Issue 2, June 2011

ISO 9001:2008 Certified

AVIATION SAFETY BULLETIN

A Publication of:

Civil Aviation Authority of Fiji
PRIVATE MAIL BAG, NAP 0354,
NADI AIRPORT,
REPUBLIC OF FIJI
Phone: (679) 672 1555, Fax: (679) 672 1500

Opening Address By Minister to PASO AGM

Honourable Minister Aiyaz Sayed-Khaiyum

On behalf of the Prime Minister, the Fijian Government and the Fijian people ***Attorney-General and Minister for Justice, Anti-Corruption, Public Enterprises, Communication, Civil Aviation, Tourism, Industry and Trade, Honourable Aiyaz Sayed-Khaiyum*** had much pleasure to welcome everyone in particular friends from overseas to Fiji to the PASO AGM.

Inside this Issue:

Mr. Sayed-Khaiyum said that this is the first time for Fiji to host the PASO Council AGM.

"Aviation is a critical industry in the South Pacific, given the vast tracts of ocean that separate our island countries. It is the most time-efficient means of transportation and trade".

"Tourism, critical to the economic development of most pacific island countries, relies on aviation to transport more than 95% of arrivals".

To promote the development of tourism and provide safe and secure aviation and infrastructure for visitors and Fijians, Mr. Khaiyum said that Fiji is continually investing its resources in aviation improvement and development.

"It is important that all member countries meet aviation safety and security standards. To this effect, PASO plays a major facilitating and co-ordinating role".

Mr. Khaiyum said that he was pleased to see the ICAO representatives present. He acknowledged and thanked them for their work with and support for PASO.

Mr. Khaiyum highlighted that in co-ordination with PASO, Fiji has hosted a number of ICAO workshops and seminars with one held just a week ago.

He further thanked the PASO General Manager and his staff for such collaboration. Summing up, he said "one must take advantage of the many existing synergies and those which can be created by hosting of such workshops, seminars and training in a location such as CAAF".

Fiji through CAAF, signed a Memorandum of Understanding for technical support and collaboration with PASO on the same day.

Mr. Khaiyum further mentioned in his statement that it was imperative that to obtain the optimum level from PASO, positioned with the best skill sets, best accessibility to readily available technical advice and technical institutions, and, at the same time its operational costs were maximised by having access to efficient infrastructural costs, efficient telecommunications and being accessible to member countries on a cost effective basis.

"Having an effective, efficient and modern organisation will not only mean better services to member countries but it will also mean that donor agencies and countries will be enthused to contribute to and work with PASO".

Mr. Khaiyum wished everyone well in their deliberations on the same day and further mentioned to everyone present to also take time to enjoy the country, relax, and enjoy the world-renown Fijian hospitality.

Mr Khaiyum had much pleasure to declare PASO Council AGM 2011 open.

——————————

27TH - 28TH MARCH 2011

Working Arrangement

MOU (2011)

There was a MOUs signed by PASO and Civil Aviation Authority of Fiji in March this year to strengthen the partnership, cooperation and collaboration between the two organizations (CAAF & PASO).

In the picture shown (Top) the General Manager—PASO, Mr Alvin Tuala and CAAF Chief Executive, Mr Waqa signing the Working Arrangement with Wilson Sagati –PNG witnessing for GM PASO and DC A-Joeli Koroikata witnessing for CE-CAAF.

Aviation Environment

The highest priorities mainly are to focus on the environmental impact of the flight industry and in taking huge steps to make the industry greener for today and for the future.

There is a greater need for the aviation industry to have a specific program in place to determine it's environmental impact.

Aviation is a fast growing sector of the economy. It is associated with a number of social/ economic benefits and a range of environmentally damaging consequences as well. It is also associated with a significant growth contribution towards the global inventory of greenhouse gases which are thought to be implicated in climate change.

The environmental impacts of aviation

The environmental impact of the aviation industry has been a major focus of the environmental agencies around the world. There are current policies helping the impact of aviation on the health of the Earth.

