

SENTATE INQUIRY INTO PILOT TRAINING AND AIRLINE SAFETY

I have been a pilot in the aviation industry for over 25 years.

I am a captain on the Airbus A320 with Jetstar.

This submission is provided on the basis that my identity remains confidential.

This is due, contrary to parliamentary privilege, to the strong probability of reprisal from Jetstar management.

Pilot Experience

Jetstar have instigated a pilot cadet program and intends to place these cadets as first officers on their aircraft. These cadets would have around 200 flight hours at the time that they start to fly for Jetstar. To put this into some perspective, I sometimes fly 200 hours in two months. It is not a lot of experience. Jetstar policy under the requirements of its operations manual (OM1) as approved by the government regulator, CASA, has a requirement of 1500 flight hours for initial intake for employment as a first officer. The cadet program would appear to be at odds with this policy, as approved by the regulator. Of the three airlines that I have worked for, the Jetstar operation would be by far the most complicated. In great part this is a result of the low cost model and the lack of resources that this model provides. For instance, traditionally, airlines have load control departments that look after the entire weight and balance of each flight and once completed, a load sheet is handed to the captain of the flight. The only input that the flight crew have is to provide the required fuel figure. This department look after all facets of the loading of the aircraft including passengers and where they are seated, baggage and where it is loaded, cargo and where it is loaded, including the carriage of special loads and dangerous goods with their special placement in specific positions on the aircraft and many other variables including the segregation of certain types of dangerous goods and the non carriage of particular dangerous good on particular aircraft due to such things as lack of ventilation in the cargo hold of some specific aircraft in the fleet. At Jetstar, this load control function is undertaken by the flight crew, while looking after all of the other aspects associated with the flight and all on 30 minute turn around. Jetstar recently outsourced its flight planning department to Manila as part of a cost saving initiative. This has resulted in many mistakes being made in the flight plans which are provided to the flight crew including, but not limited to, insufficient and therefore illegal fuel loads being provided. This results in increased work load in a time limited environment for the flight crew, to ensure that the flight departs legally.

The Airbus A320 requires, by certification, a runway that is 45 metres wide. Jetstar, by way of a narrow runway exemption from the regulator, CASA, have approval to operate the aircraft into and out of 30 metre wide runways. Landing and takeoff on such a narrow runway, which also tend to be short, leaves little room for error with regard to both lateral deviation from the centre line of the runway and touchdown due to the runway being short. If asked off the record, few managers in the flight department of Jetstar would argue that operations into such ports are not without risk, yet these people lack the courage to voice these concerns to the commercial department of Jetstar, which basically dictates where we operate to. The A320 is the largest aircraft in Australia to be granted such approval.

The A320, apart from being a high performance transport jet also has a unique flight control set up. Instead of a control column that is in front of the pilot, it has a small side

stick on each side. With the conventional control column, each movement made by the pilot flying the aircraft is also made by the column in front of the pilot that is not flying. The pilot not flying can see every control input, because they can see the movement in their column. If needed, some assistance on the column by the captain, for instance, would not be that unusual if the inputs being made were deemed insufficient during landing, for instance. The side stick on the non flying side in an Airbus, however, remains neutral at all times and if this happens to be the captain, he cannot feel or see the inputs being made by the first officer. Additionally, if both pilots were to make inputs, they are algebraically added. This means that if both pilots make the same input, the effect on the aircraft will be doubled and if both pilots make equal but opposite inputs, the effect will be zero input. Neither of these may have good outcomes depending on the situation. This is known on the Airbus as dual input. It is non standard procedure to have dual input on an Airbus and the procedure, if required, is for the captain to take control of the aircraft. This is very rarely required and a last resort. It is a fine line between taking over too early when it is not required and taking over too late, especially on landing. This makes the A320 more challenging for the captain with an inexperienced first officer, who through no fault of their own, still makes errors of judgement due to inexperience. Additionally, Jetstar scheduled services operate into airports that are outside of controlled airspace without the assistance of a control tower or air traffic control radar services, sometimes at night. These airports tend to have 30 metre wide, short runways and tend to have a large amount of light aircraft traffic associated with them as these airports were built for lighter traffic. It is the responsibility of the pilots at these airports to maintain separation from each other. This system is only as strong as the weakest link and the information that is provided by the pilot of the light aircraft. This pilot can sometimes be a student pilot flying by themselves. If the position and/or altitude information they provide is inaccurate and if the crew of the larger transport aircraft are not on the ball, then this single person light aircraft has the potential to bring down an aircraft carrying close to 200 people.

