

**OUR JOURNEY:
ONE COUNCIL'S EXPERIENCE FROM A SERIOUS
INCIDENT**



Paper Presented by:

Craig Hamilton

Author:

Craig Hamilton, WHS Co-ordinator,

Mackay Regional Council



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OUR JOURNEY: ONE COUNCIL'S EXPERIENCE FROM A SERIOUS INCIDENT

Craig Hamilton, *WHS Coordinator*, Mackay Regional Council

ABSTRACT

A serious workplace incident affects the lives of all those concerned – the workers involved, their colleagues, families and friends. It also has a significant impact on an organisation.

Following a serious trenching incident in October 2010, Mackay Regional Council has been on a journey to improve its safety performance and to transform its safety culture into one of interdependence.

This paper explores the key learnings that arose from the incident investigation, the preventive actions implemented and the key steps taken to continually improve work health and safety performance at Mackay Regional Council.

1.0 INTRODUCTION

Mackay Regional Council based in Central Queensland serves a population of approximately 120,000 over 7,600 sq km, providing the community services such as roads, waste, libraries, community halls, galleries and museums, and development services. Council's Water Programs provide critical infrastructure for the region via three water treatment plants, four waste water treatment plants, and numerous bores, reservoirs, pump stations and dosing facilities.

This service is provided via 1,200 km of water mains and 900 km of sewerage pipelines. Occasionally, due to various factors, there is a requirement to perform emergency repair work on these pipes. This involves excavation – regarded as high-risk construction work – which is made more difficult by the unplanned nature of the activity.

Given the nature of infrastructure within a water network, there is a high probability that emergency work will be required to address a breakage, break-down, or other failure.

In October of 2010, whilst carrying out such work, a section of excavated trench wall collapsed, causing crush injuries to the chest and legs of a Council worker.

2.0 DISCUSSION

2.1 The Issue

Council received reports that sewage was overflowing from the toilets at the Sarina Tourist Information Centre at 8:30pm on Friday 9 October. In response, the on-call Supervisor instructed a work team to attend and investigate. Initially, the issue was treated as a localised sewerage blockage.

2.1 The Site

The trunk sewerage main concerned serviced approximately 2,000 properties, and was located in the Sarina CBD, under the Bruce Highway.



Figure 1: *The Site – Looking South along Bruce Highway*

2.2 Hazards and Risks

Hazards on this particular site included:

- High volume traffic flow
- Pedestrian flow
- Overhead energised services
- Underground services
- Mobile plant and machinery
- Working at heights
- Asbestos pipe
- Raw sewage
- Emergency works.

Many of these hazards are present whenever excavation works are conducted. Where this work is planned, work teams generally have lead-in time to consider, arrange and implement effective controls.

When required to conduct emergency works, timeframes become compressed, however there is still a requirement to control hazards and risks.

2.3 Timeline of Events

- Supervisor instructs his work team to attend site and investigate.
- The Supervisor was in regular contact with the work team, and directs their efforts from home. After initially failing to locate the blockage, at 10:30pm the Supervisor instructs the work team to move their focus to the sewerage main.
- The work team requests the Supervisor attend site. He arrives on-site at midnight Saturday 10 October.
- Work continues throughout the early morning to locate the blockage and unblock the pipe.
- Having located the blockage, at 6:30am attempts to clear the blockage were deemed ineffective.
- The Supervisor sent the night crew home, and arranged crews to attend site to conduct excavation and replacement works.
- Excavation work commenced and continued throughout the morning. The initial work included installing benching on only two sides of the trench.

- At an approximate depth of 3.5 metres, the length of blocked sewerage main was located. The cause of the blockage was a piece of electrical conduit which had been underbored through the pipe.
- Workers enter trench to locate the pipe. It is determined that the trench needs to be widened in order to gain better access to the pipe.
- Widening the excavation is completed by removing the benching on the south-side of the trench, which is not reinstated.
- Workers re-enter the trench to commence pipe repairs.
- At 2:45pm a section of the 3.5 metre trench wall collapsed, pinning a workers upper body and legs with dirt.
- Fire Brigade and Ambulance were called.
- Worker was stabilised and not immediately moved. Fire Brigade assisted with extraction, worker was treated and taken to local hospital.



Figure 2: *The Excavation – Showing Conduit, Pipe and Location of Wall Collapse*

2.3 Impacts

Physical and emotional affects for the injured worker, his family, and workmates. The worker had time off in recovering and suffered ongoing medical issues. Such a serious workplace incident for a time impacted morale and caused a degree of anxiety amongst workmates. A concern at the time was the development of a culture of fear and blame – as workers felt they were responsible, or feared that they may be held responsible.

