

Manual tasks in civil construction campaign report

Introduction

The Manual Tasks in Civil Construction Campaign (MTCivCon) was undertaken by Workplace Health and Safety Queensland (WHSQ) during 2007 and 2008 and involved:

- advisory workshops for industry in November/December 2007
- compliance audits of manual tasks during March to June 2008.

The campaign focused on manual tasks in the civil construction industry and aimed to provide industry with the skills and tools to manage these risks, specifically through the use of the Participative Ergonomics for Manual tasks (PERforM) program. It was the first state-wide ergonomics intervention conducted by WHSQ in the civil construction industry and followed on from the Participative Ergonomics in Civil Construction (PECivCon) pilot project.

Why focus on the civil construction industry sub sector?

The construction industry is a priority industry under the Workplace Health and Safety Queensland Strategy 2004–2012. The civil construction industry sub-sector was identified as the target sector for the campaign due to its above average musculoskeletal disorder (MSD) claim rate and its tendency to have a more stable workforce which is more suited to the implementation of the PERforM program.

Both the non-building construction sector and the site preparation services sector fall within the top 50 highest MSD injury rates out of 155 industries. The average MSD claim rate for all industries is 9.3 claims/1,000 workers whereas non-building construction had 22.1 claims/1,000 workers and site preparation services had 17.9 claims/1,000 workers. Most of these claims are due to manual tasks. For example over half (56 per cent) of the musculoskeletal disorder claims were due to muscular stress while lifting, carrying, putting down or handling objects.¹

Campaign objectives

The goal of the MTCivCon campaign was to decrease the incidence of musculoskeletal injuries in the civil construction industry by focusing on manual tasks related and other injury risks which can be eliminated or minimised by implementing ergonomics solutions. The campaign aimed to achieve this by:

- educating employers and workers about the high incidence and severity of musculoskeletal and manual tasks related risks in the civil construction industry
- equipping obligation holders with the skills and tools to manage manual tasks related risks collaboratively in their workplaces, specifically through the use of the PERforM program
- building capacity within the WHSQ inspectorate regarding manual tasks risk management
- conducting site audits to determine compliance with the Queensland Manual Tasks Code of Practice 2000 (the Code of Practice) and the uptake of the PERforM program.

Stakeholder consultation

An industry reference group made up of civil construction industry stakeholders was formed as part of the campaign development. Members included representatives from the Local Government Association of Queensland, Civil Contractors Federation, Queensland Master Builders Association, Main Roads, Australian Workers' Union, Construction, Forestry and Mining Energy Union, BMD

¹ WHSQ Construction Industry statistical update 2005-06 End of year

and CIVDEC. Thiess, while not a formal member of the reference group, also provided input into the campaign development.

An internal WHSQ reference group was also formed which included ergonomics and construction inspectors. Both stakeholder groups were consulted throughout the campaign.

Campaign activities

Campaign activities included:

- development and delivery of PErforM workshops to the civil construction industry
- development of an audit tool
- delivery of WHSQ inspector training regarding the audit methodology and PErforM program
- inspector audits on site.

Advisory component PErforM

The PErforM program is a simplified manual tasks risk management program which involves workplace based teams devising manual tasks solutions for their high risk manual tasks. The PErforM program was developed by WHSQ in conjunction with the University of Queensland (UQ) and the Curtin University of Technology.

The program was originally used in the aged care, construction related manufacturing and food processing industry sectors. It was later modified to suit and was trialled in the civil construction sector as part of a research collaboration with UQ. This project was known as the PECivCon project and included the development of the *Participative Ergonomics in civil construction handbook* which was used and distributed during the MTCivCon campaign.²

Industry workshops

The PErforM program was delivered to industry through free workshops for supervisors, health and safety officers and representatives, and health and safety professionals working in the civil construction industry. Initially, 11 workshops were scheduled across Queensland however due to industry interest, an additional two workshops were held in Maryborough and Roma. In total, 13 workshops were conducted throughout Queensland during November and December 2007, with five workshops in South East Queensland and eight in regional centres including Cairns, Townsville, Rockhampton, Mackay, Maryborough, Toowoomba and Roma.

Compliance audits

MTCivCon audit tool

The audit tool was developed in consultation with the WHSQ reference group and industry stakeholders. The aim of the tool was to assist ergonomics and construction inspectors assess issues in a consistent manner and to provide guidance regarding a range of control options to obligation holders and Occupational Health and Safety (OHS) staff.