Jetstar pilots can fly up to 1000 hours per year. We do this around the clock, 24 hours per day. We can work up to 14 hours per day up to six days in a row. Under present roster protocol, we can and do, sign on as early as 5 AM for up to four days in a row and fly up to four sectors per day and on the fifth day we could be signing on at 10 PM to fly until 7AM the next day, to then extend beyond this time due to delays. This last sign on time is probably an hour or more past bed time of the previous few days and the duty period is 180 degrees opposed to the previous duties from the clocks view point. These shifts are known as 'back of the clock'. There is no way to be adequately rested for such a duty, as is required by law, and there can be no fatigue risk management in such rostering practices. Conversely, we could finish at 6AM after working all night, and then be signing on at 5AM the next day. Still no chance to be adequately rested with such a lack of routine.

Engineering, like all other departments, are under resourced and their attitude is sometimes that they have not got time to fix things that are wrong with the aircraft and 'push' flight crew to take the aircraft and have it fixed some other place or at the end of the day so that the schedule is not affected by their department. Flight crew however, have responsibility for the overall operation and at times have to insist that something is fixed prior to departure while under some pressure to continue regardless.

Add to these Jetstar specific threats, the normal ones of bad weather and instrument approaches, thunderstorms, fog, cyclones, general traffic, international operations with limited support, diversions to unfamiliar places both within Australia and internationally, high terrain and single runway operations, where if an aircraft becomes disabled on the runway, the flight may be unable to land and will probably have few options available with regard to other airports with the available fuel, and you really start to see the complication of this Jetstar operation overall.

As a captain on the A320, I rely on a competent and aviation experienced first officer for support in high work load and non normal/emergency situations. When all is good, one could probably fly the aircraft alone. It is when things are not good that you need the experience sitting beside you and, you can never tell when that will be.

Jetstar, by providing insufficient resources in other operational areas, place a great deal of responsibility on the flight crew, particularly the captain, to ensure that the operation is not only carried out safely but is also done within the requirements of the law. This can add significantly to the pressure of an already, well known to be, stressful job.

I have provided a lot of specific and general information under this sub section of 'pilot experience' quite deliberately, and that is to show that this Jetstar operation specifically and regular public transport jet operations more generally, are complicated and sometimes high risk and are no place for a pilot with 200 flight hours or the experience equivalent of two months in the industry.

USA 1500 flight hours requirement for RPT services

As is shown on page 4-20 of the Jetstar operations manual (OM1), as approved by the government regulator, CASA, Jetstar already have a requirement to employ pilots with in excess of 1500 flight hours to act as first officers. For all of the reasons already stated in sub section a, this seems to be a reasonable level of experience to start on an operation as I have described it and, indeed, is seen as such by the Jetstar flight department and CASA.

Jetstar have started a pilot cadet program and intend to employ first officers with as little as 200 flight hours, which is well below that which is required by the operations manual. They have done this, not due to the fact that there is a lack of suitable pilots in Australia, but purely for financial reasons. The list of cost saving and money making exercises that Jetstar have running is long and none of them have safety as a consideration, but most are outside of the terms of reference for this enquiry. For the record, policy of Jetstar senior management is for a 10 percent cost reduction per year. This is absolutely unsustainable. There are many examples of major accidents of aircraft that were operated by companies that, for whatever reason, were in the process of long term, aggressive cost cutting programs.

Jetstar are possibly making a profit from the substantial training costs associated with the self funded cadet program. One hundred and seventy thousand dollars, seems to be a rather large amount of money to train a person to be a first officer on an A320. On top of this is the fact that once employed (there are no guarantees), these pilots will be on a much inferior contract to the certified agreement that the rest of the Jetstar Australia pilots are on. Add the possible profit from training to the significantly reduced wages that these pilots will be on and you start to see that this is not about demand for pilots but about a new recruitment method which fits in with Jetstar's constant drive to undercut

wages and reduce costs and, for the reasons mentioned under sub section a, this will have a detrimental effect on safety.

Qantas have long run a successful cadet program, employing pilots into their company with 200 hours or similar. The difference however, is that these pilots are employed as second officers and are not in the control seat for takeoff or landing. They are there for in flight rest purposes on long haul flights and it is the captain and first officer who conduct the flying. These pilots gain experience on the job over some years and would have some thousands of hours experience by the time that they become first officers on, say, a Boeing 737.

