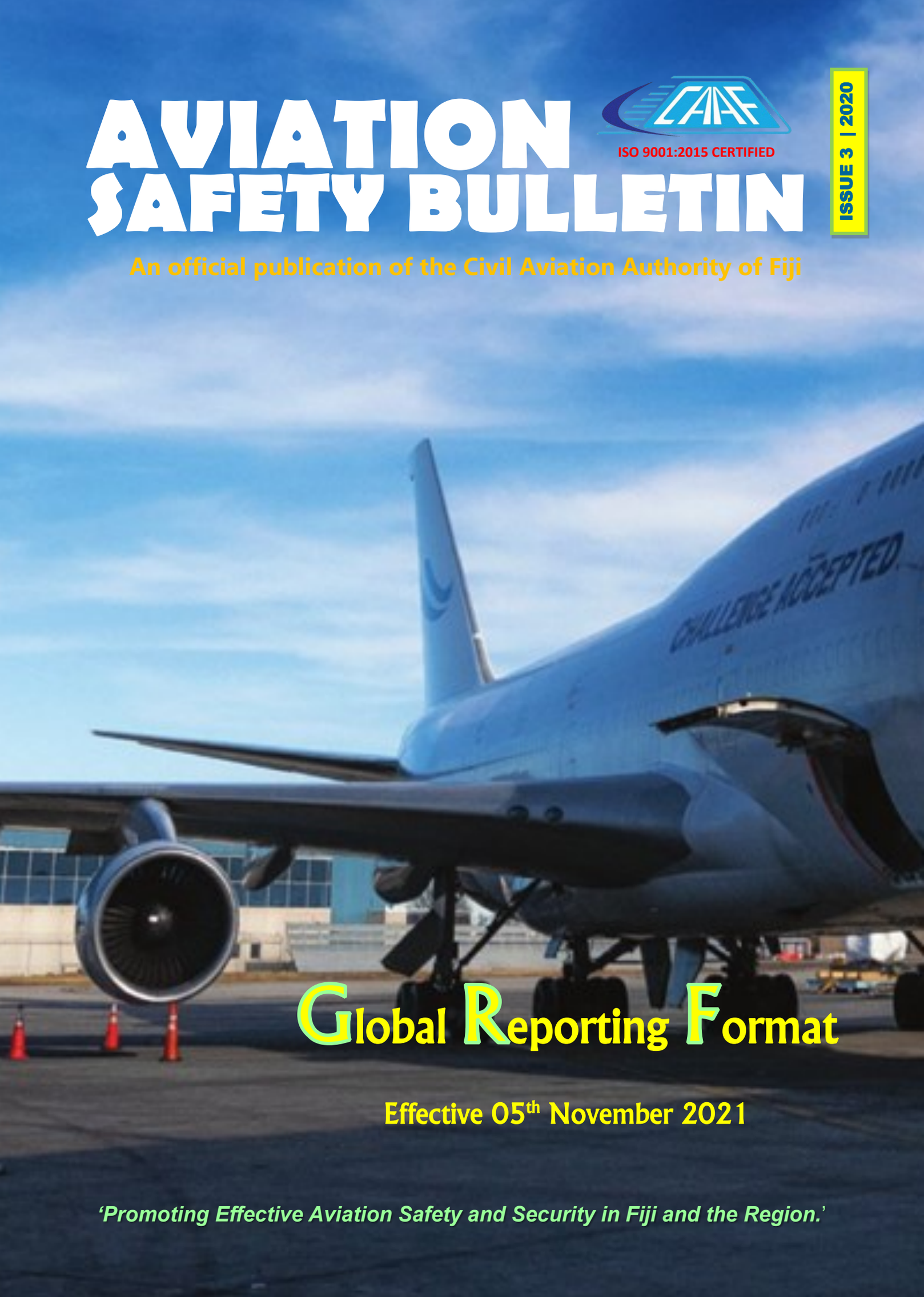
AVIATION SAFETY BULLETIN

ISO 9001:2015 CERTIFIED

ISSUE 3 | 2020

An official publication of the Civil Aviation Authority of Fiji



Global Reporting Format

Effective 05th November 2021

'Promoting Effective Aviation Safety and Security in Fiji and the Region.'

ICAO SG'S ADDRESS

AIRWORTHINESS

CIRCADIAN RHYTHM DISRUPTIONS

Cover Photo from Getty Images.

In this issue...

AVIATION SAFETY BULLETIN

PUBLISHED BY THE :

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From the Acting Chief Executive

Bula Vinaka, Namaste and Noaía e'mauri.

The past couple of months since being appointed as Acting Chief Executive of the Civil Aviation Authority of Fiji has been eventful to say the least.

Since the declaration of COVID-19 as a pandemic in mid-March of this year, the aviation industry has been challenged on many fronts. Travel restrictions and quarantine measures implemented both locally and abroad have had a major impact on arrivals and departures via air transportation. This in turn has impacted our economy and brought with it many changes to how the aviation industry operates.

At the outbreak of COVID-19, Fiji along with many other ICAO Contracting States were faced with the urgent need to temporarily depart from ICAO Standards. Fortunately, ICAO was quick in its response to this need and has been working with States to manage alleviations whilst at the same time ensuring that any associated safety risks were adequately addressed.

To this end, the Authority provided Regulatory Relief to licence holders and operators by way of exemptions from certain licensing requirements and extensions to the validity of aviation certificates and approvals using risk management methodology. These exemptions and extensions are now nearing their end date and coordination is underway between the Authority's inspectors and our aviation partners to have these reviewed.

Safety oversight surveillance by the Authority continues to be adapted to meet the changing needs of industry. As operators commence and increase their aviation activities, the Authority's certification, licensing and surveillance work plan has been adjusted accordingly to ensure the restart and recovery of Fiji's aviation industry continues in a safe and efficient manner.

Acknowledging the uncertainty surrounding the evolution of the COVID-19 pandemic, in line with ICAO, the Authority recognises the importance of adopting a flexible, progressive approach to enable a swift restoration of air transport and connectivity running in parallel with the public health situation and taking into account expert medical advice as well as existing safety and security standards. We must all remain vigilant of the risk of another outbreak and plan accordingly to ensure that the procedures we are implementing now are sufficient and sustainable.

Throughout all the stages of this pandemic, the Authority will endeavor to cooperate, collaborate and communicate with the aviation industry. It is important that we recognise that "we are all in this together" to safeguard the viability and the stability of the aviation sector.

In the midst of our changing aviation landscape, the Authority's functions in accordance with Section 14 of the Civil Aviation Act 1979 (as amended) remains a paramount part of our activity and we continue to pursue our roles in this area.

The recent Client Survey initiated by the Authority has brought much feedback on our performance and we thank all those who had taken the time to submit their response to the survey. The Authority's leadership team are working on your responses and looking to develop and implement processes and procedures to better meet your needs and expectations.

I hope you find this Issue 3, 2020 of the Aviation Safety Bulletin interesting and informative. We are open to suggestions on the types of articles you wish to see published in the future and we welcome your feedback.

