FORM 37

Rule 60(1)

FINDING INTO DEATH WITH INQUEST

Section 67 of the ***Coroners Act 2008***

Court reference: 254/07

Inquest into the Death of PETER ANDREW ROSS

Delivered On:	28th October, 2011
Delivered At:	Coroners Court of Victoria Level 11, 222 Exhibition Street Melbourne 3000
Hearing Dates:	28th October, 2011
Findings of:	CORONER JOHN OLLE
Place of death:	Appleton Dock, West Melbourne 3003
Police Coronial Support Unit (PCSU):	Leading Senior Constable Amanda Maybury
Representation:	

FORM 37

Rule 60(1)

FINDING INTO DEATH WITH INQUEST

Section 67 of the ***Coroners Act 2008***

Court reference: 254/07

In the Coroners Court of Victoria at Melbourne

I, JOHN OLLE, Coroner

having investigated the death of:

Details of deceased:

Surname: ROSS
First name: PETER
Address: 4/29 David Street, Noble Park, Victoria 3174

AND having held an inquest in relation to this death on 28th October, 2011 at Melbourne

find that the identity of the deceased was PETER ANDREW ROSS and death occurred on 19th January, 2007

at Appleton Dock, West Melbourne, Victoria 3003

from
1a. THORACIC CRUSH INJURIES

In the following circumstances:

THE INCIDENT

1. On Friday 19 January 2007, the "Cape Conway", a Cyprus ship was berthed at Appleton Dock in West Footscray, where it had been docked for the discharging of cargo. The "Cape Conway" is a large dry cargo/container ship that carries a variety of cargo around South East Asia, the Asiatic region and northern hemisphere ports. P&O Ports Limited[1] (P&O Ports) was responsible for general stevedoring duties and in particular unloading the cargo. The Cape Conway was carrying yachts, excavators, farming equipment, buses and manufactured steel products.

[1]DP World Pty Ltd acquired P&O Ports Limited in 2006. P&O Ports' name changed to DP World on 24 January 2007. For the purposes of this finding, I will refer to the company as P&O Ports.

2. Mr Peter Ross was employed by P&O Ports as a hatch foreman.

3. On 19 January 2007 at 9.00am, a 12 hour day shift commenced and Mr Ross was in a crew of stevedores that included Mr Darren Love and Mr Anthony Orange and crane operator Mr Glenn Williams. A tool box meeting was held at the commencement of the shift to discuss the requirements of the day.

4. The duties of Mr Ross' crew were to lift the different types of cargo out of the hull of the Cape Conway with a deck-mounted crane. Numerous types of slinging methods were required to be used due to the different types and sizes of cargo.

5. The crew had been working all day and at 7.00pm they had their last break and moved to cargo hold number five, where there were hundreds of bundles (packs) of steel that were approximately 10 metres in length. The packs were wrapped in a green coloured poly material, which was said to be covered in an oily and watery substance, which caused a potential slipping hazard. Each separate bundle of steel weighed approximately 1.5 tonne.

6. Witness statements suggest that Mr Ross had arranged for seven packs of these steel bundles to be loaded and discharged from the hold at one time. This required hooks to be attached to wire slings on the steel bundles. Mr Ross then communicated with the crane operator via radio to lift the slings from the hold and onto the dock. There is evidence to suggest that some of the bundles of steel were being snagged with others, which was causing some issues with lifting them out of the hold.

7. Witness statements revealed that snagged loads had occurred a number of times prior to Mr Ross' death. According to Mr Love:

> *"During the course of our lifts before the incident several of the lifts had snagged against the cargo abutted against it (bow and stern stows) and had released relatively easily and was taken out of the hatch. The snagging was a big concern and we all talked about it. This had occurred a good four times before the incident that killed Peter."* [2]

8. The stevedores would move to a 'refuge area' inside the hold during lifting operations, however, Mr Love described the limitations to this:

> *"In a hold there is no what can be called an exclusion zone. You have to remain mindful of what the load may do, where it may swing and the physics of its configuration."* [3]

[2] See page 9 of Mr Love's statement.
[3] See page 6 of Mr Love's statement.

9. Mr Love explained that predicting what a load may do was largely learnt through observations on the job alongside more experienced stevedores.

