QUEENSLAND COURTS

OFFICE OF THE STATE CORONER

FINDINGS OF INQUEST

CITATION:	**Inquest into the death of Barry Hempel and Ian Lovell**
TITLE OF COURT:	Coroner's Court
JURISDICTION:	Southport
FILE NO(s):	2008/631 & 632
DELIVERED ON:	4 October 2013
DELIVERED AT:	Brisbane
HEARING DATE(s):	10 May 2012, 25 May – 8 June 2012, 18 & 22 March 2013
FINDINGS OF:	John Hutton, Coroner
CATCHWORDS:	CORONERS: Inquest – air crash, licensing, medical condition, mandatory reporting, epilepsy

REPRESENTATION:

Counsel Assisting:	Ms Karen Carmody
Samantha Hare & family of Ian Lovell:	Mr Ken Fleming QC i/b Kerin Lawyers
Civil Aviation Safety Authority:	Mr Ian Harvey
Dr Sheahan, Dr Lam & Dr Spall:	Mr P Hastie i/b Ashurst
QBE Insurance:	Mr A Katsikalis i/b Carter Newell
Mr Craig:	Mr A Mansfield

These are my findings in relation to the inquest into the deaths of Ian Ross Lovell and Barry Ian Hempel.

Pursuant to s. 33 and s. 45(2) of the *Coroners Act 2003*, in relation to the above deaths I find as follows:-

(a) That the deceased persons are (1) Ian Ross Lovell and (2) Barry Ian Hempel;
(b) Both Ian Ross Lovell and Barry Ian Hempel died when the aircraft within which they were sole occupants, crashed into the Pacific Ocean in the vicinity of Stradbroke Island, Queensland. At the time, Ian Ross Lovell was the passenger and Barry Ian Hempel was the pilot of the aircraft;
(c) Both Ian Ross Lovell and Barry Ian Hempel died on 31 August 2008 at about 12:30pm;
(d) Both Ian Ross Lovell and Barry Ian Hempel died of multiple injuries they received as a result of the aircraft crash.

Evidence, Discussion and General Circumstances of Death

Prior to the ill-fated flight, Samantha Hare and Ian Lovell were in a long-term relationship. Samantha Hare wished to give Ian Lovell a birthday gift. She decided on a joy flight. She had no knowledge of the aircraft industry and rang Archerfield Airport Corporation seeking advice and enquiring in relation to who conducted joy flights. She was told to look at Hempel's Aviation Pty Ltd website. As a result of this she then contacted Hempel's Aviation on two occasions and purchased a voucher from Barry Hempel personally at the Archerfield Airport. She paid $492 for the voucher. Both the voucher and receipt referred to 'Hempel's' as the website which announced 'Hempel Adventure Flights'. Samantha Hare arranged for Ian Lovell to enjoy an adventure flight as her birthday gift to him.

On Sunday 31 August 2008, Ian Ross Lovell attended Archerfield Aerodrome where he met Barry Hempel for the pre-arranged flight.

The aircraft in question was a two-seater Yakovlev model Yak-52. This plane was originally manufactured in Russia and designed as a trainer to be used for the training of student pilots and to teach flying skills to fighter pilots. As such, it was capable of aerobatics, and capable of recovering control when in a deep descent. The Yak had tandem cockpit layouts. In this case, Barry Hempel was seated in the front cockpit and Ian Lovell was seated behind. Each cockpit had a set of controls.

The Yak was designated as a 'limited category aircraft' in that the design manufacture and airworthiness were not required to meet the standards of the Civil Aviation Safety Authority (CASA). The Yak was regarded as a Warbird and as such it was less stringently operated and administered than normal passenger carrying aircraft. Because of their aerobatic ability, these aircraft were frequently used for aerobatics and joy flights.

The Yak was administered under the Australian Warbirds Association (AWA) and the AWA provided maintenance schedules for the Yak. During the inquest it was heard that

the plane was in good condition. It was regularly maintained and had recently been fitted with a new engine and propeller.

Having been seated in the Yak, with Barry Hempel in the front seat as the pilot and Ian Lovell behind, the plane took off on a joy flight. This was not the first joy flight Barry Hempel conducted on the morning of 31 August. In fact, three passengers had previously flown with Barry Hempel on that morning. Each of these passengers confirmed that Barry Hempel advised them to remove any loose items which may fall out of their pockets during the flight, and they were provided with a general briefing about the flight. Each of these previous flights was without incident.

During the flight, Barry Hempel, a very experienced pilot, did not record any problems with the weather or air traffic in the area.

As I said, the flight was uneventful until just prior to the fateful crash. The crash was witnessed by a number of witnesses and I shall provide a brief summary of evidence of each witness as given at the inquest. The first witness was Robert Rhys Trussel. On that day, Robert Rhys Trussel was a passenger on a cruiser with friends in Moreton Bay. His view of the crash was momentary as the plane entered the sea, however he described the plane 'pretty much going straight down'. Mr Trussel believed he was about three or four miles north of where the plane entered the sea. He said - 'When I saw it, it was pretty much on a straight-pretty down-downward vertical tract-a little to the right.' He then went on to say - 'But I don't believe, from my knowledge, that there were any sort of an attempt for it to sort or pull out, what I saw, there was no smoke or anything along those lines, what I could see to sort of pull out of that particular motion that it was in.'

At the time of the crash, Geoffrey William Lord was in a boat off the Jumping Pin in Moreton Bay. He said - 'I observed the aircraft to be spiralling, and in my opinion out of control. That plane was red in colour.' He said that he did not believe the plane to be executing an aerobatic manoeuvre. He went on to say that the aircraft wasn't directly vertical when he first saw it and he explained that he saw the right wing appeared to be dipped towards the water and the aircraft kept going in a circular motion and appeared to hit the water on the right wing and then the bulk of the plane and the fuselage followed behind the right wing. He said the aircraft was turning the whole time in a corkscrew motion.

