



# AUSTRALIAN MUSTERING INDUSTRY REPORT

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## ABSTRACT

A discussion of the impacts of the new legislation Civil Aviation Order 48.1 Instrument 2013 to the aviation mustering industry.

**Author: Craig Crumblin**

On behalf of various mustering pilots, operators and associated business's.

## Executive Summary

This report was written to provide feedback on behalf of the aviation mustering industry on the recently introduced legislation of Civil Aviation Order 48.1 Instrument 2013. This report was written as a result of consultation with mustering pilots, operators and other interested parties that will be affected by the new legislation. In particular, Appendix 5 – Aerial Work Operations of Civil Aviation Order 48.1 Instrument 2013 and its potential repercussions is the main focus of this report. The aviation mustering industry would like to highlight these issues to the Civil Aviation Safety Authority (CASA) for consideration of the affects that implementing the new legislation will have on the mustering industry as a whole.

Appendix 5 – Aerial Work Operations, has been brought about with flawed data or at the very least a lot of data that has nothing to do with Aerial Work Operations that are carried out under day Visual Flight Rules (VFR). This is acknowledged in CASA's own publications. Aerial Work accidents were not taken into account.

Pages of fatigue studies are provided on the CASA web site but there were no studies specific to why aerial work operators, operating day VFR, have been lumped into the aviation industry as a whole. The differences are covered in this report for the benefit of the reader.

CASA has to realise that their rules affect more than QANTAS and the like. Before discussing the mustering industry, an example of other aerial work is provided to highlight how such broad rulings can affect the efficiency and unintentionally, safety. Firefighting operations is a classic, the best time to fight a fire is in the cool, first thing in the morning when there is minimal or no wind but the fire boss will rarely use aircraft first thing in the morning, when aerial bombing is most effective because he is worried that the pilots duty time will ground the aircraft mid-afternoon and leave the fire ground with no aerial coverage when the fire can be at its worst. Therefore instead of flying in the cool with lots of visibility and actually doing some good, pilots get launched when it is 40 degrees, the fire is roaring, and you can barely see each other in the smoke, yes sir, if that doesn't make someone shake their head we are in serious trouble. The operators and pilots that do this are very, very professional (let us not forget commercial pilots are professionals) and if they were allowed to do their jobs it would be both more economical, effective, and a lot safer. I have been asked to represent the mustering industry but to include aerial culling and mustering related training operations, I will discuss those here.

It is understood no consultation on Appendix 5 was done with the mustering industry. It is acknowledged that CASA may have sent out a memo and put a notice within its web site but not one operator that has been consulted with for this report knew of the new legislation until after the fact. The list of people and organisations that CASA shows as being consulted with, show not one member of the mustering industry. It is ludicrous that not one representative from such a large part of the Australian aviation industry was consulted with during the consultation process and that CASA did not notice the absence of the sector. It would be quite meaningful to the mustering industry that CASA should acknowledged that fact. The release date on the CASA website for comment after CASA consulted with other sectors of the Australian aviation industry coincided with the beginning of the mustering season which undoubtedly helped the issue to continue to go unnoticed by the mustering industry. I would suggest that CASA could have put more effort into this area. The general consensus is that there is a complete disconnect between industry and CASA. If relationships were forged and fostered, than industry and CASA could ask questions, and learn from each other.

## Australian Aviation Mustering Industry Report

The aerial mustering industry is very unique to Australia and CASA, working with industry, realised this when they produced CASA 321/12 and previous variations that allowed industry to do their job safely and efficiently. The circumstances that dictate how mustering operations are carried out and the fact that much of what the mustering pilot has to deal with is outside of the aircraft, have not changed. Our industry exists because the cattle industry required a way of mustering cattle in vast areas of remote rural Australia in an efficient manner, this was supposed to be for a fairly short period until the cattle diseases, tuberculosis and brucellosis were eradicated. As things do, it has become a very important tool to the cattle industry ever since and has naturally expanded to provide support in natural disasters, emergencies, and times of need that government cannot provide. This is provided at times at no cost to the person in need. This is not mentioned to collect accolades for those that do this but to try to show the human side of the people that work in this industry. Mustering pilots do not just sit up the front with the door shut and self-loading cargo in the back.

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## 1.0 Introduction

CASA have become aware that Australian Aviation Regulations are not aligned with international regulations and felt the need to change legislation to reflect International Civil Aviation Organisation (ICAO) standards and their Standard and Recommended Practices (SARPs).

