Queensland Government Department of Natural Resources and Mines

Sang Chul KIM

Findings and Recommendations

[Schedule A] [Schedule B] [Schedule C] [Schedule D] [Schedule E]

The *Mines Regulation Act 1964* -

Findings and recommendations of reviewers and mining warden following an inquiry into fatal injuries received by Sang Chul Kim at WMC Fertilizer Project Phosphate Hill on 27 april 1999

Warden's court Mount Isa 20-23 september 1999

Before: Mr A J Chilcott esquire acting Mining Warden

Reviewers:

- Mr J P Brady
- Mr R Perry
- Mr P Henley
- Mr A McMaster

To assist:

Mr J Tate (instructed by crown law office) on behalf of the mines inspectorate and counsel assisting

Appearances:

- MR A Herbert (instructed by Hopgood Ganim) for Saunders International Pty Ltd
- MR M G Coonan (instructed by Messrs Freehill Hollingdale and Page) For Stork ICM Australia Pty Ltd
- MR G W Diehm (instructed by Blake Dawson & Waldron) for next of kin
- MR G Mullins (instructed by Clayton Utz) for Bechtel Australia and the registered mine manager, Mr Jim Gillin
- MR A MacSporran (instructed by Gadens lawyers) for WMC Fertilizers Limited

Witnesses examined: refer transcript and schedule "a"

Exhibits tendered: refer transcript and schedule "b"

Findings: refer transcript and schedule "c"

Recommendations: refer transcript and schedule "d"

Report of mining warden: refer transcript and schedule "e"

Schedule "A" Witnesses examined:

Day One

- Sergeant Jon LEWIS
- Herman FASCHING (Stood Down)
- Donald BAE
- Alan LIPAR

Dat Two

- Flamino CHAGAS
- Herman FASCHING (Continuing)
- William Roderick MASLIN
- Peter John MEYER.

Day Three

- Nazem ZAHABE
- John Allan SMART
- Timothy Steven ZEC
- Phil IRELAND
- Chris BULBROOK
- James GILLIN

Schedule "B" List of Exhibits

No of Exhibit	Nature of Exhibit	Tendered by
1	Police Report	Mr J Tate
2	50 Photographs	"
3	Original Report of Inspector Herman Fasching	"
4	Additional material attached to Inspector Fashing's Report	"
5	35 Photographs in Brown Envelope	"
6	Police Video	"
7	Mr Kim's Lanyard	"
8	Letter from Roger Billingham to Mr Maurice Schneider, WMC Fertilizers Ltd	"
9	Set of Standards	"

10	Mine Record Book	"
"A" for identification	Plan of Tank	"
"B" for identification	Box of Equipment (Ropes, Grinder, Extension Cord)	"
11	Statement of Donald BAE	"
12	Statement of Alan LIPAR	"
13	Statement of Flamino "Phil" CHAGAS	"
14	Site Induction Checklist - Saunders	Mr A Herbert
15	Government Analyst's Certificate	Mr J Tate
16	Statement of Kwang Suk OH	"
17	Statement of William Roderick MASLIN	"
18	Statement of Peter John MEYER	"
19	Employee Safety Handbook - WMC Fertilizers	Mr M Coonan
20	Statement of Nazem ZAHABE	Mr J Tate
21	Statement of John Allan SMART	"
22	Statement of Timothy ZEC	"
23	Overhead Safety Presentations - Chris BULBROOK	Mr G Mullins

Schedule "C" Findings:

We find -

Name of deceased: Sang Chul Kim

Date of fatal injury: 27 april 1999

Place of accident: Phosphate Mill mine site via Dajarra

Cause of death: As per medical evidence tendered -

1(a) Tear of descending aorta

Nature of accident:

Sang Chul KIM sustained fatal injuries at about 9.45 am on tuesday, 27 april 1999 as a result of his falling from the top of the No 1003 sulphuric acid storage tank at the WMC Fertilizer Project, Phosphate Hill.

Tank 1003 is a carbon steel storage tank for sulphuric acid, 28.8 metres in diameter and 12.3 metres high at the centre. The tank has a self-supporting roof, constructed of pre-fabricated panels that are lifted, fitted and welded into place on top of the completed tank shell and centre supporting ring.

On the day of the accident, all the panels had been installed except for one.

Mr Kim fell through the opening to the floor below.

Prior to the accident, Mr Kim was welding and grinding defects in the outer perimeter of the centre crown of the roof of the tank.

From the evidence, it appeared that Mr Kim was working in an anti-clockwise direction towards the unprotected opening.

At the time of the fall, Mr Kim was wearing a fall arrest harness with shock-absorbing lanyard. He was also wearing a particulate welding respirator which covered his mouth and nose and his welder's shield was found nearby.

It would appear that Mr Kim's lanyard had not been correctly attached to a suitable anchor point immediately prior to the fall.

Prior to the fall, Mr Kim was working alone and with no direct supervision. It would appear that Mr Kim's duties required him to move progressively towards the opening. This is supported by way of evidence of the chalk marks indicating areas where work was required.

There was no evidence to suggest what Mr Kim was doing immediately prior to his fall.

Cause of accident:

From the evidence, we have concluded that Mr Kim fell through an unprotected opening in the roof of the tank. The safety harness that he was wearing failed to arrest his fall because it was not effectively attached to a suitable anchor point.

Major contributing factors:

There was no static line or life line in the work area immediately prior to the accident.

On the north-eastern side of the platform there were limited accessible anchor points.

It had been reported that Mr Kim had not attached his lanyard to an anchor point on three previous occasions and there was no evidence to indicate that the formal Equitable Treatment System had been applied correctly.

There is no evidence to suggest that Mr Kim was counselled or that any attempt had been made to ascertain the reasons for his non-compliance with a safety directive.

The Saunders work method statement and associated HAZAN worksheets designed for erection of the roof panels had not been fully complied with or revised when it was found necessary to alter the work method.

This resulted in the non-recognition of additional hazards.

The job safety analysis was not revised to account for the extended period that the roof would

be left open and that people would be required to work on the roof.

We are satisfied that no effective measure or hard barrier was in place to prevent the accident. We believe that verbally defining a work area and expecting a worker to stay within the defined area is not an effective control

Schedule "D" Recommendations:

The recommendations of the reviewers are as follows:

1. In similar situations, a comprehensive risk assessment in accordance with the provisions of AS/4360, Risk Management be conducted and that the risk treatment options adopted be in strict accordance with the hierarchy of control.
2. This would require appropriate action to be taken to reduce the level of risk associated with a particular task to the lowest acceptable level.
3. When work methods or conditions vary from the standard procedure or from the method or conditions anticipated on a JSA, a new site specific JSA must be developed. The development of this JSA must involved the participation of the work crew.
4. Periodic external audit of safety management systems should be undertaken to ensure compliance with documented procedures. This should also include the *Mines Regulation Act*, appropriate workplace health and safety standards, worksafe australian standards, and other codes as applicable.
5. Competency based training in risk management should be provided to all employees. This training should be tailored to meet the needs of the individual employee.

Schedule "E" Report of the Warden:

I concur with the findings of the reviewers as to the nature and cause of the accident.

I thank Mr Tate for all of his assistance during this inquiry.

I also thank the reviewers and my clerks for their time and assistance during this inquiry.

The inquiry is closed.

23 september 1999

Last updated 20 October 2007
