

# 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



## ADS-B

# ADS-B Is Here !

**Inside this Issue: Pg:**

**ADS-B IS HERE COVER PAGE**

**FIJI ADS-B GROUND  
STATION AND  
ACCURACY TEST** 2-4

**SMS OWNERSHIP** 4

**OJT IN ATC** 5-6

**CYBER BREACH** 7

**AERODROME  
CERTIFICATION** 8

**CAFFEINE IN AVIATION** 9

**CROSSWORD PUZZLE** 9

**AM I FIT TO FLY** 10



New Age ADS-B technology

now operating in Fiji

98% of Aircraft Equipped.

***Equip now and Promote Safer Skies***

## FIJI ADS-B GROUND STATION AND ACCURACY TEST

This article looks at some of the issues faced thus far in the implementation of the Fiji ADS-B Ground System.

**How did the implementation of ADS-B come about?** [Following extracted from Fiji's presentation at the 11<sup>th</sup> ICAO ADS-B study and implementation task force meeting in Korea 2012].

**Quote:** "Through observations and monitoring of performances over the years, it was noted by the Authority and the ANSP; Airports Fiji Limited (AFL), that a suitable surveillance system was required in the Fiji Domestic airspace. This was further confirmed by an ICAO Audit in 2006, which recommended, for improvement to Safety of air traffic control and management in the Fiji Domestic airspace, an appropriate means of surveillance be implemented at Nadi.

Some options were considered and Radar was noted to be very expensive to purchase, install and maintain when compared to the ADS-B option (a newer technology than Radar) which is proving to be better than Radar and more cost effective, efficient and provides for more opportunities in the future air navigation requirements including ADS-B IN and associated benefits...A third option, MLAT, was considered for Nadi only, so as to cater for those existing aircraft that used Mode S transponders but would not be cost-effective to be retrofitted.

On completion of the necessary cost benefit analysis and industry consultation, the ADS-B surveillance option was considered the best for the Fiji Domestic Airspace. It was also considered that a minimum of eight (8) Ground Station (GS) sites would be required for ADS-B with 3 additional sites required for MLAT operation around Nadi. Existing sites & infrastructure were selected to minimize cost of site preparation, installation and time of delivery of the contract". **Unquote.**

The eleven sites include Rotuma Delaikoro, Matei, Lakeba, Nausori Tower, Monasavu, and the five (5) sites around Nadi; Lomolomo, Nagado, Nawaka, Denarau and Nadi Tower.

Shifting from the current procedural control separation standards of 15 and 20NM to the application of 5NM radar separations is a massive leap.

### What is the plan for a smooth transition?

ICAO's 18<sup>th</sup> APANPIRG meeting approved a three phase implementation plan, (see Table 1). Bearing in mind the transition required, Fiji chose to commence with ADS-B service performance Category Tier 2 requirements. This approach would see the extensive use of the system with

the objective of ensuring reliable performance through improvements in the surveillance environment and the provision of air traffic controllers in the tower with much needed operational experience on an Air Situation Display before transitioning to Tier 1 service parameters of reduction in separation standards and introduction of vectoring. It is to be noted here that Fiji has the added difficulty that other states do not have, in that along with ADS B, MLAT is also being implemented.

**Table – 1 - BASELINE ADS B SERVICE PERFORMANCE PARAMETERS**  
The following table provides guideline for various performance requirements of ADS B Category (Tier) 1, 2, or 3 services that States may consider when acquisition of an ADS B managed services agreement with a service provider

