

**AIR MARSHAL ERROL McCORMACK AO  
CHIEF OF AIR FORCE**

**KEYNOTE ADDRESS TO**

**THE AUSTRALIAN SOCIETY OF  
AIR SAFETY INVESTIGATORS**

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**FLYING SAFETY  
WITHIN THE AUSTRALIAN DEFENCE FORCE**

Mr Chairman, Distinguished Guests,

It gives me great pleasure to be here today with fellow aviators to present to you today's Keynote Address. I have titled it:

*'Flying Safety Within the Australian Defence Force'*.

I am fully aware of the activities of your parent organisation, the *International Society of Air Safety Investigators*; and its aim to enhance air safety throughout the world; and also of the charter of this region's arm, *The Australian Society of Air Safety Investigators*; which is primarily to concentrate on, and promote flying safety activities, within our region.

In view of the economic downturns that have occurred within many of our neighbouring nations; this is not an easy task; however, it is one that must be continually campaigned considering the statistics which presently place the Asian region in one of the higher accident rate zones.

*(For Info: Accidents per 100,000 departures; Africa 9.5, South America 4.7, China 2.7, Asia 2.3, Middle East 1.9, Europe 0.8, USA 0.5, Australia 0.5)*

Conversely Australia, as a nation and also a separate zone, is at the opposite end of this scale with an enviable safety record.

So how did we in Australia achieve this position and gain such creditable results?

It was not by sitting back and waiting for it happen. It was by dedicated efforts, safety promotion campaigns, safety and professional training, and seminars similar to that which we are taking part in today. Activities that encompass all facets of flying safety; promoting resolutions that seek to develop a safety culture that is regarded as being a requirement, not an afterthought. We do not regard these initiatives as box-ticking exercises. We regard them as the essential foundation stones on which we can build a flying safety environment of which all of us can be proud.

In comparison with the civilian accident statistic rates, how does the Australian Defence Force fare?

We don't collect information on the number of departures and therefore a relative comparison is difficult to correlate. We also don't operate in the same environment. Our operating environment differs from one that may be as benign as the basic training arena, to one that involves extremely complex tactical manoeuvres in a military hostile environment.

The majority of our training missions are of a higher risk than that of conducting daily flights between capital cities. However, despite the hostility of the environment, or the high risk of many of the training missions that we undertake, we should not make our dedication to flying safety any less than that which is expected of commercial fare paying passengers.

If this seminar was held six weeks ago, I would have been able to stand proudly before you and say that the Australian Defence Force, and by ADF I include the three services, Army, Navy and Air Force, has not had an aircraft accident in the past 21 months (*Sep 97*).

Expanding on that a little further, I could also have said that the Air Force as a single service has not had an aircraft accident in the past four and a half years (*Oct 94 Macchi Midair*).

Significant achievements which are the envy of defence forces throughout the world.

Unfortunately, and tragically, six weeks ago (*18 Apr 99*) we lost an F-111 aircraft with two crew members during an international exercise in Malaysia. That accident is still under investigation and therefore I am unable to enlighten you as to the investigation determinations.

However, the crew involved were doing what they had been trained to do. They were operating in what all of us here would certainly call a hostile high risk environment. They were operating low level; below MSA; at high speed; and on one of the darkest of nights of the month; in a high threat scenario. This exercise scenario included enemy aircraft and ships testing and exercising their defensive capabilities along with our crews testing their offensive and attack capabilities.

The two F-111 crew were out there representing their nation in a realistic training environment. The environment was one in which they have trained, and one in which they could expect to operate if called on to do so in the defence of our country. As far as defence activities or exercises go, this one was no different from many that had preceded it.

Our nation, Australia; could have called on this crew to place themselves in a similar situation, in actual hostilities in defence of our country at any time; and that crew would have been prepared to act without question if they had been asked.

However, they lost their lives in preparing for that day and we owe our gratitude to these and other military aviators who have preceded them in placing their life on the line and losing it in preparation for the defence of Australia.

I do not like having to say it, but; ‘No matter how well we conduct our training or our operations, accidents will occur’. And, despite this most recent tragic loss, I can still stand proudly before you and speak of the flying safety record that we have achieved. One that is still the envy of other defence forces despite this most recent tragedy.

To put the enormity and the difficulties of our flying safety program into a picture; imagine if you will, the task of coordinating and bringing together a safety plan that encompasses over 450 aircraft made up of 22 different types. Who else operates such a diversified fleet with a similar diversification of activities? Within Australia, no one!

Our aim is to reduce the accident rate, whatever it may be, to the lowest achievable level possible and we encompass that in our defence force in a plan we call our ‘Aircraft Accident Prevention Program.

This safety program is coordinated by The Directorate of Flying Safety – Australian Defence Force (DFS-ADF). Many of DFS’s officers are present at this seminar and they avail themselves to answer any questions on military flying safety that you may have. I encourage you to talk to them and discuss the differences between your operations and ours. And in doing so, each of us may learn something of worth.

