

Contemporary Global Flight Safety Practices & Thoughts - a window of improvement

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Respected Chief of the Air Staff, Chair of the conference, Principal staff Officers, Air Officer Commanding Bases, Distinguished Guests from different Aviation House, Ladies and Gentleman present, 'Assalamualiakum' and a beautiful, pleasant Morning / (shiny Noon) to all of you.

This yearly Civil Military assembly of aviation houses is indeed most significant on an issue we all are concern about. Before I start, on behalf of the COAS let me extend all of you a hearty welcome to Command Safety Conference 2014; and on this occasion please allow me to express heartfelt thanks to COAS from all staff of Flight Safety Dte to have the opportunity for voicing and sharing our intent with you through the topic '**Contemporary Global Flight Safety Practices & Thoughts - a window of improvement**'. My talk will cover the following contents and take about 25 mins plus.

- Yearly safety record – BAF & Global airlines
- What Flight Safety means
- Relation to theory and application
- The safety challenges
- What is USAF and leading others thought and practice today to manage FS
- Looking forward – a window of improvement
- Query and clarification

Let us view first the safety record of BAF in year 2013. Next, the global airline's safety record of the year 2013.

Ladies and gentleman, the statistical number of accidents/incidents often fluctuates in figure and it does not truly represent flight safety state of an individual organization always. But the culture is. How do we adopt a culture and improve flight safety state is the aim of my delivery today. Let me start with 'What FS means'.

What FS means

Ask somebody in air force or aviation what is flight safety? The usual response is a look of puzzlement and the query "what do you mean by that?" A natural reaction, particularly considering the common belief that air force or aviation is flight safety environment. And rightly, we all know that safety is not a resource; it is not an influence; it is not a procedure; and certainly not a program; it is the "state of mind"; an environment, which must become an integral part of each and every individual working in it.

Now, if we translate the word 'environment' what we actually mean by that? Commoner like us, understand, it is inclusive of all activity and actions, significance of regulatory measures adopted both in work place and social life in BAF or aviation society with a view to achieve optimum result.

Therefore, concern with environment is not a passing fad but unique, the foremost prerequisite for an organization involved in flying activity. Now, an organization with little experience and ease with her operations, the people in it, by nature tends to lean more and more to individual comfort, if not guarded. That's why effort on challenges and motivation is essential for maintaining effective operation through Flight Safety means – the process of risk elimination.

Flight Safety today is a well developed discipline with an extensive body of theory ; a paradigm associated with how the aviation world work; and a number of branches , or field of study, associated with pieces of domain that stand tall and assures confidence in aviation environment. There are two

fundamental domains of environment management. One building block is theory of application, applied method, intervention technique, statistical data, survey, analysis, training & experience, we call it normative domain. The other building block which we mostly mention at times but almost goes without concern is social context part. Its contemporary dynamics and the peer's effect often missed out or not understood and mostly remain unfocused always. We call this as 'Positive impulses' or some calls 'Sprit domain'. The causes of negligence to sprit domain are inability, ignorance, and affordability of the organization since these are not part of the organization's direct objective. Other causes may be the social dynamics today changing at rapid pace and elder/senior/authority can't cope with it. But the truth is the value of each individual held by humans in a society is the value of that particular society they all live in.

Relation to theory and application

Now, we all know purpose of air force is 'flying for specific objective' and for commercial Liner 'sustainable profit through businesses. This policy objective provides a sense of significance of the environment we serve for. Like 'Air Force Is Our Way of Life' in air force and for an air line 'Generic Air Liner way of life'. Therefore, it includes all action, activity and effort of people both at work place and in living. And this mean, we are to do equal justice in regards to attention, focus, effort to do right things both for office and home. why?

Because, defending Bangladesh airspace objective may spell us we need an amount of platforms and a certain number of operational pilots in pool. And here BAF made good progress, we all agree. But how much are we effective? Likewise, an airliner may make some profit, but what about sustainable profit & growth? This has direct bearing on measures in sprit world that needs heart and soul participation, where we lack maximum.