Service Parameter	TIER 1	TIER 2	TIER 3
	5nm separation capable commensurate with Radars (separation / vectoring / high performance with reliability, integrity & latency)	Situational awareness similar to ADS-C (safety net alerts, SAR, supports procedural separation without voice, not 5nm separation)	Position Reporting with Enhanced Flight Operation
Aircraft Updates	1 second-Rate<5 seconds as Operationally required	1 second-Rate<20 seconds as Operationally required	1 second-Rate<60 seconds as Operationally required
Network Latency	95%<2 seconds of ground-station output	95%<15 seconds of ground-station output	95%<60 seconds of ground-station output
Reliability 1	2 autonomous ground-stations including antenna, each providing data, no common point of failure	1 unduplicated ground-station including antenna	1 unduplicated ground-station including antenna
Reliability 2 – MTBF	Each ground-station including antenna to have MTBF>10,000 hrs	Each ground-station including antenna to have MTBF>10,000 hrs	Each ground-station including antenna to have MTBF>10,000 hrs
Reliability Communications Infrastructure	Completely duplicated, no common point of failure	Unduplicated, MTBF>400 hrs	Unduplicated, MTBF>200 hrs
Reliability – Total ADS-B Service	Total Service MTBF > 50,000 hrs	Total Service MTBF>400 hrs	Total Service MTBF>200 hrs
Availability – Total ADS-B Service	Total Service Availability >.999	Total Service Availability >.95	Total Service Availability >.90
Integrity – Ground Station	Site monitor, including GPS RAIM, monitored by RCMS	Site monitor, including GPS RAIM, monitored by RCMS	Site monitor, including GPS RAIM, monitored by RCMS
Integrity – Data Communications & Processing	All systems up to ATM system, errors <1x10E-6	All systems up to ATM system, errors <1x10E-6	All systems up to ATM system, errors <1x10E-6

(Continued to Next Page)

# FIJI ADS-B GROUND STATION AND ACCURACY TEST Cont...

(continued from previous page)

## How was the accuracy of position reports verified?

With radar technology, accuracy performance measurements are obtained by comparing radar positions with an independent precision reference navigation system such as a differential GPS. (ICAO Doc 8071 Vol III—Testing of Surveillance Radar Systems). Similarly ADS - B position reports were compared against a high precision Differential GPS. Unlike radar, the accuracy is dependent upon the geometry of the satellites and aircraft avionics, not the ground system. The ground system was then used to confirm accuracy.

## TEST SETUP

Within the aircraft a separate GPS antenna was erected that fed into a NAVCOM SP 3050 high precision DGPS receiver (DGPS accuracy <5 meters). From the receiver (RX) an output was taken to a computer and data recorder which recorded position reports in 1 sec intervals. This equipment was independent of the aircrafts own avionics system.

Fiji ADS-B coverage area.



Note: Fiji's ADS-B coverage area with ADS-B flights. Also included is the Rotuma ADS-B coverage. ADSB flight tracks are towards the north-west of the Rotuma ADS-B ground station and one to the right heading south east.

Fiji's coverage area with the 11 stations.

This picture captured live traffic straight off the ADS -B Air Situation Display.



Independent GPS RX Antenna



NAVCOM 3050 Portable RX



From RX an output fed into a small computer and recording media



Aircraft used on 05/10/11 for ADS B test

## Flight Test

In this picture is: Mr Kolokesa Kini (ATC Project Manager), Petero Delai, (Technical Manager Special Projects) Peni Tikosaya (Nadi Tower Supervisor) and Mr Ken Roko (Project Manager ERA).

As the flight progressed, the aircraft's ADS B transponder transmitted position reports to the ground station which were relayed onwards to the Nadi displays where it was recorded. Concurrently, aircraft position reports were recorded separately on board the aircraft via the installed test setup.

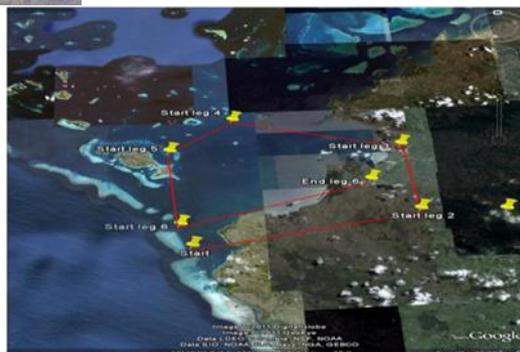
## Comparative Analysis

Once back on the ground, the DGPS records were correlated with the ground system plots by time with an accuracy of 0.1 seconds. Horizontal Accuracy required: < 150 meters to pass.

