



22 March 2011

Ms Julia Morris  
Committee Secretary  
Standing Committee on  
Infrastructure and Communications  
House of Representatives  
PO Box 6021  
Parliament House  
Canberra ACT 2600

Dear Ms Morris

### **Inquiry into the Ratio of Cabin Crews on Aircraft**

I refer to your letters of 8 March 2011 to Qantas' Chief Executive Officer Alan Joyce and Jetstar's Group Chief Executive Officer Bruce Buchanan inviting each to provide submissions in relation to the above inquiry.

The Qantas Group welcome the opportunity to participate in this inquiry. Safety is our first priority and we are committed to world's best safety practices in all aspects of our business.

The diverse nature of our operations means that the Qantas Group adopts a range of tailored approaches to cabin crew safety and security training. In the interests of presenting these approaches in a manner that allows comparison of the different Group practices, whilst providing more general information about the commonalities across the Group, we believe that a joint Group submission (attached to this letter) will be of greater assistance to this inquiry.

Like all major Australian airlines, the Qantas Group is currently operating with regulatory dispensations from the Civil Aviation Safety Authority (CASA) allowing a cabin crew ratio of up to 1:50. These dispensations have been granted following extensive evidentiary processes where CASA reviewed the safety and



security implications of the reduced cabin crew compliment for each specific aircraft type. Consistent with these CASA reviews, industry practice worldwide and the aircraft manufacturer's recommendations, the Qantas Group is very confident that there are strong reasons to enshrine the 1:50 cabin crew ratio for modern aircraft operations in Australia.

Qantas therefore supports CASA's consideration of the proposal to change the civil aviation orders to enable the ratio of cabin crew members to passengers to be increased in line with global best practice and the demonstrated safety and security benefits.

We would be pleased to provide any further information if it would be of assistance and to appear at Committee hearings if invited to do so.

Yours sincerely

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**Robert Wood**  
Head of Government and International Relations  
Qantas Airways Limited



**QANTAS GROUP SUBMISSION  
HOUSE OF REPRESENTATIVES STANDING COMMITTEE ON  
INFRASTRUCTURE AND COMMUNICATIONS  
INQUIRY INTO THE RATIO OF CABIN CREWS ON AIRCRAFT**

The Qantas Group<sup>1</sup> consists of a number of wholly-owned flying entities with each having a distinct Air Operator's Certificate (AOC). Safety is the Group's first priority and is at the core of all activities for both flying and non-flying operations. The Group has a strong safety record and is committed to world's best safety practices.

Based on this strong commitment to safety, the Qantas Group welcomes the opportunity to participate in this inquiry.

***Background to the Inquiry***

Civil Aviation Order (CAO) section 20.16.3 regulates the assignment of cabin crew to those Australian aircraft that require them. This CAO requires that airlines engaged in charter or regular public transport operations and carrying between 20 and 216 passengers shall carry at least 1 cabin crew member for each unit of 36 passengers or part thereof (1:36).

This Inquiry is to consider the CASA proposal to amend the CAO to permit airlines to operate with a ratio of up to 1 cabin crew member for each unit of 50 passengers or part thereof (1:50)<sup>2</sup>.

As the Standing Committee (the Committee) is aware, since 2006 CASA has permitted Australian airlines to apply for a dispensation to operate aircraft with a ratio of 1:50 after satisfying CASA that such operations can be undertaken in a safe manner.

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<sup>1</sup> For the purposes of this submission the Qantas Group refers to wholly-owned airlines including Qantas Airways, Jetstar and QantasLink (which comprise the two regional carriers – Eastern Australia and Sunstate)

<sup>2</sup> subject to providing CASA with a satisfactory Safety Risk Management Plan (SMRP)

The Qantas Group, along with all other major Australian domestic airlines, have applied for and been granted such approvals (refer to Attachment 1). The Qantas Group believes that these arrangements have been working well and that there is compelling evidence to demonstrate that these arrangements do not pose any safety or security threats. On the contrary, there are good arguments to suggest that these arrangements have strengthened aviation safety and security.

For the reasons outlined in this submission the Qantas Group believes that the NPRM represents a positive shift in Australia's aviation regulation and in that:

- It will bring Australia's regulations into line with global standards;
- It is consistent with the operational and safety design criteria for modern aircraft; and
- It has been demonstrated to be safe and effective in Australia by all major domestic airlines that currently operate at cabin crew ratios above 1:36 via dispensations.

