you know how much fuel you have, but knowing that isn't always easy.

   - The first step in knowing how much fuel you have is to ***think of fuel not in gallons or pounds but hours and minutes.*** Why think in time rather than distance? Because fuel burn is a constant – the engine, barring a malfunction, will always burn the same amount at any given combination of altitude, power setting, and mixture setting, but range will vary constantly due to changing winds and ground speeds. In order to know how much time you have, you must also know the rate at which your fuel is being consumed. That means an intimate knowledge of your engine's fuel consumption. The POH figures will get you close to the answer but only experience will tell you for sure.

     Note: **Pilots of unfamiliar airplanes add one or two gallons per hour to their computed fuel consumption until they see how much that airplane actually burns.**

   - Some airplanes are equipped with fuel flow computing devices that actually measure the fuel that is drawn from the tanks. These devices will indicate your consumption rate, but there's another part of the problem.

   - Next you'll have to know for certain how much usable fuel is actually on board. Fuel computers will tell you how much you're burning and how much you have left but pilots must input the fuel quantity, so the old computer adage applies – garbage in equals garbage out. A calibrated dipstick is a good way to measure fuel but be sure it's calibrated for your air- plane. Some airplane models have several options for fuel tank capacity, i.e. a dipstick calibrated for a Cessna 182 with bladder tanks will indicate more fuel than is actually present in a 182 with metal tanks.

   - Departing with full tanks is a good tactic but that isn't always possible. Most airplanes exceed weight and balance limitations with full fuel, all seats occupied, and maximum bag- gage. Some airplanes can be difficult to fuel completely. And what about the pilot before you who says, "I only flew an hour off of full tanks"? Were they really full? Did the pilot lean or was he operating full rich? What was the fuel consumption rate for the previous flight? Trust but verify. It's your safety and certificate on the line, not his.

2. **Know Your Airplane's Fuel System** - Pilots must also be familiar with and proficient in operating the fuel system on their airplanes. Fuel management on a Cessna 150 training airplane is easy. Two wing-mounted tanks simultaneously gravity feed fuel to the engine. The fuel selector is either on or off. Compare this with a low-wing single boasting two main, two wing auxiliary, and two aftermarket tip tanks with an engine-driven prima ry fuel pump, electric boost pump, and electric fuel transfer pumps. It's not surprising that some pilots have made forced landings with fuel still available.

3. **Know What's in Your Fuel Tanks -** Pilots must ensure their airplane contains the proper grade of uncontaminated fuel. We've all been trained to drain the fuel tank sumps during pre-flight to make sure the airplane's been serviced with the proper grade of fuel and there are no contaminants. Fuel drains are, however, the second line of defense. Pilots and aircraft operators should take steps to prevent contaminants from entering the fuel sup- ply in the first place. For example, most water contamination enters airplane fuel tanks through worn or defective fuel cap seals.

(Continued to Next Page)

FUEL –RELATED ACCIDENTS cont….

(continued from previous page)

Most aircraft fuel suppliers take great care to ensure an uncontaminated product is delivered to their customers but occasionally contaminated fuel is pumped into an airplane. There are also cases where line personnel have serviced air- planes with the wrong fuel. That's why it's important to supervise the fuelling and sample the fuel after each delivery.

4. **Update Your Fuel Status Regularly During Flight** - It's good to do thorough pre-flight planning but, once in the air, things can change. Winds are rarely exactly as forecast and weather deviations add miles and minutes to your trip. The Air Safety Foundation recommends that pilots evaluate their fuel status each hour. If you know how many minutes of fuel you have and how long it will take to reach your destination or fuel stop, it's easy to know if you'll be needing your reserve. And speaking of reserves:

5. **Always Land with Adequate Reserve Fuel** - Aviation regulations require different fuel reserves for different operations. For instance: The regulations require flights conducted under IFR to have enough fuel to go from A to B, shoot the approach, execute a missed approach, fly to the alternate, and then be able to fly for another 45 minutes at normal cruise speed, not throttle back to milk the maximum endurance from the machine ■

(Article by ASD uplifted from Safe Pilots, Safe Skies-Safety Advisor, No 5)

DRY ICE BOMB

Police arrested a second airport employee Friday for allegedly setting a dry ice bomb at the Los Angeles International Airport that exploded outside the international terminal while a plane was parked nearby, according to a law enforcement official.