## Flight Path ADS B Extended Squitter

(Supplied compliments AFL).

The test had to be conducted over sufficient portions of the coverage volume to avoid distortion of the data by anomalies specific to one area. Google earth shots show the flight path of the 2 test runs.



(Continued to Next Page)

## FIJI ADS-B GROUND STATION AND ACCURACY TEST Cont...

(continued from previous page)

### ADS B and VHF Coverage

During the flight, the aircraft, at regular intervals descended to pre determined levels to test the different levels of coverage for both ADS B and VHF radio. ADS B coverage was excellent along the whole route with the exception of a small area along the coral coast when the aircraft was at 1500 feet. This has been noted and there is intention to make some improvements to enable better coverage of this area.

### Landing Matei

A landing was made at Matei Airport although this was not part of the original plan. However, any thought that this quick sneak into the garden island would go undetected, evaporated, when

back at Nadi it was shown that the exact time of touch down and airborne time had been recorded. This unintentional “test” is good news for not only ATC, i.e. help eliminate inaccurate position reports but also from a Search and Rescue view point.

### Conclusion

The data collected during the flight tests meet the ADS-B service performance Category Tier 2 accuracy requirements. This has provided assurance to the Air Navigation Service Provider (ANSP) as to the accuracy of the ADS B ground stations for use in the Tier 2 service provision.

Where to from here? Further monitoring and analysis of data by the ANSP to support the transition to Tier 1 services when the time comes ■

## SMS OWNERSHIP

Element 1.3, Key Safety Personnel from the SMS Framework as well as SD SMS requires the appointment of a management representative to manage, monitor, and coordinate the SMS processes.

In the organizational structure, this position would be part of the Safety Committee, i.e. the safety Manager and the Safety Department. The responsibilities of this position would include:

- Facilitating hazard identification and safety risk analysis.
- Monitoring the effectiveness of safety risk controls.
- Ensuring safety promotion throughout the certificate holder’s organization.
- Regularly reporting to the Accountable Executive(s) on the performance of the SMS and on any need for improvement.

### SMS is Scalable for Any Size Organization

A small organization may have no such need for the same volume of data as a larger organization and can be just as effective in managing safety by simply

integrating safety management into their established business practices, without additional personnel or complex information technology. The SMS functions do not need to be extensive or complex to be effective. Smaller organizations may use a paper log to document safety issues and a paper

A larger organization may need more sophisticated resources such as web-based data systems and trained safety personnel to manage the details and a more formal committee system to accomplish the same functions. **While sophisticated process development tools and methods are available, simple brainstorming sessions with managers, supervisors, and other employees are often most effective.** In smaller organizations, the Accountable Manager or Chief Executive Officer (CEO) or owner may elect to conduct internal audits and internal evaluation functions themselves, in conjunction with the management review function.



system or simple spreadsheet or word processor files to track them to resolution. Internal evaluation and management reviews may consist of periodic conferences between business owners or top management and other employees to review information and track progress toward resolution.

Likewise, in very small organizations the owner/operator may elect to conduct internal audits, continuous monitoring, document reviews, safety risk analysis/assessment and training review either personally or in conjunction with co-owners, managers, supervisors, or employees ■

## ON THE JOB TRAINING IN AIR TRAFFIC CONTROL



In Issue 2/2013 of the CAAF Aviation Safety Bulletin, the Ground Safety Department published the first of two articles focussing on OJT (on-the-job-training) in ATC. This first article dealt with OJT from the “trainee’s” perspective, now in this bulletin, we look at it from the trainer/instructor’s perspective.

OJT is but one component of an overall training program. It is a technique aimed at allowing trainees to build on knowledge and skills learnt in the classroom and simulator in addition to gaining new skills whilst actually working.

So, what is the role of the “On the Job Training Instructor” or OJTI as he/she is known? To clearly define the OJTI’s role, we must first understand the objective of OJT.

The objective of OJT is to **put into practice** previously acquired job related knowledge and skill **under the supervision** of a qualified OJTI in a **live traffic situation** to enable the trainee to reach the level of proficiency required for the issue of a license, rating/endorsement. Although in possession of a trainee permit or ATC/FISO license, when undergoing OJT, the trainee is operating under the ambit of the OJTI’s license.

