



CORONERS REGULATIONS 1996

Form 1

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10th October, 2005
Case No: 1036/01

RECORD OF INVESTIGATION INTO DEATH

I, **JANE HENDTLASS**, Coroner,

having investigated the death of DALE WALTER MEASEY with Inquest held at Coronial Services Centre, Southbank on the 10th November to 12th November, 2004 and 10th October, 2005

find that the identity of the deceased was DALE WALTER MEASEY and that the death occurred on 12th April, 2001 at Alfred Hospital from

1(a) Cerebral oedema following a fall from height

in the following circumstances:

Dale Measey was 17 years old when he died. He lived with his parents, Stephen and Jennifer Anne Measey, and his three siblings, Mark, Ellen and Geoffrey Measey, in Milburn Grove, East St Kilda.

On 11 April 2001, Dale Measey fell about 10 metres to the ground on to his head when he was preparing to ride upside down on a giant swing-type activity called "The Rip Swing". "The Rip Swing" was one of more than 80 adventure activities offered by the Delhuntie Youth Care and LifeStyle Centre ("Delhuntie Park"). Each year, about 15,000 visitors use the facilities at Delhuntie Park. Delhuntie Park is an incorporated, not for profit adventure activity organisation and campsite intended to operate as a Host Farm for disadvantaged youth operating on an 80 acre property near Trafalgar. It was and continues to be operated by a Board of Management which includes Elwyn and Helen Scale and other Scale family members.

On 12 April 2001, Dale Measey died in the Alfred Hospital from head injuries sustained in the fall at Delhuntie Park.

This finding will describe the practical functions of "The Rip Swing" and way in which it operated at Delhuntie Park, the circumstances leading up to Dale Measey's death, and the evidence before me about whether or not the components of "The Rip Swing" which failed so that Dale fell to the ground on his head were otherwise safe for general use and/or use in

the way in which "The Rip Swing" was operated in this case. It will make recommendations about licensing, certification and enforcement of safety standards in adventure activity equipment which is available for use by the public of the type constituted by "The Rip Swing".

"The Rip Swing"

"The Rip Swing" was designed and built by Mr Scale. It came into operation on or about 18 August 2000. In summary, it is intended to operate like a giant version of a swing in a playground so that the user sits in a harness and swings between two supports. He is pulled up to and released from the highest point in his swing which is about 10 or 12 metres above the ground. As with a conventional swing, this height declines with each oscillation after his release until he stops swinging completely at the lowest point when he is about one metre above the ground.

When "The Rip Swing" was built, there were only four giant-swing activities known to be operating in Australia. Therefore, Mr Scale's design and operational guidelines for use of "The Rip Swing" were based on his 30 years experience with its components in rock climbing and abseiling activities combined with experience of other components in ropes courses used at Delhuntie Park such as flying foxes.

Although "The Rip Swing" appears to have been in use from at least February 1999, maintenance records provided by Mr Scale indicate that the first recorded checked of the plant occurred on 18 August 2000. These records also indicate that a version of "The Rip Swing" was still operating at Delhuntie Park on 2 June 2004.

Design of "The Rip Swing"

"The Rip Swing" consisted of two 10mm steel cables attached at a height of about 10 metres above the ground in opposite trees and joined together by a single "D" bolt shackle with a two tonne rating forming a central "V". Two flexible continuous straps or loops of flexible, non-elastic, fabric-type material about half a metre in length when doubled (the "slings") were both attached to the central shackle at one end and to a screw-gate carabiner at the other end (Carabiner 1). The slings were duplicates of each other intended to independently attach Carabiner 1 to the "V" of the cables so as to provide protection from a fall if one of the slings breaks.

Carabiner 1 was a metal connection link with a spring clip release mechanism (the "gate") that must be opened manually and was able to be locked shut with a thread lock. Carabiners of the type used in "The Rip Swing" are designed to connect two components of the apparatus which carry forces of up to two tonnes operating in directions that are opposite to each other so that, under tension, the forces between the components are carried along the longer back spine of the carabiner which is opposite the shorter side with the gate. These carabiners are not intended to be used to connect separate components of the equipment which create or carry forces that operate at angles other than 180 degrees or opposite to each other.

The thread lock on the gate of Carabiner 1 required three and one quarter complete turns to lock tight. It was usual practice at that time to lock the gate on this type of carabiner by screwing the thread lock tightly shut and then undoing it by one quarter or one half of one complete turn. This is because, when it was used appropriately, the thread lock was designed to rotate in a direction which tended to tighten further during use and it sometimes required tools to release it after a ride unless the screw was partly turned back before it was used.

Users of "The Rip Swing" were required to wear an adjustable half-belt safety harness consisting of a waist belt and two leg loops made of special canvass-like material. This harness was of the type routinely used in abseiling. It was intended to support the lower body of the user who held himself in an upright position during operation of "The Rip Swing" by holding on to the slings. Another screw-gate carabiner with the same design as Carabiner 1 (Carabiner 2) was attached to the user by a small loop in the front of the harness. This connection between Carabiner 2 and the harness was further strengthened by a synthetic leather type padding held in place with Velcro. Therefore, when used in the usual upright position, the harness was not required to and did not provide support for the user's arms or upper body. When "The Rip Swing" was used in the upside down position, the harness was unable to support the lower body of the user and the loop in the front of the harness which was connected to Carabiner 2 was positioned in the user's groin area between his legs.

When preparing to ride on "The Rip Swing", the user climbed to the lowest position of the swing by standing on a small ladder or other similar device placed on the ground so that he could sit in the harness. The facilitator then assisted the user to fit and adjust the harness. When the harness was fitted and adjusted, Carabiner 2 on the harness was attached to the already locked Carabiner 1 by connecting the two carabiners through the gate on Carabiner 1 and locking it using the screw lock. Through this connection, the harness on the user was attached to the slings on "The Rip Swing". The Procedure Manual for operation of "The Rip Swing" dated 11 May 2001 (the "Procedure Manual") did not include any requirement for independent back-up provisions to prevent falling in the event of failure of either the shackle on the duplicate cables, one or both of the two operational carabiners, the harness or the attachment loop to the harness.

Users of "The Rip Swing" were elevated to a swing position prior to starting the activity on a separate long length of rope (the "tow rope") which was also attached to Carabiner 2 through its own, different metal release mechanism which had a drilled hole large enough in diameter to accommodate the carabiner. The extension of this metal release mechanism included a release clamp. A metal release pin attached to the tow rope was inserted into the release clamp and held in place by a metal release handle. Carabiners of the type used in "The Rip Swing" are intended to connect single components of the apparatus at 180 degrees to each other so that the forces are carried along the longer side of the carabiner which is opposite the shorter side with the gate. They are not intended to be used to connect more than two separate components which operate at different angles to each other.