The following pages represent the mustering industries many concerns regarding both the data used and the affect that 48.1 and Appendix 5 will have on the mustering industry and the wider rural community.

The author has been asked to represent the mustering industry as a whole and has the backing of all operators across the top of Australia (WA, NT, & QLD) that have been consulted with. It must be acknowledged that not all of the commentary that follows is endorsed by all in the mustering industry but the author has tried to allow all industry members to provide input in this report. Also the author has no monitory gain or direct connection to any operator in the mustering industry.

Below is a statement from a CASA representative that will shed some light on the mindset that the mustering industry has to overcome whilst CASA is determined to use fatigue as a default cause or contributing factor in each and every accident.

“It’s well established that fatigue is usually not well reported and often difficult to ascertain in an accident situation”.

This report discusses the present and new legislation, the potential impacts of the new legislation and suggested mitgations.

## 2.0 Legislation

### 2.1 Present

The aviation mustering industry currently operate under Instrument number CASA 341/12. The current legislation has been proven to be safe especially considering hours flown compared to accident rates. CASA has worked together with the mustering industry to create instrument 341/12 and prior variations to facilitate the unique circumstances of the Australian mustering industry. Instrument number CASA 341/12 is provided below followed by a discussion on its merits.

#### [Instrument number CASA 341/12](#)

I, PETER BEILBY CROMARTY, Acting Executive Manager, Operations Division, a delegate of CASA, make this instrument under regulation 5.55 of the *Civil Aviation Regulations 1988 (CAR 1988)*.

#### **[Signed P. B. Cromarty]**

Peter Cromarty  
Acting Executive Manager  
Operations Division

22<sup>nd</sup> October 2012

Direction — flight time limitations for helicopter mustering operations

#### 1 Duration

This instrument:

- (a) commences on 1 November 2012; and
- (b) stops having effect at the end of 30 June 2014.

#### 2 Application

This instrument applies to an operator and flight crew of aircraft engaged in helicopter mustering operations.

#### 3 Direction

I direct that an operator and flight crew of an aircraft engaged in helicopter mustering operations must follow the directions in Schedule 1.

#### Schedule 1 Direction

#### 1 Definitions

In this Schedule:

**duty free day**, in relation to a pilot, means a day on which he or she is not rostered for piloting or other aviation-related duties.

**entry level pilot** means a pilot who holds, or is undergoing training for, a mustering approval and has less than 500 hours flying time in mustering operations as pilot in command or acting as pilot in command under supervision.

**experienced pilot** means the holder of a mustering approval who has a minimum of 500 hours flying time in helicopter mustering operations as pilot in command or acting as pilot in command under supervision.

**flight time** has the same meaning as in Civil Aviation Order 48.1.

**helicopter mustering operations** means activities related to the aerial supervision and control of livestock that are carried out by helicopter and includes:

- (a) aerial stock mustering; and
- (b) aerial stock spotting; and
- (c) animal culling; and
- (d) flying training to carry out such activities.

**mustering approval** means an approval to engage in aerial stock mustering given under Civil Aviation Order 29.10.

## 2 Application of directions to mustering operations

(1) An operator may conduct helicopter mustering operations in accordance with these directions only after the operator has, in writing:

- (a) notified CASA that he or she intends to do so; and
- (b) specified the date on which he or she intends to start doing so.

(2) These directions apply to an operator on and after the date specified by the operator in accordance with paragraph 2 (1) (b).

(3) An operator who no longer wishes to conduct helicopter mustering operations in accordance with these directions must give CASA a minimum of 7 days' notice, in writing, specifying the day on which the directions are to stop applying.

(4) An operator to whom these directions do not apply must conduct helicopter mustering operations in accordance with Part 48 of the Civil Aviation Orders (the **CAOs**).

## 3 Helicopter mustering operations

Helicopter mustering operations must be carried out under the V.F.R. by day by an entry level pilot or an experienced pilot.

4 Maximum duty free period

On any day on which an entry level pilot or an experienced pilot is rostered for piloting or other aviation-related duty by an operator engaged in helicopter stock mustering, the pilot must not be rostered for duty for a period that exceeds the hours of daylight at that particular place and time, plus an additional half hour.