DFS is directly responsible to me for the conduct of the accident prevention program and as I am also the appointed Airworthiness Authority for the Defence Force, I can assure you that I take a very active interest in their activities.

DFS also have direct access to each of the other Service Chiefs in matters affecting their individual services.

To achieve the flying safety aims of the Aircraft Accident Prevention Program; the DFS-ADF ‘MISSION STATEMENT’ is:

“Preservation of human and materiel resources in all flying operations through continuous improvement in safety management”.

To achieve this Mission they have three GOALS.

GOAL 1: Achieve and maintain a sound flying safety culture throughout the ADF;

GOAL 2: Achieve Zero accidents attributable to human factors, and;

GOAL 3: Achieve Zero accidents attributable to Systemic and Organisational factors.

I would like to consider each of these Goals separately and look at the associated tasks.

GOAL 1: Achieve and maintain a sound flying safety culture throughout the ADF.

Within the ADF flying environment there exists a culture that has always been regarded, amongst the flying community, as being one that placed flying safety and safety of operations at the highest level. Unfortunately, times change, lessons are learnt, and what was once regarded as a safe culture, could be reflected or looked back upon with question.

Culture changes slowly, it cannot be changed overnight, but with flying safety, it needs to be changed for the better as quickly as possible. An organisation that has safety as a primary requirement, and both willingly and actively works at it, can be deemed to have a Safety Culture. An organisation that includes safety in its corporate plan only because it is a legal requirement, can never aspire to gaining that culture.

In the ADF aviation we believe we have that Safety Culture and we are continuing to develop it as we learn more. Attitude, as well as action, are the main ingredients.

For example, a previous incident reporting system that the military used did little to resolve the issues of preventing the incident or accident from occurring again.

If aircrew erred or made a mistake, then they invariably felt the wrath of their Commanding Officer. They therefore felt loath to report an incident where the problem would go away if unannounced.

Blame tended to be laid or attributed at the lowest level possible. No one would say that this environment promoted a sound safety system or, from a lessons learnt principle, would prevent follow on incidents.

Things however have changed.

Our safety program and the message from the top down that DFS is promoting to the operating units is an 'Open and Honest' reporting system. Given the known high percentage

of human factor involvement in incidents and accidents, my view from the top is that the key to success is to promote a flying safety culture built on trust, and one that has as essential principles:

Open reporting of incidents focusing on the human factor involvement without fear of punishment; and

An ADF wide understanding of the responsibilities of the authorising officer and aircraft captain, whereby unsafe flights can be rejected without fear of retribution.

Of course clear and deliberate violations of orders and instructions will, as you would expect, be treated appropriately.

A healthy flying safety culture is reliant upon regular and reliable flying safety information from the field. The central focus of the Aircraft accident prevention program in this regard is the 'Air Safety Occurrence Reporting (ASOR) process. It is not dissimilar to the incident and accident reporting processes required by BASI and CASA.

However, it goes a step further in that the ASOR process also includes within its report, the investigation of the incident with findings of cause and recommendations to prevent further occurrences.

In particular, the ASOR must identify those Human Factors and Organisational elements for immediate rectification to prevent future occurrences.

This system highlights to the unit commander, all incidents that occur within his or her unit. This process then enables the unit commander to address the issues that may have arisen at their level.

We regard safety as being a command responsibility starting at the lowest possible level and working its way to the top if required.

ASORs are distributed to all interested parties, units operating similar aircraft types, maintenance organisations and to the Directorate of Flying Safety. This allows external monitoring and oversight of the flying safety health of all ADF aviation formations and units.

Re-emphasising my previous comments. For this system to be successful, the reporting must be accurate and timely; open and honest; and free of fear of punishment. A comprehensive,

open reporting system in a total non-threatening environment is the fundamental premise of developing our flying safety culture. And, this culture relies on the complete acceptance of such values across each of the services by the three Chiefs.

It then becomes the responsibility of middle managers and their practical application of the culture to gain and ensure the confidence and trust of those at the operating levels.

As the Chief, I take a genuine interest by receiving a copy of every ASOR submitted. And being an active aviator, I take a personal interest in the reported events including the actions and reactions of intermediary organisations. I ask questions if I am not satisfied that the issue has been dealt with appropriately and I don't stop this action until I am satisfied that all issues have been resolved.

**GOAL 2** of our military Aircraft Accident Prevention Program is to:

Achieve Zero accidents attributable to human factors.

This Goal invariably raises a few comments from supposed safety experts with a few saying that 'this Goal is not achievable', as Human factors exist in every accident.

I am not here to question their thinking or rationale as to how they arrive at their determination. I am here however to say, that we in the ADF believe that if we can continue to highlight the Human Factor aspects of every incident; and we can identify trends or areas on which we should concentrate; then we can educate our aviators and the supporting agencies to reduce this factor. Our ultimate aim being to reduce it to zero.