When the user was in the upright position, this release handle, which held the pin on the tow rope securely in the release mechanism, was positioned in front of the user's lower abdomen so that he could easily see the release handle and the carabiners were above it, in front of his

upper abdomen or chest. When the user was inverted in the upside down position, the user held himself in the upside down position by wrapping his legs around the slings. The release handle and Carabiner 2 were positioned between his legs, nearer the lower back so that he could not see them. Carabiner 1 and the lower end of the slings were positioned in his groin.

One end of the tow rope was attached to the release pin which was locked into the release mechanism by the release handle. The other end of the tow rope was guided to the ground about 10 metres away at 90 degrees from "The Rip Swing" over a pulley anchored about 15 metres high in a tree which is effectively behind the user. People on the ground used the tow rope to pull the user in his harness up to a height of about 10 metres above the ground. He was then maintained at that height by the people on the ground continuing to hold on to the tow rope. Depending on the angle of his elevation relative to the people on the ground and the shackle on the cables of "The Rip Swing", some or most of his weight during this process was supported by the release handle holding the release pin in place in the release clamp which was attached to his harness through Carabiner 2. The angle in which these forces operated with respect to Carabiner 2 and the release handle would change when the user was not using the equipment in the usual upright position.

When the user had been pulled up to the height from which he intended to swing and was ready to be released into the swing, the people on the ground were instructed to call out "Rip". When this occurred, the user manually released the release pin on the tow rope by turning the release handle on the release clamp which, under normal circumstances, was in front of him so that the tow rope fell to the ground and he was supported solely by the connections between his harness and the cables of "The Rip Swing". As he began to swing in an arc of about nine metres radius through the shackle at the centre point pivot of the two cables of "The Rip Swing", all his weight was carried by the link between the loop on his harness attached to Carabiner 2 which was then linked to the slings on the cables by Carabiner 1.

Operation of "The Rip Swing"

Use of "The Rip Swing" was facilitated by an assistant or facilitator employed by Delhuntie Park. The employed facilitator was sometimes assisted by other participants. On 11 April 2001, Mark Barry Cutchie was the employee facilitator. Mr Scale was not at the property and did not return or know about the incident until the next day. Mr Cutchie was employed on a full time basis to assist in the adventure activities at the camp. He had been employed at Delhuntie Park for one year in 1996 and had been working there again between January and April 2001. In that three month period, he had assisted at least 200 people to ride on "The Rip Swing". Many of these participants had two or three rides in one day. He said:

"People loved it".

Mr Cutchie was qualified for the position of facilitator with a Bachelor of Education degree majoring in Physical Education and three years experience as a primary school teacher. In 1996, Mr Cutchie had also undertaken an instructors' course in the use of abseiling and rock climbing equipment which was organised by a professional outside company, the name of which Mr Cutchie could not recall. Mr Cutchie also participated in an internal staff training

course conducted by Delhuntie. In 2001, Mr Cutchie's training to facilitate for use of "The Rip Swing" comprised observing Mr Scale acting as a facilitator of the activity at least ten times, all on one day. He had no further specific training in use of "The Rip Swing" but the Procedure Manual described how the equipment should be used.

The Procedure Manual indicated that the aim of "The Rip Swing" was:

"To release yourself and swing."

As relevant, the Procedure Manual provided:

- "1. Staff member to check each harness is fitted correctly before participant starts.*
-*
- 5. They are attached to the carabineer at the bottom of the sling.*
- 6. The quick release mechanism is attached to the same carabiner then attached to the tow-rope (see diagram).*
- 7. The participant sits in harness and the stepladder is removed.*
- 8. The participant is shown how the quick-release device works.*
-"*

In the context of flying fox equipment, Mr Cutchie told the Coroner:

"I have seen in the past vibration and rubbing undo the screw so the gate could open either when pushed or brushed."

However, Mr Cutchie said in evidence:

"...whether (the screw lock) was against the body or away from the body it's not something I was particularly aware of as a safety precaution."

When riders swing upside down on "The Rip Swing", it is also possible for the effect of gravity on the screw lock of the carabiner to be reversed so that, if it is loose, it could tend to unscrew rather than tighten the lock. Mr Cutchie also acknowledged that, even if the screw lock on Carabiner 2 was positioned away from the body when the harness was connected, when the rider turns upside down it could end up against the body.

Although the Coroner heard evidence that Delhuntie Park had no policy that users could not ride "The Rip Swing" upside down and Mr Cutchie said that Mr Scale did not tell him not to allow riders to ride upside down, the Procedure Manual made no reference to using "The Rip Swing" upside down.

However, the Procedure Manual did not include directions as to the relative positions of the screw lock on Carabiner 2 and the user's body and its potential to influence opening of the gate on Carabiner 2. Further, despite the extra dangers associated with riding "The Rip Swing" upside down, no special arrangements or safety precautions were included in the Procedure Manual or the instructions provided to Mr Cutchie.

On the contrary, Mr Scale taught Mr Cutchie how to facilitate upside down riders. Further, Mr Cutchie told the Coroner he did not consider use of "The Rip Swing" ride in the inverted position to be any more dangerous than in the upright position:

"Dangerous... no, they were still attached to it in the same way, the harness was still the same, I still considered it to be safe. The only thing was it was a bit more difficult to release because of the positioning rather than being right in front of the person obviously, and as we know it's around the legs, so it was a bit more difficult to operate, but I wouldn't use the word dangerous."

Summary of Design and Operation of "The Rip Swing"

In summary, the equipment constituting "The Rip Swing" provided for duplicate back-up of the cables securing the ride to the trees and duplicate slings securing Carabiner 1 to the single shackle attached to the cables. Use of "The Rip Swing" was facilitated by an experienced outdoor education specialist employed by Delhuntie Park.

However:

- Delhuntie Park management and their employee facilitator were aware that the screw locks on the gates of the carabiners used to connect the user's harness to the cables could undo with vibration and rubbing;
- There was no direction in the Procedure Manual or training to indicate that the screw lock on the gate of Carabiner 2 should be positioned away from the user's body;
- Carabiner 2 was not designed to connect three components of the system which carried forces operating at right angles to each other and against gravity;
- There were no back-up/fail-safe for the two carabiners which provided a crucial attachment of the rider to the duplicate slings and, through a single shackle, to the duplicate cables;
- Although riding upside down on "The Rip Swing" was recognised as increasing the likelihood that the screw locks on the carabiners would unscrew in response to gravity, the facilitator had no specific formal instructions in this use of "The Rip Swing";
- The practice of riding upside down on "The Rip Swing" was not regarded as particularly dangerous and was not discouraged or prohibited.