5 Flight time limitations

(1) An operator engaged in helicopter mustering operations must not knowingly roster a pilot to fly if the pilot's total flight time as a flight crew member will, as a result, exceed:

(a) in the case of an experienced pilot:

- (i) 100 hours in any 16 consecutive days; or
- (ii) subject to subparagraph (iii) — 1 200 hours in any 365 consecutive days; or
- (iii) if the pilot has had a period of 42 consecutive days free of piloting or other aviation-related duty during that period — 1 400 hours in any period of 365 consecutive days; or

(b) in the case of an entry level pilot:

- (i) 10 hours in any 24 consecutive hours; or
- (ii) 120 hours in any 30 consecutive days; or
- (iii) 1 200 hours in any 365 consecutive days.

(2) A pilot carrying out helicopter mustering operations must notify the operator if his or her total flight time as a flight crew member will, as a result of being rostered to fly in such operations, exceed a limit set out in paragraph 5 (1) (a) or (b), whichever is applicable.

(3) A pilot who is rostered to carry out a flight for the purpose of a helicopter mustering operation must not do so if, as a result, he or she would exceed a limit set out in paragraph 5 (1) (a) or (b), whichever is applicable.

(4) In respect of operations to which these directions do not apply, operators and pilots must comply with the applicable limitations on flight time or duty time:

- (a) as determined in accordance with Part 48 of the CAOs; or
- (b) as otherwise directed under regulation 5.55 of CAR 1988.

6 Duty free days

(1) In any 16 consecutive days, a pilot must have at least 2 duty free days that may be consecutive or taken separately.



(2) A duty free day, or 2 or more consecutive duty free days, is, for the purposes of these directions, to be taken to commence at the end of the evening civil twilight before the duty free day, or first duty free day, and to end at the beginning of the morning civil twilight on the day following the duty free day or the last duty free day.

(3) An operator must not knowingly require a pilot to fly in a helicopter mustering operation if the pilot is unfit for duty because of fatigue, illness or injury or for any other reason.

(4) A pilot required to engage in a helicopter mustering operation:

(a) must notify the operator if he or she is unfit for duty because of fatigue, illness or injury or for any other reason; and

(b) must not engage in the operation.

#### 7 Restrictions on carriage of persons

An operator and pilot in command of a helicopter engaged in a helicopter mustering operation under these directions must ensure that only persons approved by the chief pilot as essential to the conduct of the operation are carried in the helicopter.

#### 8 Display of warning

An operator and pilot in command of a helicopter engaged in a helicopter mustering operation must ensure that a conspicuously placed placard in the helicopter clearly displays the following warning:

**WARNING**

**THE CARRIAGE OF PERSONS AS PASSENGERS DURING HELICOPTER MUSTERING OPERATIONS IS LIMITED TO PERSONS WHO HAVE BEEN APPROVED BY THE CHIEF PILOT AS PERSONS ESSENTIAL TO THE CONDUCT OF THE HELICOPTER MUSTERING OPERATION.**

#### 9 Recording of pilot's flight time and duty time

Records kept by an operator engaged in helicopter mustering operations must be in a form that facilitates the ready determination of a pilot's cumulative flight and duty time.

#### 10 Recording of helicopter flying time

An operator engaged in helicopter mustering operations must record daily flying time for a helicopter by using:

(a) an electronic data recording device, approved by CASA, installed on a helicopter engaged in stock mustering operations; or

(b) a form of a daily flying return, however described, containing at least the following details:

(i) helicopter registration;

(ii) the date;

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- (iii) the name of the pilot, or each pilot, flying the helicopter;
- (iv) the maintenance release number;
- (v) in respect of each flight:
  - (A) the departure point; and
  - (B) start engine time; and
  - (C) take-off time; and
  - (D) landing time; and
  - (E) shutdown time; and
  - (F) landing point; and
  - (G) flight time (as entered in the pilot's log book); and
  - (H) time-in-service (as entered in the maintenance release); and
  - (I) comments (if any); and
  - (J) the pilot's signature; and
  - (K) the client's signature (where possible).

### [Merits of Instrument number CASA 341/12](#)

CASA acknowledged the unique challenges of the Australian mustering industry in bringing this legislation 341/12 that allowed operators to exist.