From an organisational perspective, aside from serious injuries to a worker, impacts include the loss of productivity caused by absent workers, the costs associated with investigating the incident, and injury management and workers' compensation claims leading to increased premiums.

Mackay Regional Council was also investigated by Workplace health and Safety Queensland (WHSQ). In November of 2012, Council and WHSQ entered into an enforceable undertaking (EU). An EU is an alternative to a court imposed penalty for an alleged contravention of the WHS Act. It is a legally-binding agreement to implement health and safety initiatives designed to deliver tangible benefits for workers, industry, and the community as a whole.

Council's EU included the following agreements: provide community grants, provide internal safety leadership and Certificate IV WHS training, implement hazardous manual tasks (PERforM) programs, conduct annual external WHS audits, purchase specialised plant (eg vac truck) and conduct knowledge sharing on trenching and excavation.

2.4 Failed Defences – Fatigue Management

Fatigue is mental or physical exhaustion that stops you from being able to function normally. High levels of fatigue decrease performance and productivity, and simultaneously increase the risk of accidents and injuries. Fatigue affects the ability to think clearly. As a result, people who are fatigued are unable to gauge their own level of impairment, and are unaware that they are not functioning as well or as safely as they would be if they were not fatigued.

Staying awake for 17 hours has the same effect on performance as having a blood alcohol content of 0.05%. Staying awake for 21 hours is equivalent to a blood alcohol content of 0.1%.

Mackay Regional Council has addressed this issue by implementing and monitoring compliance with a Fitness for Work Procedure.

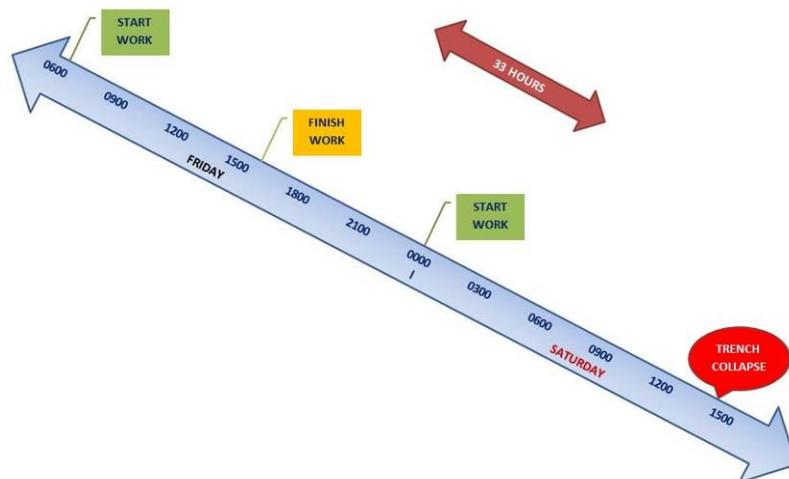


Figure 3: *Investigation Determined that at the Time of the Incident, the Supervisor had been Awake for 33 hours and was On-site for 15 hours.*

2.5 Failed Defences – Risk Management

Controlling identified risks is both a legal requirement and fundamental health and safety practice.

Investigation showed that there was a failure to identify all hazards and risks, both initially and as works progressed. Those that were identified were not controlled adequately, only soft controls such as 'keep a look out' and 'be aware' were identified. Risks were also poorly communicated between crews on-site and at change of shift.

The unexpected nature of an emergency call-out requires pre-planning to ensure that safety issues will be addressed adequately. A good question to ask is: 'If this was a planned task, what levels of control would be required?' The answer will be the same for emergency works. The difference is the timeframes to organise and implement are compressed.

Specific to excavation work is that it must be conducted in accordance with the WHS

Regulation 2011 and the Code of Practice for Excavation Work 2012 – which talks about risk management, planning, controlling risks, and excavation methods. Of note, all sides of a trench which is greater than 1.5 metres in depth, must be benched, battered, or shored. Those less than 1.5 metres should be monitored, as workers have been killed and seriously injured in those as little as 600 mm deep. Persons within a trench must isolate sources of energy eg water, sewer, electricity to prevent hazardous exposure.

2.6 Failed Defences – Supervision

Investigation found that the Supervisor was temporarily absent from site during pivotal moments of activity, including when the southern side was benched. At these times a person was not designated to be in control of the workplace.

It is critical that whilst work is being conducted, especially emergency work and at worksites which are constantly changing, that there is one person on-site with the skills and experience to direct work and make decisions. This person should be clearly identified to all workers on-site, so that there can be no confusion.