Further, no one seems to have considered the increased likelihood of severe injury if and when a system failure occurred and the inverted rider fell on his head rather than on his feet.

The Incident

Stephen Measey was a good friend of Mr and Mrs Scale. On 6 April 2001, all the Measey family except Mark began a ten day stay at Delhuntie Park to observe the Jewish Festival of Passover. This was the third time the family had been to Delhuntie Park and used the adventure equipment. I am unable to say whether or not they paid for the use of Delhuntie Park's services.

At about midday on 11 April, Ephraim Finch, his wife and their three children arrived to join the Measey family at Delhuntie Park. The Finch family had not previously visited Delhuntie Park. The Measey and Finch families were the only ten people participating in the Delhuntie Park program on that day. At about 2pm, both families agreed to participate in an activity on "The Rip Swing".

On 11 April 2001, Dale Measey asked to be the first member of the Measey/Finch party to participate in "The Rip Swing" activity. He was very familiar with use of "The Rip Swing" and seemed very confident in its use. He had been a previous participant as well as a helper/assistant for other users of this equipment. Mr Cutchie had not met the Measey family before.

At about 2.15 pm on 11 April 2001, Dale Measey climbed on to a short step ladder so that he and Mr Cutchie could attach him to the harness. Mr Cutchie has a specific memory of double checking the harness' fitting and tightness on this occasion.

However, Mr Cutchie has no specific memory of connecting the carabiners to Dale Measey's harness. In evidence, he said that his practice was to connect Carabiner 2 to the loop at the front of the harness and then connect that carabiner to the already closed and locked Carabiner 1. He normally placed the screw lock of Carabiner 2 so that the screw gate was pointing down when the user was sitting upright in the harness on the ladder. Mr Cutchie would routinely lock the screw gate on Carabiner 2 by screwing it tight and then releasing it by half a turn.

Although I have no reason to presume that Mr Cutchie did not follow his usual procedure in attaching Dale Measey's harness to "The Rip Swing", he was not conscious of the safety issues associated with whether the screw lock of Carabiner 2 was against the user's body so I cannot say whether or not the screw lock was facing outwards or against Dale's clothing. Further, given Dale's experience with "The Rip Swing" and the failure of the Procedure Manual to specify that Mr Cutchie attach the rider properly to the equipment, I cannot say whether Mr Cutchie or Dale or neither of them locked the gate on Carabiner 2 shut with the screw lock.

Dale Measey wanted to perform "The Rip Swing" activity from an upside down position. Therefore, after he and Mr Cutchie had attached and checked his harness and connected him to "The Rip Swing", Dale transferred his weight from the ladder to the harness, turned himself over and supported himself with his head towards the ground by wrapping his legs around the slings.

At this stage, Dale Measey was at the bottom of "The Rip Swing". He was held off the ground by the slings and carabiner connections between his harness and the shackle on the cables. The consequence of turning upside down was that the Carabiner 2 on Dale's harness and the release clamp attached to it were pulled between his legs into a position that he could not see them and they could only be accessed from behind Dale's body. Although he had performed this and the flying fox activity upside down before, Dale was moving himself around a fair bit. He seemed to be having more difficulty getting himself comfortable and stable in the upside down position before he was pulled up to the release position than he had on previous occasions. I am unable to say whether or to what degree his weight was

also being supported at this stage by the tow rope held tight by the rest of the Measey and Finch families.

Acting on instructions from Mr Cutchie, members of the Measey and Finch families then used the tow rope attached to Dale Measey's harness through the release clamp and Carabiner 2 to pull Dale up to a position about 10 metres from the ground which is about three quarters of the highest position available. Dale was still upside down throughout this operation. Some of the forces created by the effect of gravity would have transferred to the tow rope and release mechanism during this elevation process to that, contrary to carabiner design requirements, they were operating on Carabiner 2 at an angle of about 90 degrees relative to those forces still carried by Carabiner 1, the slings and the shackle.

As the families braced themselves for Dale Measey to release the release handle and, consequently, the tension on the tow rope, Dale was reaching for the release handle behind himself with one hand while the other hand was beside him. He was also hunching forwards in an apparent attempt to create more momentum in his swing when he released himself. He was looking down to where he would swing.

Mr Cutchie told the Coroner that Dale Measey took an unusually long time at the top of "The Rip Swing" adjusting himself to maintain the inverted position and apparently fumbling for the release handle. He also spent some moments with both his arms extended posing for photos. Mrs Measey was with one of her daughters, Rivka, taking photographs of Dale from a position directly behind his elevated position so they could see him well. When the people on the ground called out "Rip", he continued to move his hand in search of the release handle. Dale asked where the release handle was and Mrs Measey called out instructions and directions to assist him to get his left hand into the position of the release handle because he was reaching around behind himself and not between his legs.

On a second call of "Rip", Dale Measey hesitated again before he located the release handle with his hand and Mrs Measey saw him seem to release it. The families holding the tow rope felt the expected release of tension but, instead of swinging on "The Rip Swing", Dale dropped directly to the ground and landed on his head.

When Mr Cutchie inspected Dale Measey's harness, he found Carabiner 2 was still attached to the harness but the screw locking mechanism on Carabiner 2 was in the unlocked position. Mr Cutchie told the Coroner that the only way that the two carabiners could have separated was that the screw lock mechanism on Carabiner 2 became unscrewed. Given Mr Cutchie's inability to specifically recall tightening the screw lock, it is also possible that it was never screwed into the locked position. In the absence of the duplicate carabiner which was referred to in the Delhuntie Park Procedure Manual for the "The Rip Swing", there was no back up to protect Dale from the consequence of failure of Carabiner 2.

Emergency services were called to the scene and Dale Measey was stabilised then transported to the Alfred Hospital by helicopter. He was admitted at 4.10pm on 11 April 2001. At the hospital, a CT brain scan identified oedema, clots and a subdural haemorrhage. Dale underwent surgery to evacuate the haemorrhage but the bleeding continued and his condition deteriorated.

At 11.30am on 12 April 2001, following discussion with the family, respiratory support was withdrawn. At 12.47pm, Dale Measey died.

An application under section 29 of the *Coroners Act 1985* was granted. An inspection and report adopted the cause of death determined by the hospital to be severe cerebral oedema following treatment for an acute subdural haemorrhage.

I find that Dale Measey died from an acute subdural haemorrhage when he fell on his head from "The Rip Swing" activity operated by Delhuntie Park near Traralgon.