In the normative field of safety considering day-1 to date, we have some good policy, SOPs, FOBs, regulations, instructions, compliance and intervention procedure, and are happy with achievements so far. Our air force has grown up from local to global reach and proudly maintaining 04 deployments in UN with reputation. And also in civil sector Bd Biman from one house to 22 aviation houses is the growth trend. But if you permit, I would say there is much to do with 'effectiveness world' where your attention and focus is much needed.

Learned audience, please don't find me dogmatic, reactionary or even out of tune because what I am saying is - in today's fast moving and ever changing world neither people, nor problems any more fit to predestined moulds. The truth is instead of dogmatic selfless devoutness to service for motivating people must have to be replaced by rational self interest is the call of time of society that we must realize and understand at all level, be it military or in civil.

The challenge is that the austerity of military life is in tremendous conflict with material comfort that present generation looks for. Youth of today value self determination and control of their work, life more than young people of earlier days did. In military likewise in airlines like ours today special importance is given on management of platforms, weapon system, but much less on the management of social system. Today, we are confident to control through regulatory practice and provision to keep equipments to satisfactory functional level, or profit margin. But feeling, love, desire, affection are far

more complex but essential to have heart and soul output, am sure you all will agree upon. Under the circumstances, let us see the core safety challenges issue.

Safety challenges of military/ aviation houses

- Sourcing and retaining competent and experienced pilots, engineers and support staff
- Lack of regulatory understanding in different levels of military command or aviation organizations
- Nature of aviation – objective and effectiveness – how do we implement an open, effective and transparent safety culture that compliments this unique nature?
- Not all are educated and have equal mind set on safety and security risks with regards to effective function of the organization
- Social culture and contemporary world
- Peer-effect is key – “My friend owns a private car/flat or both so I better own them too.”

Ladies and Gentleman, now let us see how USAF & leading others managing normative and spirit world of FS challenges.

Highlights on normative & positive measures of USAF

Basic normative & positive flight safety measures of USAF Safety Programs, mishap prevention program, assigning responsibilities and management fall into direct responsibility of Air Force host (Bases/Installations/Units), Inter Organization/Services, Tenant Safety Offices and Office of the Health Administration.

These four elements by joint effort formulate, implement, and integrate at all level for USAF operational risk management process. And the simplistic methods they follow are:

- **Determining Standards**. Commanders, functional managers, supervisors, and individuals, with host safety office's help, identify rules, criteria, procedures for Occupational Safety; and Health Administration (OSHA) provides Air Force Occupational and Environmental Safety, Fire Protection and Health Hazard, Explosive Safety, or other safety standards that could help eliminate unsafe acts or conditions that causes mishaps.
- **Applying Standards**. Applying sound standards is basic to preventing mishaps. All Air Force units must apply standards by observing these fundamental principles; Commanders, functional managers, supervisors, and individuals must all contribute to mishap prevention program. An effective program depends on individuals integrating mishap prevention at every functional level and being responsible for complying with applicable safety standards. Units must establish specific procedures (for example, inspections) to ensure that all personnel and activities comply with program standards. Every level of command is responsible for compliance with applicable safety standards.
- **Taking Action**. The sole responsibility lies with Commanders to protect national resources, both human and material and have full authority to take action in implementing safety measures. Safety offices are responsible for providing expertise, opinion and suggestions as and when asked for.

USAF believes Flight Safety is an integral part of its operational effectiveness. Since environment control both working and social, is under direct influence of individual commander, their performance evaluation

process automatically involves attention for positive contribution to FS. Their significant tools of tackling environment are:

- **Accountability** – Regular performance evaluation check by authority level. In addition unit level regular check/inspection/audit carried out by local authority.
- **Compliance** - Enforcement is ensured through monitoring offices both local command level.
- **Review** – Continuous review process based on evaluation check result.
- **Moral** – Motivation factor is influenced through education, incentive (both tangible and intangible) and the core integrity is build through capitalizing institutional allegiance never to Commander or any individual important.

