AVIATION SAFETY BULLETIN

VISIT BY REGIONAL DIRECTOR, ICAO (MR MOKHTAR A. AWAN)

The Regional Director of the International Civil Aviation Organisation (ICAO) Mokhtar Awan visited Fiji in March 2012. He had a fruitful discussion with the Attorney General and Minister for Civil Aviation Aiyaz Sayed-Khaiyum.

Mr Sayed-Khaiyum had some very good discussions about some of the capacity issues Fiji faces as a Pacific island nation internally and of course the role that Fiji can play as one of the Pacific island countries.

Mr Awan said the basic purpose of his visit to the Pacific community was to touch base with the civil aviation administration and to see how ICAO can adequately meet the demands of the civil aviation and administration and civil aviation development.

Mr Awan spent two weeks travelling to Pacific countries, who are member countries of the ICAO, he started with Papua New Guinea, then moved on to Solomon Island, Vanuatu, Samoa, Fiji, Tonga and Auckland, New Zealand.

The Regional Director mentioned his intention was to apprise the leadership of the government, the ministers and the permanent secretary of transport that what exactly would be the most cost effective mechanism to come together to address the issues that exist in the Pacific.

Mr Awan was very glad that Fiji as a nation has come up in a very profound manner to address the issues involved in the civil aviation sector and they are building up their potential to bring more transparency and the real benefit of the very efficient and most economical civil aviation infrastructure to meet the public demand.

While Mr Awan offered praise for Fiji in terms of civil aviation, he urged the Attorney-General to help other Pacific islands as well.

Mr Awan also mentioned that when it comes to Fiji he thinks that Fiji has got better infrastructure and are very strong in their professionalism and that gives them a bit of an edge over the other States.

The Regional Director was very happy to discuss these issues with the honourable minister and has requested him to create a little bit more dialogue with the Pacific Community especially those States that really need the technical and professional assistance from ICAO and from its member States.

(Source: Extracts from Fiji Sun, 13/03/12) .

Inside this Issue:

Aviation Safety Block Upgrade (ASBU) Regional Workshop

ICAO SPECIAL IMPLEMENTATION PROJECT: WORKSHOP ON "PREPARATIONS FOR AIR NAVIGATION -CONFERENCE/12 –ASBU METHODOLOGY"

The International Civil Aviation Organization (ICAO) conducted the above workshop at the CAAF Training Room from 21 – 25 May 2012.

During a recent visit by the ICAO Regional Director Asia and Pacific Mr Mokhtar Awan, concern was raised by ICAO of the lack of attendance by participants from Pacific Island Countries at meetings, training, and workshops of high importance to ICAO.

However, it was acknowledged that non attendance was due largely to the distance and isolation of many Pacific Islands States from Bangkok and particularly the cost of sending participants there.

During the ensuing discussions, the Fiji government offered to host the Aviation System Block Upgrade (ASBU) Workshop to help Pacific Island States attend.

Subsequently, the ICAO was formally advised of Fiji's offer to host the workshop.

A S B U O V E R - VIEW

The 37th Session of the ICAO General Assembly held in 2010 directed ICAO to double its efforts to meet the global requirements for airspace interoperability while maintaining its focus on safety.

It was recognized that there was a need to integrate the air, ground and regulatory parts in the air navigation infrastructure planning by addressing flight trajectories as a whole, distributing the decision-making process, taking into account safety risks and recognizing changing role of the human element.

In response to these developments, ICAO initiated the ASBU methodology as a global framework that comprises of a suite of modules, which are organized into flexible and scalable building blocks and can be implemented in a State or a region depending on the need and level of readiness.

This is a new method and ICAO recognised that the successful rollout of the ASBU concept and modules/technologies will depend on well synchronized strategies for education and training that would also facilitate discussions during the Air Navigation Conference/12.

In this regard, the ICAO Secretary General established a Special Implementation Project (SIP) consisting of a workshop on "Preparations for AN-Conf/12 - ASBU Methodology", for the States of Asia/Pacific (AP A C) Region, in Bangkok, Thailand.
Fiji kindly offered and hosted the same for Pacific Island Countries in Nadi.

The 5 day Workshop was opened by the Chairman - of CAAF on Monday 25th May 2012.