10. He further stated:

> *"...there was potential of the load to misbehave, that is spin, swing, bang and gain some sort of pendulum effect after releasing after being snagged."*[4]

11. At approximately 8.20pm, seven bundles of steel (weighing approximately 12 tonne) were slung onto the chains, which were located under the coaming of the deck of the ship, this meant that the crane operator did not have a direct line of sight from the stevedoring crew. As Mr Ross gave the order over the radio to lift the bundles of steel, The leading edge of one or more of these bundles snagged on the bundles in front. This caused causing the opposing end of the bundles to rise off the floor, causing forward pressure on the bundles as the crane driver and the stevedores worked to lift this load. The bundles eventually disentangled because of the lifting pressure and became loose. The height of the rear of the bundles, together with the opposing end caused a pendulum effect to swing across the top of the remaining cargo. Mr Love and Mr Orange saw what was happening, ran from the uncontrolled load and yelled out to Mr Ross. Mr Love and Mr Orange stated that as he ran from the swinging load, he tripped and fell just as the steel bundles struck him in the chest.

11. Emergency services were called. Mr Ross's colleagues attempted resuscitation whilst waiting for the ambulance to arrive but could not revive Mr Ross. He was 56 years old.

INVESTIGATIONS

Forensic Pathology

12. On the 23 January 2007, Dr Linda Iles, Forensic Pathologist with the Victorian Institute of Forensic Medicine, performed an autopsy on the body of Peter Ross. Dr Iles found the cause of death to be Thoracic Crush Injuries.

WorkSafe Victoria

13. WorkSafe Victoria (WorkSafe), attended the scene of the incident and conducted a comprehensive investigation. The investigation focused on the system of work P&O Ports used to unload the steel bundles.

[4] See page 9 of Mr Love's statement.

14. On 20 January 2007, Inspector Cameron issued a Prohibition Notice (notice) to P&O Ports prohibiting the unloading of multiple bundles of tubular steel from the lower hold of the Cape Conway. The notice directed that the employer *"must provide and maintain a safe system of work associated with the unloading of bundles of tubular steel from the Cape Conway. One means of compliance, but not limited too, may be to unload single bundles only of tubular steel."*[5]

15. On 22 January 2007, P&O Ports engaged engineer, Karl Ohlden, of K O Constructions Pty Ltd, to assist with compliance of the notice. It was decided that P&O Ports could use a cage as a temporary measure, to protect stevedores while discharging the remaining cargo from the hold of the Cape Conway.

16. On 23 January 2007, P&O Ports lodged an application for internal review of the notice and an application for a stay of the notice, pending determination of the review by WorkSafe's Internal Review Unit. The notice was stayed pending the review.

17. On the same day, Inspectors Cameron and Fitzpatrick, visited the workplace to follow up on the notice, P&O Ports proposed that it be permitted to use the cage on a trial basis as a short term control measure to the risks present on the 19 January 2007.

18. On 24 January 2007, as part of the internal review process, Mr Peter Murphy, an Internal Review officer visited the workplace with Inspector Cameron, observed the cage and work environment within which it would be used and discussed the matter with relevant management representatives and their respective lawyers.

19. On 25 January 2007, a decision was made by Mr Murphy to vary the notice to allow a trial of the proposed alternative system of work involving the use of a cage during the initial lifting of bundles of steel.

20. On 19 February 2007, at a meeting with Inspectors Fitzpatrick and McIvor of WorkSafe, stevedores and members of the union, a number of stevedores expressed concern about the safety of the cage, including being trapped in the cage and being unable to get out of the way of any moving steel bundles. The cage and new systems of work introduced in compliance with Inspector Cameron's notice were discontinued after this visit due to these safety concerns.

[5] Exhibit 31 of Inquest Brief.

21. WorkSafe investigated a number of issues associated with the unloading of the steel bundles from the ship. They obtained the following two expert opinions:

a) Dr Andrew Baigent in relation to the adequacy and safety of the work practices involved in the unloading of steel bundles; and

b) Associate Professor Lee DiMilia in relation to the conditions and working hours of stevedores doing this type of work.

Adequacy and safety of the work practices involved in the unloading of steel bundles

22. Dr Baigent, an expert engineer reviewed the adequacy and safety of the system of work and concluded that:

> *"...the work practice used for unloading the packs was unsafe because of the nature in which the packs had been placed inside the holds. There was a likelihood that packs can become jammed, wedged or interlocked with adjacent packs. As the load was lifted, adjacent packs could become dislodged making it unsafe for personnel to be in the vicinity of the lift."*[6]
>
> Further,
>
> *"The restricted crane access to the packs caused by the placement of the packs under the coaming of the hold could result in non-vertical lifting operations. Any non-vertical lift is an unsafe work practice."*[7]
>
> He also noted:
>
> *"The lack of adequate protection for the personnel working in the confines of the hold was an unsafe work practice in that it placed those personnel at an unnecessary risk."*[8]
>
> In relation to a Job Safety Analysis (JSA) or risk assessment, he stated: *"P&O Ports failed to carry out an adequate risk assessment of the lifting operation."*[9] This is supported by Mr Love who stated: *"I am not aware of the existence of any JSA for the discharging of the tubular bundles of steel cargo from the Cape Conway on 19 Jan 2007."*[10]

[6] See page 10 of Dr Baigent's statement.
[7] See page 11 of Dr Baigent's statement.
[8] See page 11 of Dr Baigent's statement.
[9] See page 11 of Dr Baigent's statement.
[10] See page 9 of Mr Love's statement.

