IFALPA
The Global Voice of Pilots

Accident Analysis & Prevention
Briefing Leaflet

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Improving accident and incident prevention through Just Culture

Introduction

Commercial aviation is generally perceived as being safe. However, it must be understood - and accepted - that aviation is a high-risk system. When an aviation system, or subsystem, loses the ability to manage changes or unexpected events in a timely manner, serious incidents or accidents can occur. It is only by continuously and meticulously managing risk correctly that the current positive safety statistics have been achieved and will continue to improve. Any degree of complacency will have negative consequences. Poor safety records usually occur where SARPS are not fully implemented or adhered to and/or risk is not recognized and managed in a timely manner.

Image: (1908) Wright Flyer accident in Fort Myer, Virginia.

To be managed competently, risk first needs to be identified and studied. One proactive method of recognizing potential system failures and predicting possible negative outcomes is to establish non-punitive reporting systems which is only possible in a just culture. Not all errors/omissions become accidents; however, an unexpected combination of the functionalities within a system can become visible through reporting as accident precursors and used as safety indicators. These precursors, once defined and identified, must be acted upon in time to prevent an accident or serious incident. It must also be understood that an error is an act, assertion or belief, that unintentionally and, often discovered in hindsight, fails to address the threat in time. This does not invalidate the action/omission but rather sheds light on the circumstances in which the decision-making process and error took place. The identification of errors, hazards, potential serious incidents and accidents is a fundamental element of any Safety Management System (SMS).

International surveys have revealed that many incidents go unreported because those involved are fearful of potential management or regulatory authority consequences. Reporting systems, as well as other safety initiatives such as FOQA/FDA and LOSA, can only be effective in an environment of just culture that completely adopts a non-punitive reporting culture.

An unrestricted flow and exchange of information is vital to improving safety. Criminalisation obstructs this flow. While legal repercussions have a place in our society e.g. where there is wilful or reckless behaviour, the criminalisation of human error obstructs the flow of valuable, essential information that is absolutely critical to a successful SMS. Therefore in order for safety reporting systems to be effective, a just culture must exist. Non-punitive voluntary and mandatory reporting systems are supported and encouraged by all major international aviation safety organisations. Learning about a system's fragility and its interconnected functionalities under varying circumstances means a better chance of identifying, understanding and managing an emerging threat in time. An error-tolerant, resilient system can be created and maintained even in the dynamic world of aviation.

Just culture

A just safety culture starts at the legislative and regulatory level and must be embraced by top management and at every level in that organisation. It is therefore a function of the organisational culture at large. Every employee, not just those involved in safety, can influence the establishment of the desired culture and should be engaged in this process. Human performance studies show people make errors - it is inherently human. Human errors or omissions become visible because humans are an integral part of a complex system. Their performance is difficult to predict because failures emerge as part of the systems functionality.

Humans are often in situations where decisions must be made quickly, in real time, with information that is available at that time and according to the manner in which it is presented. These decisions, almost per definition, may be judged as less than optimal at a later time with hindsight bias. This is regardless of their level of professionalism, training or experience.

A cornerstone in the creation of a safety culture is the establishment of voluntary open non-punitive reporting systems. A just culture must exist in which personnel have sufficient trust in the system that they are willing to report their errors. Users of these

systems must have confidence that they will not face retribution as a result of disclosure. Punishment might prevent wilful intent but will not prevent mistakes or errors occurring, as they are, by definition, unintentional. Personnel need to be engaged in the safety reporting culture, know that they are listened to and regarded as a valuable resource as compared to being seen as the weakest link i.e. the unpredictable human element.

The ICAO Safety Management Manual (Doc 9859) contains guidelines for the establishment of both mandatory and voluntary reporting systems. IFALPA strongly endorses the establishment of just culture and non-punitive voluntary reporting systems.

Properly collected and analysed aviation safety information is a powerful and necessary resource, with the potential for great benefit. One of the major concerns, however, is that like any powerful tool, it can cause extensive harm if used improperly. There are various ways in which such information can be misused:

- Job sanctions by employers and/or penalties imposed by Government regulators based upon the information.
- Public disclosure of the information
- Criminal sanctions based on the information
- Misuse of the information in civil litigation

Dealing with culpability

Human actions and decision-making are almost always influenced by circumstances outside a person's control and it must be understood that errors or mistakes are the consequence of other factors and not stand alone events.

Pilots inherit defects in the system. Accidents rarely occur for one single reason; they are often the result of system failures and a multi-linked web of functional system emergence.

These consequences cannot easily be avoided since they were not known or intended in the first place. If the latent, (emerging), factors of accidents are to be identified and addressed, errors need to be seen as the beginning of investigations and not the end.

As stated earlier, accidents are often the result of a complex combination of many contributing factors, both obvious and latent. Describing an error as a "cause" tends to add disproportional weight and blame to that aspect. There is a need to change the mind-set of blame and punishment as being a useful concept in safety management. This is made difficult in some cultures where different legal systems have created a culture that demands blame and retribution, even for a mistake.

Contributing factors should instead be identified and their interconnectivity analysed. Addressing latent, often complex systemic weaknesses is far more effective in improving safety than simply addressing errors in a linear manner.

People remain accountable for their actions/inactions. But they must be viewed in the context in which they occurred. It would be unacceptable to give blanket immunity from sanction to all personnel that could, or did, contribute to a safety occurrence. A just culture finds its limits when gross negligence, criminal activity or intent on the part of the reporter is established. So just culture does not seek immunity from consequence, but clearly endorses the fair treatment of individuals. It decriminalises errors and mistakes. It mandates that events be reported into a functioning Safety Management System (SMS).

Conclusion

The establishment of a just culture will enhance aviation safety and accident prevention. Understanding and managing emerging risk and potential failure, as a function of the system itself, is paramount for a safety management system to be effective. The benefits to the public, when the focus is on safety instead of blame and punishment far outweigh the perceived civil or legal benefits to society. Although institutional demands may continue for some time to satisfy political or perceived public interests for punishment, States and companies cannot allow this sentiment to override the fundamental fact that punishment does not improve safety. We must learn from mistakes and without a just culture the quality and quantity of honest reporting will be severely compromised.

A just culture must be permeated throughout airline company structures in order to develop a corporate philosophy of fairness. Establishing a learning culture and a non-punitive reporting system embraced by employees is an essential part of SMS and accident prevention. It should form the basis of all safety initiatives, for example:

- Training, including Crew Resource Management (CRM) and human factor training
- Threat and error management (TEM)
- Flight Data Analysis (FDA)
- Line Operations Safety Audit (LOSA)
- Reporting systems (confidential and/or anonymous)
- Hazard reporting
- Incident, serious incident and accident investigations
- Safety philosophy, policies and procedures
- Disciplinary policy

ICAO should commit to the concept of a just culture as part of a healthy safety culture and incorporate it in ICAO Annex 13, Annex 19 and the ICAO Safety Management Manual. States should ensure that legislation is passed that enforces the non-punitive philosophy. Companies and operators should ensure that the policy is endorsed and supported by their executive officers. As part of their safety culture, all stakeholders in the aviation industry should embrace the policies and procedures of a just culture.

Summary

Just culture, and the associated non-punitive reporting systems, is an essential component of a safety culture and SMS. It is made of norms and values, which ensure that errors/ mistakes or unintentional actions are not used to punish the reporter. Instead it will provide information that leads to a more proactive safety management by the timely identification of emerging properties of the system and allow improved risk management. Punishment may only be considered when there is evidence that the occurrence resulted from wilful intent to cause damage (wilful misconduct), or from an action carried out with the knowledge that damage would probably result (recklessness).