### ***The history of cabin crew ratios in Australia***

CASA has previously<sup>3</sup> acknowledged that the origins of the 1:36 ratio are uncertain. The Qantas Group understand that the origin of the Australian regulation dates back to the 1950s to cater for the introduction of the Fokker 27 aircraft. The Australian decision to adopt the 1:36 cabin crew ratio was predicated on a belief at that time that the Fokker 27 aircraft should have two cabin crew members at a minimum, with the seating configuration chosen as the basis for this decision. Since the 1950's, this ratio has been extrapolated to cater for larger aircraft without any recognition of advances in safety equipment, safety procedures and safety training that has occurred over the last 50 years.

The 1:36 ratio may have been appropriate at the time of its introduction, however, improvements in aircraft design, certification requirements, airline operating practices, training of cabin crew and the actions of other regulatory regimes means that this requirement is now outdated.

### ***Global Cabin Crew Ratios***

Canada<sup>4</sup> and Australia are the only major aviation markets where the regulations provide for a ratio of 1:36. No empirical safety data is available that supports the maintenance of the current ratio of 1:36 passengers. In the United States (US), Europe, New Zealand, the United Arab Emirates (UAE) and major Asian markets, the regulated requirement is for 1:50 for aircraft with more than 19 seats (refer to Attachment 2).

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<sup>3</sup> Arthur White, Acting Group General Manager, Air Transport Operations Group, CASA – Rural and Regional Affairs and Transport Legislation Committee Senate Hansard Monday, 29 August 2005, RRA&T 44

<sup>4</sup> Canadian regulations permit exemptions up to a ratio of 1:50.

Country	Cabin Crew Ratio
United States (FAA)	1:50
Europe (EU- Ops/JAR Ops)	1:50
Canada	1:40
Singapore	1:50
Hong Kong	1:50
United Arab Emirates	1:50

In the Qantas Group's view, there is no reason why Australia should remain out of step with other major aviation markets on this issue and believes that it would be sensible to amend Australian regulations to align with global standards. The lack of harmonisation of cabin crew requirements with the US, Asia, Europe and New Zealand (our major travel destinations) adds unnecessary complexity and cost to Australian operations<sup>5</sup>.

Harmonisation of Australian aviation regulations with those of other countries is also an operational priority of CASA. The object of harmonisation is to bring different civil aviation standards and regulations of the same scope, to a level such that they are either identical, equivalent, or have the same effect of permitting services to be used in place of one another, or fulfil the same purpose. The Qantas Group supports this harmonisation provided that the international standards are adapted to the Australian context.

In addition to harmonising with current global aviation standards the Qantas Group believes that there are many other compelling reasons to support the proposed move to allow Australian airlines to operate with cabin crew ratios of up to 1:50.

### ***Aircraft Manufacturer Recommended Cabin Crew Ratios***

Modern narrow body aircraft are certified by manufacturers with a ratio of 1:50 passenger seats. Manufacturers also certify their aircraft to meet the regulatory requirements that a full load of passengers can be evacuated through half the available exits in 90 seconds.

The numbers and locations of emergency exits are determined in the design phase based on the 1:50 ratio. Analytical procedures such as computer simulations are performed on these aircraft to ensure that the seat layout and cabin crew ratio will allow for the evacuation of an aircraft in the required 90 second period.

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<sup>5</sup> On 15 March 2011, the EU and the US concluded a Bilateral Aviation Safety Agreement on cooperation in the regulation of civil aviation safety which will improve aviation oversight and save millions of dollars annually by eliminating duplicated legislation.

### ***Today's Travellers***

Passenger demographics have changed significantly since the original ratio was adopted in 1960. Passengers today travel more frequently and are more familiar with the pre-flight safety briefing and where exits are located in the event of an evacuation.

### ***Safety Advancements***

Improvements in the interior design of commercial passenger aircraft have greatly reduced the threat of fire in the cabin, increased the time available for evacuation and improved the access to the exits. All these improvements have led to improved survivability in aircraft accidents and increased passenger safety.

Examples of specific safety improvements include:

- Reduced flammability of cabin materials (seat covers and cushions, plastic mouldings, etc.) and toxicity of fumes in the event of a fire allowing passengers more time to get to exits before being overcome by heat, smoke and/or fumes;
- Increased seat strength reducing injuries and keeping seats in place, allowing easier access to exits;
- Increased strength of overhead bins reducing injuries and debris in an accident and making it easier for passengers to access exits;
- Floor level lighting to exits making it easier for passengers to locate emergency exits on a dark or smoke filled cabin;
- Improved emergency exit doors, reducing the chance of locks sticking, making them easier to open and lighter to handle;
- Improved strength and heat resistance of aircraft hulls resulting in more time available for evacuation, fewer injuries on impact and less debris in the cabin;
- Improvements in exit slides allowing quicker, easier and safer evacuations;
- More sophisticated cabin crew training including assertiveness training;
- More space being introduced in the vicinity of exits;
- Able-bodied passengers only being seated in exit rows; and
- Cabin safety briefings being conducted in conjunction with video to demonstrate safety procedures.