Communication Problems In Aviation

Linguistic problems can arise any time people are communicating and are especially a problem when one or more of them is not a native speaker of the language being used. Aviation is particularly vulnerable to communication issues since higher level English must often be used to communicate complex maneuvers or instructions.

English is the official language of aviation. Today, English is spoken by more non-native speakers than native speakers. Many flight crews are now composed of non-native English speaking pilots from different countries. This situation, combined with the fact that many controllers are non-native speakers, can lead to substantial communication issues that can affect flight safety.

Effective communications between crew members and controllers are essential for safe air travel. The design and implementation of the ICAO standard phraseology, intended to be used throughout the world without variation, addresses many **but not all** of the language issues. In many circumstances, pilots and/or controllers must resort to the use of plain language English to convey a message. Even when both pilots and controllers speak English fluently, there are pitfalls in the nature of the language and the way that language is heard that can affect safety.

According to ICAO, between the years 1976 and 2000, more than 1,100 passengers and crew lost their lives in accidents where language issues played a contributory role.

What the seemingly different types of accidents had in common was that, in each one, investigators found that insufficient communications on the part of the flight crew or the controller, e.g misinterpretation (phonetic similarity) and ambiguous phraseology (more than one meaning), had played a contributing role in the chain of events leading to the accident.

The collision on the ground, between a Pan Am and KLM Boeing 747 at Tenerife in 1977, killed 583 people, and was a defining event in aviation safety. While there were many predisposing human factors involved, the accident was a tragic lesson in miscommunications. The accident demonstrated that, in the aviation industry, "information transmitted by radio communication can be understood in a different way to that intended, as a result of ambiguous terminology and/or the obliteration of key words or phrases" and that "the oral transmission of essential information, via single and vulnerable radio contacts, carries with it great potential dangers".

Other communication problem areas include loss of communication (due to frequency change and radio equipment failure) and readback/hearback errors (due to similar call signs, pilot expectations, frequency change).

Accents, speech rates, use of non-standard phraseology and general language problems all contribute to errors. These errors have the potential to cascade into larger problems if not corrected by the flight crew or controller.

Many pilot-controller misunderstandings can be attributed to phenomenon of the listener hearing what one was expecting to hear instead of what was actually said. The expectation of a particular instruction can lead a pilot/controller to mistake an unrelated communication for the anticipated instruction.

To illustrate how expectations could affect safety, we look at this example; the Tower controller instructs, "Chululu Air 15, you are cleared to intercept Radial 204 and maintain one zero thousand, right turn after takeoff," but the pilot understood "you are cleared to take off." The controller intended the instruction to pertain to a takeoff clearance *still to come*, but the pilot was expecting a clearance and thought the instructions were to be acted upon immediately.

Other factors such as voice intonation, stress, rate of delivery and pause/hesitation, can change the form and the meaning of sentences by acting across individual sounds or words of a sentence. In one particular instance that led to an accident, ATC did not perceive the severity of a flight's fuel crisis because controllers did not perceive a change in stress or pitch in communications with the crew. In turn, ATC did not give high priority to the situation, and the aircraft crashed.

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Communication Problems In Aviation cont…

Another problem area in aviation arises from excessive pausing during radio transmissions. When someone pauses for a long time during a transmission but does not release the radio talk button, incoming communications are masked. Also, an excessive pause can invite another person to begin a transmission that will "step on" or mask the original transmitter's communications.

When under stress or in complex situations, speech becomes more rapid and frequent and can make communications very difficult to understand. Under these stressful conditions, changes in voice pitch can cause "slips of the tongue" that can lead to misunderstandings and errors.

Some pilot-controller communication errors arise when words sound or look alike but have different meanings. An example of such a communication error is: ATC clears an aircraft "descent two four zero zero". The pilot reads back, "ok. Descent to Four zero zero." The aircraft then descended to 400 feet instead of 2400 feet; the pilot mistook the number "two" to mean "to" and descended accordingly.

Therefore, it is essential that a full READBACK is ensured to help protect against linguistic errors. Such READBACKS are essential to the confirmation/correction loop, which allows all parties involved to check the correctness of the information that is being communicated.

The Fiji Manual of Air Traffic Services Volume I states;

"To ensure complete understanding, pilots are required to read-back ATC route clearances, runway-in-use, level, and conditional clearances that involve crossing, back-tracking, holding instructions or lining up on a runway."

