

## Workplace Health and Safety Queensland

## Manual task case study: Handling oxy bottles – Monadelphous Engineering

Monadelphous Engineering provides construction, maintenance and industrial services to the resources, energy and infrastructure sectors.

### Background

In 2010, Monadelphous took part in a trial of a program to manage the risks of manual tasks. The Participative Ergonomics for Manual Tasks (PErforM) program helped teams of Monadelphous employees to identify, assess and control high risk manual tasks.

### Who was involved?

The cornerstone of the PErforM program is to encourage workers and management to work together to manage manual tasks risks. A range of Monadelphous employees contributed to the success of this trial:

- Workers used their knowledge of the job and task.
- Management provided high-level support for the process.
- A worker was trained to become a PErforM site champion and drove the process within Monadelphous.
- An ergonomics consultant was contracted to mentor the site champion.

### What was the hazardous task?

Monadelphous carried out a risk assessment that identified manually handling and replacing oxy bottles as a potentially hazardous task. Monadelphous workers performed this task on a daily basis, using a two-wheel trolley to transport the bottles and

manually handling them on and off the trolley onto the storage pallets.

### What were the risk factors?

The risk assessment identified that the oxy bottles were heavy, lacked handles and were awkward to lift onto the storage pallets. Handling and replacing the bottles involved forceful exertions and awkward postures—risk factors associated with sprain and strain injuries. There was also the potential for crush injuries when workers were lifting the bottles onto the pallets.

### What was the solution?

Monadelphous eliminated the majority of manual handling involved in the task by installing a reticulated gas/oxy supply that accounted for 75 per cent of the supply to the workshop.

For the bottles that were still required to deliver the remaining 25 per cent of supply, design changes were made to the two-wheel trolley that was used to transport the bottles. The changes enabled the oxy bottles to slide directly onto the trolley from the storage pallets. This eliminated the need to manually handle the bottles.

## Health and safety benefits

These controls removed most of the hazardous manual handling components associated with performing this task.

## Additional benefits

As well as improving safety, Monadelphous reported substantial productivity gains as there has been less downtime due to changing bottles.

## Cost benefits

**Direct intervention costs:** \$83,500

**Post-intervention benefits:** \$65,000 annual labour saving

**Cost recovery period:** 1 year and 3 months



Reticulated gas/oxy supply to the workshop



Modified two wheel trolley for improved transfer of plant

## More information

While this case study is from the manufacturing industry, the PERforM program has been used successfully in a wide range of industries and can be applied to most types of hazardous manual tasks.

For more information about the PERforM program and additional manual task case studies visit the Workplace Health and Safety Queensland website [www.worksafe.qld.gov.au](http://www.worksafe.qld.gov.au) or call the WHS Infoline on 1300 369 915.

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