Rebecca Jane Baeb did not see the plane enter the water. She saw it on an earlier stage of the flight and believed that it was struggling. She described a spluttering noise coming from the engine. She said she saw the aircraft do three loops, two of which were done without any difficulty, the third loop the aircraft seemed to go halfway up as if to start the loop and instead of doing a full circle, the aircraft appeared to be struggling and a change in noise of the engine was noted at the top of the loop and from there she observed the aircraft to go straight down out of the loop rather than finishing the full circle. She observed the aircraft cut out of the loop and then appear to fly north. This was the last occasion she saw the aircraft.

Although the versions given by the witnesses tended to vary, their evidence did suggest that the Yak's descent into the water was uncontrolled and that Barry Hempel failed to recover from the manoeuvre to clear the surface of the ocean. This evidence would indicate that either Barry Hempel was suffering from a medical indisposition or had

committed a pilot error during an aerobatic manoeuvre and was unable to recover control, possibly due to having descended too low.

The Flight

Up until the final moments prior to the Yak crashing into the ocean, the flight was uneventful, the weather was mild, the air traffic was minimal and Barry Hempel did not report any problems in relation to the flight.

However shortly before the accident at about 12:02:08pm, Ian Lovell, inadvertently transmitted a message. This was a six second broadcast of foreboding followed by four seconds of an open microphone, thereafter the transmission ends abruptly.

At this time the plane was travelling in a north-easterly direction possibly at the top of a loop. Ian Lovell was heard to say in an extremely alarmed state:

'Oh my god, what are you doing? Put it up (or put it on).'

The Yak had two throttles; one in the front for Barry Hempel and the second in the rear for Ian Lovell. Ian Lovell's throttle was not used other than to transmit messages. The top button on the throttle was used to transmit messages from the aircraft to other stations and to the tower or anyone listening. The button underneath the throttle was used solely for intercom communication between the pilot and the passenger. The message sent by Mr Lovell and heard by ASA was broadcast generally. It appears that Ian Lovell inadvertently pressed the transmission button rather than the intercom button.

Due to the urgency of Ian Lovell's transmission, one would have expected to hear a report straight back from Barry Hempel. This did not occur. There was no response whatsoever from Barry Hempel. In the absence of any response from Barry Hempel to Ian Lovell's urgent plea, one can only assume that at that time Barry Hempel was incapacitated and therefore unable to respond. It may be assumed that he was in the midst of an epileptic seizure, or unconscious. Alternatively it may be that he was attempting to recover from a manoeuvre and was unable to respond.

This fateful broadcast was the last broadcast anyone heard from the Yak.

It was timed, as stated previously, at about 12:02:08pm and lasted six seconds, ending abruptly. The broadcast took four seconds. There was no response from Mr Hempel.

Barry Hempel

At the time of his death, Barry Hempel had been a pilot for 40 years. He had an impressive 28,000 flying hours. He was well-known in the aviation industry. He was controversial, but was regarded as one of Australia's best pilots with many years experience. He had a contumelious disregard for aviation regulations and the law and he had an extensive history of offences and breaches. I attach hereto a schedule which is self-explanatory.

CASA schedule of regulatory action & criminal proceedings instigated against the late Barry Hempel for breaches of Aviation Legislation

Date	Event
February 1968	Counselled for unapproved endorsement training
July 1969	Counselled for his sub-par performance as a "C" grade flight instructor
August 1970	Counselled for his sub-par performance as flight instructor
September 1977	Counselled for failure to cancel SARWATCH
May 1980	Counselled for non-compliance with the terms of an air display approval
April1981	Charged and convicted in Magistrates Court for exceeding flight time limitations and hours of duty: fined $300 plus costs
June 1981	Counselled after breaching low level limit in air display
October 1982	Flight crew licences suspended pending investigation of an aircraft accident (fuel cap missing, fuel exhaustion). Suspension lifted following investigation
5 April1983	Charged and guilty plea entered in Magistrates Court for exceeding pilot duty limits: fined $300.00 plus costs
June 1983	Licences suspended for breach of low level aerobatics and air display approval. Licences subsequently reissued on a probationary basis in August 1983.
October 1983	Low-level aerobatics approval withdrawn for breaches of approval on two occasions at air displays.
December 1985 and January 1986	Charged and convicted in Magistrates Court for being knowingly concerned in breaches of maintenance regs and excessive loading of aircraft at take-off and landing: fined $750.00 plus costs.
May 1986	Licences suspended and Chief Pilot and Chief Flying Instructor and Approved Testing Officer (ATO) approvals withdrawn.
July 1986	Hempel appeals suspension- Administrative Appeals Tribunal orders an 80 day suspension from 9 July 1986 to 26 September 1986
11 September 1987	Charged and convicted in Magistrates Court for breach of Air Navigation Regulation 227(4) (over weight take-off): fined $1200.00 plus costs.