Investigation of the Incident

At 1.30pm on 12 April 2001, WorkCover Authority Health and Safety Inspectors accepted primary and immediate responsibility for investigation of Dale Measey's death. At about 2.15pm on 12 April 2001, Inspector Russell Lever from the Victorian Workcover Authority arrived at Delhuntie Park to investigate Dale Measey's death. He took a number of useful photographs of "The Rip Swing" and its components including a reconstruction of the upright operation of the equipment. However, Mr Lever did not reconstruct the upside down use of "The Rip Swing". Although he did not find any particular defective or malfunctioning components in "The Rip Swing" equipment, I am unable to say from his statement to the Coroner whether Mr Lever was made aware that Dale had been attempting to use "The Rip Swing" in the upside down position.

On 12 April 2001, Mr Lever issued an Improvement Notice requiring Mr Scale to formally report the incident to the Victorian Workcover Authority. On 16 April 2001, Mr Scale complied with the Notice. Although Delhuntie Park was an employer under the *Occupational Health and Safety Act 1986*, in the absence of prescription of giant swing equipment under the *Equipment (Public Safety) Act 1994*, the Victorian Workcover Authority transferred further responsibility for the on-going investigation to Victoria Police.

On 19 October 2001, the Victorian Workcover Authority referred investigation of Dale Measey's death to Inspector Susanne Sinclair. She recovered the harness from Victoria Police investigators. On 23 October 2001, Inspector Sinclair referred the harness, carabiners and release mechanism used by Dale to a national assessor for the Industrial Skills Department of Holmesglen TAFE, Fritz Schaumburg, for comment.

In evidence, Mr Schaumburg said and I accept that the carabiners are subject to and comply with International Standard CE Commune Europe which is a NATA approved standard and well adequate for the task. There is no information in any Australian Standard to indicate that the attachment to the swing should have been any different. Further, he says it is a common practice to release the tightened screw lock by a quarter turn. However, he makes no comment about the effect of releasing it by one half turn.

Inspector Sinclair's reconstruction of Dale Measey's preparation for participation in "The Rip Swing" showed that the carabiners could partially rotate relative to each other and the harness during the process of inverting the user. Carabiner 1 became positioned on the lip of the gate opening of Caribiner 2 so that, when the lock was undone and the gate opened, it

jammed on the loop material and remained open. A jerk or release of weight allowed the carabiners to separate in an action called a "roll out" of the carabiners.

Mr Schaumburg also commented on the appropriateness of the harness used in "The Rip Swing". In the absence of any Australian Standards as guidance for attachment to harnesses for recreational use, he was unable to say that the harness was unsuitable for the use. Further, although Mr Schaumburg recommended use of a full body harness in rides like "The Rip Swing", there is no evidence that the half body harness used by Dale Measey was a factor in causing his fall.

On 24 October 2001, Inspector Sinclair relied on the basis of Mr Schaumburg's advice to issue a Prohibition Notice on use of "The Rip Swing". This Prohibition Notice required Delhuntie Park to include the use of full shoulder type harness and a double carabiner with opposite opening mechanisms and attached directly to the harness before further use or operation of "The Rip Swing". These changes were implemented and, on 26 October 2001, the Prohibition Notice was withdrawn. Further, the Procedure Manual was amended to include:

"6. They are also attached to a second carabineer on a second backup sling of which does not come under load.

The Coroner's brief also includes a report by a consulting engineer, Richard Baird, who was commissioned by ADRA Australia to provide an opinion concerning the hazards to persons participating in activities at Delhuntie Park and to provide an opinion as to the extent of and appropriateness of risk controls administered by management of Delhuntie Park on 29 May 2001. ADRA Australia is a Christian, humanitarian agency associated with Delhuntie Park. In Mr Baird's view, Delhuntie Park is subject to the *Occupational Health and Safety Act 1985*. Further, he says "The Rip Swing" is probably an amusement device and therefore Australian Standard AS3533 applies. He also calculated that "The Rip Swing" would develop a load of nearly three times gravity as the rider passes through the bottom dead centre of the swing. Mr Baird made no comment on the failure to comply with Australian Standard 3533 including the failure to provide a fail-safe back-up system including failure to duplicate carabiners or other parts of the system and he was not asked to comment on operation of or upside down use of the equipment.

On about 5 March 2003, in preparation for the coronial investigation into Dale Measey's death, Camping Association Victoria referred assessment of "The Rip Swing" to Eric Westrup for comment. Mr Westrup also gave expert evidence during the Inquest in the investigation of Dale's death.

Mr Westrup is a professional provider of a range of challenge rope course services for the last 15 years. In making his report and giving evidence, he did not see "The Rip Swing" activity at Delhuntie Park. However, I accept Mr Westrup's opinion that, in giant swing activities, screw gate carabiners should not be used in critical applications without a backup system. They carry a 'quite high' risk of unscrewing inadvertently and he has also seen screw gates not tightened properly or at all. Another possibility is that the screw lock was turned when the gate was inadvertently held open by some clothing so that, when it was

turned to lock it, the screw lock held the gate open but I do not accept that this occurred here.

Even when used with or as backup, Mr Westrup is of the view that screw gate carabiners should always be attached to the harness loop with the gate facing away from the body in order to minimise rubbing against clothing or the body. Further, Mr Westrup says that it has not been acceptable practice for many years to include two screw lock carabiners in carabiner-carabiner attachments. There are a number of alternative auto or self locking forms of carabiner now available which remove this risk.

Mr Westrup also said that, if two carabiners are used together, they should not be connected to each other. If they are used as back-up, they should be oriented in opposite directions so that the gates are not next to each other. Alternatively, there needs to be some back-up connection system that independently connects the harness to the shackle on the cables.

Further, in evidence, Mr Westrup said and I accept that he did not recommend any sort of intentional inverted use of Giant Swings. He says it increases the risk significantly:

"I mean if you fall on your head when you're upside down. That would have to increase that risk."

Further, being upside down may disorient the rider. I accept that this effect could have influenced Dale Measey's attempts to find the release handle. However, he said that, in his experience, it was difficult to invert the carabiners just because the rider turns himself upside down.

Mr Westrup is also of the view and I accept that the release mechanism should not be attached to the harness through a carabiner because the effect of activating the release mechanism can result in a noticeable jolt which could influence roll out of a carabiner if the gate is unlocked. For this and other reasons, he says that the release mechanism on the tow rope should have been totally independent of the safety or back-up systems connecting the rider to the cables. This is because, in a design like "The Rip Swing" where the Carabiner 2 is attached to the harness, the links to the cables and the tow rope through the release mechanism, there is a three way pull on that carabiner which is designed so that its back spine operates under two opposite forces.