We at the Authority are committed to ensuring safer skies for all ■

Vinaka

Ms Theresa Levestam
Acting Chief Executive

ICAO SECRETARY GENERAL ADDRESSES UN GLOBAL COUNTER-TERRORISM COMPACT ENTITIES

In her keynote address to the UN's fifth principal-level meeting of the Global Counter-terrorism Coordination Compact Entities, ICAO Secretary General Dr. Fang Liu discussed the challenges the COVID-19 pandemic has posed to air transport, tourism and trade, and its impacts on countries' efforts to counter terrorism and organized crime.

Liu began her remarks by drawing attention to ICAO's ongoing and active efforts to convey regular counter terrorism and aviation-related updates during the pandemic, and to serve as a key facilitator among states and applicable organizations.

"A key priority in this regard is air transport facilitation, which relates to identity management, travel documents, and the efficient management of border control processes, as well as the expedited clearance of aircraft, passengers, and crew, and all aspects of baggage and cargo screening and processing," Liu emphasized.

The ICAO Secretary General stressed that security and facilitation objectives are highly inter-related, and that ICAO has been strongly emphasizing the importance of states maintaining effective national facilitation committees and national facilitation programs during the pandemic, supported by results-driven cross-sectoral collaboration with National Civil Aviation Security Committees and other appropriate stakeholders despite how the pandemic has temporarily disconnected so much of the world, ICAO continues to encourage and empower states to cooperate at the regional and sub-regional levels. It is also drawing governments' attention to the fact that the establishment of effective identification management processes are strongly supportive of UN Sustainable Development Goal 16.9, which concerns the protection of human rights through enhanced social, economic, political, and legal inclusion.

In concluding her remarks, Liu highlighted that "ICAO will continue to demonstrate its leadership and commitment in all matters pertaining to global aviation security policy, regulation, standardization, quality control, audits, assistance, and training. Looking forward I am deeply optimistic that with new methods of working together, and stronger coalitions, we can strengthen still further the global counter-terrorism capacities and resources of states, and realize a more peaceful and prosperous world for us all."■

Source: ICAO News Release.

AVIATION ISN'T JUST AIRLINES

CORONAVIRUS DOESN'T DISCRIMINATE, NEITHER SHOULD REGULATORS

Since the Wright brothers, we have used the words 'airlines' and 'aviation' interchangeably. But there is much more to aviation than airlines. The big rhinos of aviation sometimes forget about the smaller animals vital to their survival. Airports, air navigation service providers, airframe manufacturers, caterers and many others are critical to the aviation industry. That sometimes comes as a shock to the airlines, which tend to think of these other industry players – if they think of them at all – merely as a life support system. Consequently, airlines like to talk about a 'value chain' of which, they complain, they are the least well performing and the most put-upon.

Wrong. The entire aviation industry cannot be healthy until all parts of it are healthy. It is not a value chain; it is an ecosystem. We need healthy airports and healthy air navigation service providers as well as healthy airlines. That point is lost at the best of times. These are the very worst of times.

Airlines around the world are queuing outside their government's treasury, cap in hand, demanding help. For some, that is relief from charges, including overflight charges and airport charges; for some it is a waiver from taxes, including fuel tax and departure and passenger handling charges. For some, it is a grant; for some a loan without conditions, or interest.

There is a lot to unpack there. First, in many countries, airports, like airlines, are moving out of state control into private hands, meaning that a waiver of charges is not always possible. Overflight charges, on the other hand, are due to the air navigation service provider and in all but one and a half cases they are entirely state-owned. The exceptions are Italy, where half of ENAV is listed on the Milanese stock exchange, and NATS in the UK, which is owned by a combination of airline interests and private investors. Thus, this waiver is within the state's gift – as disruptive as it will be.

Airport charges too are a throwback to a regulatory system that is now clearly unable to respond. There is a view, held steadfast and strong in 1944, and still today in the halls of ICAO, that airports, as an arm of the government, should be regulated. In 1944, maybe it was true that aviation was a value chain, but 75 years later, as we are learning, everything has changed.

Notwithstanding the ecosystem of interdependencies in aviation, it is the airlines that get the publicity. No one goes into air traffic control, or airports, for the glamour. So the airlines are now demanding relief on their terms. But in doing that, they are denying the reality of the entire industry ecosystem. To stretch the analogy, if we kill the little birds that plucks the fleas from the rhinoceros, we actually risk the rhinos.

But good regulators will want to save the entire ecosystem, not just the big rhinos. ■

Source: Forbes Magazine

Pic: Forbes Media LLC Magazine

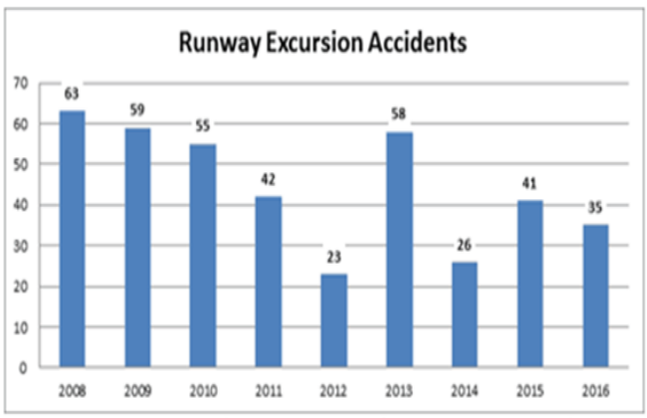
Global Reporting Format (GRF) for Runway Surface Conditions

What is Global Reporting Format (GRF) for Runway Surface Conditions?

It is a new ICAO methodology for assessing and reporting runway surface conditions, commonly known as the Global Reporting Format (GRF), enables the harmonized assessment and reporting of runway surface conditions and a correspondingly improved flight crew assessment of take-off and landing performance.

Why GRF?

Runway safety-related accidents and incidents are aviation's number one safety-related risk category, with 59 reported accidents in 2016, of which more than half were due to runway excursions, according to ICAO iSTARS data.



Runway Excursion Accidents 2008-2016 (Source ICAO iSTARS)

Runway Excursion

- Aviation's **Number 1** – Safety Risk Category
- Among the top contributing factors are **poor braking action** due to contaminated runways combined with **shortfalls in the accuracy** and **timelines of assessment** and **reporting of the runway surface conditions.**

To help mitigate the risk of excursion ICAO has developed a harmonized methodology for the assessing and reporting of runway surface conditions. This methodology, known as the Global Reporting Format (GRF), will be globally applicable from November 2021, with deployment activities now underway.

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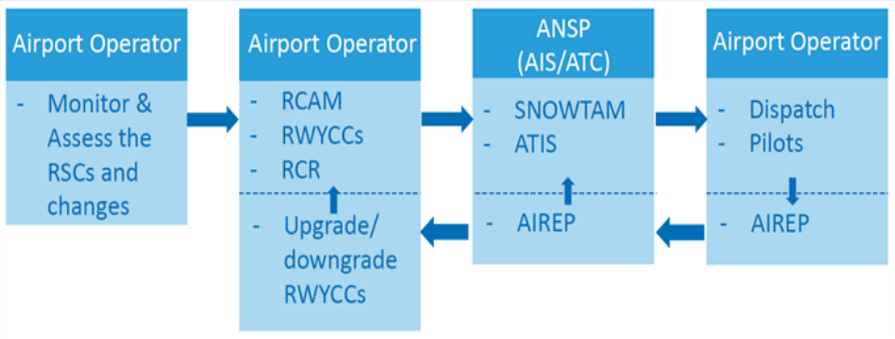
How does GRF work?