2 October 1987	Charged and convicted in Magistrates Court of flying with unapproved auxiliary fuel tanks: fined $750.00 plus costs.
March 1988	Counselled for the conduct of unauthorised banner towing operations along Brisbane River
April 1988	ATO delegation limited to PPL issue tests only
October 1988	ATO delegation extended to stage 5
January 1989	Chief Flying Instructor approval and ATO delegation withdrawn.
March 1993	Counselled following unauthorised spins tests in Lancair aircraft.
April1993	Counselled by CASA test pilot following sub-par aerobatics in Lancair aircraft
21 March 1994	Counselled for violation of controlled airspace during aerobatic display during Indy car races on Gold Coast
2 and 8 July 1994	Charged and convicted in Magistrates Court for (i) flying without authorisation: fined $1500.00, in default 2 months imprisonment (ii) false statement in pilot's logbook: fined $800.00
October 1994	Counselled following unauthorised aerobatics display
12 February 1996	Charged and convicted in Magistrates Court - 2 charges of false statements in his pilot's log book, failure to record aircraft time in service: fined total of $1000.00 plus costs.
12 October 1996	Charged and convicted in District Court of 2 charges of flying without authorisation: fined total of $3,000.00, in default 2 months
2 July 2003	ATO delegations varied to remove right to issue aircraft endorsements.
2 September 2003	ATO delegations cancelled
28 March 2007	Charged and convicted of 13 offences (after a plea to 4 charges) in Magistrates Court (2 operating aircraft without a maintenance release, 2 commencing flight without a maintenance release, 5 charges of flying without a medical certificate, 2 charges of contravening a maintenance direction, 1 charge of failing to record total time in service on a maintenance release, 1 charge of failing to retain a personal log book: fined total of $12,200, with 12 months to pay.
8 May 2007	"Show cause" notices issued on basis of conviction on the above13 charges and previous record

29 November 2007	All licences (except for PPL) cancelled
29 November 2007	Hempel lodges application in the Administrative Appeals Tribunal to review CASA's decision to cancel his licences
17 March 2008	Hempel withdraws Administrative Appeals Tribunal application

Mr Hempel's Licence

As shown by the Schedule of this decision, Mr Hempel had a long and extensive history, dating back to 1968, of breaching flying regulations. The breaches covered a wide range of offences from exceeding time limitations, breaching low level aerobatic and air display approval, excessive loading of aircraft at take-off, flying without authorisation, unauthorised spin tests in Lancair aircraft, failing to record the total time in service on a maintenance release and flying without a medical certificate.

His group of companies, including Hempel's Aviation Pty Ltd, also had an extensive history of breaches of both administrative and flying regulations.

Given the above it goes without saying that he was well known by CASA and had had at one stage or other, inter alia, his Chief Flying Instructor delegation as an Approved Testing Officer ("ATO") withdrawn, his ATO delegations to issue aircraft endorsements removed and various other ATO delegations cancelled. Mr Hempel's licences, had, at various times, been suspended or cancelled.

At the time of his death he held one licence only – that being his Private Pilots Licence (Aeroplane). His Commercial Pilots Licence (Aeroplane), his Transport Pilots Licence (Aeroplane) and his Commercial Pilots Licence (Helicopter) had all been cancelled by CASA. CASA was, therefore, well aware that Mr Hempel was a pilot who flew with a total disregard for the safety regulations enacted to protect the public, passengers and the aviation industry generally.

The evidence at the Inquest gave an impression of a man who believed he was "above the law" so to speak. No doubt he believed his flying prowess was such that he could decide, rather than CASA, what risks could or could not be taken. It could be argued that the number and nature of Mr Hempel's breaches and the fact that many were repeated breaches indicated that Mr Hempel would probably never comply with safety regulations. In the light of the extensive history of breaches it is indeed extraordinary that he was left with even a Private Pilots Licence.

The relevance of the Private Pilots Licence is that Mr Hempel was not authorised to take fee paying passengers. The evidence was clear that, yet again, he ignored that flying restriction when he took Mr Lovell and other passengers on the fee paying joy flights on 31 August 2008.

When Ms Hare purchased the joy flight gift voucher for Mr Lovell she would have been totally unaware that Mr Hempel's licence did not authorise him to undertake such flights. In fact it became evident that no-one, other than Mr Hempel and CASA, knew what licence he held. If there had been some public document available for members of the

aviation industry and indeed members of the public, such as Ms Hare, to consult they could have accessed that document to determine Mr Hempel's qualifications (or lack of them).

What is truly perplexing about this case is that Mr Hempel had any kind of licence at all. Surely even with a Private Pilot's Licence there was a risk that he would breach a safety regulation that could place in peril any private passengers (friends or family he may have been flying), other planes and indeed people below his flight path. In the case of the incident of 31 August 2008 the only fortunate aspect was that the Yak landed in open sea rather than on houses or roads where many other people could have been killed.

This history speaks for itself and it is evident that Barry Hempel displayed contumelious disregard for safety regulations.

Barry Hempel was well-known to CASA. This Commonwealth body played a critical role in the aviation industry and judged whether a pilot was a fit and proper person to hold a licence.

Given the litany of Barry Hempel's breaches, one is left wondering why CASA allowed him to continue flying notwithstanding his ability to fly, but given his history of breaches, the question arises as to whether he was a fit and proper person to hold any kind of aircraft licence.

Barry Hempel's medical history

Barry Hempel enjoyed good health until in May of 2001 he suffered a serious head injury, when a hangar door hit him on the head. As a result he was hospitalised and suffered a seizure resulting from the incident. During the inquest, neurosurgeons, Dr John Cameron and Dr Ian Maxwell, agreed that one seizure within a short timeframe after the actual incident would not normally result in a diagnosis of epilepsy, but a diagnosis of epilepsy would be made for any second or further seizure.

One of the main questions for the inquest was whether Barry Hempel suffered subsequent seizures which would have caused him to fall within the category of an epileptic and as such, have his licence cancelled, and whether just prior to the crash, he suffered an epileptic seizure which in turn caused him to lose control of the plane, resulting in the crash.

Barry Hempel's licence was cancelled on the occasion of the May 2001 injury. He was without a licence until a satisfactory medical report was provided to CASA.

Extensive evidence was given with respect to this question. There's no doubt that Barry Hempel suffered a significant injury in 2001 when the hangar door fell and hit him on the head. Medical records described the incident as resulting in significant brain trauma.