The risk mitigation concept follows:

Voluntary – negligence/ careless attitude/indiscipline are cared following punitive actions.

Involuntary – lack of training/knowledge/experience/quality of merit are dealt with liability sharing (organization, joint/individual insurance) method.

Other best practices by leading entities of aviation

Qualification and certification requirement. Both Military and Civil has prescribed rules and regulation in regards to Pilot qualification and certification for different level requirement. Although in earlier days quality of test and knowledge varied here and there, the main focus was syllabus bound flying hours. But there are countless examples of pilots both in military and civil with thousands of hours, lacked the critical knowledge to avert a tragedy. Therefore, we have to ask ourselves what are the right qualifications, how do we measure it beyond simply hours? You can buy hours in civil or accumulate it with time in military. Beside, in many accidents it is seen that pilots are failing to respond well with malfunction in 'Auto Pilot' or other technologically advanced equipment with structured training system in place. Thus the leading mil/civil houses today adopting fundamentals of competency-based training program through a system overhaul. Essence of this new system is –

Emphasis on result of mandating critical training that targets risk in the real world, with less regard to hour requirement as experience but quality takes the lead for qualification and certification.

Provision of advance training on role appointment targeted to ensure specific practical training that addresses many of the highest-risk areas prior to any assignment/duty. USA, Canada, Germany and Australia and Jet Stream are already in practice.

Fatigue management FRMS

Fatigue has been quiet a problem in aviation that takes heavy toll. But human fatigue is too complex a subject to be dealt with using classic approach of regulations and compliance. Today progress made on fatigue is impressive. Recent finding on this is- fatigue risk management system. The FRMS is a proactive approach to address fatigue in a systematic, comprehensive manner that does not rely solely on adherence to a set of prescribed hourly limits of duty and required time off. Instead, it decreases the role of the regulator and increases the responsibility of the operator and its employees to jointly manage the risk. The three-pronged, incremental approach of managing fatigue risk:

Prevention — the fundamental first step is characterized as proactive strategic risk prevention. It includes such measures as scientifically comfortable scheduling/programming, suitable messes/hotels for sleep,

crew augmentation, and education and training about sleep hygiene and fatigue. It includes treatment of sleep disorders, such as sleep apnea, which are known to increase with aging.

Mitigation — the second step encompasses risk mitigation at operational level. It includes such measures as responsible trip/sortie planning, including pre-trip/sortie rest and commuting if necessary, crew rest facilities (both at the airport and in flight for augmented crews), meal planning, anticipation of irregular operational events, and crew resource management (CRM) training that addresses fatigue effects on crew performance.

Intervention — the final step recognizes the inevitable fact that crews sometimes experience significant fatigue despite their and the operator's best effort to prevent it. It includes those actions that can be invoked to manage risk until the flight is safely concluded. This intervention can include tailored procedural guidelines, enhanced CRM, timely intake of caffeine, and controlled rest on flight decks.

FRMS's comprehensive range of safeguard is designed to control the risk associated with both transient and cumulative fatigue. FRMS is data-driven, monitoring situations in which fatigue risk occurs and in which safety may be jeopardized. Most importantly FRMS program includes maintenance and ATCOs also alongside flight crew who are engaged in high frequency/high-cycle operations i.e. beyond 08 hrly cycle.

Information sharing

Safety is all about being information driven. Flight Safety Foundation, FCF is finding way to share information, protect information that relates to safety and then act on information. But this is a highly regulated industry with a lot of worry about antitrust that leads to a great deal of concern how FSF could get all in a room together. This concern should not preclude competitors, counter parts getting together to discuss safety initiative, and it doesn't. There are many things operators need to get focused on as they share roles, responsibilities and data between air and ground. Aviation world need to get better at sharing safety information between air and ground. That's always been a weakness. Ensuring moving separation responsibilities between cockpit and ATC has always been a challenge. It's not enough to be able to work that out on paper. ICAO is working out on communication system amongst actors so that there is a way to exchange safety information very well. Lately a great deal of effort has been put for standardization and necessary regulation in this regard in progress by ICAO which is already in practice in USA and Europe.

