



# OFFICE OF THE CHARLEVILLE CORONER

## FINDING OF INQUEST

**CITATION:** Inquest into the death of Kenneth Douglas Czislawski

**TITLE OF COURT:** Coroner's Court

**JURISDICTION:** Charleville

**FILE NO (S):**

**DELIVERED ON:** 8 December 2006

**DELIVERED AT:** Charleville

**HEARING DATE (s):** 7 & 8 September 2006

**FINDINGS OF:** Mr John Costello, Charleville Coroner

**CATCHWORDS:** **CORONERS: Inquest, Gyrocopters, Failure of mechanical hub bar, Aerial work other than recreational flight, Cattle Mustering.**

### **REPRESENTATION:**

**Counsel Assisting:** Mr John Tate, Crown Law

Judgment Category Classification:

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1. On the 13<sup>th</sup> October, 2004, Kenneth Douglas Czislowksi (“the deceased”) was killed when his gyroplane crashed between 8:00am – 9:00am on Norley Station (‘Norley’). Norley is situated approximately 30 kilometres in a north-easterly direction from Thargomindah.
2. I should say from the outset that the passing of the deceased was instantaneous. All the evidence points to a 46 year old man in good health on 12<sup>th</sup> October, 2004.
3. Norley is a sheep and cattle station of around 405,000 hectares which is divided up into a number of paddocks to allow for the orderly movement of animals.
4. There were no witnesses to this tragedy.
5. This incident is a work place death in the sense that at the material time, the deceased was engaged in mustering for reward. For the purposes of this inquest, the question of whether the deceased was an employee or a contractor is not of any particular relevance.
6. A Gyroplane is typically represented by the copy photograph Annexure “A” hereto. Whilst it is helicopter like in appearance it would be inaccurate to describe it as such. Notably, for a gyroplane to become airborne, it requires the use of a runway and speed. Further, whilst a helicopter can hover, these craft cannot. Gyroplanes are relatively easily transported and re-assembled on the spot which makes their use in remote areas understandable.
7. The motor system of a gyroplane consists of two rotor blades that are bolted to opposite ends of a symmetrical hub-bar which, in turn, is centrally attached to the mast via a gimbaling system. [Annexure “B” is the source of the foregoing]. In the Australian Transport Safety Bureau (“ATSB”) final report at page 3 the following observations are made:-

*“Given that the hub bar failures to date have resulted, at least in part, from damage induced during, or as a result of work carried out on the rotorcraft, it may be prudent for a responsible body to examine further the circumstances surrounding the known instances of cracking and failure. Aspects such as the requirements for tightening and checking the tightness of hub bar bolts should be examined, as should the operational and maintenance history of those rotorcraft known to have sustained hub bar cracking.*

*An evaluation of the hub bar design may also be applicable to investigate the suitability of the various hub bar and rotorcraft designs for high load aerial work activities such as mustering.*

*The ATSB considers that this work could appropriately be conducted by design and continuing airworthiness engineers from the aviation industry”.*

8. Hub-bars are presently made of aircraft grade 2024T3 aluminium.
9. Section 95.12 of the Civil Aviation Orders provides for regulatory oversight of gyroplanes by the Australian Sports Rotorcraft Association (“ASRA”), an incorporated body. However, this regime relates to recreational use only. At the material time, the deceased was engaged in commercial use of the gyroplane which is outside the regulatory scheme for recreational flight. For aerial work such as cattle mustering the regulator is CASA.
10. This history of training and use of the subject craft by the deceased is contained in Annexure “C” hereto.
11. The hub-bar of subject craft failed in flight. This failure was as a result of fatigue crack development near a hub block retaining nut (see Annexure “D” hereto).
12. It is considered that fatigue development occurred as a result of service induced alternating stress, the amplitude of which appeared to be high.
13. Subsequent to 13 October 2004, there has been widespread testing of hub-bars, and a procedure developed for that purpose (see Annexure “B” hereto).