Compared to 30 to 40 years ago, and under the same accident circumstances, passengers would now have less severe injuries, more time available to exit the aircraft before being overcome by heat, smoke or fumes, be able to find exits more readily, and have less debris blocking their path. The life saving role of cabin crew in emergencies has therefore been reduced by the aircraft improvements as many of the functions cabin crew had to perform previously to save lives are no longer as relevant or likely to be required.

It should also be noted that improvements to cabin safety will continue to be made and while a minimum number of cabin crew will be required from a service level perspective, their presence – while essential from a safety perspective – may become less pronounced as these technological improvements develop over time to make air travel even safer.

In addition to these general comments on the desirability of moving to a 1:50 ratio the Qantas Group offers the following detailed comments on the Committee's Terms of Reference.

### **The current aviation safety regulatory system for aircraft operators in relation to the application of the cabin crew to passenger ratio including current exemption provisions.**

As discussed above, since 2006, CASA has permitted a number of Australian Air Operator Certificate (AOC) holders to operate certain single aisle aircraft types with an assigned number of cabin crew at a ratio of up to 1:50. The relevant legislative instrument is made under the Civil Aviation Regulations 1988 (CAR) and is known as a CAR 208 Direction - Number of Operating Crew.

Applicants for a CAR 208 Direction are required to satisfy CASA that normal and emergency procedures, together with supporting operational systems and training, were capable of supporting an internationally recognised 1:50 ratio. Applicants were also required to provide CASA with detailed safety cases and risk assessments (including a SMRP), and where necessary, are required to adjust operational procedures to enhance safety in support of the application. Airlines seeking a dispensation are required to demonstrate to CASA that the operator's procedures and training resulted in an equivalent or enhanced evacuation standard than that of the aircraft manufacturer together with evidence that this evacuation performance could continue to be met. Where has been determined that no adverse effect on aviation safety existed, regulatory permissions have been granted on a temporary basis enabling that airline to operate a particular aircraft type with a cabin crew ratio of up to 1:50.

The Qantas Group (along with all other major Australian airlines) has applied for, and been granted, dispensations for the following aircraft types:

- Airbus A320 (operated by Jetstar) 4 cabin crew to 177 seats (1:45);
- Airbus A321 (operated by Jetstar) 5 cabin crew to 220 seats (1:44);
- Boeing 717-200 (operated by Cobham on behalf of QantasLink) 3 cabin crew to 115 seats (1:39);
- Boeing 737-800 (operated by Qantas) 4 cabin crew to 166 seats (1:42);  
and
- Bombardier Q400 Dash 8 (operated by QantasLink) 2 cabin crew to 74 seats (1:37).

In most applications, CASA requires the applicant to undertake a partial aircraft evacuation to demonstrate:

- The system of managing a emergency evacuation procedure in simulated conditions with a cabin crew ratio up to 1:50;
- The ability to assess and brief passengers seated in the emergency exit rows resulting in the passengers reacting in a manner appropriate to the simulated emergency situation; and
- Crew member ability to recognise and react to a simulated emergency situation by operating selected emergency exits (where fitted) in a time similar to that expected under Federal Aviation Administration (FAA) guidelines in the US for such a demonstration.

In each such application for exemption there are specific pre-conditions arising from the safety case analysis that CASA has identified to ensure that each particular aircraft can be operated safely with a cabin crew ratio up to 1:50. Further information about each of the Qantas Group CAR 208 Directions is set out in Attachment 3.

## **The role of cabin crew in managing both passenger safety and security**

Cabin crew play an important role in ensuring the safe and orderly operation of an aircraft. Cabin crew must be able to react to a range of different and challenging scenarios in the course of their duties. For this reason the Qantas Group places a great deal of focus on ensuring our cabin crews are trained to be able to deal with a range of scenarios relating to the safety and security of aircraft.

### *The Qantas Group Approach to Cabin Crew Training*

The Qantas Group embraces the concept of continuous improvement in all aspects of our operations. Training is no different and the Group strives to ensure that our cabin crew are trained to be able to handle the full range of safety and security incidents that may occur in the course of their duty. The Group pays particular attention to contemporary training needs for its cabin crew, in areas such as:

- Fire and smoke training;
- Water survival training;
- Survival training;
- Medical treatment and first aid;
- Passenger handling;
- Communication between cabin crew and flight crew;
- Discipline and responsibilities; and



- Communication, decision making, leadership and risk awareness training.