Dr Urankar, pathologist who performed the autopsy on Brian Hempel, gave evidence in relation to Barry Hempel's brain injury. She stated that although she wasn't given the records of the Princess Alexandra Hospital in relation to the May 2001 incident, she said she didn't need the records because upon examining Barry Hempel's brain, she stated - 'I have gross evidence that he had an injury and here is the evidence, the injury and the scarring.' Dr Urankar stated that although the brain heals the scarring is still there. She went on to say - 'Well, they're healed per se in the way that the brain heals its injury that

it sustained. So, way back when he had the original head injury that caused the contusion, they've healed in the way – the only way the brain can heal. But they don't go away. They leave this area of scarring and the scar causes seizures.' Dr Urankar went on – '...An ongoing effect. A permanent effect in the brain that the effect is it can cause seizures and clinically from what I was presented with it was known that it had caused seizures in the past.' It was quite clear to Dr Urankar, a skilled pathologist, that on examining Barry Hempel's brain, the scarring he had on his brain was quite capable of causing seizures and thus leaving him as an epileptic. The question of sudden unexpected death in epilepsy was also canvassed with Dr Urankar. She said that this was not the case in relation with Barry Hempel because at autopsy he was discovered to have 500mls of blood in his chest which indicated that he did not die prior to the crash, but rather as a result of the crash. Dr Urankar also said there were no injuries to Barry Hempel's hands which could have resulted from him bracing in anticipation for a crash. Dr Urankar said it was normal for a person anticipating a crash to brace and push back for the impact and as such, one would expect injuries to the hands and arms. In this case there were no injuries to the hands, wrists, or fractures to the forearms.

Queensland Ambulance Service Report – 1 July 2002

Near the conclusion of the inquest, a Queensland Ambulance Service (QAS) report dated 1 July 2002 was provided to the inquest by the QAS. That document recorded an incident in which Barry Hempel was transported to the Tully Hospital having experienced a loss of consciousness. The details of that incident are set out in the report provided at the inquest. The medical entries suggest that it was an event of some significance and this view was supported by supplementary reports provided by both Dr Maxwell, neurologist, and Dr Cameron, neurologist, who were asked to comment on the contents of the report. Both Dr Maxwell and Dr Cameron concluded that the report contained evidence of indicia of epileptic seizure.

Queensland Ambulance Service Report – 29 October 2002

This QAS report was available throughout the inquest and was tendered as an exhibit. Various paramedics gave evidence of this particular event, which despite the effluxion of time; namely some 10 years, remained clearly in their memories. They described the agitated state in which Mr Hempel presented and his insistence that as a pilot he had to leave for a flight immediately. On this occasion, QAS had been called to Mr Hempel's residence where he was found in a disoriented state. It was the evidence of the officers that in their opinion, Barry Hempel had suffered an epileptic seizure. This was clearly marked on the report which was provided to CASA. The officers explained that they remembered the event because of Barry Hempel's behaviour. He insisted that as a pilot he had to leave for a flight immediately. They were very concerned. So concerned, that they parked the ambulance across the driveway of Barry Hempel's house in order to prevent him from driving off in his car. They were of the opinion that he was an extreme risk not only to himself, but also to the public, and due to his medical condition he should not be allowed to drive or fly. They were provided with Dr Spall's telephone number (Dr Spall was Barry Hempel's GP). They rang Dr Spall anticipating that he would support them and their views as to Barry Hempel's risk to the public and himself if he were to fly. To their amazement and despite their specific concerns which they raised with Dr Spall, he advised them to let Mr Hempel depart.

A further incident occurred when Barry Hempel was flying with a Mr Russell. Although Mr Russell was unable to identify the year in which the event occurred, he did state that it occurred after the incident of May 2001 when Barry Hempel was struck by the hangar

door. Whilst flying with Mr Russell (a qualified pilot), Barry Hempel's condition became such that Mr Russell took over the controls of the plane and landed the plane. Although on the face of it the evidence given by Mr Russell was insufficient to determine the nature of Barry Hempel's illness whilst flying, or even whether it occurred, in the context of epilepsy, it is yet another occasion on which Barry Hempel probably suffered a seizure.

It is to be noted that all these events occurred after the incident with the hangar door in May 2001.

Dr Ian Maxwell, Neurologist

In 2005 Dr Maxwell provided a report to CASA with respect to Barry Hempel. The report was dated 19 January 2005. In that report, Dr Maxwell stated - 'Following today's assessment I can see no contradiction neurologically to him returning to fly as a private pilot in command of an aircraft. I would strongly support application in this regard. If he remained asymptomatic over a further 12 months I would support his application to have his commercial pilot privileges and ATO privileges returned in full.' Barry Hempel saw Dr Maxwell and explained to him that the events when the ambulance was called to his house on 29 October 2002 was merely being a fainting fit on his part. Mr Hempel did not disclose the Tully incident to Dr Maxwell.

It is quite clear that Barry Hempel was both a liar and a conniver in dealing with Dr Maxwell. In order to prepare his report, Dr Maxwell relied solely upon Barry Hempel to disclose the truth about his medical history. Barry Hempel did not disclose the truth about his medical history to Dr Maxwell. At the inquest Dr Maxwell was shown the ambulance report in relation to the events of October 2002 which had been in CASA's possession. He said this was the first time he had seen that document. In the ambulance report, the paramedics clearly describe a tonic-clonic seizure. Dr Maxwell was adamant that he was unaware of this event. He said, in short, that had he been aware of that event, then as far as he was concerned, Barry Hempel's career as a pilot would have been over.