Our statistics from the ASOR incident reporting system show that Human Factors vary considerably between aircraft types and the different categories of operations. No plausible link or simple explanation exists for the variances that do arise between what is regarded as similar operations.

We applaud the units that are willing to submit reports where they identify human factors as the cause. In many cases these units are highlighting to me their inadequacies, and I recognise this as being a unit that has an extremely sound flying safety culture. By the fact that they are willing to admit the error of their ways and bring this to the attention of other operators before someone else makes the same mistake or repeat the error is achievement of our aim.

As a Defence Force we have a distinct advantage over other aviators in that we are an elite group. I am not attempting to place military aviators on a pedestal by making this remark, however, the environment that we operate in is at the extreme. Our aircrews are expected to be operating the aircraft at or near the extremities of the flight envelope where the risks are high.

What separates the professional from the amateur is attitude. Military aviators are trained with an attitude which includes determination and a positive manner. This character drives the individual to be as professional and successful as possible.

In the military operating environment they must have a thorough knowledge of the aircraft, the role and relevant procedures; and be willing to seek out and eliminate any potential weak link in the safety chain in order to achieve the greatest chance of mission success.

A review of many BASI reports indicates that errors are repeated and there are significant elements out there in the aviation community that don't operate with due consideration or set principles within their mind. I am not speaking of the professional operators, but of the element that has no apparent guidance or direction. In simple terms, they are accidents going somewhere to happen.

As well as reflecting poorly on aviators and giving them a bad name in general, these types are out there creating safety hazards for the rest of us. Hazards that are not acceptable to any of us here today, or acceptable to our professional colleagues flying the skies. We should not accept or tolerate this kind of attitude to safety and should act if we ever observe breaches.

Also, we should not believe that Human Factor issues are ones that cannot be addressed or eliminated. This is why it is a significant Goal within the ADF to reduce human factor input to accidents to zero.

**GOAL 3** of our Aircraft Accident Prevention Program is to achieve zero accidents attributable to systemic and organisational factors.

I will not elaborate specifically on this topic as it relates very closely to the Human Factors issues, with the 'humans' in this case being replaced by an organisation.

History shows that many accidents have an organisational or systemic contributing factor. In the RAAF it was brought to light most significantly during the investigation into the Boeing 707 accident that occurred off the coast near East Sale on the 29<sup>th</sup> of October 1991. We

tragically lost five lives in that accident. The Army were dealt a harder blow from the Blackhawk accident of 12 June 1996. One of the most tragic accidents in the history of military aviation in Australia in which 18 men lost their lives.

The systemic and organisational factors highlighted during these investigations were addressed and subsequently, any hint of an organisational issue in an incident these days is dealt with in earnest. Our nation is not alone however in recognising the importance of removing organisational or systemic problems from the causal chain. Many overseas military organisations as well as corporate companies recognise the contribution and have acted accordingly.

In civil aviation circles; it is no secret that the landing of an Ansett B747 at Mascot without the nosewheel locked down revolved around systemic and organisational problems. The weather was lousy that particular day and the crew were dealing with other technical problems. To cap the situation off, the crew landed with the nosewheel up without them having dealt appropriately with the emergency checklist. It could easily have been passed off as aircrew error.

However, Ansett to their credit, produced a most enlightening educational video highlighting the organisational and systemic problems that abounded within their company at that time. A brave move on their part but, one which gained them the utmost respect of the aviation fraternity. And one which Ansett hoped would prevent other organisations from falling into the same trap. They are to be congratulated.

In a large organisation, these types of problems can and do creep in with many not being aware of the inherent dangers. The extent of the consequences that a break in the safety chain can create are not realised or recognised.

Education and awareness of the issue can resolve and remove these problems before they begin. We believe within the military that with the right attitude and information, we can do this, and that is why it is included as the third Goal of our Aircraft Accident Prevention Program.

The defence community therefore believe that zero accidents due to human failings and systemic factors is achievable and should be pursued as a matter of principle.

In ending my presentation, I would like to say that a sound flying safety culture is one in which everyone willingly becomes involved for the prevention of accidents.

There must be obvious and recognisable commitment from commanders and clear values set that give maximum priority to safety. I can assure you that each of the Service Chiefs today has safety as a No 1 priority.

The key to success of our program is trust; trust in a system in which honest mistakes are reported in a retribution free environment and can be made to expose and eradicate organisation and systemic problems.

Again I reassure you that we continue to reinforce this environment within the ADF with the prime aim being the promotion of flying safety.

Human behaviour, and its role in accidents and incidents still remains an area of vital concern to us. Hence our ongoing search for continuous improvement in safety management.

I have every confidence that the future will continue to find ways to improve flying safety, and I have every confidence that flying safety within the Australian Defence Force will be at the forefront of these discoveries.

I thank you for the opportunity to present to you this morning and hope that I have generated thought for further discussion.

The topic of flying safety is one in which all present here today have a genuine interest. It is a topic that impacts dramatically on everyone, and a topic in which significant future advances can impact.

Thank you.

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