The official, who was briefed on the investigation but not authorized to speak publicly, said 41-year-old Miguel Angel Iniguez admitted to setting a dry ice bomb that exploded Sunday outside gate 148 of the airport's Tom Bradley International Terminal.

Iniguez was arrested Friday while at work and booked on suspicion of possessing a destructive device near an aircraft. He's being held on $500,000 bail.

Iniguez, a supervisor for the aviation ground services company Servisair, was also responsible for Dicarlo Bennett, 28, who was arrested Tuesday night for allegedly setting the devices. He pleaded not guilty Thursday to two counts of possessing a destructive device in a public place.

No one was hurt when a plastic bottle packed with dry ice exploded Sunday in an employee bathroom and another blew up on the airport's tarmac. An employee found a third plastic bottle expanding Monday night on the tarmac near where the other exploded.

Bennett was riding in a van with several people, including a supervisor, Sunday night when he decided to make the dry ice bombs in plastic bottles, the official said. Those in the van were aware of the dry ice, though no one else was initially arrested.

Police said Dicarlo planted the three devices out of personal curiosity. They'd initial worked on the theory that dry ice bombs were the work of a disgruntled employee due to an internal labor dispute.

Swissport recently agreed to acquire Servisair and the transaction is expected to close by the end of the year.

Servisair did not immediately respond to a request for comment.

Los Angeles police officials said building dry ice bombs is a felony.

A man was killed in 1992 while cleaning a liquor store in Los Angeles when a kid created a dry ice bomb with a glass bottle and the man picked it up. Glass shards slit his throat and he bled to death.

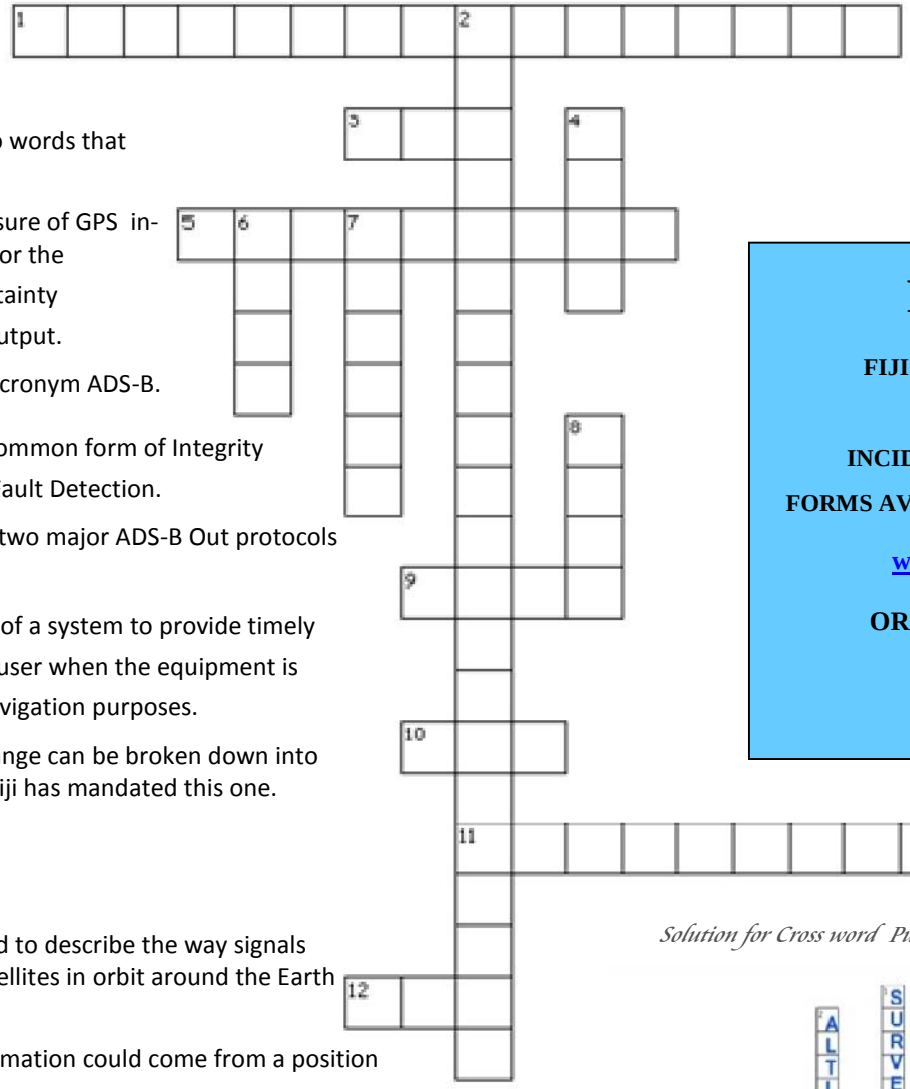
Precautionary measures:

- Any Bottle seen with dry ice not to be touched or pick or avoid going near as it can explode.
- If you see a dry ice bomb report to the relevant authorities (Police).
- Remember Security is Everybody's Business ■

(Article Uplifted by Aviation Security Department from Los Angeles Times)

TEST YOUR AVIATION KNOWLEDGE

CROSS WORD PUZZLE ON ADS-B



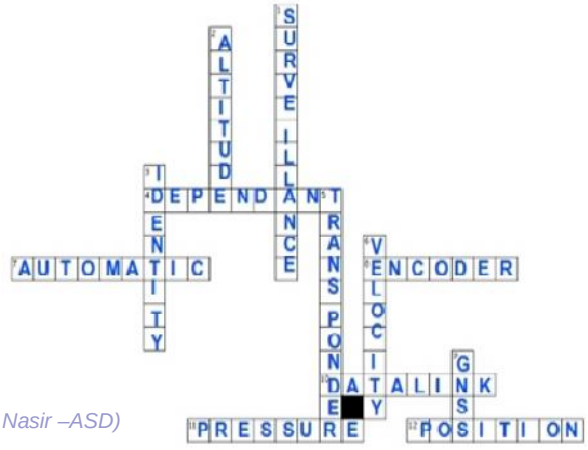
Across

1. These are the two words that abbreviate ES.
3. This value, a measure of GPS integrity was used for the Navigation Uncertainty Category (NUC) output.
5. Last Letter in the acronym ADS-B.
9. This is the most common form of Integrity Monitoring and Fault Detection.
10. This is one of the two major ADS-B Out protocols used in USA.
11. This is the ability of a system to provide timely warnings to the user when the equipment is unreliable for navigation purposes.
12. ADS-B data exchange can be broken down into two categories. Fiji has mandated this one.

Down

2. This is a term used to describe the way signals from the GPS satellites in orbit around the Earth are masked.
4. The position information could come from a position source like this one, with accuracy at or above a given threshold.
6. The requirements for 1090-ES equipment are detailed in the Minimum Operational Performance Standards (MOPS) issued by this organization.
7. Only if an aircraft equipped with this type of ADS-B, it will receive the other aircraft information for in cockpit traffic displays.
8. In the earlier versions, a measure of GPS accuracy, could be used for the Navigation Uncertainty Category (NUC) output.

Solution for Cross word Puzzle Published in Issue 1'2014



Check in the next issue for Solution to the above puzzle... (Crossword Puzzle by Ashraff Nasir –ASD)

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Your suggestions for improvements to this publication are also invited. CAAF also invites you to submit valuable information or articles that you would like to have published through this bulletin for the benefit of readers. Your name will be appropriately acknowledged. Please use the email address stated above.

AVIATION SAFETY MATTERS

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TOLL FREE

Civil Aviation Authority of Fiji

Promoting effective aviation safety in the Fiji Islands and the region