There is no doubt Barry Hempel was aware of this himself and was at pains to convince Dr Maxwell that he had not had any epileptic event which would have brought his career to an end. In fact, I asked Dr Maxwell this question - 'Because he knew then that he – if he made that admission to you his career is over?' Answer – 'Absolutely yeah.' Dr Maxwell said he regretted in retrospect not pursuing Barry Hempel more aggressively with questioning as to the event which Barry Hempel put down as a faint. Dr Maxwell said he had to rely upon that which Barry Hempel told him, and for the purposes of the report he was never supplied with the ambulance report by CASA. Had he been so supplied, he said he would never have recommended Barry Hempel's licence be returned. In relation to the question of epilepsy, Dr Maxwell said the first seizure was an isolated seizure acute post-traumatic, however any recurrent seizure would result in a diagnosis of epilepsy. He also said the scarring of the brain was an indicator and a risk factor for epilepsy. Dr Maxwell said he was unaware that Dr Spall had previously prescribed Barry Hempel with the drug Tegretol, a drug primarily prescribed for epilepsy.

In relation to the tonic-clonic seizure, Dr Maxwell described it as follows - 'The whole body stiffens in the tonic phase. In the clonic phase they jerk uncontrollably they're unconscious during that – that period and possibly for some minutes with eventual recovery. It's certainly not a brief episode.'

With that description in mind, one can only guess what Ian Lovell thought when he witnessed Barry Hempel in flight undergoing a tonic-clonic seizure. Maybe this event may explain Ian Lovell's cry of 'Oh my god what are you doing? Put it up (or put it on).' In fact one witness gave evidence as to the fact that Mr Lovell would have been able to see unusual movements by Mr Hempel.

Dr Cameron, Neurologist

Dr Cameron said during a tonic-clonic seizure the generalised convulsive disturbance can last usually about three or four minutes, after which the patient remains confused or disoriented for up to 20 minutes. Dr Cameron said that a lot of people bite their tongue during a seizure, and tongue bites may be suggestive of a seizure but not all seizures involve tongue biting.

Dr Cameron said the consequences of a diagnosis of epilepsy for a pilot are as follows – 'If you have a diagnosis of epilepsy that means in fact you had two seizures and that's an exclusion for flying. It really is on a permanent basis.' In relation to the drug Tegretol, Dr Cameron said it is predominantly used for seizures. And that from a neurologist's perspective if you were going to prescribe Tegretol that means you've reached the diagnosis of epilepsy. In relation to a diagnosis of epilepsy, Dr Cameron was most emphatic, an AV-MED doctor must notify CASA then it's up to CASA to consider the person's licence. Dr Cameron (himself a pilot and familiar with the aircraft industry) said that he knew Barry Hempel, and when asked by myself the following question – 'There again he was described as probably one of Australia's best pilots. Would you agree with that?' Answer – 'Totally agree yeah he was very good...I know he had 28,000 flying hours that's incredible he was a very good aerobatic pilot from demonstrations I've seen.' In relation to a question from Mrs Carmody, counsel assisting - 'Would you have allowed a family member to go on a flight with him?' Dr Cameron said - 'Not following his head injury, but before.' In relation to the medical notes produced from the Princess Alexandra Hospital relating to events which occurred on 24 May 2001 at 2:58pm when Barry Hempel was being reviewed in the emergency department, Dr Cameron said that these notes definitely displayed an epileptic seizure.

Dr Cameron was shown the ambulance report dated 29 October 2002, that report discloses that Barry Hempel admitted to ambulance officers he had two further seizures between 6-12 months prior to that event. When asked by counsel assisting - 'Can ambulance officers themselves diagnose a tonic-clonic seizure?' Dr Cameron replied as follows – 'Yes the skill of the paramedics these days is very good and epilepsy generalised tonic-clonic seizures in the community about 2-3% of the population will have a seizure event. It's a commonly encountered medical condition paramedics are called to see. They are trained in the management of acute epilepsy...they can give Midazolam or Valium. They know to establish airways et cetera and check sugars, but yes it would be a common medical emergency condition that paramedics would see in their general day to day activities.' Addressing the ambulance report, Dr Cameron went on to say – 'From what's written here it appears, if we can believe all the information that was put in, which was taken at the time, of course an event – it was a tonic-clonic seizure. It lasted 10 minutes. That's a long time so it was quite a severe seizure. Following the event he was confused. He had no recollection of events. He became a bit irritable, aggressive, combative and as he recovered he sort of – it appeared he mentioned there were two previous events. This is a pretty typical story of a person who has had a convulsive disturbance and it's going to be on for a long time with a period of post seizure confusion and irritability and aggressiveness.' In relation to the

question of fainting, Dr Cameron said - 'No. A faint is a short duration. Four out of ten will have a couple of myoclonic jerks, jerks that, especially if they're kept upright. The thing about a faint is that they recover very quickly within a minute or so. They're fully alert and oriented. They may feel nauseated and sweaty and pale but they don't, they're not combative or irritable amnesic after a faint. From what's written here by the paramedic it is very suggestive that Mr Hempel had a seizure on that occasion.' In relation to the ambulance report, Dr Cameron agreed that the report did not indicate that Barry Hempel had bit his tongue, and again agreed with the fact that not all epileptics bite their tongues. When questioned further by myself about the event of 29 October 2002, the following exchange took place –

Coroner – 'If Mr Hempel denied it was an epileptic seizure and the only other person who was present at the time, his wife insists that she just thought he was concerned and didn't see anything other than fainting what would you do with that if you had that version of events and you have this ambulance report?

Dr Cameron – 'I go by the ambulance report because these are trained medical personnel. You've got to put a lot of emphasis on what they found at the time and what is written. There are a few other things in that report that suggests it's an epileptic seizure.'