Camping Association Victoria has criticised the Victorian WorkCover Authority's assessment and enforcement of safety issues in relation to "The Rip Swing" after Dale Measey's death. In particular, they say and I accept that independent back-up measures throughout the system were recognised as acceptable practice for ropes courses and related structures at the time of this incident and that the failure to have these back-up systems in place caused Dale Measey's death. Further, Camping Association Victoria is concerned that the Victorian WorkCover Authority has not made any direct comment about the practice of allowing and authorising use of "The Rip Swing" in the upside down position.

I find that the Victorian WorkCover Authority's requirement that Delhuntie Park introduce full body harness and twin carabiners in place of Carabiner 2 did not go far enough to

answer the valid Camping Association Victoria criticisms in relation to this incident and general practice.

Therefore, on the basis of all this evidence and accepting that specific Australian standards were not developed at the relevant time, I find that construction and use of "The Rip Swing" at Delhuntie Park did not comply with the operating standards applicable to professional ropes courses and giant swings in April 2001:

- It used two interlocking screw gate carabiners together,
- The release mechanism was attached to a carabiner at 90 degrees to the forces supporting the rider,
- It did not have proper fail-safe back-up systems to protect against system failure including duplicate carabiners attached independently through the slings to the shackle and the cables, and
- It was being used upside down.

Further, I find that these inadequacies contributed to Dale Measey's death.

Regulation of Safety Issues in Not-For-Profit Adventure Activities

Regulation of not-for-profit adventure activities to ensure community and individual safety occurs in four ways:

- Through voluntary compliance with Australian Standard 3533 which applies to amusement rides or devices,
- Through current legislative requirements to provide a safe environment which are assessed and enforced by the Victorian Workcover Authority,
- Through voluntary compliance with membership and accreditation requirements of relevant interest groups, in this case Camping Association Victoria, and
- Through professional assessment undertaken by the operators, in this case Delhuntie Park, in response to civil and insurance requirements.

This finding addresses the first three of these regulatory mechanisms. It will then assess whether the new *Occupational Health and Safety Act 2004*, which came into operation on July 2005, changes the Victorian Workcover Authority's duty to assess, investigate and enforce safety requirements of 'giant swings' operated by not-for-profit organisations.

Australian Standard 3533.1

Each Australian Standard is developed and maintained by a co-operative industry committee with a view to establishing the minimum conditions and guidelines considered acceptable by the industry within which the Standard is intended to operate. Therefore, although compliance with a relevant Australian Standard is voluntary unless the Standard has been incorporated into legislation or regulations, the content of the Standard can be considered an objective indicator of usual or acceptable peer practice.

Australian Standard 3533.1-1997 (the "Australian Standard") as amended in March 2001 applied in April 2001 and still applies to design and construction, operation and maintenance, and in-service inspection of amusement rides and devices. In particular, plant such as "The Rip Swing" is defined as an amusement device for the purposes of the Australian Standard. The Committee which developed and reviewed the Australian Standard included a representative of the Victorian WorkCover Authority.

The Australian Standard does not provide specific requirements for design, manufacture and operation of 'giant swings'. However, Paragraph 2.1.6 of the Australian Standard requires all amusement devices to be designed as fail-safe which means:

"1.3.11 Fail-safe-a state or condition whereby if any component of an amusement device fails, a system exists to prevent any increase of the assessed risk associated with the device."

Further, the Australian Standard explains the meaning of "fail-safe":

"It is self evident that a single component cannot fail-safe. To satisfy the concept of failure to safety, a single component is replaced by a system of components or by re-configuring the whole so that the failure of the component will be inconsequential."

As relevant, the Australian Standard provides specific requirements for elevating mechanisms, quality assurance, suspension ropes and chains, clearances, testing, certification and registration. Further, proprietors of amusement devices are responsible for ensuring legislation is observed, all operating staff receive sufficient training to be competent to control the device and plant is regularly and properly inspected.

The failure to provide a fail-safe back-up system and Dale Measey's fall when Carabiner 2 failed is, of itself, evidence that the design, construction and operation of "The Rip Swing" did not comply with Australian Standard applicable to amusement devices in April 2001.

Victorian WorkCover Authority

A number of relevant pieces of legislation enforced by the Victorian WorkCover Authority were operational at the time Dale Measey died. These included Version No. 051 of the *Occupational Health and Safety Act 1985* incorporating amendments as at 22 November 2000 (the "relevant OH&S Act"), which applied to workplaces, and regulations made under that legislation.

Section 22 of the relevant OH&S Act provided:

" Every employer and every self-employed person shall ensure so far as is practicable that persons (other than the employees of the employer or self employed person) are not exposed to risks to their health or safety arising from the conduct of the undertaking of the employer or self-employed person."

Section 39 of the relevant OH&S Act provided for authority WorkCover inspectors to enter premises to enforce or investigate breaches of the Act and its regulations. Sections 43 and 44 also enabled WorkCover inspectors to issue Improvement and Prohibition Notices requiring correction of matters that contravene the relevant Act or prohibit the carrying on of an activity which involves or will involve an immediate risk to the health and safety of any person until an inspector certifies in writing that the matters which give or will give rise to the risk are remedied. Sections 47 and 52 of the relevant OH&S Act created indictable offences constituted by failure of individuals and bodies corporate to comply with the Act.

However, Version 20 of the *Equipment (Public Safety) Act* 1994 incorporating amendments as at 27 August 1998 which specifically excludes a workplace within the meaning of the relevant OH&S Act. The basis of this jurisdiction depended on whether the "The Rip Swing" at Delhuntie Park was prescribed equipment under the *Equipment (Public Safety) Act* 1994. In the absence of prescription of equipment like "The Rip Swing", the *Equipment (Public Safety) Act* 1994 had no force in relation to liability for Dale Measey's death.

In 1989, 1990, 1991, 1996, 1999 and 2000 WorkCover inspectors relied on provisions of the relevant OH&S Act to inspect Delhuntie Park facilities and, as a consequence, the Victorian WorkCover Authority had imposed a series of Improvement Notices and Prohibition Notices on their work practices and equipment, including the plant used in their adventure activities. They also responded to a different issue on 19 April 2001.

Therefore, since at least 1989, the Victorian WorkCover Authority had accepted that the operations at the Delhuntie Park adventure site were subject to their jurisdiction under the relevant OH&S Act. Despite this general jurisdiction and their on-going reasons to assess the operations at Delhuntie Park, the Victorian WorkCover Authority did not investigate or make any other intervention with respect to the health and safety issues associated with design and use of "The Rip Swing" until after Dale Measey died.