14. The reporting to local police of this fatality was not as prompt as it might have been, but that in my view is a consequence of issues arising from remoteness.
15. ASRA, for the important function it performs (recreational use) receives from the Civil Aviation Safety Authority ("CASA") an annual sum of money of between \$15,000 - \$20,000 by negotiated agreement.
16. This amount notwithstanding, ASRA's involvement in the grant process is totally inadequate by any standard. It might be observed that if CASA was required to take back the role currently performed by ASRA, in reality a consideration long over due, it would cost multiples of the sum involved. It is true CASA has to contend with major issues with respect to (for example) passenger aircraft. On the other hand, it might be further observed that the commercial use of gyroplanes is a fact of life. Throughout Australia, there are hundreds of these craft operating on some basis. No basis was advanced for how the subject annual sum was derived at, or how it is allocated, State by State.
17. If commercial use of this craft is to be regulated, which is an inevitable and reasonable outcome under contemplation, the issue of reasonable funding of ASRA or the regulatory authority is an urgent matter that must be addressed by the provider of funds, that is CASA.
18. I make the following recommendations which reflect what has been already expressed by ASRA or implied from the evidence:-
  - (a) With reference to aerial mustering operations, as submitted by ASRA, they will happen if it is legal or not. Therefore, to permit this activity legally, CASA should advance with priority, the introduction of CAO Part 103, which ASRA believes will allow these operations to be administered by an approved Recreational Aviation Administrative Organisation (RAAO).
  - (b) That CASA fund an investigation into gyroplane hub-bar/rotor blade manufacture, and in-service inspection and maintenance procedures

with a view to eliminating failures and accidents involving these components.

- (c) That CASA facilitate regular industry forums or work groups involving RAAOs, Work Place Health and Safety Departments, manufacturers and operators with a view to discussing, without prejudice, all facts of aerial mustering operations in line with CASA's stated objective of "safety through education".
- (d) That CASA fund the production of an industry Code of Practice for aerial mustering.
- (e) That Police Commissioners nationwide be requested to review the applicable sections of their Police Procedures Manual or similar document in relation to whom to contact in the event of an accident involving gyroplanes.
- (f) That the reimbursement for functions carried out by ASRA on behalf of CASA under the Deed of Agreement that exists between the two organisations is totally inadequate to allow ASRA to properly administer the operations of gyroplanes within Australia. A minimum of \$250,000 per annum is required to administer and ultimately regulate gyroplanes in both Sport and Recreation, and Aerial Work operations.
- (g) From a Workplace Health and Safety aspect, it is important in the interest of safety, for property owners to be aware of the necessity to provide suitably safe work places for aerial activities in the forms of:
  - (i) A safe, uncontaminated fuel supply with suitable refuelling equipment;
  - (ii) Documented procedures to be followed in the event of fires during refuelling operations;
  - (iii) The provision of suitably smooth airstrips of adequate length that are not affected by the presence of obstacles

such as tall trees, and power or telephone lines in the approach or go-around areas associated with the airstrip.

19. Police Communications are continually improving with most stations now having satellite telephones but in this area they are not, however, 100% reliable. There are also HF CODAN radios which are excellent but also not 100% reliable. Between the two communication can be achieved almost all of the time and, if neither of them work, nothing else will. The main point for communications apart from ensuring all stations have the appropriate equipment is that staff are adequately trained. There is no real difference between satellite phones and normal phones so there is probably no need for training in that area however the CODAN radio is a complex piece of equipment which requires a fair amount of practise to operate. There is currently no training provided to any staff apart from on the job training which will only be provided if a supervisor knows how to use the equipment and then there is a question over their knowledge of the equipment. This training could easily be provided by trained staff or radio and electronics staff employed by the Queensland Police Service.
20. The other area of concern is search and rescue procedures and training. Currently there is only one person in the Charleville District with search and rescue qualifications and he is based in Charleville. The courses for this training are only run periodically usually every 1 or 2 years. With the Charleville District being larger than the State of Victoria it would be reasonable to expect that more personnel in the area would be trained in this field. This would therefore enhance their skills as well as enhancing their reputation for search and rescue duties within their community. That in turn may begin to erode the endemic problems of rural and remote communities not notifying police in the first instance for missing persons.
21. I further recommend the Commissioner of Police review the adequacy of police communications in remote areas such as Charleville and the need to ensure there are adequate personnel trained in rescue procedures.

22. I acknowledge the limitation that might be imposed by the jurisdiction of the Coroner in Queensland. Obviously, recommendations are not mandatory in terms of compliance but are nonetheless evidence based.
23. I also make the observation that regulation of a properly funded regulator does not mean the elimination of risk but more an attempt at minimisation of this kind of incident. Whilst there is no discernable trend in statistical occurrence, the number of incidents involving gyroplanes over the past several years is of concern. (see Annexure "F" hereto).