Thus the OJTI’s role is to adequately prepare the trainee for the grant of an ATC/FISO license and/or associated rating(s). Such training must provide the necessary skills and knowledge to an appropriate level of competence to enable the trainee to provide the air traffic service whilst operating under the supervision of an OJTI.

In the past, OJT has often been the most neglected component of training programs. Very often the required standards/levels have NOT been clearly defined and quality and quantity of training has been left to the discretion of the OJTI and/or examiners in certain instances whilst the Trainees were expected to reach ‘the satisfactory level’ within a stipulated time without proper guidelines to achieve same. This is no longer the case, prior to the commencement of any OJT an approved training plan must be issued to guide the process and ensure that the objective is effectively achieved.

### Training Plan - an important aspect of OJT

Every trainee must have an approved OJT training plan that provides a clear objective and details the processes by which the trainee will be trained to meet the performance objective of the position. As the old adage goes, “If you fail to PLAN, you PLAN to fail”, thus the importance of an effective training plan.

### Conduct of OJT

Ensure that the trainee has familiarized him/herself with the area of responsibility, including the aircraft and rules applicable within it, before allowing the trainee to start controlling traffic. This is much like the knowledge required by an ‘umpire or referee’ to effectively officiate and enforce the rules of the game; i.e. knowledge of the playing field, players and rules applicable of which is essential.

During OJT, the progress of trainees must be monitored and regularly assessed; it is the OJTI who would be in a position to discern when the trainee is ready for an assessment. It is here that the OJTI must remember that not all trainees are the same and as such, the point of assessment will vary between trainees, for example, some trainees may be ready for their first assessment after 90hours whereas another trainee who may be a slow learner may not be ready until after 120hours.



ees, for example, some trainees may be ready for their first assessment after 90hours whereas another trainee who may be a slow learner may not be ready until after 120hours.

(Continued to Next Page)

## ON THE JOB TRAINING IN AIR TRAFFIC CONTROL cont...

*(continued from previous page)*

Assessments at this phase would consist of not only an observation of practical work but supplementary oral questioning to test understanding of the applicable techniques and rules governing them. In addition, understanding can be tested orally during pre-briefing and de-briefing of practical training sessions. Where time constraints are not a major consideration, table-top exercises (analytical simulations) can be used as a means of practically testing scenarios that units are unable to simulate. In addition to the assignments that are part and parcel of OJT plans, essential knowledge should also be tested orally as this allows for the trainee's answers to be probed further. OJTIs should take care, however, not to confront the trainee with unnecessarily intimidating oral questioning, as this could be counterproductive.

The OJT phase is a time when the trainee's knowledge and understanding of the application of local ATC procedures should be reinforced. OJTIs should question students during the pre-brief and explain the use of procedures if students are unsure of their application. This should also be done during de-brief if the student's performance indicates a lack of knowledge of ATC procedures or a misunderstanding of their application.

Successive assessments should allow for a steady progress through the OJT phase of training, leading to a final assessment at a level where trainees will be expected to demonstrate their competence to provide a safe ATC service without support from the OJTI.

The wise saying, "Document what you do and Do what you document" cannot be overly emphasized during the OJT process. All phases of the training must be reported upon and assessed before the trainee commences the next phase. Reports of these assessments must be included in the trainee's records and be available for checks by the Aviation Academy, Controller Standards and CAAF as required.

### OJTIs tips:-

1. Motivate; build the Trainee's confidence and enthusiasm. Encourage and provide help when needed. Do not let errors become habits
2. Maintain critical observation; take a balanced approach by providing both constructive criticism and positive feedback. Critique should be Objective, Flexible, Acceptable, Comprehensive, Constructive, Thoughtful and Specific.
3. Practice good judgment; ensure INTERVENTION when necessary by ensuring close monitoring at all times. It is your license and as such YOU are ultimately responsible for the safety of the aircraft, vehicles and pedestrians operating in your area of responsibility; you may not be carrying out RTF, but you must ALWAYS be one step ahead and ready

to take over should the need arise. In ATC we *DONOT* teach by mistakes. So, *DONOT* compromise safety even during OJT!