It needs to be remembered that the USA 1500 hour requirement was introduced as a result of a catastrophic aircraft accident in the United States that was deemed, in part, to be the result of crew inexperience. Let us not have to introduce such an initiative after an event.

Pilot Recruitment and Pay for training schemes

I have touched on Jetstar pilot recruitment and my belief of the reasons that Jetstar have set up a pilot cadet program, in sub section b. That reason is to reduce wages costs and has nothing to do with the availability of suitable pilots from within the industry and that it will have a detrimental effect on safety.

In days past, a pilot would be employed by an airline and that airline would be responsible for, and take the risk for, the provision of all costs associated with the training of this pilot including the endorsement on the applicable aircraft. This investment in this employee was taken seriously at the recruitment stage, as the investment was large. So seriously, in fact that, in days gone by, an applicant would not even be considered if above the age of 26. This was so that the airline concerned would get a reasonable return on the investment made in the individual. Additionally, due in great part to a strict seniority system (date of joining determines promotion ect.) and the fact that terms and conditions were much better than they are today in low cost carriers, a pilot would, in almost all circumstances, stay with the first airline to employ them until retirement. Today, however, things are very different. Today all of the risk is placed on the employee and the company have little from a cost view point. It costs around \$35,000 dollars including GST, for a pilot to gain an aircraft endorsement on say an A320. (The pilot is required to pay the full amount even though Jetstar claim the GST as a business expense and pocket this in spite of it being paid by the pilot) As the pilot has paid for the endorsement, after a small amount of company provided induction training, what remains is line training on the aircraft. Unlike in the past, the first time that a pilot in Jetstar actually flies the aircraft and probably the first time that they have flown a jet aircraft will be with a load of passengers on board. I make this point to show that even under training, this pilot is providing revenue for the airline and is of no cost. If at the end of this training, which takes around two months, the pilot is considered unsuitable, then their employment will be terminated. The \$35,000 is still paid by the pilot. This means that the recruitment that in the past was taken so seriously is no longer as critical, as all of the cost risk is now transferred to the pilot and little cost has been incurred by the airline through this process. This may mean that a pilot, who would not have been found suitable at the recruitment stage, in the past, is let through to the training stage due to the low cost risk

for the airline. This pilot may slip through the net and, even though substandard, will remain at the airline. Along similar lines, when substandard pay and conditions are offered, such as those offered in New Zealand by Jetstar, then this means that the best applicants are not attracted to these positions. Jetstar seem willing to accept this unarguable reduction in safety so long as there is a commensurate reduction in wages costs.

In days past, the employing airline provided the training via their own simulators with training conducted by airline employees who were generally current senior training and checking captains who were obviously up to date with current airline procedures and processes. Today, these aircraft endorsements are provided by third parties and not an airline. The instructors are generally not current pilots and may not have flown for many years. In the case of my A320 endorsement, my instructor had never flown a jet aircraft and had little idea of Jetstar procedures. This makes it much more difficult for the trainee to come into the Jetstar system and achieve a reasonable result at a training level. It must be remembered that the first time that the trainee flies the aircraft will be with passengers on board. This has not always been the case, with airlines previously providing takeoff and landing training in the aircraft without passengers. This makes the endorsement training now, so much more important than in the past, when in fact, the training is, for reasons stated above, much inferior. Combine this type of training with low experience cadet pilots and the safety implications really start to multiply.

Retention of experienced pilots

In sub section c, I explained that in the past a pilot would join an airline and stay with that airline for their whole career. This was due to a strict seniority system (date of joining) which determined, amongst other things, promotion. If the pilot, after a number of years, left one airline and joined another then they would start at the bottom again and, from a promotion view point, the time spent in the previous airline is wasted. These days, in low cost carriers at least, the seniority system tends to be much less rigid, if it exists at all, and therefore I could spend many years at Jetstar and have a more junior pilot take a promotion ahead of me at the discretion of management. This has already happened on numerous occasions in the history of Jetstar. It means that the guarantees that were provided previously are no longer there and that to leave is not with the same risks as 1; I may not get the promotion that I would be due under a strict seniority system and 2; If I leave and go to another airline I may take a promotion at the expense of another pilot at that airline and thereby do not take such a risk to leave the first airline. This does, however, mean that the first airline loses my experience and possibly replaces me with a first time captain who, now, is a new captain flying with first officers with 200 flight hours under the Jetstar cadet scheme. This may be okay as a single event but if you end up with a mass exodus of captains from one airline due to, say, a foreign airline setting up a base in Australia offering better terms and conditions, then this becomes a serious safety issue, with inexperienced captains flying, constantly, with inexperienced first officers. This brings me to my next point.