For the past thirty years the aviation industry has seen enormous growth. Along with this growth has come enormous pollution.

With the current demand from all corners of government for stricter environmental impact studies and legislation, it is hoped that the aviation industry is also seeing changes in the amount of pollution it produces.

As such, the program should have a goal to improve the safety and speed of the industry while at the same time becoming more economically sound.

Carbon emissions have also been cited in environmental impact studies as being problematic for the aviation industry. Through latest studies it was found that the aviation industry was responsible for less than 3 percent of the carbon emission for the entire planet.

All these occurs because aircraft engines emit noise, particulates, and gases which contribute to climate change and global dimming. Despite emission reductions from automobiles and more fuel-efficient and less polluting turbofan and turboprop engines, the rapid growth of air travel in recent years contributes to an increase in total pollution attributable to aviation.

Noise

Aircraft noise already has the potential to affect the quality of life of the population of people living close to the airports.

Pollution

Aircrafts, airports vehicles and road traffic to access airports emit air pollutants, such as nitrogen oxides, fine particles, carbon monoxide and hydrocarbons.

Continuing improvements in the emissions from the road vehicles and aircraft engines are likely to lead to reductions of about 20% from each source. However, set alongside the forecast growth in air travel, emissions from aircraft are likely to become more significant as a source of air pollution around airports.

The levels of emissions from an increased number of all sources would always be expected to rise. The numbers of people potentially affected by these emissions would depend on their proximity to the pollution sources and the local conditions affecting dispersal of the pollutants.

Other local environmental impacts

While noise and air pollution are the most significant impacts from the operation of aircraft, there are also a number of other potential impacts arising from the sitting and operation of airport infrastructure.

- **land take** – building an airport inevitably takes land away from its previous uses. In particular, it can affect wildlife habitats, landscape and heritage.
- **water pollution** - particularly from de-icing aircraft, runways and other parts of the airport site
- **waste management** - particularly waste generated inside terminal buildings.

Many of these impacts are generic to most large infrastructure developments and are amenable to mitigation to some extent. For example, careful location of airport infrastructure can avoid the most ecologically valuable sites and areas of great landscape or cultural value. Similarly, to minimise water pollution, controlling the run-off of surface water from an airport is readily achievable and subject to strict regulatory control. On waste management, airports and airlines increasingly acknowledge that action is necessary to minimise and recycle all types of waste. However, airport operators would point out that most waste is produced by sources outside of their direct control, so waste minimisation is rarely implemented.

Impacts on the global climate

Aviation industry may contribute certain percentage of the total contribution of human activities to global warming. Aircraft engines emit a mixture of gases, with carbon dioxide (CO2), nitrogen oxides and water vapour among the most relevant when considering effects on the global atmosphere. While CO2 is a major contributor to the climate change effects of aviation, the effects of water vapour emitted at high altitude remain more uncertain. Further, the potential to create condensation trails (contrails), and possibly induce high altitude (cirrus) clouds may also be significant.

The quantities of CO2 and water vapour emitted from aircraft engines are proportional to the amount of fuel used. Thus, a key to reducing these emissions is to increase the fuel efficiency of aircraft.

Potential for fuel efficiency gains is concentrated in two areas:

- technological options such as improvements in engine efficiency, using alternative fuels/ power sources and improvements in aircraft aerodynamics
- operational procedures such as changes to air traffic control practices and flight arrangements.

Mechanisms could be proposed to provide incentives for further technological and operational improvements such as:

- emissions charges – where airlines or passengers are charged a fee related to the emissions produced by a particular flight
- emissions trading – where airlines could buy and sell emissions permits related to a capped quantity of greenhouse gas emissions
- aviation fuel tax –introducing an aviation fuel tax for environmental reasons. However, under ICAO regulations, fuel tax cannot be introduced on fuel for international flights.