Conditions and working hours of stevedores doing this type of work

23. Associate Professor DiMilia, an organisational psychologist, examined the impact of working hours and environmental conditions of working inside the ship and found the work roster did not provide a safe system of work. The shift lengths were considered appropriate, however the consecutive days worked suggested the accumulation of fatigue. This is supported by a statement by Mr Ross' brother, Mr Bryan Ross who stated that his brother had *"been working a lot of shifts and a lot of hours leading up to the day of the accident."*[11] Mr Love also stated that Mr Ross had said *"he was tired and he also new [sic] he had to do another 12 hour shift the next day."*[12]

24. Associate Professor DiMilia stated:

> *"The environmental conditions on the day of the incident may have played some role. Heat and humidity may contribute to fatigue. It is likely that the conditions in the ship's hold were worse than the conditions on the dock."*[13]

25. The Bureau of Meteorology's records indicate the maximum ambient temperature on the day of the incident was 29.8 degrees Celsius. Mr Love stated: *"The weather was hot and humid that day and it was further exacerbated that we were surrounded by steel with minimal or no air movement in the hold."*[14] Mr Ross was reportedly visibly exhausted as the day progressed.[15]

26. Associate Professor DiMilia further stated:

> *"In general, heat and humidity may contribute to increasing the level of fatigue. This depends on the amount of exposure to the conditions, the physical demands of the work, the amount of the rest taken and the physical health of the person."*[16]

27. Despite extensive investigations by WorkSafe, no person or corporate entity was prosecuted with any health and safety offences under the Occupational Health and Safety Act 2004 (OH&S Act) in relation to the death of Mr Ross.

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[11] See page 2 of Mr Ross' statement.
[12] See page 13 of Mr Love's statement.
[13] See page 8 of Dr DiMilia's statement.
[14] See page 12 of Mr Love's statement.
[15] See for example statement of Charlie Garcia, page 3.
[16] See page 11 of Associate Professor DiMilia's statement.

OTHER CONSIDERATIONS

DP World

28. DP World acquired P&O Ports Limited in 2006. DP World ceased operations at the terminal on 30 April 2007. A private equity fund acquired the stevedoring operations in May 2007 as the business P&O Automotive and General Stevedoring (POAGS).[17]

29. Information was sought from DP World to assist my investigation. DP World advised that discussions took place with various shipping companies well prior to Mr Ross' death as to the preferred presentation of cargo. They noted that cargo presentation may be affected by a number of factors, including moving whilst at sea. Following the death, a JSA and Safe Work Method Statement was prepared for the discharge of the remaining steel from Cape Conway.

30. A request was made to POAGS for information detailing the current systems of work for cargo discharging operations. POAGS declined to provide this information on the basis that it was not the employer of Mr Ross, did not have any connection with the circumstances of his death and no longer performs this type of work. Moreover, it did not acquire any records relating to the incident after taking over the business.

Maritime Union of Australia

31. Upon request, the Victorian Branch of the Maritime Union of Australia (MUA) provided documentation of all near-misses and injuries in the industry, including a chronology of fatalities on the Australian waterfront from 1990 to 2010. In this period there had been 15 fatalities, including seven in Victoria alone. I have also been alerted to a fatality in South Australia, just six months prior to Mr Ross's death, that is believed to have occurred in quite similar circumstances (unloading steel from a Cape vessel).

Preventative Actions taken following Peter Ross' death

32. In April 2007 and in direct response to a number of incidents at the Waterfront, including the death of Mr Ross, WorkSafe commenced its Waterfront Safety project. The project's main purpose was to identify risks in stevedoring activities, propose a range of solutions, and develop guidance material for publication by WorkSafe. Representatives of P&O Ports were involved in the steering committee and project working party.

[17] Consortium completes acquisition of DP World assets and announces new partners. Refer to: http://www.kaplanfunds.com.au/file_system/attachments/Attachment_20070501_45F5489B.pdf

33. As a result of this project, WorkSafe published the following three handbooks in May 2008:

a) *Working Safely on the Waterfront;*
b) *Working Safely with General Cargo - Steel products; and*
c) *Working Safely with Containers.*

34. The guidance material encourages the implementation of systems to ensure that personnel are isolated from areas of risks when lifts are underway.