Further, despite Inspector Lever's good emergency response and helpful immediate investigation of the incident, his preliminary investigation in April 2001 was cut short when, rather than relying on their jurisdiction under the relevant OH&S Act, the Victorian WorkCover Authority formed the view that they had no on-going jurisdiction in relation to Dale Measey's death because the equipment used in the incident was not prescribed equipment under the *Equipment (Public Safety) Act* 1994. The delay incurred because of this decision meant that important, expert assessments of the plant and its operation were delayed.

On 24 October 2001, six months after Dale Measey died, a different Victorian WorkCover Authority inspector issued a Prohibition Notice on the use and operation of "The Rip Swing" pursuant to section 22 of the relevant OH&S Act based on the assessment by Mr Schaumberg. In order to comply with this Prohibition Notice, the Victorian WorkCover Authority required Delhuntie Park to ensure that users wore full body harness and that twin carabiners in opposite configurations were used to connect the harness to Carabiner 1. There was no other requirement to change the system of connection of the rider to the swing by way of carabiners with a fail-safe back-up arrangement.

On 26 October 2001, the WorkCover inspector reported that Delhuntie Park had complied with these requirements and the Prohibition Notice was withdrawn. No charges have been laid in relation to breaches of section 22 or any other provisions of the relevant Act because:

"Inspector Sinclair relied upon Schaumberg's evidence and considered that the investigation did not provide a sufficient foundation to allege a contravention of the Occupational Health and Safety Act.

In particular, Inspector Sinclair considered the evidence obtained in the investigation failed to establish the elements of practicability beyond reasonable doubt. Accordingly, a decision was made not to investigate the matter any further."

Further, the Victorian WorkCover Authority has taken no action with respect to Delhuntie Park's practice of allowing use of "The Rip Swing" in the upside down position. I find that the Victorian WorkCover Authority's failure to identify and prevent unsafe operation of "The Rip Swing" before Dale Measey died suggests that they failed to perform or perform adequately the prevention role ascribed to them under section 22 of the relevant OH&S Act.

Camping Association Victoria

Camping Association Victoria also provided the Coroner with a detailed commentary of their process for accrediting activities at campsites. In 2001, their 1997 Campsite Accreditation Program was a voluntary process intended to improve their professionalism, benchmark their operation and procedures, obtain a marketing advantage and access discounted public liability insurance. Although there is no legislation in place in relation to the program, schools using camping venues in Victoria were and still are expected to use sites accredited by Camping Association Victoria though the Australian Campsite Accreditation Program.

On 8 February 1999, Delhuntie Park joined Camping Association Victoria and applied for accreditation under the Australian Campsite Accreditation Program. David Strickland was allocated as the accreditation consultant for the Delhuntie Park application. He was assisted by a professional ropes course constructor and other Camping Association Victoria appointees. On 4 and 5 March 1999, Mr Strickland observed "The Rip Swing" design and construction. A number of changes were suggested but none of these related to the system of connection of the rider to the swing by way of carabiners without a fail-safe back-up arrangement. Mr Strickland and his colleagues have no recall about the harnessing and carabiner attachment system.

On 2 September 1999, Camping Association Victoria confirmed that Bert Darwinkle from Keble's Trading had assessed the site. Mr Darwinkle's assessment dated 5 February 1999 was specifically intended to cover inspection of wires and securements as well as a general inspection of activities and rides. It makes no comment on the system of connection of the rider to the swing by way of carabiners without a fail-safe back-up arrangement.

In April 2001, Delhuntie Park had not complied with a number of unrelated outstanding requirements for accreditation and their application was uncompleted. However, they remained members of Camping Association Victoria.

On 24 April 2001, Mr Scale sought clarification of Delhuntie Park's accreditation status under the Australian Campsite Accreditation Program and, when the lack of accreditation was confirmed, he renewed his membership of Camping Association Victoria and re-instigated the accreditation process. On 8 May, the Executive Director of Camping Association Victoria visited the site. On 11 May, Mr Scale provided Camping Association Victoria with a copy of the Procedure Manual for operating "The Rip Swing". On 27 May, Camping Association Victoria recommended that Mr Scale provide a written report from a professional ropes construction company to support his on-going application for accreditation.

Camping Association Victoria did not follow-up of this letter until 14 December 2001 and 14 January 2002. On 17 January 2002, Mr Scale replied indicating that:

"We were already manufacturing another swing 'rip" and it has been fully tested by our engineers and built to engineers' requirements."

On 29 January 2002, Mr Scale attended a meeting of Camping Association Victoria Committee to support his application to continue membership of the Association and the accreditation process. However, he failed to attend a subsequent meeting on 25 March 2002, his application was rejected and, on 26 April 2002, Delhuntie Park's membership was cancelled.

On the basis of the failure to comment on the system of connection of the rider to the swing by way of carabiners without a fail-safe back-up arrangement and the history of the accreditation process after Dale Measey died, particularly the hiatus in communications between Camping Association Victoria and Mr Scales between 27 May 2001 and 14 December 2001, I am unable to accept the Camping Association Victoria submission that it is unlikely that this incident would have occurred if Delhuntie Park had been accredited under the applicable 1997 Campsite Accreditation Program.

In the absence of legislative jurisdiction to perform routine surveillance and enforce safety issues at not-for-profit adventure activities like Delhuntie Park before incidents occur, voluntary organisations like Camping Association of Victoria unlikely to be able to prevent similar incidents occurring in the future.

The Occupational Health and Safety Act 2004

On 1 July 2005, the *Occupational Health and Safety Act* 1986 was repealed and replaced by the *Occupational Health and Safety Act* 2004 (the "current Act"). The current Act extends the Victorian WorkCover Authority's jurisdiction and responsibility in relation to use of equipment like "The Rip Swing" at workplaces such as Delhuntie Park. It also increases penalties for failure to comply with its obligations.

In particular, section 7(d) of the current Act provides that the Victorian WorkCover Authority with jurisdiction to:

"...administer, examine, review and make recommendations concerning existing or proposed registration or licensing schemes relating to occupational health, safety and welfare."

Section 12(1) of the current Act also provides the Victorian WorkCover Authority with jurisdiction to make guidelines with respect to compliance with the Act or its regulations.

Sections 23 and 25 of the current Act create indictable offences when employers and/or employees fail to ensure that persons other than employees are not exposed to risks to their health or safety arising from the conduct of the undertaking of the employer or employee. Other relevant enforcement provisions include sections 26 27, 28, 31 and 32 of the current Act.