In the past, apart from a strict seniority system, airline pilots were paid well and the conditions associated with the job were also good. Additionally, due to the fact the pilots were well supported with resources to do their job well, as opposed to low cost carriers, the job was easier. Today, however, in low cost carriers such as Jetstar this is not the case

and we are not, by world standards, well paid. Jetstar A330 pilots would be some of the lowest paid in the western world. This manifest itself as a negative safety outcome due to lack of retention of experienced pilots when, for instance, the new foreign airline opens its base in Australia and for the reasons stated above there is a mass exodus of experienced crew, leaving a hole in the experience base. It is by no accident that Australia has the exemplary aviation safety record that it has. That it does has is, historically, due to well structured training systems in airlines, due to stable working conditions and due to well maintained aircraft operated by highly experienced crew. As the industry stands now, I feel that the jury is out on what the next few years will hold if there are not significant changes made in the legislation that allows airlines to now operate in very different ways to that which has seen our airline safety record as the envy of the rest of the world.

Type rating and recurrent training

I have covered the negative aspects of the way type ratings are obtained under sub section c.

With regard to recurrent training, the point that I will make is that once trained to the 'line' on a particular aircraft, and apart from some recurrent courses through the year, there really isn't any training. The great majority of time spent in simulators is not training at all but, instead, checking. A great deal of opportunity is missed to improve standards by taking this approach. Yes, one has to meet a minimum standard and as long as this is met there is no training. Once again this comes down to a lack of commitment by these airlines to improving standards by committing funds, not to meet minimum standards, but to exceed them.

Capacity of CASA

Casa have in the past allowed Jetstar to vary minimum industry standards to the detriment of safety for commercial reasons. That is cost cutting.

As one example, is the reduction of required flight attendants on the Airbus A321. In their constant pursuit of cost cutting, Jetstar approached CASA with a view of reduction below minimum crew. This involved many changes to standard procedures to make things work. This means that there are different procedures in place, both normal and emergency, between the A320 and the A321. It needs to be understood that pilots and flight attendants fly on both of these aircraft. Some flight attendants also fly on the A330. This lack of standardisation affects safety and, adds pressure to, and makes crew jobs more difficult. On the A321, due to the crew reduction, the cabin manager is, during takeoff and landing, up the front by themselves, when normally and on the A320, two crew are at the front of the aircraft. During the pre-flight briefing, passengers are required to be asked to help with an evacuation even when all crew are conscious. It is one thing to brief passengers on the use of an over wing exit but quite another to require them to use a primary door just so that Jetstar can reduce the crew compliment by one. What if the passenger wants to have an alcoholic drink or two in-flight? Are they still fit to be assisting a flight attendant to operate doors during an emergency evacuation? During a ditching, the procedure for the first officer is varied on the A321 when compared to the A320 due, once again, to Jetstar reducing below minimum crew to cut costs. This means

that the first officer needs to remember to vary this procedure depending on the aircraft type involved. All of this has a negative impact on safety, complicating further, an already complicated operation and I feel that CASA have erred in granting this approval to Jetstar based on commercial cost cutting and have negatively impacted safety in the process.

This will not be the only instance of CASA approving company requests, for commercial reasons, which have a negative impact on safety.

Legislative immunity to pilots reporting safety matters

Pilots need to be provided with legislative immunity when reporting safety operational matters as this will encourage the reporting of such matters, without the fear of reprisal and will thereby have a positive effect on safety.

j. other related matters

1. Fatigue risk management system

Australian airlines should be required by law to adhere to a common and acceptable FRMS in order to combat poor and unsafe rostering practices.

2. Flight attendant training

Jetstar recently cut by around half, the training provided to cabin crew. This has resulted in new flight attendants being stood down by both Cabin Managers and Captains due to a lack of operational knowledge. In one instance, a crew member did not know how to arm an aircraft door at the start of the flight even though they had completed training and had been cleared to the line.

Airlines should have to meet acceptable training standard for flight attendant training.