Looking forward – the window of abundance improvement

Attitude Adaptation. Unfortunately we live in a society which cherishes blaming the individuals. This social psyche is so deeply embedded in our mind that both literate/illiterate has grown up with tendency of shifting blame on others anyway possible. Although social dynamics is not in our control, to infuse just culture in aviation for improvement, we could work on:

Owning responsibility – Operation and Flight Safety is inseparable and has direct bearing on environment control. And environment control is direct responsibility of commanders at different level who does it through his spirit of influence both at work place and in living. Therefore, the practice of developed world is - the sole responsibility of flight safety lies with Commanders, functional managers, supervisors, and individuals. Commanders to protect national resources, both human and material and have full authority to take action in implementing safety measures. Safety offices are only responsible for providing advisory service (expertise, opinion and suggestions) as and when asked for. My honest confession here, in air force or elsewhere, we believe different. We are in attitude that the responsibility

goes with Safety Offices and commanders to suggest/advice on requirement basis. Accidents not happening is not the fact but when it happens all of us are more puzzled on blame sharing than responsible action needed for mitigation/recovery process. Practically a Flight Safety office here or in abroad is a record keeper and has nil authority, influence or control on function/activity of fields or in social life. They mostly work on documentation, such as, policy approval, compliance and educating people in FS. Even the quality of boards/investigation and their outcome lies basically with commanders, FS offices check procedural nitty-gritty only. Sitting an example here, two years back BAF introduced 05 new safety courses to raise safety awareness throughout the command. But due to understanding gap between field and head quarter, we are yet to extract benefit out of this effort. With such truth, let us work all level together and change attitude in right perspective with self motivation that flight safety is commander's primary business not a responsibility of safety offices. My believe goes FS office percentagewise can make at best 10% contribution to FS, rest lies with commanders.

Shift from blame psyche – Blame based psyche indeed washing up our professional pride and practice quiet a lot. Since human error is centre element of all mishap, the inbuilt social psyche, in case of BOI/AAI when found the cause is 'human factor' the truth is mostly unrevealed. Whereas, developed world also follows punitive course in case of negligence/carelessness/poor judgment/disciplinary causes but that do not harm their individual dignity. In such cases their recommendations are made on suitability of career progression focus, with an opportunity to review on subsequent improvements. We need to do some adjustment here for truth finding. In fact, they have provision of two boards in case of major mishaps. Since adaptation of this practice may need some time, mean while why not we remain all keen to truth finding and deal penalty humanly as far as possible with unintentional lapses? Additionally organization may look into adapting provision of standing committee of competent person at different level who would carry out independent investigation on major mishap and will concentrate on operational adjustment needed only.