The GRF is intended to cover conditions found in all climates. It provides a means for aerodrome operators to rapidly and correctly assess runway surface conditions, whether they are exposed to wet runway conditions, snow, slush, ice or frost, including rapidly changing conditions such as those experienced during winter or in tropical climates.



The GRF comprises an evaluation of a runway by human observation (normally done by airport operations staff) and, using a runway condition matrix, the consequent assignment of a Runway Condition Code (RWYCC). This code is complemented by a description of the surface contaminant based upon its type, depth and coverage for each third of the runway. This evaluation should, of course, be performed by a trained runway assessor.

Runway Condition Assessment Matrix (RCAM)

Assessment criteria		Downgrade assessment criteria	
Runway condition code	**Runway surface description**	**Aeroplane deceleration or directional control observation**	**Pilot report of runway braking action**
6	DRY	-	-
5	FROST WET (The runway surface is covered by any visible dampness or water up to and including 3mm depth) **Up to and including 3 mm depth:** SLUSH DRY SNOW WET SNOW	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	GOOD
4	**-15°C and Lower outside air temperature:** COMPACTED SNOW	Braking deceleration OR directional control is between Good and Medium.	GOOD TO MEDIUM
3	WET ("slippery wet" runway) DRY SNOW or WET SNOW (any depth) ON TOP OF COMPACTED SNOW **More than 3 mm depth:** DRY SNOW WET SNOW **Higher than - 15°C outside air temperature:** COMPACTED SNOW	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	MEDIUM
2	**More than 3 mm depth of water or slush:** STANDING WATER SLUSH	Braking deceleration OR directional control is between Medium and Poor.	MEDIUM TO POOR
1	ICE[2]	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	POOR
0	WET ICE[2] WATER ON TOP OF COMPACTED SNOW [2] DRY SNOW or WET SNOW ON TOP OF ICE [2]	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	LESS THAN POOR

The outcome of the evaluation and associated RWYCC are then used to complete a standard report called the Runway Condition Report (RCR) which is forwarded to air traffic services and the aeronautical information services for dissemination to pilots.

Pilots use the RWYCC to determine their aircraft's performance by correlating the code with performance data provided by their aircraft's manufacturer. This helps pilots to correctly carry out their landing and take-off performance calculations for wet or contaminated runways.

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Global Reporting Format (GRF) for Runway Surface Conditions cont....

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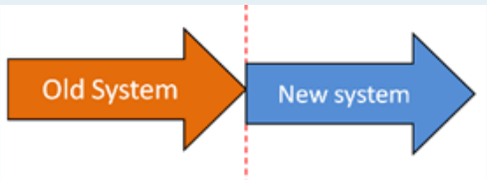
GFR Challenges

Challenges associated with this new GRF for runway surface condition has to do with:



Implementation – the state, airport and operators need to have made necessary changes to their legislation, procedures and policy.

Awareness – all applicable personnel need to be aware of this new format

Training – to ensure staff are trained

Benefit of GRF

Another important element of the GRF is a process that enables pilots to report their own observations of runway conditions, thereby confirming the RWYCC or providing an alert to changing conditions.

Other key qualities of the GRF are its relative simplicity and its global applicability. A methodology that is easily understood and implemented globally is an important means by which the runway excursion risk can be mitigated and the safety of runway operations improved.■

(Source: ICAO Article 2020)

CAA Fiji 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 the Executive Office on 672 1500, or dropping it in the feedback box in the foyer of CAAF HQ, or emailing to :

info@caaf.org.fj

FCAIR

FIJI CONFIDENTIAL AVIATION INCIDENT REPORTING FORMS AVAILABLE ON WEBSITE

www.caaf.org.fj

***OR* FRONT DESK, CAAF HQ.**

Back To The Future With SMS

"With the damage done by COVID-19 to aviation businesses, it would be understandably tempting to 'release the safety brakes' as restrictions ease. But deterioration of safety standards might only lead to more business losses".

Changing Hazards

COVID-19 has shaped a new era. In light of those changes, your safety management system should be responding appropriately.

New hazards may have been introduced due to the COVID-19 situation and they will need new and appropriate control measures.

For instance, physical distancing, and how that applies to *your* operation, will need to be carefully thought through. The properties of existing hazards and how they interact with other elements of your system may have changed so their control will need reviewing and possibly adjusting. For example, physical distancing measures may cause some human factors issues with preflight planning and shift handovers.

Some new hazards may take time to become evident while some may no longer be present. Whatever the case with you organization, the ' new normal' will almost assuredly mean looking at the nature of the hazards in your operation and making sure their associated risk is effectively managed.

This about the service Providers

Many commercial operators are dependent on other providers such as aerodromes or ground handling contracting companies to deliver their services. Some of those service providers may need a bit of time to get back to their previous levels of performance.

That means, while you, as the operator, are 'open for business', your service provider(s) may have limitations you need to consider carefully.

For example, an airfield that has to close during the worst of the pandemic, may have experienced reduced wildlife control activities.

Wildlife, particularly birds, may be more prevalent which is likely to have attracted new predators. Those predators may have damaged fences or other barriers. This make take time for your aerodrome to get under control, and also work through possible emerging issues, such as how to deal with a protected species, that's made a new home there.

Consider your people

It's likely there'll be emerging issues post-COVID-19, from the introduction of new tasks, such as maintaining physical distancing, which could be a distraction to staff. You'll have to build the awareness of those issues among participants and employees, and build their skills to cope.

Upholding physical distancing measures requires active participation by al employees; this is a skill in is own right and may involve conflict resolution skills which not everybody is comfortable with.

It's often assumed that staff can easily cope during change, but human error is very typical of under-resourced operations and those undergoing or that have undergone change.

Your staff could be worried about the impacts of COVID-19 – such as financial hardship – concerns about relatives or colleagues, stress, and fatigue brought about by unfamiliar and changing tasks, extended working hours, and competing priorities. These can all increase the risk of errors.

The staff levels you need now may be different from those needed before the outbreak of COVIC-19. It's lkey to match the resources you have to any new risk control measures.

The right balance

In a time when the need to recover financial losses is pressing, it would be very easy to prioritise production. Your leadership, and its messaging regarding safety, must ensure you have the right balance between production and protection.

We all need to be vigilant during and after change. Each organisation will face unique challenges to returning to operations, and at times, change will be fast -paced with maybe many temporary situations arising before things settle down. Prepare for change now, engage with your suppliers, don't underestimate how small changes can affect your operation, and ensure safety is on the agenda.

Focusing on your safety, management system and remaining constantly curious about what this new era means for your safety standards will serve you well in the coming months■

Source: Article uplifted from Vector written By Neil Richardson-Consultant.

Airworthiness

The dictionary's definition of "airworthy" meant "fit to fly". Certainly, this seems to be a very simple phrase to encompass such a complex subject which in turn depends upon so many engineering and personal disciplines. However, it is a simple and concise statement; it is also the cornerstone of the advice handed by the Air Navigation Regulations to the Civil Aviation Authority in respect of its duty in relation to issuing a Certificate of Airworthiness, that is the Authority must be satisfied that the aircraft is fit to fly having regard to the things such as design, construction, flight trials and so on that we readily associate as having a direct bearing on the safety of an aircraft.