### Characteristics required in an OJTI:-

- A desire to teach
- Mastery of Teaching Techniques Subject-matter Competence
- Ingenuity & Creativity
- Ability to Understand and work with people
- Motivation
- Empathy
- Enthusiasm



### Do NOT'S of OJT

- Lack of Preparation
- Carelessness and flippant attitude
- Lack of discipline
- Sarcasm
- Argumentativeness
- Being temperamental
- Being overbearing
- Bias, Prejudice, Favoritism
- Bad Manners
- Fault finding/overly critical
- Over-emphasis on a single incident.
- NEVER discuss your evaluation on one trainee's performance with another trainee, this may have more of a negative impact than the positive gain you might expect.

Last but not least, we leave you with an OJT PROVERB... "Always believe that 'Every Trainee with the **right attitude** has the potential to succeed' ■

## NEIMAN MARCUS BECOMES SECOND VICTIM OF CYBER BREACH

**N**EW YORK - Luxury merchant Neiman Marcus confirmed Saturday that thieves stole some of its customers' payment card information and made unauthorized charges over the holiday season, becoming the second retailer in recent weeks to announce it had fallen victim to a cyber-security attack.

The hacking, coming weeks after Target Corp. revealed its own breach, underscores the increasing challenges that merchants have in thwarting security breaches.

Ginger Reeder, spokeswoman for Dallas-based Neiman Marcus Group Ltd., said in an email Saturday that the retailer had been notified in mid-December by its credit card processor about potentially unauthorized payment activity following customer purchases at stores. On Jan. 1, a forensics firm confirmed evidence that the upscale retailer was a victim of a criminal cyber-security intrusion and that some customers' credit and debit cards were possibly compromised as a result.

Reeder wouldn't estimate how many customers may be affected but said the merchant is notifying customers whose cards it now knows were used fraudulently. Neiman Marcus, which operates more than 40 upscale stores and clearance stores, is working with the Secret Service on the breach, she said.

"We have begun to contain the intrusion and have taken significant steps to further enhance information security," Reeder wrote.

Robert Siciliano, a security expert with McAfee, a computer security software maker, says it is possible Neiman Marcus doesn't yet know the extent of the breach. He says he believes that the Neiman Marcus and Target thefts were likely committed by the same organized group, based on his experience and the fact that the incidents happened at around the same time.

"It's a knee-jerk reaction that the security industry has right now," he added.

Target disclosed Friday that its massive data theft was significantly more extensive and affected millions more shoppers than the company announced in December. The second largest U.S. discounter said hackers stole personal information - including names, phone numbers, email and mailing addresses - from as many as 70 million customers as part of a data breach it discovered last month.

The Minneapolis-based Target announced Dec. 19 that some 40 million credit and debit card accounts had been affected by a data breach that happened from Nov. 27 to Dec. 15 - just as the holiday shopping season was getting into gear.

As part of that announcement, the company said customers' names, credit and debit card numbers, card expiration dates, debit-card PINs and the embedded code on the magnetic strip on the back of cards had been stolen.

According to new information gleaned from its investigation with the Secret Service and the Department of Justice, Target said Friday that criminals also took non-credit card related data for some 70 million customers. This is information Target obtained from customers who, among other things, used a call center and offered their phone number or shopped online and provided an email address.

Some overlap exists between the 70 million individuals and the 40 million compromised credit and debit accounts, Target said.

When Target releases a final tally, the theft could become the largest data breach on record for a retailer, surpassing an incident uncovered in 2007 that saw more than 90 million records pilfered from TJX Cos. Inc.

Target acknowledged Friday that the news of the data theft has scared some shoppers away. It cut its earnings outlook for the quarter that covers the crucial holiday season and warned that sales would be down for the period.

### *Preventive /Precautionary Measures*

People need to realize that they are responsible for protecting their own information, because no one else is going to do it for them. Cyber crime & hackers are far more advanced than any store's security claiming they are 'safe' from it.