Each of the different airlines in the Qantas Group has its own specific cabin crew training program which is designed to take the regulatory requirements and provide additional training to address its particular flying needs. This is important as it builds specific operational and type competencies onto these legislative minimum requirements. For example, Qantas' cabin crew training requirements take into account aircraft type, aircraft complexity and the nature of the operation, such as international, domestic or regional services.

Qantas cabin crew receive regular refresher and conversion training to ensure proficiency is maintained and to build upon existing skills. All cabin crew receive twice yearly training in emergency procedures and normal operations. The approach to training is competency based and crew are assessed in both theory and practical knowledge. Part of this training encompasses human factors modules which change regularly. Bi-annual training is also scheduled for medical and security updates and to maintain proficiency in these important areas.

#### *Jetstar Cabin Crew Training*

All Jetstar cabin crew are initially trained to operate on A320 and A321 aircraft for a period of 18 days with a mix of safety, emergency and customer service training modules. This is followed by three days of line training and one day of check to line – where cabin crew are assessed on the theory and practices learned throughout their training (which is conducted on board an aircraft). If cabin crew are assigned to operate on A330-200 aircraft, they are required to complete a three day conversion course, including an extra aircraft familiarisation session and on-line training.

Jetstar cabin crew receive refresher and recurrent emergency procedure training on an annual basis, with performance and on-line checks taking place throughout the year.

#### *Cabin Crew and Security*

Qantas Group cabin crew are required to respond to in-flight incidents on a regular basis. When the restraint of a passenger is required to ensure the safety of flight or to prevent self harm, cabin crews are trained to work cooperatively; with multiple crew members assisting in the process. Cabin crew are trained not to confront violent passengers alone unless there is no alternative.

Once restrained, the cabin crew are required to closely monitor the passenger's condition for the remainder of the flight. If under the influence of drugs or alcohol or where a passenger has made threats against the aircraft or its safe operation, a cabin crew member may be allocated to provide constant supervision or sit with

the restrained passenger during critical phases of the flight, usually from top of decent.

### **Factors that determine the cabin crew to passenger ratio.**

In assessing the appropriate ratio of cabin crew to passengers, it is not simply the number of crew that is important to aircraft safety, but the level and quality of their training. To determine the number of cabin crew required, an analysis must be undertaken of the roles that the crew are required to perform in the event of an emergency and whether there are sufficient cabin crews to perform all of those functions safely.

CASA's CAO Section 20.16.3 has retained the same cabin crew to passenger ratio since 1960. In the 51 years since, significant improvements have been made in passenger safety, as demonstrated by advances in aircraft design, reliability, airworthiness, aircraft safety in the event of an accident, crew member training, passenger capability, evacuation performance and survivability. A number of these safety enhancements have become mandatory airworthiness requirements, reflected through the FAA and EASA certification standards. These certification standards are enacted through the US Federal Aviation Regulations (FAR) 25 Amendment 15 (1965) and the FAR 25 Amendment 51 (1980), stating that:

*"it is envisaged that aircraft certified to the FAR 25 Amendment 25-51 or later (or equivalent JAA/EASA certification standard) will be the minimum certification standard that will permit a variation in cabin attendant requirements. It will be applied as an operating standard for a ratio of one (1) cabin attendant up to fifty (50) passengers for all aircraft."*

Australian operational training requirements supporting the current 1:36 cabin crew to passenger ratio are set out in CAO Section 20.11. The crew member proficiency test requirement lists the minimum subject matter required for proficient cabin crew operating any size passenger aircraft. Because the Order requires only a minimum standard, it is no longer regarded by the air transport sector as a basis of a modern system-based training and checking regime. The Qantas Group has designed its cabin crew training procedures to support more effective crew member training in line with best practice for passenger safety. This training goes beyond the regulations by looking for additional ways to manage safety risks.

#### *The Link between Safety and Training*

Studies have shown that cabin crew training, not cabin crew numbers per-se, is the determining factor in performing an efficient and safe aircraft evacuation.

There is no detailed analysis which supports the ratio of 1:36 passengers on-board as being the optimum ratio for reducing the risks associated with an aircraft evacuation. There is also no analysis to support a case which suggests that the number of cabin crew significantly influences the speed at which passengers are able to evacuate the aircraft, or that any deviation from a 1:36 ratio would be detrimental to safety. In fact, there have been studies conducted<sup>6</sup> which indicate that the addition of more cabin crew actually increases the exposure of passengers to the risks associated with an accident.