In addition, it is ESSENTIAL that a controller obtains a readback of any instruction or information which could affect separation or safety"

Key points to re-member:-

- Proficiency in English is essential to flight safety; even native speakers of English have communication problems.

- READ BACK (confirmation/correction loop) can protect against linguistics errors.

- Context and expectations can lead the listener to hear what he or she expected to hear.

- When in doubt, **CONFIRM**!

References:-

Information for the above article was sourced from previous Air Safety Incident Reports, the SKYbrary website; http://www.skybrary and the Fiji Manual of Air Traffic Services Volume I.

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.

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.

AERODROME MARKINGS—TAXIWAYS

Aerodrome pavement markings and signs are very important in navigating the airport surface and preventing Runway incursions. A typical airfield consists of runways and taxiways; Runways are used for the takeoff and landing of aircraft whereas taxiways are used for the surface movement of aircraft associated with takeoff and landing.

For this issue of the Air Safety Bulletin, due to the number of queries received on the Taxiway markings, some of these markings will be featured and explained.

In general, standard runway markings are painted in reflective white, while markings of taxiways are in reflective yellow.

Runway-holding position markings consist of two continuous lines and two dashed lines perpendicular to the centerline; this is the airport version of a STOP sign. Pilots should stop short of the Runway-holding position for run up or when instructed by ATC to "TAXI TO THE HOLDING POSITION TAXIWAY ….." Aircraft exiting the runway are not clear of the runway until the aircraft has passed the runway-holding position.

The taxiway centerline is marked with a continuous yellow line. In addition, Enhanced taxiway centre line markings, which is a Runway Incursion prevention measure, is also provided and consists of dashed lines on either side of the solid taxiway centerline.

Similar to road markings and signs that are used by drivers to maneuver on roads and highways, if Aerodrome markings and signs are not identified and recognized correctly, they could potentially cause confusion amongst the airfield operators (both pilots and ATC) with disastrous consequences.

Safety on the Aerodrome surface is just as important as Safety in the air; know your signs and markings. Respect and Adhere to them.

References:-

Information for the above article was sourced from Annex 14.

The Importance of Quality Management System (QMS) in Aviation

Quality Management System is one of the main pillars of any business. Whatever is the business, either Aviation, manufacturing, finance or service, quality is the most important aspect, which affects the level of success of the business. The popularity of products or services will enhance and safety assured, only if quality is provided.

What is Quality?

Quality is the "degree to which a set of inherent characteristics fulfils requirements" (Clause 3.1.1 of ISO 9000:2005). "Requirement" signifies "need or expectation that is stated, generally implied or obligatory"; "inherent" signifies "quality is relative to what something should be and what it is, especially as a permanent characteristic".

Quality assurance is also a part of quality management but it is focused on providing confidence that quality requirements will be fulfilled (Clause 3.2.11 of ISO 9000:2005). In other words, it pertains to all those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy the requirements for quality. This is a fundamental shift in concept from the reactive downstream approach of quality control by means of detection, to a proactive upstream approach that controls and manages the upstream activities to prevent problems from arising.

There are 8 main principles on which QMS is based on. These principles reflect best practice and are designed to enable continual improvement of the system. These principles can be used by senior management of aviation operators as a framework to guide their organizations towards improved performance.

These principles are as follows:

1. *Customer focus.* Organizations depend on their customers and therefore should understand current and future customer needs, should meet customer requirements and strive to exceed customer requirements.
2. *Leadership.* Leaders establish unity of purpose and direction of the organization. They should create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives.
3. *Involvement of people.* People at all levels are the essence of an organization and their full involvement enables their abilities to be used for the organization's benefit.
4. *Process approach. A* desired result is achieved more efficiently when activities and related resources are managed as a process.
5. *System approach to management.* Identifying, understanding and managing interrelated processes as a system contributes to the organization's effectiveness and efficiency in achieving its objectives.
6. *Continual improvement.* Continual improvement of the organization's overall performance should be a permanent objective of the organization.
7. *Factual approach to decision-making.* Effective decisions are based on the analysis of data and information.
8. *Mutually beneficial supplier relationships.* An organization and its suppliers are interdependent and a mutually beneficial relationship enhances the ability of both to create value.