- 1) Note, that mustering operations definition in 341/12 includes (a), (b), (c), & (d) and is required in any legislation or an exemption is required.
- 2) An operator must apply to operate under 341/12.
- 3) Mustering is carried out only in day VFR conditions.
- 4) 341/12 allows pilots engaged in mustering operations the flexibility to be on duty for the whole day plus ½ hour.
- 5) An experienced pilot (500 plus hours) has the flexibility of flying up to 100 hours in 16 days as long as he has 2 days off during those 16 days which allows for the pilot to be at home base for his/her time off and make the logistics of performing maintenance and crew changes both easier and more efficient. Otherwise crew and aircraft schedules would be staggered forcing operators to make pilots take days off away from their home base, at remote properties and isolated stock camps.

- 6) Pilots are both encouraged and required not to fly if they are fatigued or otherwise feel they are unfit to do so, in their own opinion/ or the operators.
- 7) Mustering operations are carried out, only with essential crew on board.

## 2.2 New Legislation

Civil Aviation Order 48.1 Instrument 2013 has been passed into legislation but as yet not been put into the Regulations. CASA has advised that this is a very important distinction as there is still time to change the instrument. It is hoped that Appendix 5 which is the section of the new legislation that affects mustering operations can be totally replaced by the existing 341/12. Instrument number CASA 341/12 is provided below followed by a critique.

### Civil Aviation Order 48.1 Instrument 2013 – Appendix 5 Aerial Work Operations

#### APPENDIX 5 – AERIAL WORK OPERATIONS – OTHER THAN FLYING TRAINING

##### 1 FDP limits

1.1 An FCM must not be assigned or commence an FDP longer than the number of hours specified in Table 5.1 in this clause (the **FDP limit**), as determined by the local time at the start of the FDP.

Table 5.1 Maximum FDP (in hours) for an FCM according to local time at the start of the FDP

Local time at start of FDP	Maximum FDP (hours)
0500 – 0659	11
0700 – 1159	12
1200 – 1459	11
1500 – 0459	10

1.2 If, in the 8 hours immediately before commencing an FDP, duties other than conducting a flight in an aircraft were performed (*non-flying duties*), the maximum permissible duration of the FDP must be decreased by the greater of:

- (a) 30 minutes; or
- (b) the total duration of the non-flying duties performed during the 8 hour period immediately before commencing the FDP.

1.3 In any 168 consecutive hours, an FCM must not be assigned, or conduct, more than 4 FDPs which include any time between midnight and 0459 local time.

1.4 An FCM must not exceed an FDP limit set out in in the AOC holder's operations manual in accordance with this Order.

*Note* Aerial work operations captured by this Appendix are widely varied. Therefore, operators are reminded to limit flight times in accordance with their operator obligations, and include flight time limits in their operations manual.

## 2 Increase in FDP limits by split duty

2.1 If an FDP contains a split-duty rest period of at least 3 consecutive hours at suitable sleeping accommodation, the maximum FDP worked out under clause 1 may be increased by the duration of the split-duty rest period.

2.2 If an FDP contains a split-duty rest period of at least 4 consecutive hours at suitable resting accommodation, the FDP limits under clause 1 may be increased by 2 hours.

2.3 Any portion of an FDP remaining after a split-duty rest period must be no longer than the sum of 6 hours and any permitted extension under clause 3.

*Note* These are the maximum FDP limits under this Appendix unless, for any particular FCM, other provisions have the effect of reducing these limits (for example, subsections 14 and 15 of this Order).

## 3 Extensions

3.1 At the discretion of the FCM, an FDP may be extended up to a maximum of 4 hours beyond the FDP limit in subclause 1.1, provided the FCM considers himself or herself fit for the extension.

*Note* Due to the nature of aerial work operations, extensions are permitted in any circumstance (not just unforeseen operational circumstances as in the case of public transport services limits) and reports of extensions are not required to be notified to CASA.

3.2 Subject to subclause 3.3, any extension over the FDP limit requires the off-duty period required by clause 5 to be increased by 1 hour for every 30 minutes, or part of 30 minutes, that the FDP is extended beyond the FDP limit.

3.3 If an off-duty period calculated under subclause 3.2 is greater than 12 hours, the off-duty period may be reduced to not less than 12 hours provided that:

- (a) the next FDP is conducted under this Appendix; and
- (b) the off-duty period following the next FDP is at least 36 hours, including 2 local nights.

## 4 Standby

4.1 An FCM may be placed on standby.

4.2 If an FCM is called out from standby to commence an FDP, (which may include a split-duty rest period), the FDP must be followed by an off-duty period in accordance with clause 5.