The R.G.W Cherry and Associates study into the factors influencing the survivability of passengers in aircraft accidents indicates that the level of risk reduction in having a cabin crew ratio of 1:36 passengers in place of 1:50 on-board is minimal and certainly be one of the least effective ways of reducing the fatality rate. It is argued that an additional cabin crew member would reduce the risk to those on-board by only a very small amount, and that this incremental amount decreases for each new cabin crew member added. At some point, the incremental decrease in risk by the addition of cabin crew is less than the increased risk due to one additional person being on-board. It is at this point where additional cabin crew does not improve safety. It is clear that based on global standards, a ratio of 1:50 is deemed the appropriate ratio to ensure the optimal use of human resources without putting at risk safety and additional lives.

The R.G.W. Cherry and Associates analysis also indicates that if operating under the 1:50 seat requirement, adding an extra cabin crew member would have an insignificant effect on the number of fatalities in the event of an accident. Thus the main argument against the 1:50 seat ratio, that it would decrease the number of cabin crew onboard and thus safety, is not supported by research and empirical evidence.

#### *1:50 Ratio No Threat to Security*

Across the Qantas Group, there is an average of 15 disruptive passenger behaviour incidents every month. In 2010, 21 in-flight incidents were classified as violent (which requires use of force or threatened use of force) across the Qantas Group, resulting in 11 passengers being restrained. This equates to less than one passenger restrained in every four million passengers carried.

Since the September 11 attacks, there is no information to suggest that terrorist planning has been affected by the number or ratio of cabin crew on-board an aircraft. Since these attacks took place, there is an increased willingness for cabin crew and passengers to identify suspicious activity and intervene if passenger behaviour is of security concern. A terrorist planning a suicide hijack attack is unlikely to differentiate between passengers and cabin crew during an

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<sup>3</sup> "Analysis of Factors Influencing the Survivability of Passengers in Aircraft Accidents" R.G.W. Cherry & Associates, proceedings of the International Conference on Cabin Safety Research, November 14-16, 1995, Atlanta City, New Jersey.

attempt to breach the hardened flight deck door. Similarly, the cabin crew to passenger ratio is also unlikely to affect the planning or conduct of an in-flight attack using an improvised explosive device (IED) – the primary terrorist threat to civil aviation today.

In previous high profile security instances, passengers rather than cabin crew have been the first to notice and respond to IED-related activity and in-flight violence. This is true for the:

- attempted hijack of QF1737 on 29 May 2003 (refer to Case Examples below);
- attempted “shoe-bomb attack” on 21 December 2001; and
- attempted “underware-bomb” attack on 25 December 2009.

The Qantas Group therefore has no objection to the proposed amendment to the cabin crew passenger ratio from a security perspective as:

- there is no security regulatory impediment to proceeding with the amendment;
- the threat environment will not be affected by the proposed change;
- there are no indicators suggesting that changing the crew ratio as proposed will cause an increase in the security risk on board an aircraft; and
- security reporting suggests that the additional demands placed on crew may affect the service offering, but is not considered likely to compromise the crew's safety or security capability.

#### *Case Examples*

The evidence put forward by empirical studies such as the R.G.W. Cherry and Associates analysis is also supported by real examples, for example, the US Airways Airbus A320-214 Hudson River incident, which occurred in the US in January 2009. The evacuation of all passengers and crew on this flight was actioned in a timely and orderly manner under extreme weather conditions and in water. This example clearly demonstrates the effectiveness of operating services safely under a cabin crew to passenger ratio of 1:50.

The security incident which took place in Australia on a Qantas service (QF1732) between Melbourne and Launceston in May 2003 is another example. This service involved an attempted hijacking by a mentally ill passenger, and while the service was operated with a cabin crew ratio of 1:36, the attacker was overcome by both passengers and a crew member. In this situation the number of cabin crew was not a factor in resolving the incident.

**Measures to enhance aviation safety that may be considered in future requirements on aircraft operators for a safety management risk plan covering the cabin crew to passenger ratio.**

If the Government is amenable to permitting carriers to operate with a cabin crew ratio up to 1:50 on a permanent basis, and to ensure that safety and security levels are maintained, the Qantas Group would recommend that CASA closely monitor and review an airline's transition to the new ratio. Thereafter, following the commencement of the revised cabin crew operations, monitoring and review should be conducted as determined by CASA's industry surveillance program.