These mechanisms could contribute to reducing the climate change impact of aviation, but the timescales over which they could be introduced vary. However, some of these options are unlikely to reduce emissions significantly in the medium term. Further more improvements in engine design and airframe aerodynamics are likely to reduce emissions. In the longer term, it is widely suggested that a move towards an international global emissions trading scheme could stimulate radical innovation and help manage demand, although significant questions remain over the detail of how such a scheme would be set up, administered and operated.

(Source: Guidance to the Civil Aviation Authority on environmental objectives relating to the exercise of its air navigation functions, Department for Transport, 2002.)

CAAF's Standards section is keen to hear from you regarding our levels of service. If you believe you have constructive ideas on how we can improve our services, or would like to report instances where we have failed to meet your expectations, please send your feedback to CAAF, preferably using the QA 108 form that can be accessed from our website. This can be sent to CAAF by faxing it to Quality Assurance Manager on 6727429, dropping it in the feedback box in the foyer of CAAF HQ, or emailing to standards@caafi.org.fj.

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.

Volcanic Ash Clouds And Their effect on Aviation

Volcanic ash clouds is a by product of a natural disaster. This phenomena has rocked the Aviation industry, resulting in losses amounting to millions of dollars in revenue and additional expenses.

In June 2011, we saw first-hand how a volcano many thousands of miles away from Fiji could affect the Aviation industry in our region. Volcano erupted on the 04th June 2011 in South America, Chile, shooting gas dust and volcanic rock more than 40,000 feet up into the atmosphere forming major amounts of ash clouds. This ash cloud made its way across the Atlantic and Indian oceans before reaching Australian and New Zealand airspace and impacting the travel plans of many travellers in our region.

Why are volcanic ash clouds so dangerous to aircraft in flight? Volcanic ash clouds are composed of fine pulverised rock and a number of gases which are converted into droplets of sulphuric acid and other substances. These ash clouds are potentially deadly to aircraft and their passengers, but the most critical effect is caused by ash melting in the hot section of the engine, and then fusing into a glass-like coating on components further back in the engine causing a loss of thrust and possible engine failure.

Once the ash cloud rises into the atmosphere it is quickly dispersed by the prevailing winds. Volcanic ash particles in the cloud come in a range of sizes and while the biggest will fall quickly to the ground, very small particles take a long time to settle out of the atmosphere. In the case of the Chilean eruption, the smallest of the ash particles were ejected high enough to reach the jet stream; a region of stronger winds blowing from west to east at the top of the atmosphere, and it was the jet stream that carried the ash particles great distances to the east. It is not unprecedented for volcanic ash to remain suspended for long periods of time.

The hazards posed to aircraft by volcanic ash are two-fold. Firstly the ash dust is very abrasive, and aircraft flying at high speeds are scoured and scratched by the dust particles, causing damage to the skin of the aircraft, windows, and covers of important equipment such as the radar. The dust can also clog the Pitot tube and Static port on the side of the aircraft which are used to measure the speed of the aircraft.

Secondly, and perhaps more importantly from a safety point of view, the dust can severely damage aircraft jet engines. The impact on engines is of concern because the damage is almost impossible to see without stripping the engines down. It is also cumulative in that the glassy deposits remain after the encounter with the ash (unless removed through expensive maintenance), and later encounters with ash allows a new layer of this glassy coating to deposit on top of the first layer, thereby creating a greater build up of hazardous materials inside the engine.

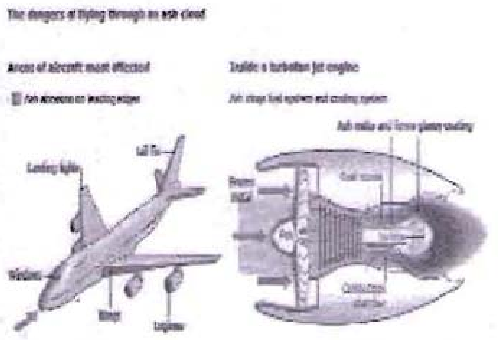

IMAGE TWO: The Cordon Calle - Puyehue volcano in full eruptive mode on 6 January 2011. The vents of these two volcanoes are so close together they are classified as coalesced. Until the eruption ceases it will be impossible to know if just one or both of these volcanoes are erupting.