4.3 If an FCM is called out to commence duties other than flying duties, the FCM may return to standby following that duty period. However, subclause 1.2 applies to a subsequent FDP.

## 5 Off-duty period limits

5.1 Following an FDP, an FCM must have an off-duty period of:

- (a) at least 8 consecutive hours, including the hours between 2300 and 0529 local time; or
- (b) at least 10 consecutive hours.

5.2 An FCM must:

- (a) in any consecutive 336 hour period — have at least 1 off-duty period of at least 36 consecutive hours which includes 2 local nights; or
- (b) in any consecutive 504 hour period — have at least 1 off-duty period of at least 72 consecutive hours which includes 3 local nights.

*Note* 336 hours is the number of hours in a 14 day period and 504 hours is the number of hours in a 21 day period.

## 6 Limit on cumulative flight time

6.1 The cumulative flight time accrued by an FCM during any consecutive 168 hour period must not exceed 50 hours.

6.2 Subject to subclause 6.4, the cumulative flight time accrued by an FCM during any consecutive 28 day period must not exceed 170 hours.

6.3 Subject to subclause 6.4, the cumulative flight time accrued by an FCM during any consecutive 90 day period must not exceed 450 hours.

6.4 The cumulative flight time limits in subclauses 6.2 and 6.3 may be reset to zero if the FCM is provided with at least 7 consecutive days off-duty.

6.5 Subject to subclause 6.6, the cumulative flight time accrued by an FCM during any consecutive 365 day period must not exceed 1 200 hours.

6.6 The cumulative flight time limit in subclause 6.5 may be reset to zero if the FCM is provided with at least 28 consecutive days off-duty.

*Note* These cumulative flight time limits are designed to mitigate the effects of cumulative fatigue. AOC holders are reminded, first, of the emotional, cognitive and physical effects of workload on the performance of FCMs in addition to fatigue, and secondly, that these limits are for optimal circumstances and may not be achievable due to hazard identification and other procedures required under subsection 15 of this Order.

## 7 Maximum durations must not be exceeded

Unless an extension is permitted under clause 3, in performing duty an FCM must not exceed the following:

- (a) the maximum duration of the FDP specified for the FCM in the AOC holder's operations manual;
- (b) the maximum flight time specified for the FCM in the AOC holder's operations manual

### Critique of Appendix 5 – Aerial Work Operations

The discussion provided below are indicative of the problems anticipated with implementing Appendix 5 for the aviation mustering industry. A critique of sections are provided as follows.

**Clause 1.1** - An operator can't be reasonably expected to know how long a flying day will take due to the many variables and very nature of mustering. If a pilot was required to fly from A to B, wait 10 minutes and then fly back to A, it would be quite easy.

**Clause 1.1, Table 5.1** - As mustering operations are carried out during day VFR (only during daylight hours for flight plus 30 minutes duty at present) the table clearly shows the flawed data used. The table shows start times and duty periods on a 24 hour basis. Emergency service helicopters may fly at night and use such a table but quite clearly need separate legislation and tables to mustering operations. Fatigue studies rely heavily on sleep patterns, jet lag, time zones, etc. This includes a strong focus on "shift work" that obviously the crew of the above mentioned emergency helicopter would be doing. If CASA is to use a table that the vast bulk of flight and duty hours would be flown under an instrument such as Appendix 5 then it needs to change the layout to reflect more accurately, the real life situation. This table is a glaring example of the lack of thought that went into Appendix 5.

It would appear that the authors of the legislation and fatigue study providers have allowed quite a lot of cross contamination of facts, data, statistics and operational realities of different sectors of aviation.

**Clause 1.2** - This needs changing. Pilots need to be able to volunteer to spend time in the hanger and on occasion be required to do so, the mixing of different levels of experienced pilots and engineers is an intricate part of any aerial work operation. Accidents and indeed fatalities have very likely been avoided by this casual interplay. There is a CASA provision but it must be made clearly. Many pilots actually enjoy doing this and may not have anything else they want to do. Pilots that wish to, should be allowed to get as rounded an experience as they wish without CASA dictating what they do in their spare time.

**Clause 1.3** - As mustering operations do not operate at night, this is not applicable.

**Clause 2** - Split duty is not a viable option in most circumstances for mustering operations. Animals would not comply with the concept even if the pilot could. The likelihood of the livestock staying where you left them would be marginal at best. The concept that split duty options could be applied in a mustering situation has generally been received with a great deal of humour.

