

ELEVENTH AIR NAVIGATION CONFERENCE

Montreal, 22 September to 3 October 2003

Agenda Item 2: Safety and security in air traffic management (ATM)

2.1 Safety management systems and programmes :

THE NEED FOR A JUST CULTURE IN AVIATION SAFETY MANAGEMENT

(Presented by IFATCA)

SUMMARY

In the initial stages of development of the ICAO air traffic management operational concept, the concept panel was unanimous in its statement that safety must continue to be the highest priority in the planning and implementation of the future ATM system. To be successful, the industry must re-think its methods of doing business and move beyond a blame culture that singles out individuals and criminalizes error(s). With a cloud of legal liability hanging over system operators, progress in the quest for true system safety is in jeopardy. Accidents and incidents are not caused by individuals, but by many contributing factors. Focussing blame on system components (operators), is not the correct way to improving aviation safety, and is in fact, counter-productive as it stifles the reporting process. A just culture, free from the threat of punishment is needed to ensure comprehensive and systematic safety occurrence reporting.

Action by the Conference is in paragraph 4.

1. INTRODUCTION

1.1 Aviation traditionally was an environment in which no errors were made. Every individual employed in the aviation industry belonged to a special breed of super-humans who perform error-free throughout their careers. In a small number of cases where an accident occurred, industry and the general public readily accepted an explanation that one or more people involved had made an error or errors that caused the accident to happen.

1.2 Some twenty-five years ago this perception of the aviation industry began to change. People realised that the aviation industry is not populated by super-humans, but normal every-day people, each as prone to committing errors as any other. Industry attention has shifted from determining who made the error to identifying the circumstances under which the error was made. The purpose was twofold: first, by understanding the circumstances it might become possible to introduce changes that could make it less likely that similar errors would be made again (Error Prevention); and second, understanding the circumstances might make it possible to develop strategies to minimise the negative effect of the error (Error Recovery). Safety Occurrence Reporting Programmes are a cornerstone for finding these circumstances.

1.3 A similar shift, as in aviation, has not (yet) occurred in the judicial world. In many legal systems aviation professionals (e.g. pilots, air traffic controllers, and maintenance personnel) can and will face criminal prosecution if they become involved in an incident or accident, even though they were acting in accordance with their professional training and experience.

1.4 In IFATCA's view criminal prosecution is counterproductive to improving aviation safety. Instead of creating an open culture in which errors and incidents are reported for analysis leading to systemic improvements, prosecution creates a "don't get caught" culture in which few reports are made and consequently little systemic improvements occur.

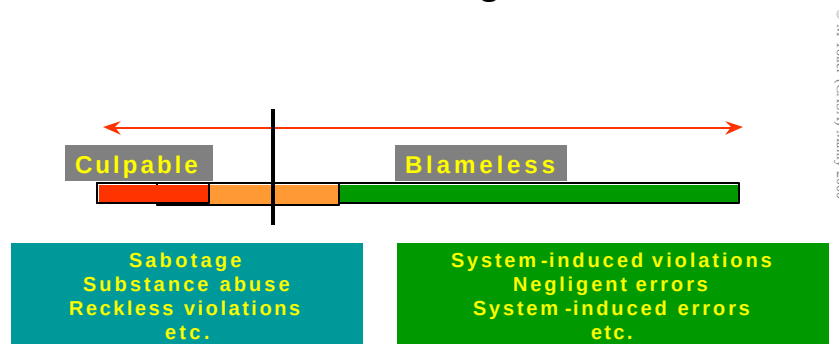
2. DISCUSSION

2.1 In today's environment Regulatory Requirements related to Safety issues call for both States and Service Providers to implement Safety Occurrence Reporting Systems. Many feel that by sharing knowledge and experience(s) by way of comprehensive and systematic reporting, occurrence of air navigation incidents can be prevented, or perhaps more realistically, be significantly reduced. This approach centres on two very important initiatives: a confidential reporting system, and a non-punitive environment.