Therefore, although the current Act makes no specific comment about the training of WorkCover inspectors, the Victorian WorkCover Authority now has increased responsibility for establishing guidelines and imposing and enforcing accreditation and licensing requirements on not-for-profit organisations like and including Delhuntie Park who employ professional staff to facilitate provision of outdoor adventure activities.

The Occupational Health and Safety (Plant) Regulations 1995

The *Occupational Health and Safety (Plant) Regulations 1995* required and continue to require designers, manufacturers, operators and employers to perform hazard identification, risk assessment and control of risk generally in the design and operation of amusement structures that lift or move people. Further, Regulation 1001 and Schedule 2 of the *Occupational Health and Safety (Plant) Regulations 1995* required and continue to require the Victorian WorkCover Authority to be notified of the design and to register amusement structures to which Australian Standard 3533 applies before they are used unless they are referred to in the standard as class 1 structures. Section 2.1 of the Australian Standard provides classification criteria for amusement devices depending on whether or not they have fail-safe back-up mechanisms and the velocity, height and acceleration of the ride. In the absence of secure intrinsic safety mechanisms, "The Rip Swing" is not a category 1 device. Even if there was a fail-safe back-up mechanism, "The Rip Swing" was probably at least a category 2 device when the user was elevated and begins his swing from about 10 metres above the ground.

However, under Regulation 105 of the *Occupational Health and Safety (Plant) Regulations 1995*, read in the context of Regulation 106, "The Rip Swing" met and continues to meet the definition of an amusement structure that lifts or moves people. However, Regulation 106(3)(a) excludes from the jurisdiction of these regulations plant that relies exclusively on manual power for its operation. Unless liberally interpreted to include the effect of gravity on the operation of the swing, this provision excluded and continues to exclude jurisdiction of the *Occupational Health and Safety (Plant) Regulations 1995* in relation to "The Rip Swing".

Therefore, because only manual power is used to hoist the rider to his release height, there continues to be no legislative authority for the Victorian WorkCover Authority to require notification and registration of the design of plant like "The Rip Swing".

Comments and Recommendations

Dale Measey died because Carabiner 2 became separated from Carabiner 1 on "The Rip Swing" at Delhuntie Park when the safety sleeve on the gate of Carabiner 2 became unlocked or was never locked, the gate on Carabiner 2 opened, Carabiner 2 became disconnected from Carabiner 1 and he fell about 10 metres to the ground on to his head. Therefore, without intending to minimise the general importance of other safety issues raised in this investigation, these comments and recommendations will be restricted to issues raised by the failure of the link between Carabiner 1 and Carabiner 2 which caused Dale's death.

These issues include:

1. Use of "The Rip Swing" in an upside down position; and
2. Unlocking of the screw lock on the gate on Carabiner 2; and
3. Opening of the gate on Carabiner 2 to allow it to separate from Carabiner 1, and
4. Connection of the tow rope release mechanism to Carabiner 2.

The recommendations are intended to help prevent further deaths and injuries occurring in the same way or for the same reasons as Dale died.

Use of "The Rip Swing" in an upside down position

Dale Measey was using "The Rip Swing" in an upside down position. Although this was not the usual way in which it was used, Dale was experienced as an assistant for others using "The Rip Swing" and he and other family members had previously used it and the flying fox in an upside down position. Mrs Measey had seen him perform these activities in this way on other occasions so she had no concerns about this use. Mr Cutchie made no attempt to discourage Dale from using "The Rip Swing" in this manner.

However, Mr Cutchie acknowledged that safety procedures such as connection of carabiners in a particular way were designed for use of the "The Rip Swing" in an upright position and may be negated if the user inverted himself, and that the consequences of any accident that occurred on "The Rip Swing" would be greater if the user was upside down and landed on his head.

Despite this awareness of the safety issues associated with using "The Rip Swing" upside down, Mr Scale taught Mr Cutchie how to facilitate upside down riders and Mr Scale was aware that Mr Cutchie had previously assisted users to operate "The Rip Swing" upside down. Delhuntie Park had no policy that users could not ride "The Rip Swing" upside down. Further, there was no reference in the Procedure Manual to special safety or operational procedures if users chose to operate "The Rip Swing" upside down. Mr Scale was absent from the premises when Dale Measey attempted to use "The Rip Swing" in the inverted position.

I find that Dale Measey would probably have survived the incident if he had fallen from "The Rip Swing" in the upright position. Further, I find that Delhuntie Park did not take appropriate safety precautions in relation to the known risks associated with use of "The Rip Swing" in an inverted position.

Unlocking of the screw lock on Carabiner 2

In my view, screw locks of the type used in Carabiner 2 on "The Rip Swing" were and remain adequate for their intended use.

Although, Mr Cutchie has no specific memory of connecting Carabiner 2 to Dale Measey's harness, he was experienced and trained in rock climbing and abseiling which use the same type of carabiners. Further, his evidence was that his usual procedure was to screw the lock on the carabiner gate shut tight and then re-open it by one half of a turn. This procedure was considered appropriate practice at the time. It is unlikely that the gate was jammed open by the screw lock because this would have allowed Dale Measey to fall sooner and would have been noticed by Mr Cutchie after the incident.

Therefore, I accept that, if the screw gate on Carabiner 2 was locked before Dale was hoisted aloft on "The Rip Swing", it was locked in the manner Mr Cutchie routinely used to lock carabiners.

In contrast, Mr Cutchie was unaware of the safety implications and had no usual procedure in relation to whether Carabiner 2 was attached to the harness so that the screw lock and gate were positioned away from the user's body. There is no reliable evidence before me about whether the screw lock and gate were positioned against or away from Dale Measey's body when he fell. Therefore, I am unable to say whether or not the screw lock and gate were placed in a position away from Dale Measey's body when Dale and Mr Cutchie were preparing for the ride or, alternatively, whether or not it moved into this position when Dale inverted into the upside down position prior to his release and fall.

However, I find it unlikely that, even if the screw lock was positioned against his body, rubbing against Dale Measey's clothes or vibration prior to swinging of "The Rip Swing" would be sufficient to turn the thread lock on Carabiner 2 the two and three quarter complete turns required to release it from the locked position.

On this basis, I find that the screw lock became unscrewed because either:

1. It was not or not properly screwed tight and released by one half turn at the commencement of the ride; and/or
2. Dale Measey was in an upside down position and, if the screw lock was loose, gravity favoured its unscrewing rather than tightening; and/or
3. Dale Measey inadvertently unscrewed it when he was attempting to find the release mechanism on "The Rip Swing" which was not easily seen or accessible because he was in an upside down position.