The very definition of "suitable sleeping accommodation" is another problem and another humorous prospect. To keep it simple, there is none, unless the mustering is being done at the homestead or in town. The limit on flying hours would preclude any wasted flights to get to suitable accommodation and then back to the job location, which as stated above has now become a little vague as the cattle

will invariably have returned to where the muster began that day. Obviously it would be very hot by that time and the animals highly stressed and very FATIGUED. The consequences should not be lost on the reader so therefore we shall move on.

**Clause 3** - The penalties for using an extension precludes its use in most cases unless the pilot was scheduled for a day off anyway on the second day after an extension was used.

**Clause 3.1** – Taken alone, it is fine.

**Clause 3.2** - Exemption required.

**Clause 3.3** - Exemption required, especially due to (b).

**Clause 4** – No comment.

**Clause 5.1** - (a) Including 0529 and an eight hour rest period implies that the pilot can be on duty up until 2128 the evening before. Once again mustering operations are only carried out in day VFR conditions therefore the pilot at 9.30 pm has already been off duty for at least 2 hours.

The relationship used in the studies between the times of 2300 and 0529 is assumed by the author to relate to circadian rhythms and how it causes fatigue in shift workers, IFR and long haul pilot operations. The very examples that are used in CASA explanations, are three long haul intercontinental airline flights across multiple time zones.

(b) Mustering pilots always have at least 10 consecutive hours' off-duty at night in addition to the time off duty after operations were completed prior to nightfall.

Although it is asked that we have more flexibility for duty time limitations, it by no means, should be suggested that mustering operations are carried out daylight to dark every day.

**Clause 5.2** – Industry requires 2 consecutive or separate days off in 16 days.

**Clause 6.1 to 6.3** - These limitations are too restrictive. Yearly limits are acceptable. An exemption is required.

**Clause 6.4** - The time to reset should be 5 days instead of 7 days. It is unreasonable to both the pilot and operator. The pilot/operator only has a short season to fly and in the remote places that pilots are based there really is not any incentive to sit around for a week, especially when home and family may be hundreds of kilometres away. There is 4 to 5 months a year that historically provide very little or no flying opportunity.

**Clause 6.5 and 6.6** – This clause is fine.

**Clause 7** - Clause 3 is already covered and as operators have provisions to operate now under CASA 341/12 it would be expected all mustering AOC holders' operation manuals would reflect that flexibility already. Clause 3 requires an exemption.

## 3.0 Potential Impacts of Proposed Legislation

### 3.1 Social

Pilots become part of the rural social fabric very quickly. The relation between pilot and client for mustering operations is very different to the relationship between a QANTAS captain and a passenger in seat 57C with a door closed between them. A pilot should be able to fly to a job location the afternoon before a muster, so as to be able to get an early start the next day but also to allow for the same social activities that a pilot would do in Sydney for example. An airline pilot going to a rugby game at ANZ stadium prior to a day's flying may quite easily be more fatigued than a mustering pilot flying to a property, having dinner, and getting a full night's sleep before flying. When a job is done also, there should not be undue stress to "fuel and go", if daylight allows, a pilot may want to relax a while before casually flying to the next location, whether that be home base or another property.

### 3.2 Animal Welfare

The impact of the rule change on animal welfare cannot be over stated. Many factors dictate the need to begin a muster at the earliest possible time to mitigate animal welfare issues. These include:

- Taking advantage of the coolest part of the day.
- Allowing pilots and ground personal time to manage the herds' movements in a humane and professional manner.
- Allowing the time to leave heavily pregnant cows/ cows suspected of having baby calves behind. If this is not done cows can abort, die themselves, and calves left behind will almost certainly be lost to predation or starvation.
- Having the flexibility to yard cattle at the latest possible time so as to allow time for watering and cow/calf units to find each other prior to yarding. If this is not done it can lead to high calf mortality rates and cows udders becoming damaged.

### 3.3 Business

AIR OPERATOR CERTIFICATE (AOC) holders in the mustering industry are commercial businesses that have strived to be the very best they can be. The profit margins are thin and tied to the profitability and seasons that affect their clients and livestock. Any adverse and undue penalties/costs brought to bear on the AOC holder would need to be passed on and clients could not absorb that. Having extra pilots is also not a viable option. Other than the cost to the operator and existing pilots (you would need double the pilots for the seven months busy season, than cut everyone loose) the logistics of getting relief pilots to the remote job sites would be impossible. Needless to say the relief pilot would be actually more fatigued than the pilot he was relieving! On top of that imagine a hot hand over, the new pilot won't know where the cattle are, where ground crew is, if there is any wires, etc.