On the apron:

An engineer hops into a ground power supply unit and drives off with the power cable still plugged into the aircraft. Just listen to the sound of tearing metal and cursing crew members!

In the Hangar:

A clamp was missing which should have been fitted as part of the previous work. Once the cowlings had been removed for closer inspection, the larger scale of the findings was revealed. Not only was an environmental control system pipe securing the clamp not fitted, neither was the environmental control system pipe itself.

How can people do things like this? How can major work be done and an entire pipe not be installed? How was this missed? Why do these simple mistakes keep being made, over and over again?

A very imaginative and completely fanciful answer from aviation past is that humans don't make mistakes. Mechanical faults were caused by vicious, evil-minded, supernatural elf-like creatures called gremlins, whose whole existence was dedicated to creating death and destruction by breaking machines, specifically aircraft.

There is another more realistic answer:

By far the most common kind of error which occurs in the maintenance workplace is called a skill-based error. In order to accomplish the vast majority of maintenance tasks you need to complete a series of small steps on the way to getting the job done. A skill-based error happens when a person forgets to do a step (for example, install the pipe, disconnect the steering column), or does it wrong. It may sound simple-minded, but those are the only two ways a person can make a skill-based error. People have studied workplace error since the beginning of industrialisation. We know which factors make skill-based errors more likely to take place, and which steps we can take to lessen the chances of skill-based errors happening.

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Factors which make skill-based errors more likely to occur:

- Distraction - by far the most common contributor to skill-based errors. If a person is interrupted or distracted, it is likely that he or she will leave a step (or steps) of a procedure out. It is also more likely that they will make a mistake in accomplishing a step.

- Being hurried, rushed, stressed.
- Being poorly trained.
- Being fatigued.
- Being hot, cold, hung over.
- Working in a cramped position with poor lighting.
- Working from a poor, ambiguous SOP, or an SOP which has been changed without telling anyone.
- Not having work checked by a colleague or supervisor when finished.

All of these factors can make a workplace skill-based error more likely. When these situations exist, it should set off alarm bells. When these high-risk situations occur, workers can hopefully deal with the factor (remove a distraction, change to cooler clothing) and become more vigilant for errors and more diligent in checking work for errors once it is finished. When you are tired and cold, you need to take even more care in paying attention to completing the task properly, and making sure that it is checked afterwards. You need to report for duty not hung over from alcohol overindulgence. What to do by way of error prevention: Pay attention, this is largely what professionalism means - keeping your mind on your task even in the most demanding conditions to ensure that the task gets done correctly and completely. It is impossible to concentrate completely all the time, manage your attention. If your attention is wandering, or boredom is setting in, take a short break and try to re-focus on the job. It is a fact that regular breaks reduce errors in the workplace. Don't allow chat, daydreaming or other distractions to interfere with concentration, turn off your mobile phone. If you are interrupted in a task, go back several steps in the SOP, or to the beginning.

Follow procedures and SOPs religiously, this minimises the chances of errors and helps to counter the negative effects of distraction and fatigue. Challenge those who don't follow procedures. Take the time to improve lighting and provide comfortable access to the work site. Report poorly written or incorrect SOPs – don't just ignore them and 'do it my way'. Don't be too proud to: ask for help; say that you are having difficulty concentrating on your work due to fatigue, work pressure, heat, etc; say that you are not properly trained for the task you have been given.

The majority of workplace errors are due to missing out on a step in a task, or actually doing the step incorrectly. By being aware of how critical keeping your attention on the task at hand is, however simple minded that may seem, and by increased vigilance in high risk situations, we can reduce the incidence of workplace errors. We can support each other by not distracting people during their work, offering assistance when appropriate, and trying to keep rest times as noise free as possible.

It may seem silly, to say 'Pay attention to your work,' but failures in attentiveness are the primary causes of most workplace errors.■

Circadian Rhythm Disruption

It's All About the Rhythm and Blues

Our body's biological functions work much like a finely tuned watch: Every part works in unison to keep the body in homeostasis (maintenance of the internal environment within tolerable limits). However, when one working part doesn't function normally, it tends to disrupt many other vital parts and can upset homeostasis.

Often, we bring disruptions on ourselves with such things as self-imposed stress, and then we must try to get everything back to normal.

Managing your circadian rhythm is no different. It must be maintained to operate within normal working parameters, or a variety of negative effects will occur, and some of these could become a safety-of-flight issue.

An Internal Biological Clock

Our circadian rhythm is best described as an internal biological clock that regulates our body functions, based on our wake/sleep cycle. Circadian rhythms are not only important in determining sleep cycles but also in feeding patterns. There are clear patterns of brain wave activity, hormone production, cell regeneration, and other biological activities linked to these daily cycles.

Origin

Circadian rhythms are believed to have originated in the earliest cells, with the purpose of protecting replicating DNA from high ultraviolet radiation during the daytime. As a result, replication was relegated to the dark, and a basic pattern of day/night cycle was engrained within the cell and passed down to subsequent generations. At some time in the distant past, the days may have been longer, because when we are deprived of time clues, we gravitate toward a 25-hour circadian cycle.

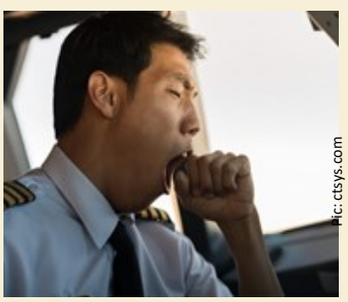
The Internal Works of Our Biological Watch

In your brain, there is a type of "pacemaker" located within the *suprachiasmatic nuclei*. This area regulates the firing of nerve cells that seem to control your circadian rhythm. Scientists can't explain precisely how this area in your brain "keeps time." They do know your brain relies on "outside" influences called *zeitgebers* (German for *time givers*) to keep it on a normal schedule.

The most obvious zeitgeber is daylight. When daylight hits your eyes, cells in the retinas signal your brain. Other zeitgebers are ambient temperature, sleep, social contact, physical activity, and even regular meal times. They all send "timekeeping" clues to your brain, helping keep your circadian rhythm running on schedule.

Circadian Rhythm Disruption

Any time that our normal 25-hour circadian rhythm is altered or interrupted, it will have physiological and behavioral impacts. This is better known as *circadian rhythm disruption*, or CRD. Normal circadian rhythms are naturally altered as one ages including changes in sleep pattern with respect to earlier onset of sleepiness, early-morning awakenings, and increased need for daytime napping.



Pic: ctsys.com

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Sleep Disorders and CRD

Several chronic sleep disorders can lead or contribute to circadian rhythm disruptions, including:

- **Delayed Sleep Phase Syndrome.** This disorder causes a delay in the normal sleep onset time by two or more hours. People affected by this disorder complain of late-evening insomnia and/or excessive early-morning sleepiness, have difficulties falling asleep before 2:00 a.m., have short sleep periods during weekdays, and prolonged (9-12 hours) sleep periods during the weekends. These individuals tend to experience depression and other psychiatric disorders.