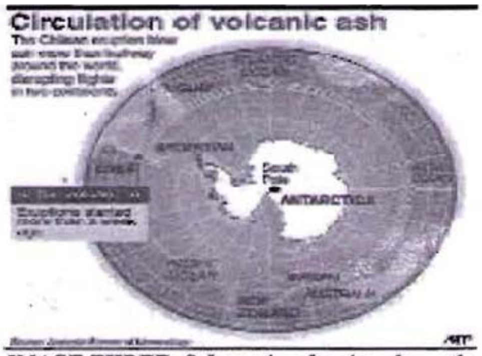

IMAGE THREE: Schematic showing how the ash cloud has dispersed around the globe in the high level jet stream winds. It is likely that the ash cloud will complete a circumnavigation with some of the ash returning to the skies above the volcano later this month having completed a lap of the southern hemisphere.

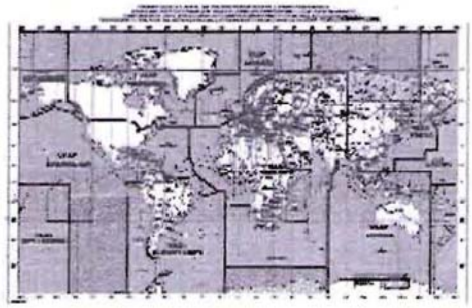

IMAGE FOUR: VAAC areas of responsibility. Fiji airspace falls into the area of responsibility of VAAC Wellington. Significant volcanoes with recent eruptive history in our region include Ambrym, Anietyum and Yasur in Vanuatu, Mt. Matavanu in Samoa, and Ruapehu in NZ.

...cont...

When flying at night, ash clouds are not visible to pilots and do not show up on radar; the small size of the ash particles do not return an echo to the onboard weather radars of commercial airliners. Even when flying in daylight if the ash cloud is visible it may be interpreted as a normal cloud formed by water vapor and not seen as a danger, especially if it has travelled well away from the eruption location.

In 1982 a British Airways Boeing 747 lost power in all four engines upon encountering ash from a volcano in Indonesia this led to an emergency landing in Jakarta, and three weeks later a Singapore Airlines Boeing 747 encountered the same problem resulting in a loss of power to two of its engines forcing it to also make an emergency landing. In 1989, a KLM Boeing 747 also lost power to all four engines after encountering ash cloud over Alaska and it was recognised following these and other incidents that volcanic ash was a danger to commercial aviation and that the only way to ensure that there would be no loss of an aircraft was to alert pilots in a timely manner to divert flights around these clouds.

The ICAO and the World Meteorological Organization (WMO) jointly established the Volcanic Ash Advisory Centres (VAAC's); a detection and warning service for volcanic hazards to aviation, nine have been established around the world, each one focusing on a particular geographical region. For our region the primary responsibility rests with VAAC Wellington, operated by Met Service NZ. The VAAC staff continuously monitors satellite data as well as ground based sources to detect eruptions as they occur and in some cases, it is aircraft in flight who first observe and report eruptive events. Once an eruption is confirmed, ash advisories are provided by the responsible VAAC to the airlines and airspace operators. Even after the eruption ceases, advisories will be issued until all ash has cleared and airways are deemed free from ash.

In 1982 a British Airways Boeing 747 lost power in all four engines upon encountering ash from a volcano in Indonesia this led to an emergency landing in Jakarta, and three weeks later a Singapore Airlines Boeing 747 encountered the same problem resulting in a loss of power to two of its engines forcing it to also make an emergency landing. In 1989, a KLM Boeing 747 also lost power to all four engines after encountering ash cloud over Alaska and it was recognised following these and other incidents that volcanic ash was a danger to commercial aviation and that the only way to ensure that there would be no loss of an aircraft was to alert pilots in a timely manner to divert flights around these clouds.