However, they don't want to give up the luxury of shopping on line & using their debit & credit cards whenever a whim to purchase strikes.

Until the public changes their shopping habits as in using cash or checks only... preferably cash only, or don't buy it, because you most likely can't afford to... they will be at high risk for having their information out there in cyber-world, for any # of hackers & people to see & use for themselves.

Ever even wonder what happens to all those applications for the credit to begin with? Hmm. Don't bet they get all shredded up (if a hard copy) by some trusted source who never looks at them before doing whatever they want to w/ the information. If it's done on line, even more scary. Banking on line? Ummm...I don't think so. There's a terribly high price to be paid for 'convenience' if your banking info gets stolen.

When you want a drug store or grocery discount card, just make up a name & # & any other random information. Use a random PO Box whenever possible. FAKE works fine. If it works for the thieves pretending to be you, don't you think it would work for you to begin with?

How long did people use their own SSI #'s on their drivers licenses before the DMV decided for them, that wasn't such a good idea? I never did! Just ask for a 'dummy' #. Now, it's automatic, but for years, most used their own SSI #! Hello? Things are worse now than ever & guess what people? It's NOT going to go away & get any more secure.

**CHANGE YOUR HABITS & PROTECT YOURSELVES!** ■

## LEST WE FORGET—AERODROME CERTIFICATION

### **A**erodrome Certificate: What is an Aerodrome certificate?

An official document: Issued by the Regulatory Authority. Supported by Technical documentation demonstrating that the Aerodrome for which it was issued meets specific Air Safety-Related Criteria.

#### REGULATORY BACKGROUND:

##### Development of ICAO SARPs and Guidance Material

Annex 14 to the Convention on International Civil Aviation, Volume 1 Aerodrome Design and Operations Adopted by Council in 1951.

Amendment 4 to Annex 14 1st November 2001 Manual on Certification of Aerodromes First Edition 2001 refers.

##### Aerodrome Certificate – Purpose

- Provides the Aerodrome Operator and aircraft Operators with documented proof that the facilities they operate or use are safe;
- It is an important RISK management element;
- Ensure continued SAFETY regularity and efficiency of aircraft Operations at Aerodromes;
- Ensure the aerodrome is in compliance with the relevant ICAO Standards and Recommended Practices and Civil Aviation Regulations.

##### Aerodrome Certificate - Supporting Documentation

The Aerodrome certificate is a one-page document, posted in a visible location. Therefore supporting documentation must be prepared and *maintained*. It is in the form of an Aerodrome Manual (AM).

##### Aerodrome Certificate

In order to obtain a certificate;

- The Operator must apply with the Regulatory Authority;
- This is followed by an operations assessment;
- The AM receives approval (if accepted);
- The Airport certificate is then granted.

##### Aerodrome Certificate - Maintenance

Once issued, *it must be maintained*.

Aerodrome is subject to regular inspections by the Licensing Authority.

*Non-compliance must be corrected or Certificate could be suspended.*

##### Aerodrome Certificate - Requirements

The certificate holder must satisfy the Regulating Authority that:

- Operating areas on the Aerodrome and in its vicinity are safe ;
- Aerodrome facilities are appropriate to the type of Operation taking place ;
- The Management Organization and Staff are Competent .

##### Obligations of the Licensing Authority

- The Licensing Authority has an obligation to carry out regular site inspections in order to ascertain Compliance with Standards.
- Inspections must be planned and coordinated.
- Feedback to Operator is mandatory.
- Formal report to follow, including required actions.

##### Obligations of the Operator

- Maintain facilities in accordance with the certificate in effect .
- Promptly advise the Licensing Authority and the flying community of any temporary deviation from the certificate.
- Amend the AM if permanent changes are made.
- Advise the Licensing Authority and the flying community through Aeronautical Information Services.
- Secure exemption from Licensing Authority if required.

##### Aerodrome Manual (AM)

- The most important document in support of the Aerodrome Certificate.
- A guide for *all* Operational matters at the Airport.
- A proof of structured management.
- A Training Tool.