- **Advanced Sleep Phase Syndrome.** This is a disorder where sleepiness occurs well before the desired sleep schedule. The resulting symptoms include evening sleepiness, an early sleep onset, and an morning awakening that is earlier than desired. A person feels the urge to go to sleep between 6:00 and 8:00 p.m. and wakes up between 1:00 and 3:00 a.m. the following morning. This disorder can have a negative impact on an individual's personal or social life because of the need to leave early-evening social activities to sleep. Evening sleepiness may also represent a driving hazard.
- **Non 24-Hour Sleep- Wake Disorder.** This disorder is the result of an inadvertent delay of the sleep onset time, followed by unsuccessful attempts to sleep at the desired sleep schedule.

  People affected by this disorder constantly delay sleep onset times that interfere with circadian rhythms. They have a normal sleep duration pattern but live in a free-running "biological clock" of 25 hours instead of the community-accepted 24-hour clock. The sleep cycle is affected by inconsistent insomnia that occurs at different times. Those affected will sometimes fall asleep at a later time and wake up later; or fall asleep at an earlier time and wake up earlier.

Even if you do not have a chronic sleep disorder, there are several measures that can help you get a good night's sleep. Among these are:

- Mental or physical relaxation techniques (reading, meditation, yoga).
- If you don't fall asleep within 30 minutes of going to bed, get out of bed and try an activity that helps induce sleep such as reading, listening to relaxing music, watching something boring on TV, etc.
- Ensure you are in an environment conducive to sleeping (dark, quiet, comfortable temperature and mattress).
- Exercise regularly, but not too near bedtime.
- A nutritious, balanced diet.

Shift Work and CRD

Shift work almost always causes a circadian rhythm disruption—the internal body clock is at odds with the shift schedule. Shift-work problems are well documented, ranging from performance issues to accidents and health problems.

Recognizing Circadian Rhythm Disruption

Pilots or passengers who are suffering from CRD may experience one or more of the following symptoms:

- Difficulty falling and staying asleep, late-night insomnia.
- Increased daytime sleepiness.
- A general lack of energy in the morning.
- An increase of energy in the evening or late at night.
- Difficulty concentrating, being alert, or accomplishing mental tasks.
- Oversleeping and trouble getting up.
- Increased negative moods.

The most debilitating symptom of CRD is, of course, fatigue. Fatigue is typically characterized by:

- General discomfort.
- Sleepiness.
- Irritability.
- Apathy or loss of interest.
- Decreased concentration.
- Loss of appetite.
- Impaired sensory perceptions.
- Mood changes.
- Impaired decision-making.

Fatigue, itself, is a very dangerous condition for any pilot attempting to operate an aircraft. Realizing the cause of the fatigue (in this case, CRD) is the first and most important step in treating it.

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Circadian Rhythm Disruption cont...

It's All About the Rhythm and Blues

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Jet Lag is a CRD!

Of all the stressors in aviation, **jet lag**, or **rapid time zone change syndrome**, seems to have the biggest impact. This syndrome consists of symptoms that include excessive sleepiness and a lack of daytime alertness in people who travel across time zones.

Other Symptoms: Fatigue, insomnia, disorientation, headaches, digestive problems, lightheadedness.

Jet lag is more evident if you fly from west to east because it is more difficult for your body to adjust to "losing time" when you journey east than to "gaining time," when you fly from east to west.

TIPS TO HELP MINIMISE

Jet Lag

- ***Adjust your bedtime by an hour a day*** a few days before your trip. This will adjust your sleep pattern to match the sleep schedule you will keep at your destination.
- ***Reset your watch*** to the destination time at the beginning of your flight to help you adjust more quickly to the time zone you will be visiting.
- ***Drink plenty of water*** before, during, and after your flight. The air you breathe on airplanes is extremely dry, and some experts believe that dehydration is a predisposing cause of jet lag. Virtually everyone agrees that dehydration can make jet lag worse.
- ***Eat lightly but strategically***. What you eat can have a direct influence on your wake/sleep cycle. Remember that high- protein meals are likely to keep you awake, while foods high in carbohydrates can promote sleep, and fatty foods may make you feel sluggish.
- ***Relax on the first day at your destination***. If you have the luxury of arriving at your destination a day or two before you have to engage in important activities that require a lot of energy or sharp intellectual focus, give yourself a break and let your body adjust to the time change a little more gradually.

As a Passenger:

- *Avoid drinking alcohol* or anything with *caffeine* in it during your flight (includes many soft drinks, coffee, and tea.) Both alcohol and caffeine increase dehydration.
- *Sleep on the plane if it is nighttime at your destination.* Use earplugs, headphones, eye masks, or other sleep aids to help block out noise and light, and a travel pillow to make you more comfortable so you can sleep.
- *Stay awake during your flight if it is daytime at your destination.* Read, talk with other passengers, watch the movie, or walk the aisles to avoid sleeping at the wrong time.

CRD Affects Your Flying Skills

CRD-induced fatigue that goes untreated or ignored will have both physiological and psychological ramifications that not only can jeopardize your personal health but can also become a safety-of-flight issue. A few of the more well known undesired personal affects are:

1. **Increased reaction time**
   - Impaired responses in sequential tasks that require time synchronization.
   - Need to increase the magnitude of sensory stimulation to elicit response.
2. **Decreased attention**
   - Omission or displacement of individual elements in sequential task.
   - Channelized attention to one task at the expense of others.
   - Impaired visual monitoring patterns.
   - Difficulty in self-identifying performance impairment.

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3. Impaired memory

- Difficulty remembering recent events during flight.
- Tendency to forget secondary tasks.

4. Personal conduct of isolation

- Tendency to avoid interpersonal interactions.
- Tendency to avoid tasks that require low workload.
- Increase distraction due to discomfort.
- Emotional irritability.
- Indifference.

Consequences of CRD on the Flight Environment

- Increased frequency and severity of piloting errors during aircraft operations.
- Increased frequency of operational incidents.
- Increased risk in aviation operations.

Resetting Your Biological Clock and Recovering

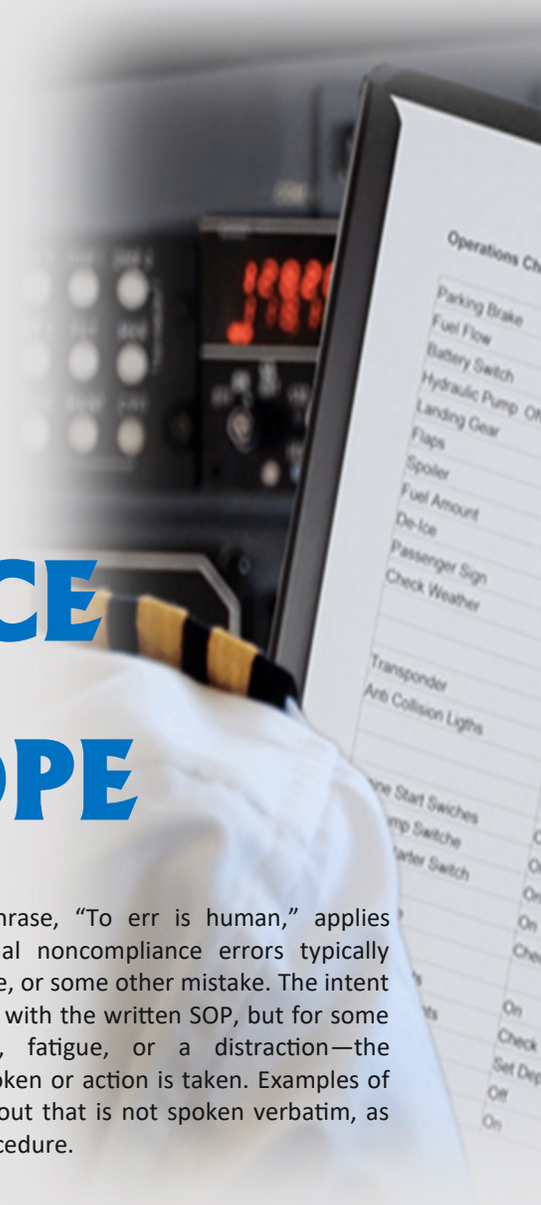
Once you have fallen victim to CRD, it is imperative to reset your biological clock. Here's how:

- **Catch Some Rays.** Exposing yourself to as much daylight as possible might also be a good idea, because it has been scientifically shown that bright light helps reset circadian rhythms. In addition to resetting the clock, light has a direct and positive affect by increasing brain serotonin levels. At the same time, circadian light therapy has a depressing affect on daytime melatonin, a clear link to depression and sleep disorders.
- **Be Active.** When you arrive, taking a nap is the worst thing you can do because it sets your body's rhythms back to home time. Staying active on arrival will help the body adjust to the new time zone. Eating and sleeping are your body's time indicators, so it's important to fit in with what the locals are doing when you arrive. Consequently, if it's breakfast time, eat breakfast.

Coping With CRD While On Duty

- Sleep well at home before any flight.
- Try to get at least as much sleep per 24 hours as you would normally at home.
- If you are sleepy, try to sleep. Employ strategic (combat) napping techniques.
  1. Whenever possible, take a 30-minute nap prior to a long flight.
  2. Avoid naps of more than 30 minutes, as they involve deep sleep.
  3. Taking a nap is better than not sleeping at all.
- Avoid pilot adaptation to a local circadian rhythm following transmeridian flights with short layovers.
- Try to maintain the circadian rhythm from your place of origin, and at the same, time try to sleep longer.
- Use caffeine strategically during the flight to counteract circadian rhythm sleepiness.
- While in the cockpit seat, converse with others, stretch your legs, and take regular breaks.
- Try to avoid night flights following a transmeridian flight.
- Transmeridian flights should be alternated with intrameridian flights, enabling you to return to your normal circadian rhythm■

Source: *Article uplifted from Medical Facts for Pilots*



SOP Noncompliance a slippery Slope

Aviation and other high-risk industries are full of policies and procedures. For good reason, these standard operating procedures (SOP) should be followed. By design, each SOP provides a standardized method to complete a task that keeps us safe and prevents harm.

In aviation, most professional pilots strive to be compliant; these SOPs are the recipe to effectively manage a highly technical machine in an extraordinarily complex operating environment. SOPs set up a predictable workflow, so the operators—in this case, the pilot flying and pilot monitoring—can anticipate each other's next move and share a common mental model.

Following SOPs is important; a crew on the "same page" devotes much less mental capacity on a routine task and has more bandwidth to manage more complex operations such as environmental (weather or ATC) or aircraft (mechanicals and anomalies) threats.

But procedures are not always followed. When this happens, human factors experts use terms such as procedural drift, procedural intentional or unintentional non-compliance (PINC/PUNC), or normalization of deviance to categorize these errors.

Noncompliance with SOPs is a serious threat to safety. Over the past two decades, this issue has been highlighted as a top safety concern by organizations such as the NTSB, Flight Safety Foundation, and the NBAA Safety Committee. With all this focus on SOP noncompliance, it is important to differentiate unintentional errors and more risky intentional acts. While some organizations treat them equally, they are not.

The proverbial phrase, "To err is human," applies here. Unintentional noncompliance errors typically involve a slip, lapse, or some other mistake. The intent is to be compliant with the written SOP, but for some reason—workload, fatigue, or a distraction—the wrong word is spoken or action is taken. Examples of this may be a callout that is not spoken verbatim, as described in a procedure.

Overly prescriptive SOPs are a "set up" for unintentional SOP errors. An example of this could be an altitude awareness callout, that specifies precise phraseology such as "FL210 for FL220," when an alternative, such as "1,000 feet to go"—or any other variation—would suffice. In this case, the callout is made, the aircraft levels off at the assigned altitude, and the outcome of this error is classified as inconsequential.

More concerning are those intentional SOP noncompliance acts that involve an omission or violation. This is where, based on the level of risk, an operator should really take notice.

A common example of this risky behavior is the pilot who fails to go-around from an unstable approach. In this case, failing to go-around from an unstable approach would be considered a violation of an SOP. The outcome might lead to additional errors (landing short, long, or hard) and/or an undesired aircraft state such as a runway excursion. This is a big deal and should be addressed either in a debrief, or if discovered through a flight data monitoring program, via a crew contact by a gatekeeper.

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Pic: https://www.flightdeckfriend.com/ask-a-captain/what-is-an-sop-2/#stats

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A tragic example of an intentional SOP noncompliance act resulted in the loss of the Space Shuttle Challenger. At the time, NASA had a culture of "faster, better, and cheaper." An underlying factor within the organization was a strong "mission completion pressure."

During each of the preceding 24 launches, known leaks were identified in the seals—or O-rings—between rocket stages. Due to an absence of adverse outcomes, these shortcuts over time became the norm. This gradual process, where unacceptable acts became acceptable would result in a significant procedural drift. On the 25th launch, luck ran out and an O-ring completely failed—Challenger was lost.

The SOP noncompliance outlier is an intentional act that involves significant risk because of gross negligence or a criminal act. Rare cases meeting this threshold might involve acts such as falsifying maintenance or weight and balance documents, drug or alcohol violations, or other unthinkable acts. These acts push the limits of any "just culture" algorithm and must not be tolerated.

Back to unstable approaches. For more than two decades, industry best practices recommend that operators adopt an SOP that defines stabilized approach criteria and to incorporate a no-fault go-around policy.

On a global level, compliance with this SOP is poor. To further quantify this issue, the rate of unstable approaches (using airline data) has decreased to less than 3 percent; that is the good news. Most troubling is the fact that, on average, the vast majority (97 percent) of those unstable approaches continue to land, failing to go-around, often without any adverse consequences.

Unfortunately, from a human factors perspective, each "successful" landing from an unstable approach reinforces, the notion that it is "OK" due to a lack of an adverse outcome. Using the Challenger example, the reality is that by continuing behaviors such as an unstable approach and normalizing this deviance from an SOP, you are loading the chamber—a game of Russian Roulette—in which each landing or act increases the likelihood of an adverse outcome■

(Source: Article by Stuart Kipp Lau, uplifted from Ain.com)

SOUTH PACIFIC TOURISM ORGANISATION

PACIFIC AVIATION SAFETY OFFICE

JOINT MEDIA STATEMENT

Preparing Pacific Tourism and Aviation for Travel Resumption

While the Pacific awaits the return of visitors, strategic partnerships between regional agencies are working to ensure that the tourism and aviation sectors are adequately prepared for the reopening of borders for tourism.