35. The guidance material does not mention the use of cages as a means of isolating and protecting personnel. While the handbooks provide guidance regarding the loading and unloading of steel products generally, they do not (and cannot) deal specifically with the unique risks applicable to the unloading of tubular steel that existed on the Cape Conway on 19 January 2007.

36. WorkSafe also advised that they undertook 372 stevedoring visits in Victoria between July 2005 and October 2010 and these visits continue to occur.

37. A request was made to Safe Work Australia to determine what other industry safety initiatives were underway or planned at a national level. Safe Work Australia advised in July 2010, that further consideration was being given to stevedoring safety, including whether the existing regulatory framework provided sufficient coverage and what further actions may be needed.

38. The MUA advised that they continue to campaign for improved safety for the stevedoring industry, including issues such as high-risk work licensing for all stevedoring operations and the development of stevedoring-specific national regulations.

COMMENTS:
Pursuant to section 67(3) of the **Coroners Act 2008**, I make the following comments connected with the death (including any notification to the Director of Public Prosecutions under section 69(2) of that Act):

<u>The Role of WorkSafe</u>

1. WorkSafe has an important role to play as a regulator and an educator. Their work is crucial to assisting with the reduction and prevention of workplace deaths in Victoria. In this case, WorkSafe conducted a comprehensive investigation but were unable to prosecute any entity due to insufficient evidence.

Lessons Learnt - The Importance of Risk Assessments

2. I consider there are important lessons to be learnt in respect to the promotion of public health and safety in the stevedoring industry and I make the following general comments based on various issues arising from this investigation:

3. I acknowledge many of the deficiencies in the system of work arose by factors outside P&O Port's control including the initial loading of the cargo and the potential movement during a ship's voyage. However, a safe system of work must acknowledge this reality. Risk assessments of safe unloading processes must be undertaken and consideration must be given to all known risk factors associated with the system of work, including the imperfect loading procedures overseas.

4. On the day of Mr Ross' death, snagged loads were a known cause of concern to some of the workers, yet steps were not taken to address the risks presented. The time-critical nature of the industry may have influenced this, however, the time necessary to address a safety risk would certainly outweigh the death of a work colleague.

5. The stevedoring industry and regulators must ensure that appropriate measures are implemented and maintained across the industry to ensure the tragic circumstances of Mr Ross' death are not repeated and I acknowledge the guidance material that was developed as a result of this tragic death.

6. The conditions of a working environment must also be considered when undertaking any work. On this occasion, uneven and slippery surfaces, wide gaps between the cargo and poor lighting levels posed serious problems. Workers were unable to move safely in the hold. Risk assessments for discharging operations must encompass all environmental factors.

7. Long working hours, prolonged physical work and working in heat are all factors that can lead to exhaustion and fatigue. It is probable that Mr Ross was experiencing the effects of fatigue. Workplace safety implications of fatigue are well known. Fatigue management programs, including appropriate roster designs are essential to prevent the onset of fatigue, particularly in this high-risk industry. WorkSafe Victoria has published guidance material to assist organisations in doing this.[18]

[18] For example: Fatigue Prevention in the Workplace (July 2008) and Working in Heat (January 2010).

8. Managing risks in the workplace is a collective responsibility. It is important that all parties associated with a system of work recognise the importance of a risk assessment process. It requires that each person involved in a particular piece of work must consider each and every possible risk associated with that system of work. It is not a difficult concept and it should not be seen as an administrative burden. It must ultimately be considered as a potentially life saving tool.

Coroners Prevention Unit

9. I acknowledge the considerable role the Coroners Prevention Unit (CPU)[19] offered my investigation.

10. I would also like to commend the efforts of Mr Ross' work colleagues who attempted to revive him in very difficult conditions.

11. Finally, I acknowledge the immense anguish that Mr Ross' death would have caused to those who knew him. The loss of a loved one causes pain, not only to friends and family, but also to work colleagues who will live with this traumatic event for the rest of their lives.

Finding

I find that Mr Peter Ross died on 19 January 2007 and the cause of death was Thoracic Crush Injuries.

Signature:

John Olle
Coroner
28th October, 2011

Distribution list:

Greg Tweedly, Chief Executive Officer - WorkSafe Victoria
Rex Hoy, Chief Executive Officer - Safe Work Australia
Kevin Bracken, Branch Secretary - Maritime Union of Australia (Victoria Branch)
Graham Peachey, Chief Executive Officer - Australian Maritime Safety Authority
Ganesh Raj, Senior Vice President and Managing Director - DP World Australia
Don Smithwick, Managing Director - POAGS

[19] The Coroners Prevention Unit is a specialist service for coroners created to strengthen their prevention role and provide them with professional assistance on issues pertaining to public heath and safety.