When asked what they were, Dr Cameron replied – 'The event lasted 10 minutes. Faints don't last 10 minutes. He had no recollection of the event. He was amnesic. Most people who have a faint feel it coming on. Transient disturbances of recall and then fully aware lying on the ground sweating and feeling uncomfortable and getting better. There were tonic-clonic movements. Four out of ten people can have one or two jerks in fainting but they're very brief. Again the post-fit or the post-fit event is the aggressive disoriented agitated state. That is a common feature we see in people who have a seizure. They are restless. They are wishing people away. They don't want anything to do with them. They're confused. They're not too sure what has happened to them. They don't feel really great from this. There's a lot of features in there.' When asked further to detail the observations, Dr Cameron went on - 'One, observe tonic-clonic seizure 10 minutes that's the first thing.' When questioned further about the report, Dr Cameron was asked - 'What is the next step you would take?' He replied - 'Based on this report, I would still, if he was a pilot, I would say you can't fly. I would notify CASA I would then do a neurological assessment an examination with EEGs and MRI et cetera.' Dr Cameron went on to say that it is up to the pilot to notify CASA as well. In summary, Dr Cameron said - 'I don't ground him. I say he can't fly. CASA grounds him.'

In relation to the autopsy report, Dr Cameron made the following observations when questioned by counsel assisting –

Counsel – 'Interestingly enough though, there are no injuries on his arms consistent with the bracing that - you know how pilots brace for when they're going to crash?' Answer – 'Crash. You get two patterns of injuries when a pilot goes in, one is the hands because when they hit they've got a death grip on in more ways than one.' Counsel – 'Yes?' Answer – 'And they shatter their wrists and thumb. And they're also pushing on the – even on the brakes of the aircraft and they get these dreadful ankle fractures and they're common post-mortem findings.' Question - 'But he hasn't got those?' Answer – 'He hasn't got those.'

Dr Spall

Dr Andrew Spall gave evidence at the inquest. He said that he had known Barry Hempel since 1980 and had formed a friendship with him and that in fact he had learned to fly at Barry Hempel's school and would have done some classes with him.

Although Dr Spall practised at Tewantin, approximately 140 kilometres from Brisbane, Barry Hempel would when necessary fly from Archerfield to Noosa and then get a taxi to see Dr Spall rather than attending a local practitioner in Brisbane.

The evidence of Dr Spall was that he was aware of Barry Hempel's head injury, as in fact Barry Hempel had absconded from the Princess Alexandra Hospital whilst recovering from the hangar door injury, and had his staff fly him to Dr Spall when in fact the hospital was quite concerned for him and were about to treat his brain injury further. What was alarming about Dr Spall's evidence is that in October 2002, he prescribed Barry Hempel the drug Tegretol. Dr Spall said that a doctor would prescribe the Tegretol if the doctor was clinically suspicious that epilepsy had occurred.

Notwithstanding his clinical suspicions, Dr Spall failed in his duty as an av-MED doctor to advise CASA that he had his reservations concerning Barry Hempel's epilepsy and that he had in fact prescribed Tegretol to him. Dr Spall said that he prescribed Tegretol 'over the phone'. He said that this was done after the ambulance had been called and that it was prescribed on 29 October 2002. Dr Spall said that Barry Hempel's family phoned him and said he had been found in a groggy state in the bathroom at home. At the inquest it was revealed that not only Barry Hempel's family telephoned Dr Spall in relation to this event, but so did the ambulance officers, and they expressed clear concerns as to Barry Hempel having suffered an epileptic event. This is reflected in their report.

Dr Spall was unable to say whether he disclosed his prescription of Tegretol to Dr Maxwell, but given Dr Maxwell's evidence it appears Dr Spall did not advise him of such a prescription of Tegretol. Notwithstanding the fact that Dr Spall considered both Barry Hempel and his family were 'not good historians', he did not keep proper medical records in relation to Barry Hempel. It was evident that Dr Spall's record-keeping in relation to Barry Hempel was woeful to say the least, however when pressed by myself in relation to his other patients, Dr Spall had this to say – Coroner – 'My question to you is this; across the board of all your patients or is it just in relation to Mr Hempel? Remember you're on oath?' Answer – 'I think my records would have generally been regarded as adequate and meeting the standards.' Question – 'But they didn't meet the standard for Mr Hempel; did they?' Answer – 'They could have been more complete.' I must say that as a Coroner I found Dr Spall evasive in his answers and eager to distance himself in relation to his friendship with Barry Hempel. There is no doubt that Dr Spall had concerns in relation to Barry Hempel's epilepsy; otherwise one is left with the question why would he prescribe a drug such as Tegretol to him. When questioned by Mr Fleming QC, Dr Spall said he had handed the whole matter over to Dr Maxwell, but he did have a sneaking suspicion that Barry Hempel may be suffering from epilepsy. He did not communicate to Dr Maxwell his suspicions concerning Hempel's epilepsy, nor did he advise Dr Maxwell that he had already prescribed Tegretol. Notwithstanding what Dr Cameron and Dr Maxwell had to say about the ambulance notes, when confronted with the ambulance report, all Dr Spall could reply is - 'Mr Fleming I'm always cautious with ambulance notes.' One has to weigh this against Dr Spall's statement that neither Barry Hempel nor his family were good historians. Dr Spall said that he regarded Barry Hempel as a skilled flyer and that he was absolutely stunned to hear of the crash. During the inquest it became apparent that Dr Spall was aware of at least two instances after the accident with the hangar door, which could have been put down as epileptic episodes, and he failed to communicate his concerns to CASA.

Although a number of witnesses were called to give evidence, I have considered their evidence and in order to address the matters required under s. 45, I may in some instances not refer to them. The other relevant witness called was one Margaret Hempel. Mrs Hempel was married to Barry Hempel from 1973 to 1976 but remained good friends after they separated and in fact she associated quite freely with his next family and was friendly with his second wife. Mrs Hempel denied having knowledge of any illness suffered by Barry Hempel after the initial head trauma and was not aware of any medication he may have been taking.

The question of suicide was put to Mrs Hempel by myself, I asked her was there anything about his behaviour which indicated to her that he was depressed, withdrawn or suicidal. She was adamant that there was no such indication and went on to say that Barry Hempel was always a happy-go-lucky person.