The tool used a traffic light model with guidance provided regarding level of risk, risk assessment questions and a focus on achievable control options. It targeted five high risk and common manual tasks including:

- operating mobile plant
- working in trenches, excavations and manholes

² PECivCon was funded by WHSQ and was undertaken by staff of the University of Queensland (School of Human Movement Studies) and WHSQ.

- erecting/dismantling barricading, hoarding and temporary fencing
- operating powered and non-powered hand held equipment/tool use
- load handling.

Site audits

The compliance component of the campaign was comprised of workplace audits of 203 civil construction obligation holders between March and June 2008. The focus was on assessing compliance with the Code of Practice as well as the uptake of the PERforM program.

The audits included observation of manual tasks on site and a range of manual tasks risk management questions were asked of supervisors and safety personnel. In many instances, the site assessments were conducted by both ergonomics and construction inspectors working as a team and included an advisory component in relation to manual tasks.

Results

Workshops

A total of 336 participants attended the 13 workshops with representation from a total of 148 employer groups. The workshop evaluation forms indicated that the workshops were successful with 78 per cent of participants either very satisfied or satisfied with the workshops and 75 per cent stating that they were definitely confident to address manual task risks in their workplace. None of the participants stated that they were dissatisfied with the workshops.

The workshops also generated significant interest in the PERforM program with a number of participants stating that they planned to use the PERforM program in their workplace as well as making enquires at WHSQ regional offices regarding the implementation of PERforM in their workplace.

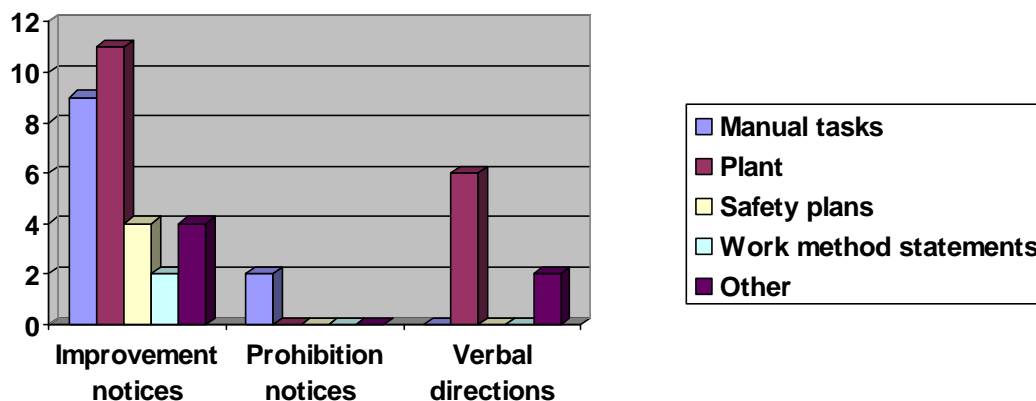
Compliance audits

A total of 190 tasks were assessed. Plant operation accounted for approximately 68 per cent of tasks assessed with the remaining 32 per cent being a wide range of manual tasks including shovelling, fence erection, welding, compaction, driving in star pickets, screeding, pipe laying and carrying loads.

The following compliance actions were taken during the audits:

- Two prohibition notices were issued, both for plant related manual tasks.
- Thirty-one improvement notices were issued with nine notices for manual tasks, six for plant, four for no safety plans and two for issues relating to work method statements.
- Ten improvement notices were issues for a range of other issues.
- Eight verbal directions were issued: six for plant issues, one for an electrical issue and one for a noise exposure issue.
- Ergonomics advice was provided at more than 50 per cent of the sites visited. The advice given on site included information regarding manual task risk management, control options for specific issues identified, and the provision of guidance material.

Audit compliance actions



The information gathered from supervisors and safety staff about manual tasks risk management included the following:

- safety plans
 - 75 per cent of plans referred to manual tasks risks
- hazardous manual tasks
 - 62 per cent reported that hazardous manual tasks had been assessed
- purchase/equipment hire
 - 58 per cent reported that manual tasks risks are considered as part of purchasing/equipment hire
- pre-planning
 - 40 per cent reported that manual tasks requirements are considered when pre-planning for jobs
- whole body vibration (WBV)
 - 24 per cent reported that WBV is identified as a hazard
- hand/arm vibration (HAV)
 - 25 per cent reported that HAV is identified as a hazard
- manual tasks training
 - training was reported as being
 - provided to 59 per cent of workers with 55 per cent of this training specific to work tasks and 43 per cent competency based
 - provided to 62 per cent of contractors with one per cent of this training specific to work tasks and 12 per cent competency based
- nine per cent of sites assessed had someone who had attended a PERforM workshop with 1 per cent reporting that a change had been made as a result of attending the workshop
- no workplaces reported that they were using the PERforM program for manual tasks risk management
- 35 per cent of sites reported using another consultative process for manual tasks risk management.