Operators with a current CAR 208 Direction should be expected to address the more mature considerations identified in the Civil Aviation Advisory Publications (CAAPs), and an operator's recent safety case combined with a post implementation review should be sufficient for an SRMP. CASA should continue to consider each individual operator's SRMP and decide whether to approve it on an operator-by-operator basis. Oversight activities should, from then on, take place during CASA's normal program of surveillance

In addition, given the demonstrated ability of Australian carriers to successfully operate aircraft with a 1:50 ratio, the Qantas Group sees no reason why the upper limit restriction of aircraft fitted with a maximum of 216 seats could not be expanded to include larger wide bodied aircraft with a similar passenger to cabin crew ratio enforced, subject to a CASA approved SRMP. At a minimum the Qantas Group would wish to see the maximum allowable seat limit of 216 – currently under consideration by CASA – raised to at least 220 to ensure that it is relevant for modern aircraft types such as the A321.

The Qantas Group also supports CASA's proposal to allow flexibility in a SMRP for an aircraft to be operated with one less cabin crew member in the event of an injury or illness sustained by a cabin crew member during a period of duty if a ratio of one cabin crew member for every 50 passengers on board can be maintained. Such a change would provide important operational contingency and avoid unnecessary aircraft delays and costs. However, the Qantas Group does not support a requirement to submit a full report to CASA within seven days under such circumstances. In our view, this requirement is redundant as CASA can request further information or a full report from a carrier after a summary of the incident is reported.

**Attachment 1**

**Current CASA CAR 208 Exemptions**

**CASA 90/11**

In March 2010, approval was granted for Sunstate Airlines to operate its 78 seat Dash 8-400 aircraft using 1 cabin attendant for every 50 passenger seats. Expires 30 June 2011.

**CASA 206/09**

In June 2009, approval was granted for Jetstar to operate its 220 seat A321-231 with not less than 5 cabin attendants. Expires 31 May 2011.

**CASA 320/09**

In July 2009, approval was granted for Qantas to operate its 189 seat B737-800 using 1 cabin attendant for every 50 passenger seats if carrying 50 or less passengers. Expires 31 July 2011.

**CASA 321/09**

In July 2009, approval was granted for Qantas to operate its 189 seat B737-800 using 1 cabin attendant for every 50 passenger seats. Expires 31 July 2011.

**CASA 206/09**

In July 2010, approval was granted for Cobham to operate its 115 seat B717-200 aircraft with not less than 3 cabin attendants. Expires 31 July 2012.

**CASA 429/09**

In September 2009, Jetstar was granted permission to operate its 180 seat A320 series aircraft using a cabin crew ratio of 1:50. Expires 31 August 2011.

**CASA 428/09**

In September 2009, Airnorth was granted permission to operate its 78 seat Embraer 170/100 aircraft using a cabin crew ratio of 1:50. Expires 31 August 2011.

**CASA 477/09**

In October 2009, approval was granted for Virgin Blue to operate its 189 seat B737-800 using 1 cabin attendant for every 50 passenger seats. Expires 30 June 2011.

**CASA 427/09**

In November 2009, Alliance Airlines was granted permission to operate its 100 seat Fokker F28 aircraft with 1 cabin attendant for every 50 passenger seats. Expires 31 August 2011.

**CASA 451/10**

In December 2010, Tiger was granted permission to operate its 180 seat A320 series aircraft using a cabin crew ratio of 1:50. Expires 31 July 2011.

**CASA 33/11**

In February 2011, approval was granted for Strategic Airlines to operate its 180 seat A320-200 aircraft with 1 cabin attendant for every 50 passenger seats. Expires 31 June 2011.

**CASA 42/11**

In February 2011, approval was granted for Skywest Airlines to operate its 100 seat Fokker 28 MK 0100 aircraft with 1 cabin attendant for every 50 passenger seats. Expires 31 June 2011.

Note: CASA instruments 90/11, 451/10, 42/11, 320/09, 321/09, 428/09, 429/09, 477/09, 427/09 and 33/11 are all based on a new cabin crew standard of 1 cabin crew attendant for every 50 passenger seats, and 1 attendant for any incomplete part of that number.

**Attachment 2**

**Summary of Cabin Crew Ratio Rules in Various Jurisdictions**

A summary of cabin crew ratio rules in a number of major jurisdictions is outlined below.

**United States**

Part 121 – Operating Requirements: Domestic, Flag, and Supplemental Operations, Subpart M – Airman and Crewmember Requirements, § 121.391 Flight Attendants – of the FAA regulations, requires US operators to have a minimum of a cabin crew ratio of 1:50 (refer to table below).