2.2 IFATCA takes the position that voluntary reporting systems are essential; however, we do not encourage joining a voluntary incident reporting system unless there is guaranteed immunity for the individuals who are providing the information. Reluctance of individuals to participate for fear of retribution, jeopardizes the program. What has to be remembered is that only a very small percentage of controller/ pilot error can be attributed to a lack of intellectual, physical or emotional ability. The reason people fail to perform is that they work in a flawed system. Simply blaming (an) individual(s) is an expedient form of removing blame from the organization and effectively masks any latent flaws in it.

2.3 As the sole objective of any investigation is the prevention of accidents and/or incidents, the investigation process must not apportion blame or liability. This is not to say there is no role for legal actions in aviation. In many countries there are laws enabling (or obliging) authorities to investigate aviation-related occurrences. In cases where operators are guilty of wilful misconduct in a form perceived to be beyond the limits of acceptability such as acts of sabotage, gross negligence or substance abuse, it is necessary that criminal prosecution will follow. In these instances the operator could reasonably foresee the negative outcome of his or her actions. But in the majority of cases the operators were acting with best intentions and did not wish, nor expect their actions would lead to disastrous results.

The Dividing Line?



2.4 Blame

2.4.1 This brings to light another difficult aspect of the equation for consideration: the issue of blame. Blame focuses on the defects of individuals; it does not necessarily take into account all system components. Blame leads to the adoption of defensive attitudes, and encourages an ineffective reporting system. IFATCA does not subscribe to the theory that progress on safety is synonymous with learning from failure, as it categorizes learning and punishment as mutually exclusive activities. It implies that we either learn from accident/incidents or punish the individuals involved in them, but not do both at the same time (Dekker, 2002). The result of the “punishment” theory is the perpetuation of false beliefs about the safety of the system, and characterizes humans as unreliable components. Punishment emphasizes that failures are deviant, that they do not naturally belong in the system. Learning means that failures are seen as “normal” — as resulting from the inherent pursuit of success. Punishment points a “guilty” finger and conditions others to not get caught next time something goes wrong.

2.4.2 Learning is about avoiding a next time altogether. Punishment is concerned with closure, about moving beyond and away from the event, whereas learning is about continuous improvement, and closely integrating the event into the system. Most of us who are in a position to be directly affected by this (air traffic controllers and pilots) seem to agree that a non-punitive and confidential environment cannot be equated with total immunity.

2.4.3 There always is and always will be a threshold beyond which an ANS safety occurrence will be subject to a punitive treatment. A crucial first step in clarifying the matter is to recognise and make public the fact that Confidential Incident Reporting Programmes will be based on “honest mistakes.” It is to be understood that any behaviour beyond the notion of “honest mistake” cannot be protected by confidentiality and immunity.

2.4.4 If this becomes the agreed-to scenario, the possibility for difficulty exists in the fact that the categorizing of behaviour as an “honest mistake” or otherwise, cannot be determined until after an investigation has been carried out. No guarantees for confidentiality or for non-punitive treatment can be given until the investigation process is completed. Air traffic controllers, as an example, may, in full good faith,

report incidents based on the understanding that they did nothing wrong, but still face the risk that the investigation board takes a different view on the subject.

2.4.5 In most cases, Service Providers will not have the luxury to ignore reports filed in a non-punitive reporting environment, should they not conform to conditions for immunity. A necessary improvement to the process will be to provide for assurances of fair treatment, and the respect for confidentiality. It is of paramount importance to demonstrate that individual reporting systems guarantee the fair treatment of personnel involved, particularly as far as the notion of “honest mistakes” is concerned.

2.4.6 Based on ICAO guidelines, the aviation industry has an effective system to learn from incidents and accidents and has achieved an impressive safety level. The free flow of safety related information among the various levels and players in the industry is key. Safety reports are forthcoming only when their originators (e.g. pilots, controllers and maintenance staff) know they are in a non-punitive environment and are secure in the knowledge that whatever deficiencies they do report will not backfire on them.