Therefore, unless the screw lock was never screwed shut when Mr Cutchie and Dale Measey were preparing and checking the equipment, I find that Dale inadvertently unscrewed the lock on the gate of Carabiner 2 while he was attempting to find the release handle on "The Rip Swing". Further, with the former proviso, I find Dale would not have inadvertently unscrewed the screw lock on Carabiner 2 if he had not been attempting to use "The Rip Swing" in an upside down position.

Opening of the gate on Carabiner 2 to allow it to separate from Carabiner 1

In the context of an unlocked gate, the Coroner heard expert evidence that carabiners connected to each other can separate in a phenomenon called 'carabiner rollout'. This can occur if two carabiners are connected to each other with the gates in the same relative position so that the locked gate of one carabiner becomes caught on the lip of the unlocked gate of the other. In these circumstances, a jolt or weight can create pressure from the lock on the locked carabiner on the unlocked gate of the second carabiner so that the gate opens and releases the locked carabiner.

Further, in the reconstruction of the process of inverting the user, Carabiners 1 and 2 on "The Rip Swing" partially rotated relative to each other and the harness in a manner that could have enabled 'carabiner rollout' to occur if a jolt or weight was placed on the connection between Carabiner 1 and the unlocked gate of Carabiner 2.

Therefore, I find that the gate of the unlocked Carabiner 2 opened to release Carabiner 1 because there was an extra jolt or weight on the already compromised connection between the carabiners when the tow rope was released.

Although I am unable to say that the carabiner rollout occurred because Dale Measey was using "The Rip Swing" in an inverted position, the likelihood of this occurring was increased by his use in this manner. Further, it may have been prevented if Carabiner 1 had not been a screw lock carabiner so that the edge of its lock was able to put pressure on the gate of the unlocked Carabiner 2.

Connection of the tow rope release mechanism to Carabiner 2

The connection of the tow rope release mechanism to Carabiner 2, which also provides the key link between the harness and the cables supporting "The Rip Swing", placed three-way forces on the carabiner which is intended to operate between two forces operating in opposite directions. During Dale Measey's elevation in the inverted position to the release point, this three way connection would have distorted the directional forces between Carabiner 2 and Dale's harness. It would also have distorted the directional forces in the other direction, between Carabiner 2 and Carabiner 1. The capacity of Carabiner 2 to perform its function was further compromised by the placement of Carabiner 1 and the slings between Dale's legs which would have taken up some of the gravitational energy.

When Dale Measey released himself to swing on "The Rip Swing" by releasing the release mechanism, there was a significant jolt in the connection between Carabiner 2 and Carabiner 1. If the physical relationship between these two carabiners was compromised by their locks being next to each other, this jolt would have been sufficient to allow carabiner roll out to

occur because Carabiner 2's lock was already unscrewed. Therefore, I find that the inappropriate connection of the unlocked Carabiner 2 to both Carabiner 1 and the release mechanism probably caused Carabiner 2 to open and release Carabiner 1 and, in that way, probably caused Dale Measey to fall.

Recommendations

Dale Measey's death would have been prevented if any one of the following three facts had changed:

- If he had not been using "The Rip Swing" in an upside down position; and/or
- If there had been independent fail-safe back-up suspension and connection arrangements designed into "The Rip Swing" apparatus, and/or
- If dual carabiners in opposing positions had been used in "The Rip Swing" to attach Dale's harness to "The Rip Swing", so that he did not fall when one of them opened.

However, despite the obvious increased danger if equipment failure occurred, the operators of Delhuntie Park had not contemplated the possibility that use of "The Rip Swing" upside down carried inherent risks associated with the rider falling on his head instead of his feet if a fall occurred. Further, they had not taken into account acknowledged extra operational risks associated with inversion of the rider on "The Rip Swing" including the potential effect of gravity on the screw lock and the rider's increased difficulty with locating and opening the release mechanism on the tow rope. They had not designed appropriate fail-safe back-up systems into the equipment to reduce the likelihood that component failure would lead to unnecessary death. Mr Scale held himself out as a professional operator with 30 years experience in providing adventure activities. He should have known that all these provisions were within the operating standards applicable to amusement devices, professional ropes courses and 'giant swings' in April 2001.

The Victorian WorkCover Authority had and continues to have opportunity and jurisdiction under sections 22 and 39 of the relevant Act, to assess and impose changes to ensure the safe design and operation of the "The Rip Swing" before an incident occurs. It failed to perform this role prior to Dale Measey's death. Further, there has been no change to the jurisdiction of the *Occupational Health and Safety (Plant) Regulations 1995* which would otherwise ensure design, manufacture and operation of plant used as amusement structures and devices is notified to and registered by the Victorian WorkCover Authority before it becomes operational.

Therefore, I recommend:

RECOMMENDATION 1

That the Governor in Council amend regulation 106(3) of the *Occupational Health and Safety (Plant) Regulations 1995* to read:

- "(3) Sub-regulations (1)(a) and (1)(b) do not include-**
(a) plant which relies exclusively on manual power for its operation; or

(b) plant which is designed to be primarily supported by hand unless the plant is an amusement structure or device."

Further, under sections 7 and 12 of the current OH&S Act, the jurisdiction of the Victorian WorkCover Authority to issue and enforce the provisions of the Act has been extended to enable development of guidelines that may apply to operators of not-for-profit adventure activities like Delhuntie Park. The Victorian WorkCover Authority also has authority under the current OH&S to establish administer, examine, review and make recommendations concerning existing or proposed registration or licensing schemes. However, the effectiveness of this extra jurisdiction in preventing deaths like that of Dale Measey will require routine surveillance by and relevant awareness and training of WorkCover Inspectors who monitor workplaces, investigate incidents and prepare briefs of evidence for prosecution.

Therefore, I recommend:

RECOMMENDATION 2

That the Victorian WorkCover Authority establish a mandatory accreditation, registration and/or licensing and surveillance scheme for adventure activities provided by not-for-profit organisations for use by the public.

In particular, I recommend:

RECOMMENDATION 3

That the Victorian WorkCover Authority review the training and awareness of their inspectors in relation to 'giant swing' structures with a view to identifying and prohibiting unsafe plant and operations before and after an incident occurs.

Further, I recommend:

RECOMMENDATION 4

That the Victorian WorkCover Authority establish guidelines and routine surveillance procedures for 'giant swing' type adventure activities provided by not-for-profit organisations for use by the public which prohibit their use in an upside position and require fail-safe independent duplication or back-up of all crucial linkages between the rider and the swing.

APPEARANCES

Senior Constable S. Nolan appeared to assist the Coroner
Mr I.A. Miller appeared for Mr Scale and Delhuntie Park
Mr M.D. Wilson appeared for the Measey family.