Payload	Seats	Cabin Crew Required
> 7500 lbs	9 - <= 50	1
< = 7500 lbs	19 - <= 50	1
	50 - <=101	2
	> 100	2 + 1 for each 50 seats (or fraction thereof)

**Europe**

In Europe, JAR Ops 1.990 Number and Composition of Cabin Crew require one cabin crew member for every 50 seats (or part thereof) for aircraft with more than 19 seats. In exceptional circumstances this number may be reduced to match the number of passengers on board if a report is submitted to the Authority after conducting the flight.

Joint Aviation Authority (JAA) rules have been adopted by all EU countries, Switzerland and most Euro control countries including Iceland. EU-Ops 1.311, which applies to all EU countries makes reference to JAR Ops 1.990.

**Singapore**

Air Operator Certificate Requirements – Chapter 7 (Cabin Safety) 1.3 (Cabin Crew Complement) for aircraft with an approved cabin configuration of more than 19, specifies that one cabin crew member for each 50 seats or fraction thereof (per deck) should be on board such aircraft. For long haul flights, the Authority may – at its discretion – require a higher number of cabin crew. The required complement may also be reduced as approved by the authority.

**Hong Kong**

CAD 360 Part 1 Air Operator's Certificates Operation of Aircraft – Chapter 7 (Cabin Safety) 1.3 (Cabin Crew Complement), in accordance with Article 18(7)



(c) of the Air Navigation (Hong Kong) Order 1995, require not less than one cabin crew member for every 50 passengers or fraction thereof. However, the Government of Hong Kong can approve a different ratio at its discretion. For wide-bodied aircraft, the higher of 1:50 or one crew member per designated emergency exit is required.

### **United Arab Emirates**

CAR Ops 1.990 mirror JAR rules and stipulate a ratio of 1:50. Overall, CAR Ops rules mirror JAR Ops regulations.

### **Canada**

A background on the Canadian regulatory perspective is important as Canada maintains the temporary exemption process for a 1:50 ratio as in the case of Australia.

The Canadian cabin crew requirement, implemented in the early 1970s, was a compromise between existing requirements and, similar to the Australian decision for 1:36, was not based on any empirical analysis of the safety benefits or costs. At that time, the rule in the US was for one cabin crew member for every 44 passenger seats. In 1972, the US changed the required ratio to 1:50 passenger seats.

Attempts to harmonise the Canadian regulations with the US with respect to cabin crew numbers were made in the mid to late 1990s to no avail. In October 2002, Transport Canada received a request from the Air Transport Association of Canada to revisit the cabin crew ratio of 1:50.

In July 2003 the Civil Aviation Regulatory Committee accepted the recommendation to amend the Canadian Aviation Regulations to include a rule allowing a ratio of 1 cabin crew member for every 50 available seats.

In April 2004, the Commercial Air Services Operations Technical Committee met and discussed the proposed changes to the rules to support the 1:50 ratio. In March 2005, the Special Civil Aviation Regulatory Committee (chaired by the Director General of Civil Aviation) approved the proposed rules on a case-by-case basis.

While Canada had agreed to amend their existing requirements to broadly reflect the US requirement of 1 cabin crew member for each 50 passenger seats on a case-by-case basis, the reason for this is based on Australia's regulations. In this instance, there was no safety argument adopted by Canadian regulators other than to quote another regulator's position on cabin crew ratios.

**Attachment 3**

*Boeing 737-800 CAR 208 Direction Exemption*

During the process to attain the dispensation to operate flights above the 1:36 cabin crew ratio on Qantas' Boeing 737-800 (B738) fleet, a risk was identified by CASA relating to minimum passenger requirements at over-wing emergency exits. Following the identification of this risk, Qantas reviewed its over-wing exit requirements.

To ensure that appropriate safety measures were in place at over-wing emergency exits, Qantas made improvements to its briefing of passengers seated in these seats, including the development of an "exit row briefing card" on its B738 fleet (and Boeing 767 fleet). Procedures are also now in place to ensure that exit rows are checked for minimum occupancy (two passengers to each three seat block) and that when occupied, the passengers seated in these rows meet a number of criteria and are assessed to ensure they are physically capable of performing an emergency procedure if required.

These enhanced procedures demonstrated to CASA that Qantas was able to ensure that passengers and crew were able to evacuate a B738 aircraft within the legislated 90 second time frame using a cabin crew ratio of 1:50. This was achieved through identifying and appropriately addressing hazards and simplifying pre-existing procedures to minimise evacuation time and maximise passenger egress in support of the safety case for a 1:50 cabin crew ratio.

In response to these changes, and on the basis of the safety case submitted by Qantas, in November 2007, CASA issued Qantas with Instrument 445/07 (replaced by 320/09 in July 2009), which noted that:

"CASA does not consider that safety would be compromised if a Boeing 737-800 carried cabin attendants during operations with a compliment of 1 cabin attendant to each 50 seats, or part of that number, fitted to the aircraft".