It cannot be forgotten that the original pilot now has to drive some untold distance to his home base. Is this considered duty time or after driving several hours, as indeed an airline pilot may do, could the pilot jump into an aircraft for another duty period?

Typically, a 1<sup>st</sup> year pilot award wage is around \$46,000.00 plus entitlements. Operators would have trouble holding suitable pilots on that wage in remote locations. After tax and rent the pilot would likely be in the red before deducting day to day living expenses. Larger operators could require several entry level pilots to allow operators to exist under Appendix 5.

It is quite conceivable that CASA will by its own doing, shut down the very operators that it should be nurturing and building relationships with. There will be a vacuum that will be filled by less experienced private operators and operators of amateur built aircraft. It must be said that CASA could be setting up the very thing that they are trying to stop. FATALITIES.

Just because CASA is not responsible for some aspects of private or amateur aircraft would not absolve them of creating a situation that caused death and injuries.

By imposing Appendix 5 on AOC holders/mustering operators, CASA will cause businesses to fail and quite possibly contribute to fatalities in mustering operations.

Some of the larger pastoral companies are public entities and bound to follow rules like Appendix 5 due to liability issues and health & workplace policies.

Here is an example of what will happen regularly: A station has booked a dozen road trains to take cattle, which are to be loaded on a live export ship, which is also booked. The mustering pilot, operating under the new rules had a great muster but has had to abort the muster roughly an hour before he can complete the job, although there is lots of daylight available and he is not feeling fatigued. The pilot has done the right thing but will never get a job flying for the client again and the client has had to pay huge penalties for the unused trucks, ship and a muster that was not completed.

### 3.4 Extenuating Circumstances

#### Drought/ flood

As in a normal muster there needs to be the flexibility of CASA 341/12 but during a drought or flood this should be even more obvious. The animals will be very weak and require great care when using aerial mustering to move them. Section 3.2 Animal Welfare above encapsulates what is required except in drought, this is magnified many times. In a flood this is also the case. If pilots, operators, and clients cannot utilise aircraft in the right way, there will certainly be the potential for great loss to livestock and livelihood.

#### Search & Rescue

In the event of a search and rescue under 341/12 there is no issue. Under Appendix 5, a search and rescue would possibly have a grave outcome or carry on for longer than needed. Other than time being of the essence, it is much easier to spot someone earlier and later in the day. In the heat of the day the person is prone to be in the shade and not moving and therefore harder to see. Therefore it

is imperative that during search and rescue operations pilots have the flexibility to operate under 341/12.

## 4.0 Mitigations to New Legislation

It is our belief that mustering operators should be allowed to continue to operate under existing rule, 341/12.

## 5.0 Conclusion

Looking at the literature and studies provided by CASA, used to justify “Appendix 5” it becomes abundantly clear that the data used was flawed and not even relevant to day VFR operations let alone mustering operations. As stated earlier it is the author’s opinion that although Appendix 5 provides a clean, generic outcome in regards to mirroring other sectors of the aviation industry, it is not realistic. It exposes a lazy approach that does not acknowledge that aviation in Australia is very diverse, both in what different sectors do and where they operate. This requires regulators to show more effort to make themselves aware of the industry they regulate.

CASAs explanatory notes online, indicate aerial work accident statistics were not used and it also stated that “unpublished” Australian Transport Safety Bureau (ATSB) data was used. This is unsatisfactory. The data is there for regulators to use and the mustering industry is justifiably proud of its accident rate. As always industry would like that to be zero. The accidents that can be attributed to pilot fatigue are not known to the author and if it were proven there was more than one or two over the last 40 years than it would be a surprise to many including the author. Reading ATSB helicopter accident reports, where the accident happened during mustering operations the author could not find any that were attributed to fatigue.

There was no consultation with industry. No amount of “we said, they said” will change this fact. CASAs website lists the organisations and individuals that were consulted over the fatigue driven, regulatory changes, and no person, group, or business from the mustering industry is on that list that the author is aware of.

It must be noted that under 431/12 mustering operations include...

- a) Aerial stock mustering
- b) Aerial stock spotting
- c) Aerial stock culling
- d) Flying training to carry out such activities

....and any new legislation needs to include the same or an amendment would be required.