3. Operating manuals

Jetstar pilots are not provided with up to date company documents for study purposes. Instead, we are provided with a CD with these documents on them. This type of information dissemination has a number of problems. Jetstar procedures are constantly changing, and after being thrown a disk with thousands of pages of information, amended as necessary, one is left with much work trying to work out what has changed. It is very difficult to effectively study on a computer screen and in the format provided, it is not possible to highlight text. Further, Jetstar do not provide equipment to read these disk and don't seem concerned that some pilots may not have a computer and therefore have no way of accessing critical procedural information. Even our cabin crew are provided with hard copies of their manuals. I don't think that the travelling public would think it good that the pilots flying their aircraft were not up to date with the latest information.

Jetstar should be required to provide its pilots with up to date manuals in hard copy form or at least give the pilot the option of such.

4. Qantas group safety survey

A Qantas group airline safety survey has recently been conducted, with input sought from all staff. If this information is available to this Senate enquiry, then this may provide some interesting comparisons between the views of Qantas Airlines' pilots and those of their Jetstar counterparts. I feel that the views of safety in the respective airlines will be vastly different and that Jetstar will be seen as much less safe, as an airline, by its pilots.

If this is the case, then it would show a lower level of safety in the low cost model, as seen by the pilots, and that, in Australia, would be unacceptable.

5. Endorsement GST cost

If able, this Senate enquiry should investigate the fact that Jetstar claim the endorsement cost GST back as a business cost and pockets this money, even though the pilot has ultimately paid this money and not Jetstar.

6. Legislative powers granted to airline flight departments and safety departments

If able, this Senate enquiry should investigate the possibility of providing legislative powers to airline flight department and/or safety departments so that they alone, are responsible for the safety of the airline operation and have the power to determine how and to where the airline will operate, with safety as its primary focus, with severe penalties for not operating with safety as the primary focus.

Airline safety departments should be made, by law, to be separate and independent from the commercial departments of airlines, just as the judicial system is separate from government, in the interests of safety.

If an airline, such as Jetstar, is to maintain the 'privilege' of having the responsibility to determine its own safety outcomes by the regulator, then they need to take this responsibility seriously by allocating sufficient resources to allow safety departments to do their work and, indeed, should be required to do so by the law. Jetstar, I feel strongly, do not provide even nearly enough of these resources and they do not take safety nearly seriously enough.

7. Pilot Morale

Since the inception of Jetstar in 2004 and even prior to this in Impulse Airlines, this pilot group have 'bent over backwards' to ensure the success of the Airline during its continued growth in the absence of suitable operational resources as has been explained elsewhere in this document. They have accepted substandard wages and conditions, by world standards, to ensure the viability of the model. All that they have expected in return is for Jetstar management to honour the commitments, both legal and inferred, that they have made to this group. Of particular note, are notices written by then C.E.O Allen Joyce in the lead up to the 2008 Jetstar Pilot's EBA vote. These notices indicated that if the 2008 EBA was voted in the affirmative, that this would ensure that the pilots covered by it would share in the future growth of the aircraft covered by it, most notably the Boeing 787. The 2008 EBA was accepted by the majority of the pilot group on this basis. As it now turns out, Jetstar decide that they are no longer willing to play by the rules set in good faith by EBA 2008 and by contrast have decided that they will offshore, in one instance, these jobs to overseas ports and in the second instance, start up a new contract company within Australia, no less, featuring, no doubt, based on past performance, vastly reduced terms and conditions. All the while reducing its wages bill and reneging on its commitment that it made to its pilots in 2008.

The cause and effect of this is difficult to reconcile. The cause is the way that Jetstar operate at an industrial level and is in no way covered by this Senate inquiry. The effect however, is the potential to have a very negative safety outcome for aviation and is therefore absolutely covered by this inquiry. I have described previously how

complicated that this Jetstar operation is and it needs no further expansion. With such an operation however, comes a requirement for, at times, absolute concentration of thought. In a company where a pilot, rightly or wrongly, feels to be under constant 'attack' this can prove difficult. I can tell this inquiry through this submission that, rightly or wrongly, a great deal of time on Jetstar flight decks is spent discussing the industrial relations strategy of Jetstar management. This probably happens on every Jetstar flight deck every day to varying degrees.