*Boeing 717-200 CAR 208 Direction Exemption*

QantasLink's fleet of Boeing 717-200 (B717) aircraft, fitted with 115 seats, are operated by Cobham Airline Services (Cobham). In September 2009, Cobham approached CASA to seek a dispensation to operate with a 1:39 cabin crew ratio, which would see B717 aircraft operate with a complement of three cabin crew.

In March 2010, Cobham in conjunction with Qantas, trialled new cabin crew procedures. Airport boarding and de-boarding procedures were trialled as well as in-flight service and safety and security responsibilities. These reviews did not reveal any shortcomings in any of these areas.

In June 2010, CASA requested a partial emergency evacuation demonstration on one of Cobham's B717 aircraft. As a result of the trials by Cobham and QantasLink, the changes made to operating procedures and the successful evacuation demonstration, CASA issued Cobham with Instrument 271/10 on 28 July 2010.

*Airbus A320-200 CAR 208 Direction Exemption*

The process for gaining approval for a cabin crew passenger ratio of up to 1:50 on Jetstar's A320-200 (A320) fleet included an assessment of the risk of not being able to evacuate an aircraft within the legislated 90 second period. Jetstar's risk assessment acknowledged that the European Aviation Safety Agency (EASA) had certified the A320 for a cabin crew to passenger ration of 1:50. The risk assessment resulted in additional measures being put in place to assure the evacuation of passengers within the legislated period. These included procedures for ensuring able-bodied passengers were seated at emergency exit rows, specific detailed briefings being provided to passengers seated in these rows, revised safety on-board cards and enhanced cabin crew procedures.

By implementing these recommended changes and on the basis of the safety case submitted by Jetstar, in September 2009, CASA issued Jetstar with Instrument 429/09, which provides for a 1:50 ratio for aircraft with a maximum seating capacity of 180 seats.

*Airbus A321-213 CAR 208 Direction Exemption*

As part of the application for an exemption to operate the A321-213 (A321) aircraft with a ratio of up to 1:50 cabin crew a detailed risk assessment was undertaken. This risk assessment resulted in the development of revised cabin crew procedures, specific briefings to passengers in exit rows, revised safety on board cards and specific training programs for cabin managers. Trials of these procedures also included passenger surveys seeking customer feedback on the proposed arrangements. Jetstar's application acknowledged EASA certification of the A321 with a cabin crew to passenger ration of 1:50, specifically, EASA Type Certificate Data Sheet A.064 Issue 02, 22 June 2006, at section 2.4.13 which states that,

“for cabin arrangements 201 passenger seats up to a maximum number on 220 passenger seats, five cabin crew are required. For cabin arrangements up to and including 200 passenger seats, only four cabin crew members are required.”

In response to the changes implemented, the safety case submitted by Jetstar and following a successful demonstration to CASA of a partial evacuation, in May 2009, CASA issued Jetstar with Instrument 206/09, permitting Jetstar to operate

A231 aircraft – with a maximum seating capacity of 220 passengers – with not less than five cabin attendants.

It is important to note that Jetstar has recently made a decision to reconfigure their A321 fleet from 210 seats to the maximum capacity of 220 seats. For this reason, the Qantas Group would wish to see the maximum allowable seat limit of 216 – currently under consideration by CASA – be raised to at least 220 as a minimum to ensure that it is relevant for modern aircraft types and consistent with regulations in other jurisdictions.

*Bombardier Q400 Dash 8 CAR 208 Exemption*

In July 2008, QantasLink applied to CASA for a CAR 208 Direction exemption to operate its fleet of Q400 Dash 8 (Q400) aircraft fitted with 74 seats with a cabin crew ratio of 1:50. The application also included a request for the same exemption for DHC-8 300 aircraft fitted with 50 seats, however, this was later withdrawn from the application.

The Q400 application sought the exemption for the revised cabin crew ratio to apply for a maximum manufacturer specified seating configuration of 78 seats, in the event that QantasLink may decide to reconfigure its Q400 fleet up to the maximum specified level.

As the request would see a cabin crew to passenger ratio change only slightly above the existing legislated allowance of 1:36, CASA did not require QantasLink to perform a partial evacuation, however, CASA did examine QantasLink's evacuation procedures which satisfied CASA that QantasLink had appropriate evacuation procedures to meet certification requirements.

On 10 March 2011, CASA issued Instrument 90/11 to QantasLink permitting the use of 1 cabin crew for every 50 passenger seats on its Q400 aircraft subject to conditions.