The biggest issue that the 48.1 Instrument 2013 creates for the mustering industry is that the job that mustering operators do is very much fixed, in that it will not change. It will always be cooler in the morning and the afternoon. The country to be mustered will always be vast. Cattle won’t get any faster.

## Australian Aviation Mustering Industry Report

The mustering industry hopes that CASA will allow operators the flexibility to continue operating safely and efficiently. If not, then it would be expected that similar regimes were rolled out for all workers, truck drivers, office and mine workers. A very slippery slope indeed.

Therefore it is recommended that the existing regulation (341/12) be maintained for the helicopter mustering industry. Instrument 341/12 evolved as a collaboration between CASA and industry. It works, and under day VFR conditions that the mustering industry operates, pilots always have at least 10 hours opportunity to sleep/rest. Pilots are both adults and professionals and as such are required to not accept any duty/flight that will cause them to be adversely affected by fatigue.

CASA is required to make available the specific studies that were used to justify changes to day VFR operations. It is expected that such studies are day VFR only and do not use time zones, night flying, IFR, or any other data that is irrelevant to helicopter mustering operations.

Craig Crumblin

Helicopter Mustering Representative

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## CASA CHANGES TO MUSTERING

Helicopter and helicopter pilots play an integral role in the day to day operations of the majority of beef businesses across northern Australia. Experienced pilots conversant with the low stress handling and mustering of cattle combined with the intimate knowledge of the terrain mustered in conjunction with on the ground crew deliver best outcomes for both the business and the welfare of the animals.

Cattle by nature congregate around waters during the heat of the day and graze out from these waters during the cool of the evenings. Mustering delivering best animal welfare outcomes are delivered by early morning starts. Cattle at this time are tending to walk and congregate back towards these waters and are willing participants in being driven in the direction of water. Pushing cattle off these waters during mustering in the direction of yards occurs during the relative cool of the mornings. Late in the afternoon these rested cattle are yarded thereby spending a minimal amount of time in cattle yards which is inherently very stressful to livestock.

Events that stress cattle leading to welfare concerns primarily relate to either

- a. cattle being pushed harder than they are willing to go in the paddock or
- b. cattle spending more time than necessary in cattle yards

Some welfare concerns are exhibited by

1. cattle and calves being mismothered during mustering or yarding leading to excessive bawling and running by both stressed cow and calf
2. hot/stressed cattle not drinking potentiating the stress
3. stressed cattle too excited and not handling well in the cattle yards leading to injury of both man and beast
4. increased belligerence by individual animals

CASA changes

1. Limiting daily flying hours for mustering pilots will automatically invoke stressful events on cattle and operational timetables as cattle are pushed harder with the added potential of spending more time in cattle yards.

a. with later starts and late finishes cattle are being mustered in the heat of the day. In general with large distances between yards and waters the cattle are now forced to make up time to ensure they arrive at the yards at the end of the day. The cattle are stressed and hot from being pushed hard during the day and little time can be afforded to rest, water and mother the calves up prior to yarding as the end of the day quickly approaches. As a result cows and calves are mis-mothered overnight in the cattle yards.

b. with early starts and early finishes the mustering pilot in most situations is either

-not there at the end of the day to provide the necessary backup to yard these cattle. Yarding of cows the night before is pivotal in the operational context where trucks/ veterinarians/agents the majority of whom also run tight schedules have already been prior booked for the next day.

or conversly the cattle are yarded up in the middle of the afternoon thereby spending an unnecessary amount of time in the cattle yards in the heat of the afternoon

c. change over pilots and 'hot starts' during the middle of the day is unthinkable. Welfare issues and cost considerations surface when the new pilot is not familiar with the current state of the day operations (eg remustering country previously mustered that day/ the potential to push

cattle harder than necessary due to unfamiliarity of the days mustering). These extra flying costs (time) in addition to the operator having to employ and transport 2 pilots/machine across large distances would obviously have to be passed on. The financial ramifications on most business's would be devastating especially in the current circumstances when most cattle enterprises are struggling to survive financially.

#### My observations

Although there are long hours involved in day to day mustering once the high pressure part of the muster during the early part of the day is done the pilot has a chance during the afternoon to put the machine down periodically or even turn the machine off and rest until yarding occurs later in the afternoon . This results in beneficial outcomes for both pilot and cattle