Pilots are a different employee group to any other by virtue of the fact that we tend to be very long term. Contrary to Jetstar managements' appalling 'catch cry' that they don't expect their pilots to last more than around five years, as we will be 'burnt out by then', (this is a stolen catch cry from Ryan Air CEO Michael O'Leary) the vast majority of pilots will be around for many years longer than this. Indeed, the average pilot will be around many times longer than the average manager, including senior management. This is why pilots take the future direction of a company so seriously. Long after the managers have left, taking their KPI performance based bonuses, achieved through cost cutting, with them, it is the new management and the long term employees who are left to pick up the pieces and try to make things work. The attempted private equity buy out of Qantas by, amongst others, TPG and Macquarie springs to mind and the open joy that this was met with by then CEO Geoff Dixon, based on greed. Qantas would very probably be bankrupt now, given that the whole transaction was based on debt and that the future, at the time, would see the global financial crisis take place and claim a great many companies worldwide with high debt profiles.

In my 25 years plus, in aviation, I have never seen morale amongst a group of pilots nearly as low as that of this Jetstar group. I strongly believe that the Australian travelling public deserve much better than to be flown around by pilots of a major Australian airline who feel under constant threat and who are worried about their futures.

Jetstar management have, I can confirm, been warned by some very senior pilots, who see what goes on on Jetstar flight decks, that they have a major problem in this regard. The reply by these managers is typical, and to quote, 'we don't think we have a problem'. I wish to state for the record, that I strongly feel that this low morale amongst the Jetstar pilot group is a huge problem and has the potential for a negative safety outcome.

If a solution to this problem is beyond the scope of this inquiry, then CASA should be commissioned to recognise that the problem exists in the first instance, and to then work with Jetstar and the pilot body to find solutions to its cause.

Conclusion;

The low cost model generally and the Jetstar model specifically, are operated with minimum resources allocated to them in the interests of cost savings.

These airlines are operated to the limit in all areas, with the allocation of resources based on a perfect outcome every time. In reality, however, this is never the case. As soon as one aircraft runs late, for instance, the operation, which relies on the perfect outcome each time, is adversely affected.

James Reason, an aviation risk expert, devised a simple model some years ago, which I have included as a diagram. The model consists of slices of Swiss cheese lined up on end. Each one represents a layer of resistance, representing procedures and processes that are designed to ensure safety. Like all systems, there will be flaws and these are represented by the holes in the cheese. Invariably, one layer will be penetrated via a hole, only to have the next layer trap the threat and the problem is averted. When it just happens that something goes wrong, and it so happens that all of the holes line up, then the threat gets through each layer that is designed to trap it and the accident occurs. The first of these layers tend to be systems and procedures controlled by senior management and are representative of the way that the airline is run. Pilots tend to be the last layer of this model and thereby represent the last chance to save the operation from an accident or an incident occurring and this is often the case.

When an airline is run right to the limit every day, in all aspects, as I hope that I have been successful in describing throughout this submission, then the odds of the holes all lining up are vastly increased.

As detailed at the start of this submission, my name and contact details must remain confidential and appear nowhere in any document that could reveal my identity.

SENTATE INQUIRY INTO PILOT TRAINING AND AIRLINE SAFETY Summary

Pilot experience

An explanation of how complicated an RPT jet operation is, particularly one that is of the low cost model and my view that it is no place for an inexperienced pilot.

USA 1500 flight hour requirement for RPT

An explanation of the Jetstar minimum experience requirements, as approved by the regulator, the fact that these match the new USA minimum requirements for RPT and the fact that these US requirements were introduced as a result of an accident and that we should act prior to not after an event.

Pilot recruitment and pay for training schemes

An explanation of the way that recruitment and training in airlines used to be conducted and that today it is not as good as then, even though the operation of low cost carriers is a complicated one and now, the first time that a pilot will fly the aircraft is with passengers on board.

Retention of experienced pilots

An explanation that a strict seniority system and good pay and conditions in the past ensured that airlines retained their most experienced crew members and that today with low cost carriers possibly having neither of these two things, that experienced pilots may be hard to retain.

Type rating and recurrent training

An explanation that simulators are not, but could be, used to much greater effect for recurrent training to not just meet, but to improve standards.

Capacity of CASA

An explanation that CASA have previously granted concessions to Jetstar, requested for commercial reasons, and that these concessions have an adverse affect on safety.

Legislative immunity to pilots reporting safety matters

Self explanatory.

j. Other related matters

Self explanatory.

James Reason's Model.