Discussion

The MTCivCon campaign resulted in a number of positive industry outcomes including:

- increased industry awareness and interest in manual tasks risk management
- positive feedback from industry about the campaign especially the risk management tools provided, e.g. the PERforM program, traffic light audit tool
- continued use of the traffic light assessment tool by industry post completion of the campaign

- fostering of stakeholder engagement and networks
- promotion of widespread interest in the PErforM program across all industries (not just the construction industry)
- implementation of the PErforM program in two regional councils
- follow-on work in the regions, e.g. Nambour inspectors worked with the temporary fencing industry to raise awareness of manual tasks issues specific to their industry
- interest from industry bodies, e.g. WHSQ delivered a workshop and a presentation at the national Australasian Wire Industry Association conference in Melbourne in October 2009.

In addition the campaign:

- promoted greater collaboration between ergonomics and construction inspectors
- increased the skills and knowledge of auditing inspectors regarding construction manual tasks and the PErforM program.

The campaign also highlighted that the following manual tasks risk management issues exist:

- Even where good manual tasks risk assessments had been performed by workplaces, the controls identified tended to focus on administrative controls rather than higher level design controls.
- Low knowledge and skill level regarding manual tasks including the identification of WBV and HAV as a risk factor. As such risk management strategies for manual tasks and vibration (in particular) are not being implemented.
- Lower level of manual tasks knowledge and skills in regional areas as compared to metropolitan areas.
- Manual tasks training content observed was generally centred around administrative controls with a focus on worker technique and lifting. Although contractors are included in training, the data gathered indicates that their training is often generic and not task specific or competency based.
- Design issues with earth-moving equipment, in particular, access, egress and cab design.
- The cost and need for the original equipment manufacturer to be consulted regarding equipment modifications, e.g. in relation to retrofitting plant.

The post campaign evaluation consisted of data analysis and a focus group with auditing inspectors and highlighted that:

- While some obligation holders are addressing manual tasks risks, the civil construction industry would benefit from further assistance from and collaboration with WHSQ in order to manage their manual tasks risks and reduce musculoskeletal disorders in the industry.
- Additional PErforM resources are required in order to support organisations interested in implementing PErforM in their workplace.

Where to from here?

A key initiative in the Construction Industry Action Plan 2008–2010 is the *Ergonomics in construction* project which is aimed at reducing musculoskeletal disorders in the construction industry. This project has strategic links to the Musculoskeletal Framework 2007–10 and includes a number of sub-projects and activities which include the civil construction industry which are outlined below.

- Manual tasks solutions in construction project:
 - This project commenced in July 2008 and activities have included industry focus groups and the identification and collection of practical manual tasks solutions.
- Construction industry seminars:

- These seminars are scheduled for mid 2010 and will include a full day on how to manage occupational stress and manual tasks in the construction industry.
- PERforM resource package:
 - In response to industry interest, the Musculoskeletal Injury Taskforce has developed a PERforM resource package to assist workplaces in implementing PERforM in the workplace.
 - The construction industry will be provided with information about the PERforM resource package during the construction seminars.
- Musculoskeletal issues frequently asked questions fact sheet:
 - This fact sheet was developed to provide industry with information about common musculoskeletal issues and is available on the WHSQ web site (refer to the Further information section for the web link).

Further information

Download the *Manual Tasks Code of Practice 2000*

<http://www.deir.qld.gov.au/workplace/law/codes/manualtasks/index.htm>

Download the *Musculoskeletal issues –Frequently asked questions*

<http://www.deir.qld.gov.au/workplace/subjects/manualhandling/musculoskeletalfaq/index.htm>

Download the *Sprains and strains prevention* booklet

http://www.deir.qld.gov.au/workplace/resources/pdfs/sprains_strains_booklet2005.pdf

As with any research, these findings represent only what was identified at the time the workplace visits occurred and are only relevant to the industries visited.

For further information visit www.worksafe.qld.gov.au or call the Workplace Health and Safety Queensland Infoline on 1300 369 915.

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