##### Objective of the AM

- To have in place an organized and orderly approach in the Management of Aerodrome Safety by the Operator ■

# CAFFEINE IN AVIATION

## Caffeine in Coffee

As a result of fatigue and inadequate sleep many airline pilots and air traffic controllers that work in late shifts or for long periods result in drinking coffee intensely. The flavour of the drink is from seeds that are found in a plant called the Coffea plant. Coffee has an energizing effect that comes from one of its components that is Caffeine; the amount of caffeine in every coffee cup can vary between 3mg to 2160mg but most coffee drinks contain around 200mg of caffeine (Caffeine Content of Drinks).

## Caffeine in the human body

Caffeine acts as a central nervous system stimulant; it temporarily reduces drowsiness and increases awareness of the human being. Caffeine can be a dangerous and addictive drug; it works in the body in the same effect of amphetamines, cocaine and heroin in the brain though its harms are less. Addiction to caffeine comes from the excess amount any

person drinks in a day (Caffeine).

## Effects of High Doses

Consuming high amounts of caffeine in a day can cause many problems to any person; in the aviation industry Pilots and Air Traffic Controllers drink beverages that contain caffeine to give them a boost of energy to continue doing their job normally without any causes of sleepiness or fatigue. Being unaware of the consequences of the excess amount of caffeine in the body can harm the Pilot or Air Traffic Controller, drinking more than 300mg of caffeine in one dose or in a short period of time may put the person in danger, many symptoms will appear on the person as he will encounter:

- Nervousness;
- Restlessness;
- Insomnia;
- Mild involuntary trembling;
- Increasing sensitivity to touch, pain and

any sensory stimulations .

## Performance of Pilots and Air Traffic Controllers

Consumption of an excess amount (more than 300mg) of caffeine in one day will have a major effect in the performance of the Pilot and Air Traffic Controller; the nature of the job will demand for a high volume of accuracy and attention so that there is no room for an error or misunderstanding to occur. Although caffeine will provide a boost of energy, nevertheless, it has many side effects that will disturb the Pilot or the Air Traffic Controller such as the blood pressure can rise 3 to 14 millimetres of mercury, which is particularly harmful for pilots flying at high altitudes where there is no oxygen in the blood. Another side effect is Dehydration; it is caused by taking any amount of caffeine, it is recommended to consume about 8 oz of water or liquids to replace the lost fluids in the body ■

*(Source: Human Factors & Aviation Medicine, Vol.35 No 2)*

# TEST YOUR AVIATION KNOWLEDGE

## CROSS WORD PUZZLE ON ADS-B

### Across

4. Second Letter in the acronym ADS-B.
7. First Letter in the acronym ADS-B.
8. This system provides data to ADS-B.
10. This is the broadcast
11. This is the type of altitude transmitted by the system.
12. Mandatory Data transmitted by ADS-B.

### Down

1. Primarily ADS-B is used for this purpose.
2. Mandatory Data transmitted by ADS-B.
3. Mandatory Data transmitted by ADS-B.
5. This is the transmitter unit.
6. A secondary Data transmitted by the System.
9. This system provides data to ADS-B.



Check in the next issue for Solution.

**FCAIR**

FIJI CONFIDENTIAL  
AVIATION  
INCIDENT REPORTING  
FORMS AVAILABLE ON  
WEBSITE

[www.caaf.org.fj](http://www.caaf.org.fj)

OR FRONT DESK,  
CAAF HQ

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@caaf.org.fj](mailto:standards@caaf.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.

## AM I FIT TO FLY

# Am I fit to fly?

## Illness

*No Illness*

Free of symptoms.



## Medication

*No Medication*

Aviation-approved medications only.



## Stress

*No Stress*

Managing stress well.



## Alcohol or Drugs

Alcohol in moderation and not less than 12 hours before flight. NO drugs!



## Fatigue

*No Fatigue, Good sleep management.*



## Eating

Eaten & Nourished with A balanced diet.



# ...Yes, I'M SAFE to fly.