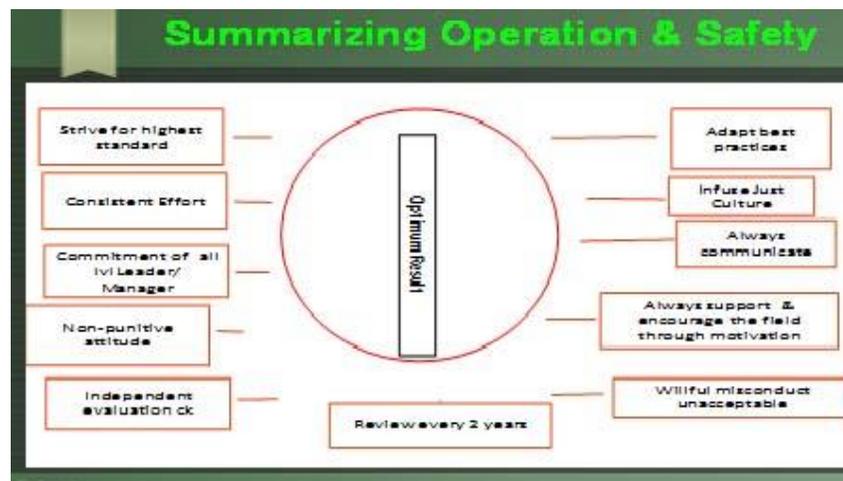
Just culture moral code. If anything that boosts moral the first in order of priority is motivation. While self sacrifices used to be a very good tool for motivation in religious practices, military used the same as duty to nation quiet effectively till some time back. It could still work but that need guarantee of ethical practices at all time in all level. Meaning to say - selfless devoutness to service for motivating people must have to be replaced by rational self interest is the call of time. Must not we confuse, allegiance to command is discipline, not confidence of the commander. Often we make confusion between integrity issue and purpose of organization. While integrity is degree of ethical value owned by individuals and is a quality personal in nature. And commitment to organizational task is institutional allegiance that comes from motivation. And its incentive world has to guarantee value based distribution of rewards i.e. discipline, quality and amount of contribution made is the yard stick, definitely not choice/confidence. In developed world motivation factor is influenced through education, incentive (both tangible and intangible) and the core strength is built on capitalizing institutional allegiance never to any individual important. Shall we not work together on this, and hold moral the most important for an organization?

Training. The foundation of BAF lies on quality training effort. I am sure other organization also following similar effort on quality training program as per suit. Training is a proven investment that guarantees' positive return. My mention here, country like ours will always have resource constraint. Why not we effectively use all facility of training available to us jointly and extract mutual benefit from each other? This will also open the door of knowledge, understanding and trust. Now, if not the whole new idea on training endorsed by developed world today could be introduced by us, my proposition is – along with ongoing practices how about adopting a small scale critical training program on each role model prior to task is a must, as far as we can effort ? I am sure of positive dividend out of this effort, if applied.

Jointness – Co-operation, Co-ordination & info sharing. It's really what is at the heart of

bilateral/multilateral most important issue where we need to work on between Mil and Civil meticulously. Look at it this way — if you have 25 operators out there, standing alone and proudly being their own regulator, then you have 25 potential points of failure. At any one time, some of these people will fail at their job. If you have those same 25 watching, co-operating each other, exchanging data with each other, there is a great deal of redundancy. If you are an operator who doesn't want to cooperate with the rules, who doesn't want to be safe, you've got nowhere to hide. You've gone from 25 points of failure to 25 layers of redundancy. In the past we have had ample example where lack of co-ordination, co-operation and sharing info led to catastrophe. In fact there are many regulators are understaffed or undertrained, some will fail at doing their jobs. Can we afford to act like we are the only regulator of the space, or can we start cooperating and sharing information with others? Air Traffic Control is a classic example here, we need to get good. Both Air Line and Military pilots need to understand each other's requirement. An air line has schedule bindings i.e. his route clearance, connecting flight, service doors are time bound, whereas, air force flights are mission bound, as such timing does not get importance to ATC unless there is emergency. Unnecessarily burdening ATC by pride must be avoided. My urge goes at least effort shall be on by all stake holders to improve upon ac and tower co-ordination in future, since space is getting crowdie day after day.

Before I conclude a good pictorial summary of my talk will be:



Finally, to my learning, Leadership and management, coupled with performance of talented, hardworking people and teamwork, are essential for an organization's success and mission effectiveness. And with this virtue, people can do almost anything if they believe they can and are willing to put forth their effort. The world growth rate is 1.2 to 1.5 %, whereas, aviation growth is persistent 6% for last 10 yrs. If we airmen present here don't keep up the pace, we will be answerable to our next generation soon for sure. Together we make a better tomorrow, Insha Allah. Thank you so very much for patient hearing, may Allah bless us all with safe and best operation in coming days. Allah Hafez