2.5 Criminalization of Error

2.5.1 The criminalization of error may simply be defined as “criminal proceedings against a person or persons involved in an incident or accident.” Witness the ever-increasing occurrences of these actions against individuals in the aviation industry, and it would appear there is a distinct increase in cases in recent years. Among them have been several high-profile examples whereby aviation professionals, acting in accordance with appropriate levels of training and experience in their respective areas of operation, have fallen victim to some unfortunate transgression. Typically, the guilty party is not an organization but an individual or individuals; be they air traffic controllers, aircrew or technicians. The reason? It could be many reasons, but whatever they may be, the threat of any form of retaliation (punishment) leads people to adopt a “don't get caught” attitude. This does little to foster meaningful improvements to system safety.

2.5.2 From a Human Factors perspective, this is a lose-lose proposition. To quote Dr. Sidney Dekker of the Swedish Center for Human Factors in Aviation: “Incarceration or alternative punishment of pilots or controllers has no demonstrable rehabilitative effect (perhaps because there is nothing to rehabilitate). It does not make a pilot or air traffic controller (or his or her colleagues) any safer — indeed, the very idea that vicarious learning or redemption is possible through criminal justice is universally controversial.”

2.5.3 Accidents are rarely the result of the failures of individuals. There are always additional factors, each on its own an integral part of, and a contributor to, the whole. Accidents are the products of the system, not individual parts of it.

2.5.4 Blame-free, or no-blame cultures are extremely rare; however, we believe real progress will come as we move beyond a “blame” culture. Criminalization of error is a key contributor to adversarial relationships we sometimes see in the aviation industry, and as long as there is the potential for it to play a role in an incident or accident, the “real” truth may never surface. Various versions of the truth will emerge, perhaps following particular agendas such as staying out of jail or limiting corporate liability. Learning becomes severely restricted, if not impossible.

2.5.5 IFATCA is of the opinion that criminal prosecution is counter-productive to improving aviation safety. The effect of legal prosecutions is that if pilots and controllers perceive they will be held personally liable for any safety related events in their work, they will stop reporting such events. This means legal prosecutions achieve the exact opposite of what they are aiming to achieve — they don't help to improve aviation safety.

2.5.6 However, we must still have a mechanism for holding people accountable even in a blame-free atmosphere. Blanket amnesty on all unsafe acts would lack credibility in the eyes of employees (workforce) and may even be seen to oppose natural justice. Accountability is possible if we can come up with workable solutions to re-constructing our relationships with each other throughout the industry. Perhaps such “mending of fences” will enable us to move toward a “just” culture.

3. CONCLUSIONS

3.1 The aviation industry has accepted that humans cannot be changed but nonetheless are required to make the system work safely. The legal world holds the view that the system is inherently safe and that the humans are the main threat to that safety. As mentioned earlier, the safety improvements in the aviation system are largely achieved as a result of an open exchange of information between the layers of the system. Contrary to what some may believe, human error cannot be avoided by “designing it out of the system” or disciplining operators. Error is a normal component of human performance. This fact must be incorporated into the design, implementation and operation of complex systems where safety is the expected outcome. Air traffic management (ATM) systems are a prime example of such a complex system.

4. ACTION BY THE CONFERENCE

4.1 The Conference is invited to task ICAO with developing guidelines promoting the concept of a “just” culture; i.e. a culture in which front line operators are not punished for actions or decisions that are commensurate with their experience and training, but also a culture in which violations and wilful destructive acts by front line operators or others are not tolerated.

4.2 The Conference is invited to task ICAO to ensure that judicial aspects are adequately addressed in ICAO guidance material on Safety Management Systems for ATS.

4.3 The Conference is invited to encourage ICAO Member States to:

- a) review existing aviation laws with the aim to remove factors that could be deterrents to the collection and analysis of valuable safety-related information; and/or
- b) develop legislation that adequately protects all persons involved in the reporting, collection and/or analysis of safety-related information in aviation.

5. REFERENCES

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