The ICAO and the World Meteorological Organization (WMO) jointly established the Volcanic Ash Advisory Centres (VAAC's); a detection and warning service for volcanic hazards to aviation, nine have been established around the world, each one focusing on a particular geographical region. For our region the primary responsibility rests with VAAC Wellington, operated by Met Service NZ. The VAAC staff continuously monitors satellite data as well as ground based sources to detect eruptions as they occur and in some cases, it is aircraft in flight who first observe and report eruptive events. Once an eruption is confirmed, ash advisories are provided by the responsible VAAC to the airlines and airspace operators. Even after the eruption ceases, advisories will be issued until all ash has cleared and airways are deemed free from ash. This may take weeks in some cases, with some volcanoes emitting very fine ash that remain suspended in the air long after the volcano becomes quiet again.

A Volcanic Hazard Area (VHA) has been identified within the Nadi FIR as the area over Santo Pekoa Island situated in the Vanuatu Group of Islands where an active volcano, Mount Lopevi, is located.

Although the Nadi FIR was not subjected to the ash cloud from the Chilean volcano, our adjacent FIRs; Auckland and Brisbane FIRs, were affected by this phenomena and as such aircraft routes and optimum flight levels were not available. Despite several flight cancellations by airlines in the Region, our national carrier Air Pacific continued operations to Australia and New Zealand by ensuring through continuous monitoring and assessment that their jet aircraft operated on flight paths and altitudes which avoided volcanic ash clouds. The consequence of these protocols and procedures resulted in changes to flight profiles and slight increases in en-route times and operating costs.

Volcanic Ash cloud is a natural phenomena and a hazard to aircraft operations and as such, early detection and more specific data will go a long way in positioning stakeholders to meet this challenge.

Article put in together by
Ground Safety Department…..

7 Must-Know Air Plane Safety Tips for Parents

In addition to packing in your carry-on baggage necessities such as baby food, diapers, medicine and items that will keep your child entertained, there are more steps that you should take to make the flight safer for yourself and your baby.
Source: Debra Holtzman, JD, MA an internationally recognized safety and health expert and author of the book, and author of the popular new book, "The Safe Baby: A Do-It-Yourself Guide to Home Safety" (Sentient Publications, 2005) offers these tips.

1. **Fly Nonstop**

   It is more than inconvenient to have to change planes, running the risk of missing a connecting flight and racing through a busy airport carrying a baby or toddler and all of her gear. A nonstop flight is actually safer. Most crashes occur during takeoff, climbing, descending and landing than the flight itself.

   Sometimes changing planes cannot be avoided. Most airlines will provide assistance in transporting your child, child safety seat (CSS) and luggage. Arrange for this in advance.

2. **Plan Ahead for the Appropriate CSS to be Used on the Plane**

   Although the Aviation Industry permits children under age 2 to fly in a parents arm, imagine trying to hold on to a child in turbulence or in an emergency.

   Look for a label that says, "This restraint is certified for use in motor vehicles and aircrafts. In order to fit on an airplane seat, the seat CSS cannot be wider than 16 inches.

   All children 40 pounds and under should be in child safety seats on an airplane. The same age and weight rules apply for planes as for cars. In order to sit facing forward safely, a child should be at least 12 months and weigh at least 20 pounds. Rear-facing infant seats fit best on airplanes, but you can use a rear-facing convertible seat. Children weighing more than 40 pounds should be secured by the standard-issue aircraft safety belt. Even though some booster seats and harness vests can be used safely in a car, they are banned from use in aircraft during taxi, take-off and landing.

3. **Inform the Airline That You Will be Traveling with a Child**

   Some airlines may have special policies for transporting children. Be sure to ask. You may also get a break in price, even though the child is, essentially, taking up as much space as an adult. Some airlines offer discounted tickets for children younger than 2 years of who will be traveling in a CSS.

   If you can, avoid the busiest days and times for flying; this will make it more likely that you will have adequate space. The CSS must be installed in a window seat so other passengers are not prevented from getting out into the aisle. And children cannot ride in emergency exit rooms.