In recognition of the severe impacts that COVID-19 has had on global air services and tourism, the Pacific Tourism Organisation (SPTO) and the Pacific Aviation Safety Office (PASO) are coordinating efforts to ensure that their respective sectors are ready and can confidently reboot as soon as air travel corridors are established and border restrictions relaxed between Pacific nations and other international destinations.

These efforts include identifying areas for prioritisation and investment to ensure the sustainability and effectiveness of the recovery process for Pacific economies, many of whom are highly dependent on tourism flows for employment and income. Moreover, with many regional airlines facing unprecedented financial challenges, the ongoing issue of regional connectivity is perhaps more important than ever before.

"In recognition of the multi-faceted nature of the tourism industry, SPTO remains committed to supporting recovery efforts through dialogue and innovative partnerships with key stakeholders like airlines, tourism industry leaders and development partners," said SPTO Chief Executive Officer, Mr. Christopher Cocker.

"We recognise the critical importance of aviation as a key enabler for tourism recovery so we welcome this strategic partnership with PASO," said Mr. Cocker.

"Ensuring the availability of viable, safe and secure air services is a critical part of enabling and reactivating tourism. Without this, the Pacific's COVID-19 tourism recovery will likely stall," said PASO General Manager, Mr. Andrew Valentine.

"PASO's fundamental role in the Pacific's COVID-19 tourism response and recovery is to ensure Pacific States are supported to confidently kick-start their aviation sectors by checking and certifying that airlines, airports and key aviation infrastructure and services are safe, secure and compliant ahead of tourism reactivation."

"The Pacific cannot afford poor aviation safety or security performance. An aviation accident or incident would severely derail Pacific States' tourism recovery plans, negatively impact economies, and could have long lasting effects on the reputation of the wider region, and any country involved," said Mr. Valentine.

As two of the smaller CROP agencies, the work of both SPTO and PASO is restricted by resource limitations. As such, the support of the relevant stakeholders and development partners is needed to strengthen their efforts to support recovery and reactivation for both industries.
In the interim, SPTO and PASO have committed to sharing information and providing regular joint updates to better inform their respective sectors as well as valued visitors to the region, to ensure that Pacific tourism recovers to deliver authentic and memorable experiences for visitors.

This strategic initiative between SPTO and PASO is supported by the key recommendations pertaining to the reopening of borders and reactivation of tourism, highlighted in the NZMFAT and SPTO Report *2020 Pacific Tourism Sector Scenario Development and Recovery Pathways*.

Moreover, the partnership aligns with the key issues stemming from the 2020 Forum Economic Ministers Meeting and comes ahead of the SPTO Council of Tourism Ministers Meeting (COTMM) and the Regional Aviation Minister's Meeting (RAMM), both of which have been deferred to 2021.

It is expected that these regional meetings will progress and strengthen aviation safety and security, along with COVID-19 recovery scenarios, to enable the reactivation and sustainability of tourism for the benefit of Pacific communities■

PASO AGM
Reaffirms Strong commitment to Pacific Regional Aviation Safety and Security

PORT VILA:

Pacific regional aviation safety and security and the importance of the Pacific Aviation Safety Office (PASO) during the COVID-19 pandemic was recognised by the PASO Council of Directors at their Annual General Meeting on Wednesday, 1 July 2020.

There was strong participation at the Council's first virtual AGM from Council Members, who reinforced their desire to support and promote the importance of PASO during the COVID-19 pandemic. The AGM was attended by nine of the 10 signatories to the Pacific Islands Civil Aviation Safety and Security Treaty (PICASST) and three Associate Members.

COVID-19 disruption to Pacific aviation safety and security, and its impact on PASO's governance and operations was the focus of the AGM. The PASO Council recognised the generous ongoing financial support from the New Zealand government to strengthen PASO with new $2.2million (NZD) funding provided in April.

The PASO Council also recommended re-scheduling the Regional Aviation Minister's Meeting (RAMM) to early 2021 to continue to strategically progress and strengthen Pacific regional aviation and COVID-19 response and recovery.

"The pandemic has been devastating to the global economy, with no harder hit than the aviation sector. Disruption to aviation connectivity has been extreme and appears likely to remain that way for some time. Jobs across the world in the travel and tourism sector have been lost, and more are at risk. The future remains uncertain," said outgoing PASO Chairperson, Mr. Wilson Sagati, OBE.

"We now face considerable COVID-19 disruptions to trade, tourism and regional connectivity and our region will need to be reactivated with safe aviation systems ready to respond when borders are opened once again."

The PASO Council noted that PASO's COVID response activities have entailed maintenance of business continuity, careful financial management, increased regional operational engagement, and active participation with key stakeholders, including the Pacific Island Forum Secretariat and fellow CROP members.

PASO's Council of Directors paid tribute to the outstanding 13-year contribution of retiring Chairperson, Mr. Wilson Sagati, and his dedicated service to Pacific regional aviation safety on behalf of PASO Member State Papua New Guinea.

The PASO Council elected Member State Samoa to Chair the PASO Council. Mr. Magele Hoe J. Viali, the Secretary of Transport, Chief Executive Officer and Director General of Civil Aviation within the Samoan Ministry of Works, Transport and Infrastructure will undertake the Chairperson role having previously been PASO's Deputy Chair and Chair of the Finance Sub-Committee.

Vanuatu was appointed unopposed as the Deputy Chair of the Council and Chair of the Technical Sub-Committee, with Mr. Harrison Luen, Director General of Ministry of Infrastructure and Public Works, to perform the role on behalf of Vanuatu.

The Cook Islands was appointed unopposed as the Deputy Chair of the Council and Chair of the Finance Sub-Committee, with Mr. John Hosking to perform the role on behalf of the Cook Islands. The Council's AGM was led by Pacific government executive level transport officials from Australia, Cook Islands, Kiribati, Fiji, Nauru, New Zealand, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, and Vanuatu with apologies from Tuvalu.

PASO's Council resolved to maintain momentum to progress strengthening strategic regional aviation and transport mechanisms to address regional COVID-19 response and recovery and recommended a face to face RAMM in early 2021, subject to relaxed travel restrictions.

The Council also resolved to hold a Special PASO Council Meeting later this year and invite all Pacific Island Forum States in the lead up to a re-scheduled RAMM.

"The RAMM is viewed as a key enabler of connectivity and a pathway to raising the profile of aviation safety and security in the region with Leaders, noting the importance that safe and secure air travel brings to all aspects of life in The Blue Pacific. The focus of the RAMM is likely to expand to matters around COVID-19 aviation response and recovery," said new PASO Chairperson, Mr. Viali.

"The full impacts of COVID-19 on the aviation industry in the Pacific region are yet to be fully felt, and the recovery is likely to be slow and challenging, even once global and regional border restrictions are relaxed.

"There is a strong need for the region to solve these aviation challenges together and support each other through these hard times.

"Collectively, we need to address how to strengthen aviation safety oversight, sustainable air transport, and mechanisms to connect our region and provide us with a strong platform for economic and social recovery," said Mr. Viali.

The PASO Council recognised the critical continued financial support from the New Zealand government to strengthen PASO and its Members with $2.2million (NZD) in April. Since 2017, the New Zealand Government have provided a total of $4.9m NZD to PASO.