Mr Cameron Rolph-Smith gave evidence as to his knowledge of Mr Hempel. Mr Cameron Rolph-Smith said he had his own Yak-52 and takes paying passengers for adventure flights. He was a commercial pilot and a licensed aircraft maintenance engineer. Mr Rolph-Smith described Barry Hempel as both a cowboy and a good pilot.

Hempel Aviation Pty Ltd

Employees of Hempel Aviation were called and all insisted they had no real appreciation of what Barry Hempel was doing as he frequently came in on days when they were not present and conducted business affairs unknown to them.

CASA Aviation Medical Branch

Witnesses from CASA Aviation Medical Branch including Dr Tak Shum and Dr Liddell both agreed that CASA received a copy of the QAS report dated 29 October 2002. It is of great concern that this report contained the reference to the event on 29 October 2002 and it also contained a reference to Barry Hempel stating to the paramedics that he had suffered at least two previous seizures 6-12 months ago. This document ought to have put CASA on red alert as to Barry Hempel's ability to fly. It is unbelievable that CASA did not act. It is also unbelievable that when Dr Maxwell was briefed to assess Barry Hempel, a copy of this report was never provided to him, nor was he advised as to the admissions as to two previous seizures. Whereas Dr Maxwell said had he been so supplied, he would not have recommended Barry Hempel's licence be returned to him. During the inquest it became obvious that CASA medical officers were cavalier in respect to the QAS reports of both 1 July 2002 and 29 October 2002, and notwithstanding the opinions of Dr Maxwell and Dr Cameron in relation to ambulance staff and paramedics generally, CASA medical officers chose to disregard the observations of trained paramedics. They failed to speak to the QAS officers and they disregarded clear warnings as to Barry Hempel's epileptic state. There seemed to be within CASA a culture of accepting whatever the pilot says, notwithstanding evidence by trained paramedics to the contrary. The fact that CASA did not test the truthfulness of Barry Hempel's assertions and withdraw his licence after a due and diligent enquiry proved absolutely disastrous. A further disturbing aspect of the case is internally, CASA had been on notice as to Barry Hempel's medical condition and that it required further investigation, and that notice had been included in a report provided to CASA by Mr John Jones, a CASA investigator.

Failure to retrieve the Aircraft

It must be said at the outset that the aircraft was never retrieved from the ocean floor. The inquest was therefore deprived of a vital and legitimate avenue of enquiry which was absolutely necessary given that the structural defects and engine failure would be of great concern in the interests of public safety.

The reasons for failing to retrieve the aircraft in light of my repeated request to so do, were obscure and concerning. It is fundamental to any coronial inquest into any vehicle or plane crash that the relevant machine be recovered in a timely fashion and examined for any defect which may have caused the crash.

In this case the inquest was confined to the examination of the elevator trim, a propeller blade and a foreign object defence barrier (FOD) retrieved from the ocean. Mr Hempel and Mr Lovell were found in situ and their bodies were recovered by Queensland Police Service divers. I directed that an examination should be conducted of the FOD to determine if any object had fallen from pockets, such as cameras et cetera, could have penetrated the FOD and thereby interfered with the controls of the aircraft. This was done and the FOD was found to be intact.

Failure to investigate by the ATSB, CASA and QPS

It is of concern that the Australian Traffic Safety Bureau (ATSB) chose not to investigate the crash. This concern is compounded by the fact that CASA commenced an investigation but does not seem to have concluded it and no formal or informal report into the incident has been provided to the inquest. It appears that the Queensland Police Service (QPS) is responsible for the investigation of Civil Aviation accidents/incidents when the ATSB does not attend. Whatever the complexities of an inter-agency investigation and the delineation of which entity had the responsibility for investigating an incident, it seems that, in reality, it fell between the cracks.

During the inquest the outstanding issue was; what caused the persons to die. In this case, that translates to the question of what caused the Yak to crash into the water. A number of alternatives were considered. The first was suicide. Although this was briefly considered in the inquest, it deserves some comment. Firstly, there was no evidence whatsoever that Barry Hempel intended to take his own life. The evidence of his wife suggests that he was in a good frame of mind and, secondly, one would wonder why he would choose to take his life with a fare-paying passenger onboard with whom he has no association whatsoever. One would assume that had he chosen to take his life by way of an aircraft suicide, he would do it on his own. Therefore, I do not accept this as a cause. The second alternative is that the plane suffered a mechanical defect which caused it to spiral out of control into the ocean. The evidence at the inquest was that the plane was in good mechanical condition having just recently received a new engine and a new propeller. And importantly, there was no distress call from Barry Hempel as to any engine or mechanical disturbance prior to the crash. The third alternative is that Barry Hempel failed to complete an aerobatic manoeuvre in sufficient time to clear the water. This is alluded to in the evidence of Mr Arnot that Barry Hempel may have descended too low on a course of executing a loop. However, it should be noted that it was not possible to determine the exact altitude of Mr Hempel's flight during the last moments due to the fact that the transponder was no longer emitting altitude signals due to the fact that there was some geographical obstacle in the plane's vicinity. On balancing this, one has to consider that Barry Hempel was an expert pilot and the Yak was a plane designed specifically for aerobatic manoeuvre and capable of

pulling out of a rapid descent. The other possibility is that Barry Hempel suffered from an undiagnosed epileptic fit which resulted in a seizure during the course of the flight. It should be noted that Barry Hempel did not respond to the urgent pleas of Ian Lovell which were transmitted during the last moments of the flight. It should also be noted that Barry Hempel suffered no injuries consistent with bracing prior to the crash. In other words, he did not suffer injuries to his hands or wrists as were alluded to in the evidence of both the pathologist, Dr Urankar, and Dr Cameron. Bearing in mind the standard of proof required in a case such as this, I find on balance that Barry Hempel suffered an epileptic fit resulting in a seizure in the course of flight, which in turn resulted in his inability to control the aircraft, which in turn resulted in the aircraft crashing into the sea.