4. **Become Familiar with the Aircraft**

   As you board the plane, take your seat and locate the exits closet to you. Count the number of rows to the nearest exits (toward the front and back of the plane) In a smoke-filled cabin, you'll be able to feel your way to the exit.

   Check to see if there are seat-back telephones available. Read the written safety instructions. You've glanced at them dozens of times, of course, but a quick review will prepare you to handle an emergency should it arise. And pay close attention to the flight attendant's preflight emergency briefing. Reviewing what you already know can help you act quickly if there is a need.

5. **Keep Your Safety Belt On**

   Throughout the flight, stay belted and keep your child in the child-restraint system. If the plane hits unexpected turbulence and the pilot must negotiate unusual maneuvers, you'll be ready.

6. **Remember: Your Oxygen Mask Comes First**

   If emergency masks come down, grab the one dangling in front of you and put it on first. If your brain is starved of oxygen, you can pass out or get disoriented, in such a situation; you won't be able to help your child get out of a plane.

7. **Don't Panic!**

   In the unlikely event there is an emergency situation, you need to remain calm so that you can focus on the directions of the flight attendant and crew.

FREE CALL
SAFETY MESSAGE LINE
Phone your safety concerns to CAAF – 0800 6725 799

Runway Excursions— Common Cause of Accidents

The year 2010 was one of the best in aviation in terms of safety; however, as shown by the Safety Survey 2010 data, runway safety remains a top priority. Runway excursion was the most common type of accident last year and the cause of the worst accident in terms of fatalities. ICAO has teamed up with key players to tackle runway safety issues and further improve the industry's already impressive safety record.

Overview

The following report presents a global Aviation Safety Analysis for calendar year 2010. In absolute IATA numbers more than 2.4 billion people flew safely on 36.8 million flights. However, according to Flight Safety Foundation (FSF), during 2010 a total of 134 hull loss multi-engine civil airlines accidents/occurrences (fatal and non fatal) were recorded. In particular, 29 fatal accidents were confirmed accompanied by 831 fatalities plus 6 casualties on ground. The following Table 1 presents the 29 fatal accident's breakdown with some additional general remarks:

TABLE 1 Year 2010[3]: A fatal hull loss multi engine civil airlines accident's breakdown and additional remarks

Fatal accidents according to flight phase	Fatal accidents according to flight nature	Additional General Remarks[4]
0 Take off	15 Scheduled passenger	5 fatal corporate jet accidents/18 fatalities
5 Initial Climb	2 Non scheduled passenger	85 Rwy excursions / 3 fatal
10 Enroute	8 Cargo	1 attempted hijacking
9 Approach	1 Ferry/Positioning	0 criminal occurrences
5 Landing	0 Training	About 20.000 bird strikes
	3 Other	Lowest ever accident rate for Western-built jet a/c[5]
Worst fatal hull loss accident for 2010		
The worst accident for 2010 occurred on 22 May 2010 when a B737-800 of Air India Express overran the runway at Mangalore Bajpe Airport (IXE), India. In total 158 people were killed. This accident was rated as the worst ever accident involving a B737-800 and the 4th in severity global accident in the landing phase.[6]		

Overview analysis

The International Air Transport Association (IATA) announced on 23 Feb 2011 the aviation safety performance for 2010 showing that the year's accident rate has been the lowest in aviation history.

The 2010 global accident rate9 (measured in hull losses per million flights) was 0.61. That is equal to one accident for every 1.6 million flights. This is a significant improvement from the 0.71 rate recorded in 2009 (one accident for 1.4 million flights). The 2010 rate was the lowest in aviation history, just below the 2006 rate of 0.65. Compared to that of 10 years ago, the accident rate has been cut by 42% from the rate recorded in 2001. A hull loss is an accident in which the aircraft is destroyed or substantially damaged and is not subsequently repaired. Last, but not least, **runway excursions were once again the most common cause of accidents,** accounting for 21% of all accidents in 2010 (vs. 26% in 2009). *(Source – ICAO & IATA Safety Reports)*