"The evolving COVID-19 situation has deeply affected regional aviation and transport and continues to have a significant impact on PASO's activities and operations. PASO is not immune to the economic impact of this pandemic," said PASO's General Manager, Mr. Andrew Valentine.

"This funding is valuable and beneficial as it supports PASO's work with our Members to enhance regulatory aviation safety and security as well as deliver targeted assistance to some of our Members. A key enabler of economic growth across the Pacific is generated from aviation and having strong regulation is a vital component for this to occur," concluded Mr. Valentine.■

Are you CURRENT to fly?

I	NSTRUMENT RATING	should be renewed every 13 months
M	EDICAL CERTIFICATE	renewals are to be done with relevant AMA's before expiry
C	ERTIFICATE OF VALIDITY	FTP/PPL - 2 years CPL/ATPL - 6 months
U	UNDERSTAND	& stay updated with procedures & regulations
R	ECORDING OF FLIGHT TIME	to be logged correctly & verified by the company
R	ATINGS	on aircrafts are to be done within 6 months of examination date. FIR & AFIR to be renewed every 12 months
E	NGLISH LANGUAGE PROFICIENCY	Min- Level 4 Tests conducted by approved examiner. Should be reassessed before expiry
N	O CRIMINAL OFFENSES	any criminal history should be informed to the authority
T	RAINING & TESTS	should be conducted in compliance with the authority's procedures & policies

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Civil Aviation Authority of Fiji

Contact CAAF
Office Number: (679) 892 3155
E-mail: licensing@caaf.org.fj
Website: www.caaf.org.fj

Managing Communicable Disease in Aviation

What is the primary role of the International Civil Aviation Organization (ICAO) with respect to managing health risks triggered by communicable diseases?

Article 14 of the 1944 Convention on International Civil Aviation (often referred to as the "Chicago Convention") obliges Contracting States "to take effective measures to prevent the spread by means of air navigation of cholera, typhus (epidemic), smallpox, yellow fever, plague, and such other communicable diseases as the Contracting States shall from time to time decide to designate". ICAO coordinates global efforts to ensure that all Contracting States have a preparedness plan to mitigate the risks from a communicable disease with the potential to cause a public health emergency, by reducing the risk of dissemination of disease through air transport.■

Source: ICAO News Release

ACKNOWLEDGEMENT

Dr Isoa Bakani
(1931-2020)

Dr. Isoa Ramoli Bakani whose long career in aviation medicine encompassed over 30 years as one of the Civil Aviation Authority of Fiji's Designated Medical Examiners and Approved Medical Assessors responsible for assessing pilots, air traffic controllers, engineers and flight information service officers for aviation medical certification through his private practice, passed away peacefully on September 09th 2020. He was 88 years old, 10 days shy of his 89th birthday. Dr. Bakani was born at Navaga on Koro Island and hailed originally from Yarovudi in Levuka, Ovalau.

Dr. Bakani was educated at the Gau Sawaieke District School, Ratu Kadavulevu School and Queen Victoria School before commencing his medical studies at the Fiji School of Medicine in 1950. He began his practice of medicine at the CWM Hospital in January 1955. And became a Cardiologist in 1974.

In the early 1980s he became a recipient of the Commander of the Most Excellent Order of the British Empire from the Queen of England.

The CAA Fiji acknowledges the service and immense contribution of Dr. Bakani in the field of aviation medicine here in Fiji. He was dedicated to his work and commanded the respect of the many aviation professionals he came in contact with■

Screen Time And Eye Health

Pic: Shutterstock

In today's world we are relying more on our gadgets for communication, entertainment, work and academia. This reliance knows no boundaries and has cut across many barriers like age, gender, employment status, social status and financial status to name a few. Parents are using gadgets as the virtual nanny to keep their children entertained. The lives of today's children are so screen oriented that at times I feel ignored by mine simply because my face is not on a screen!

In this time of Covid 19 infection and the ensuing lockdowns, screen time or screen use of the entire world has reached unprecedented levels as many turned to their screens to keep in contact with loved ones, for news and updates, entertainment, work and school.

The big issue with digital screens is the blue light it emits. While we tend to only think of blue light coming from display screens, it is also naturally produced by the sun. Even indoors, fluorescent and LED light bulbs are sources of blue light. Whether you're aware or not, you're surrounded by blue light all of the time. Most computer monitors, cell phone screens, and flat-screen TVs are additional sources of blue light. Even though we are surrounded by blue light in our natural environment our whole life, it's our digital environment that causes excess exposure and the need for concern.

Because the wavelength of blue light is short and powerful, it can penetrate past the cornea to reach the retina, which is the most light-sensitive part of our eyes.

So, is all this screen time really bad for our eyes? Screen time, like many other things, takes it's toll when there is excessive use.

Whenever we use screens of any sort, we tend to blink less frequently as we are busy concentrating on whatever we are looking at on the screen. Since blinking brings fresh tears onto the open part of our eyes, it follows that less frequent blinking causes our eyes to become dehydrated and fatigued. We can also experience a burning sensation, blurry vision, eye pain and even headaches when our eyes are dehydrated.

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Also, our eyes are working harder to focus as the screen is continuously moving. Generally, the closer our screens are to us, the harder our eyes work. Looking into the distance is more relaxing for our eyes. Long hours of screen work impacts the ability of our eyes to speedily adjust when we change our focus from something near to something distant and we find ourselves needing to wear glasses earlier than age dictates.

Studies have shown that children who spend more time indoors on their screens are more likely to develop the need for prescription spectacles than those who spend more time outdoors.

Frequent exposure to blue light from young age can cause adulthood blindness due to degenerative damage of the retina.

Many of us enjoy using our gadgets in bed before going to sleep. Those who do so while their bedroom is in total darkness are at greater risk of the above effects but also risk sleeping problems as well. Blue light has been shown to alter the brain's sleep rhythm as it equates the blue light from our gadget with daylight and shifts the body's sleep rhythm---[1].

[1] Harvard Heath Publishing; Blue Light Has a Dark Side

To protect our eyes during screen time we can modify our gadget settings so that our screen is not brighter than our surroundings, turn on the blue light filter and increase the contrast of the screen. We should not hold our gadgets up close to our eyes as distance is relaxing for our eyes.

Modification of our surroundings helps. Ensure there is ambient light so that we are not in a totally dark environment. If you are working in an air conditioned environment ensure the vents are not blowing its dry air directly onto you, contributing to your dehydrated fatigued eyes.

We can also modify some habits and adopt others to protect our eyes during screen time. Blink more frequently. The rule of 20 applies: After 20 minutes of screen time, we should spend 20 seconds looking at something 20 feet away. This simple act gives our eyes frequent breaks and prevents eye fatigue and dehydration.

For more severe symptoms, lubricating eye drops also help when blinking alone cannot rehydrate our eyes adequately.

There are spectacles with blue light filter lenses which are available. In Fiji such lenses, when bought from local optometrists, start from $FJD100 and increase in price depending on your glasses prescription.

Screen time has its uses but excessive screen use can be detrimental to our sight.■

(Article by Dr Louise William)

Pic: Bianca Seidman


We stand steadfast with our customers and
clients during this time of uncertainty.
We're here to WORK closely with you.
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