Recommendations

During the course of the inquest various medical practitioners were asked for their views on the imposition of a mandatory medical reporting regime. The regime would be directed to the medical profession and would require doctors to report to the appropriate authority with respect to any patients diagnosed with epilepsy.

Some kind of mandatory reporting system directed to drivers (as opposed to pilots or doctors) is not a new concept. There have been a number of coronial inquests and other proceedings exploring these issues. Of particular significance is the *Inquest into the Death of Jet Paul Rowland*, a 22 month old boy who died in 2004 after a driver suffering an epileptic fit crashed on the Logan Motorway. During the course of the inquest it was revealed that the driver who collided with the Rowland's vehicle had been suffering frequent seizures and therefore should not have been driving. The result was 'Jet's Law' *(Transport Operations [Road Use Management Drivers Licensing] Regulation 2010)* which was introduced on 1 March 2006 requiring drivers to report medical conditions that are likely to adversely affect their ability to drive safely.

Under that legislation there is no mandatory reporting obligations on doctors. However, separately, the National Transport Commission publishes an Austroads publication called 'Assessing Fitness to Drive' directed to health professionals for the assessment of a driver's fitness against national standards for both physical and medical conditions. It refers to the obligation upon doctors to advise a patient if their medical condition may affect their driving ability.

The requirement there is they can, in the public interest, make such a report. They are protected by s.142 of the *Transport Operations [Road Use management] Act 1995* which provides protection to a doctor who reports a patient from any liability for the breach of that patient's confidentiality. The Coroner in that inquest made a number of recommendations which are worth considering here:

3. *Review of legislation to consider whether and in what circumstances a driver, and/or a treating doctor should be required to inform the Transport Department of a medical condition (such as epilepsy) or a change in the medical condition of a person impacting on their ability to safely drive. Consideration of whether sanctions should apply against a driver and/or a treating medical officer if they fail to report relevant information.*
4. *Review of legislation (after consultation with relevant interest groups) to consider a panel of independent doctors available to accept referrals for assessment of suitability to drive in the context of epilepsy. The panel would be available to*

review a driver's eligibility to drive and to inform the Department of Transport accordingly.

5. *Initiative by the Department of Transport or other appropriate agency or authority to publicise both to the public and the medical profession the Guidelines for Fitness to Drive. Emphasis should be given to a responsibility to review a person's fitness to drive in circumstances where there is any alteration in the person's medical condition likely to impact on their ability to safely drive a motor vehicle.*

Similarly in the *Inquest into the Death of Scott Phillip Livermore* delivered on 25 June 2010 significant consideration was given to the issue of mandatory reporting by doctors. Mr Livermore died in a car accident. The Coroner made the following observations:

At the end of the day whether or not I should recommend to the relevant government entity, in this case being the Department of Land, Transport and Safety, that a medical practitioner should by legislative means be mandated to report or give information to the relevant department about a person's medical fitness to hold or to continue to hold a Queensland driver licence seems to me to require the balancing of a number of competing factors.

In relation to public safety there is, on the one hand, the community's right to be protected from persons driving on a public road who suffer from designated medical conditions such as epilepsy to the extent that they present as an actual or potential risk or danger, not only to themselves but to their passengers and all other users of the roadway.

On the other hand there is the patient's right to privacy but perhaps more importantly, the real likelihood that if a doctor is mandated to report then any patient may choose not to consult a doctor at all for fear of losing their driver's licence, thus posing, in my view, a greater risk or danger to not only themselves but their fellow passengers and to all other road users, including pedestrian traffic that may be in the vicinity of roadways.

It is submitted that the observations made above with respect to the fact that patients may choose not to consult a doctor and therefore pose a greater risk or danger is a convincing one. For that reason these findings to not include a recommendation that there is mandatory reporting.

As a general observation it would probably be fair to say that the various medical witnesses during the inquest did not seem particularly aware of any reporting regimes here or elsewhere. Nor were they convinced that such a regime should be introduced. Even if they were it appears that Mr Hempel, given his specific character, would simply 'doctor shop' as it appears he has done here.

Recommendations Re CASA

1. That CASA consider immediately disseminating the names of pilots to the industry who have had conditions imposed upon their licence or had their licence suspended or cancelled. As it is a matter of some urgency, the dissemination should be by way of emails.

2. That CASA consider immediately introducing a Register of Pilots which includes reference to licence suspensions and cancellations. That further dissemination

should be by way of, a readily available entry on the CASA website in the form of the Register of Pilots, in the CASA briefing newsletter and the bi-monthly electronic magazine 'Flight Safety Australia'.

(a) The fact that the Register exists should be published as widely as possible and on an urgent basis so that all pilots, airports and related aviation industry members are alerted to its existence.
(b) In the event that concerns are raised by CASA with respect to privacy or confidentiality requirements CASA should be referred to a range of entities which have long published such Registers.

3. That when investigating a pilot's medical fitness CASA should consider adopting the practice, in the event of becoming aware of an ambulance/paramedic attendance upon the pilot, of obtaining the ambulance/paramedic report and related hospital reports. Where relevant they should also speak to the author of such reports. Those reports should also be forwarded to that pilot's Aviation Medical Examiner.

4. That CASA give consideration to a review of the 'culture' within its Medical Unit of accepting medical information provided by pilots rather than being cautious, in particular with respect to pilots who are at risk of losing their licence.

Commonwealth centralised medical treatment system

5. That the Queensland government give consideration to participating in the Commonwealth centralised medical treatment system (eHealth). That systems records medical data including personal health records, Medicare data, Australian Organ Donor Registration data and Australia Childhood Immunisation Registry data which can only be accessed by medical practitioners. Further consideration should be given to a requirement that Queensland Ambulance Service reports also be included.

I close this inquest.

John Hutton
Coroner
4 October 2013