Runway Excursion (RE)

Description

A veer off or overrun off the runway surface. (ICAO)

Occurrence Types included in the Runway Excursion Category

- **Overrun on Take Off**: A departing aircraft fails to become airborne or successfully reject the take off before reaching the end of the runway.
- **Overrun on Landing**: A landing aircraft is unable to stop before the end of the runway is reached.
- **Directional Control**: An aircraft taking off, rejecting take off or landing departs the side of the runway.
- **Undershoot on Landing**: An aircraft attempting a landing touches down in the undershoot area of the designated landing runway within the aerodrome perimeter.
- **Wrong Runway Use** .

(Source –

http://www.skybrary.aero)

Recommended Mitigations

In a report produced by Flight Safety Foundation, titled 'Reducing the Risk of Runway Excursions' (May 2009), the following prevention strategies are recommended to be implemented to address the risk factors involved in runway excursions.

General

The prevention strategies embrace five areas: flight operations, air traffic management, airport operators, aircraft manufacturers, and regulators. Although strategic areas are separately listed in this document, organizations working together in an integrated way will offer added value. Therefore, as far as practicable, organizations should work together to address runway safety.

Local level: This could be achieved by local runway safety teams consisting of at least representatives of the airport, air traffic control, aircraft operators, and pilot representatives, should address all runway safety–related topics, including runway incursions, runway confusion, and runway excursions.

National level: Runway excursions as a separate subject should be addressed by the national safety/ aviation authority in close cooperation with the aircraft operators, air traffic control, airport operators and pilot representatives.
International level: It is strongly recommended that international organizations continue to address runway excursions as a significant safety issue.

Flight Operations

Policies

- Operators should have a process for actively monitoring their risk during takeoff and landing operations .
- Operators should define training programs for takeoff and landing performance calculations.
- Operators should have an ongoing process to identify critical runways within their operations.
- Operators should define and train the execution of the RTO decision.
- Operators should stress that CRM and adherence to SOPs are critical in RTOs.
- Operators should define, publish, and train the elements of a stabilized approach.
- Operators should implement, train, and support a no-fault go-around policy

Standard Operating Procedures (SOPs)

- Management and flight crews should mutually develop and regularly update SOPs
- Operators should define criteria and required callouts for a stabilized approach
- Operators should define criteria that require a go-around
- Operators should ensure that flight crews understand
  - ∞ factors affecting landing and takeoff distances
  - ∞ Conditions conducive to hydroplaning
  - ∞ Criteria upon which landing distance calculations are based
  - ∞ Crosswind and wheel cornering issues
  - ∞ Wind shear hazards
  - ∞ Braking action, runway friction coefficient, runway-condition index, and maximum recommended crosswind component depending on runway condition
  - ∞ That landing with a tailwind on a contaminated runway is not recommended

Operators should define and train procedures for :

- Critical runway operations
- Rejected takeoff, rejected landing, and bounced landing
- Assessment of landing distance prior to every landing
- Crosswind operations
- Appropriate flare technique
- Go-around, including during flare and after touchdown
- Landing on wet, slippery, or contaminated runways
- Using brakes, spoilers, and thrust reversers as recommended by the manufacturer and maintaining their use until a safe taxi speed is assured
- Use of auto brake system and thrust reversers on wet and/ or contaminated runways
- Use of rudder, differential braking, and nose wheel steering for directional control during aircraft deceleration and runway exit.

Recognizing when there is a need for, and appropriate use of, all available deceleration devices to their maximum capability Runway condition reporting by flight crews

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
- 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:

1. Provide air traffic services that allow flight crews to fly a stabilized approach
2. 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

(Source: *Reducing the Risk of Runway Incursions (May 2009) - Runway Safety Initiative, Flight safety foundation)*

FCAIR

FIJI CONFIDENTIAL AVIATION INCIDENT REPORTING FORMS AVAILABLE ON WEBSITE

www.caafi.org.fj

OR FRONT DESK, CAAF HQ