In aviation, QMS is interlinked with such systems such as Safety Management Systems (SMS) and Environment Management Systems (EMS). SMS system also aims to shift from a reactive approach to a more proactive approach by identifying the hazards that present significant safety risks through the use and analysis of data. This again uses the QMS principle of involvement of people to report incidents or hazards with the aid of non-punitive incident reporting system.

Aviation organisations with QMS implemented also are also able take more proactive approach in identifying and correcting the non-conformities with company procedures and policies as well as national legislative requirement rather than waiting for the CAA oversight audits.

Extract of the article Sourced from ISO 9001-2008 Standards.

Fit And Proper ?

If you are in aviation you will have heard about the fit and proper person assessment. Here is some guidance on the process.

Section 14(3)(d) of the *Civil Aviation Authority Act 1979* provides that the Authority has the function of assessing decisions taken by Industry management at all levels for their input on and in safety. The mechanism used by the Authority is to require industry to undergo fit and proper test. In simple terms, anyone holding or applying for an aviation document, or anyone who has control over the exercise of the privileges of an aviation document, must satisfy the Authority that they are a fit and proper person to do so.

An aviation document includes, for example, a licence, a rating, or an air operator certificate.

Fit and proper person assessments are made on a case-by-case basis. There is no 'one size fits all' universal standard to live up to in order to be deemed fit and proper.

The relevance and weight given to any particular matter (or information), however, may vary, depending on the document that has been applied for, i.e. the level of involvement in the aviation system.

It is entirely possible that a person may be fit and proper for one level of involvement in the civil aviation system, for example to hold a private pilot licence, but not fit and proper for a higher level of involvement in the system, such as holding a commercial pilot licence or a senior person position.

The best practice criteria for the fit and proper person test are:

- The applicant's conviction record for transport safety offences.
- The applicant's experience in the transport industry.
- The applicant's knowledge of aviation regulatory requirements.
- The applicant's history of compliance with transport safety regulatory requirements.
- The applicant's history of physical or mental health or behavioural problems.

The Authority is not confined to considering the criteria above and may take into account any other relevant matters, and consider information obtained from any source. This means the Authority may ask for a full criminal conviction history if this is deemed necessary and appropriate.

CRIMINAL CONVICTIONS

An applicant's conviction history is only one of the many things that may be considered during a fit and proper person assessment. The circumstances under which the Authority may require information relating to criminal convictions vary from case to case. For example, dishonesty convictions may be very relevant if the privileges being sought depend on accurate record keeping. It is important to note, however, that disclosing convictions will not necessarily mean you fail the fit and proper person test.

Convictions may not be a major issue in several situations. It will depend on whether the convictions are deemed to be relevant to an applicant's safe participation in the civil aviation system.

The Authority is bound by virtue of *Section 17B* of the *Civil Aviation Authority Act 1979* to protect the confidentiality of information supplied by an applicant. This includes any information provided by an applicant in respect of previous convictions.

The fit and proper process is reliant upon applicants providing truthful and honest answers. On the other hand, providing false information, or failing to disclose information relevant to granting an aviation document, is taken very seriously and is an offence under *Regulation 128 (2) (c)* of the *Air Navigation Regulations 1981*.

The Authority takes a number of steps to verify the information given on application forms. If it is discovered that an applicant has been dishonest, there will be no hesitation in pursuing enforcement or legal action.

THE OBLIGATION

It is important to remember that, once an aviation document has been granted, participants in the aviation system must continue to satisfy the fit and proper person test. Failure to notify the Authority of any information that could affect your fit and proper person status could call into question the validity of your licence or position. Honesty is the best policy. The fit and proper person system depends on your truthfulness and integrity.

If you have any questions when filling out an application form for an aviation document or a senior person position, do not hesitate to contact the Authority. We are happy to talk issues through with you.

Sourced from CAANZ Vector & The Civil Aviation Laws of Fiji.

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AM I FIT TO FLY?

I - No Illness

M - No Medication

S - No Stress

A - No Alcohol

F - No Fatigue

E - Eaten and Nourished

Civil Aviation Authority of Fiji

Promoting effective aviation safety in the Fiji Islands and the region

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