2.7 Hazard Inspections and Safety Interactions

In the time since the incident, scheduled hazard inspections have been increased and are monitored. Hazard inspections assist in increasing hazard awareness in the workplace, and have assisted in the decrease in injuries and injury severity.

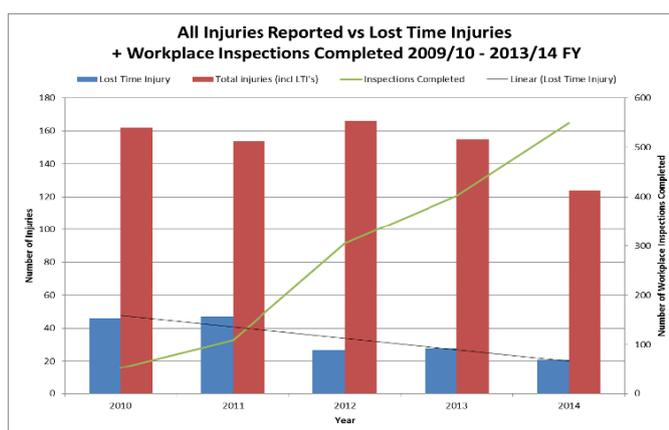


Figure 4: *Injuries Reported, LTIs Recorded, and the Increase in Workplace Hazard Inspections*

Council has also introduced regular Manager’s safety interactions, an opportunity for Managers to attend site and engage with their workers on safety matters, assisting to increase awareness of safety as a key corporate value.

2.8 Our Safety Journey

Following the incident we have made a commitment to improve: we have increased our WHS resources, we have a set of organisational values – the primary value being employee health and safety, the management team and all teams in Councils have developed their own personal commitment statements to employee health and safety, we recognise safety – by our reward and recognition programme, we promote safety through our internal magazine – Grapevine.

This is the journey Mackay Regional Council is on. There are mixed views on where we are,

it would be fair to say we are demonstrating a combination of some of the points in all quadrants, ultimately aiming to create a teams based interdependent safety culture.

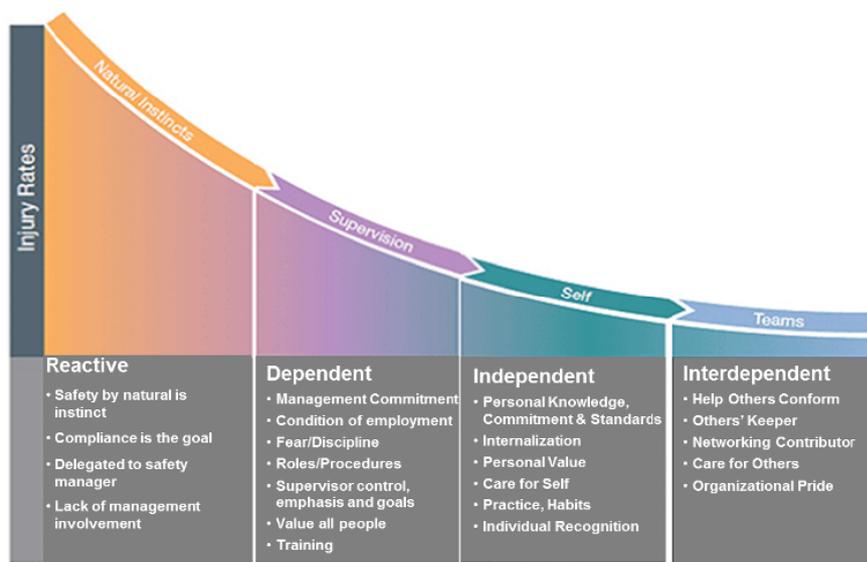


Figure 5: *Mackay Regional Council's Safety Culture Journey*

3.0 CONCLUSION

'To have an incident is unfortunate. To have an incident and learn nothing from it is unforgivable!' (unknown)

Workplace injury has serious consequences for the individuals and the organisation involved. Following a serious incident in its workplace, Mackay Regional Council has ensured that it has investigated why the incident occurred, and has implemented controls to prevent a recurrence. Council has made a commitment to improve its safety culture and create a resilient organisation.

Our aim is to send all of our people home safely at the end of each day.

4.0 ACKNOWLEDGEMENTS

Calvin Dodd, WHS Officer, Mackay Regional Council

Wayne Lord, Principal Inspector, WHSQ

5.0 REFERENCES

Workplace Health and Safety Queensland
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