Level:	CS ENERGY
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CS ENERGY PROCEDURE

IDENTIFYING AND ASSESSING HAZARDOUS MANUAL TASKS CS-OHS-57

Responsible Officer: Principal Health and Safety Specialist
Responsible Manager: Head of Health, Safety and Environment
Responsible Executive: Executive General Manager Plant Operations

DOCUMENT HISTORY

Key Changes	Prepared By	Checked By	Approved By	Date
Original Release	K Ussher	D Clarke / H&S Taskforce Committee	J Judge	06/12/2012
Updates to hyperlinks	M Paton	L Hartley A Cashin	B Prain	25/01/2024

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1 PURPOSE

CS Energy has various manual tasks that employees and contractors are required to complete. To manage requirements specified in the Work Health and Safety Legislation regarding manual tasks, CS Energy must identify, document and risk manage the manual tasks that have been identified as Hazardous Manual Tasks.

Some manual tasks are hazardous and may cause musculoskeletal disorder (MSD). The purpose of this procedure is to outline the methods and requirements for both identifying and assessing work involving manual tasks to effectively manage the risk of musculoskeletal disorder associated with a Hazardous Manual Task.

1.1 Musculoskeletal Disorder (MSD)

A musculoskeletal disorder as defined in the WHS Regulations, means an injury to, or a disease of the musculoskeletal system, whether occurring suddenly or over time. MSDs may include conditions such as:

- sprains and strains of muscles, ligaments and tendons
- back injuries, including damage to the muscles, tendons, ligaments, spinal discs, nerves, joints and bones;
- joints and bone injuries or degeneration, including injuries to the shoulder, elbow, wrist, hip, knee, ankle, hands and feet;
- nerve injuries or compression (e.g. carpal tunnel syndrome)
- muscular and vascular disorders as a result of hand-arm vibration
- soft tissue hernias
- chronic pain.

MSDs occur in two ways;

- Gradual wear and tear to joints, ligaments, muscles and inter-vertebral discs caused by repeated or continuous use of the same body parts, including static body positions;
- Sudden damage caused by strenuous activity, or unexpected movements such as when loads being handled move or change position suddenly.

Injuries can also occur due to a combination of these mechanisms, for example, body tissue that has been weakened by cumulative damage may be vulnerable to sudden injury by lower forces.

1.2 Hazardous Manual Task

A Hazardous Manual Task, as defined in the WHS Regulations, means a task that requires a person to lift, lower, push, pull, carry or otherwise move, hold or restrain any person, animal or thing involving one or more of the following:

- repetitive or sustained force
- high or sudden force
- repetitive movement
- sustained or awkward posture
- exposure to vibration.

These factors *(known as characteristics of a hazardous manual task)* directly stress the body and can lead to injury.

2 SCOPE

This procedure applies to all employees and contractors performing manual task activities for CS Energy and its associated activities.

3 RESPONSIBILITIES AND ACCOUNTABILITIES

3.1 Group / Site Managers

Managers are responsible for:

- implementation of this procedure;
- the provision of appropriate training;
- conducting periodic reviews of the process and reporting on the effectiveness and application;
- ensuring systems are in place to effectively manage the risks relating to a musculoskeletal disorder associated with Hazardous Manual Tasks;
- systems are in place to ensure Hazardous Manual Tasks are identified, documented and controlled at their respective site and activities; and
- ensuring that the person carrying out the Hazardous Manual Tasks and their safety representatives are consulted in managing the risks associated with Hazardous Manual Tasks.

3.2 Superintendents and Supervisors

Superintendents and Supervisors are responsible for:

- monitoring compliance with this procedure and the risk control measures being implemented by the work party members when performing Hazardous Manual Tasks;
- providing appropriate training and other support to all personnel in application of this procedure;
- assist in the identifications, assessment and control of Hazardous Manual Tasks;
- ensure appropriate document management of Hazardous Manual Task assessments;
- ensure that relevant work teams are informed of the appropriate control measures that have been implemented following a Hazardous Manual task assessment;

3.3 Site Health and Safety Department

The Site Health and Safety Department is responsible for:

- comply with the requirements of this procedure;
- assist in the identifications, assessment and control of Hazardous Manual Tasks
- providing support and advice to personnel;
- monitoring and review of completed Hazardous Manual Task Assessment forms;
- providing site statistics to be included in CS Energy Health and Safety performance reports;
- assisting with the entry of any Hazardous Manual Task into the site OHS Risk Register; and
- maintaining records for monitoring and review purposes.

3.4 Employees and Contractors

Employees and contractors shall:

- comply with the requirements of this procedure;
- assist in the identifications, assessment and control of Hazardous Manual Tasks;
- where required develop operations work instruction/procedure to manage the hazards manual task effectively; and
- attend appropriate training and awareness sessions as directed by their supervisor or manager.

3.5 H&S Committee Members

Employees that are members of the site Health and Safety (H&S) Committee shall:

- comply with the requirements of this procedure;
- assist in the identifications, assessment and control of Hazardous Manual Tasks; and
- attend appropriate training and awareness sessions as directed by their supervisor or manager.

4 ACTIONS

4.1 Identifying and Managing Hazardous Manual Tasks

CS Energy must identify, document and risk manage the manual tasks that have been identified as Hazardous Manual Tasks. To comply with these requirements the following process is to be conducted at each site:

- Work Groups Health (including OHS Committees) are to perform Hazardous Manual Tasks assessment using S2077 Hazardous Manual Tasks Assessment form. Where possible like activities should be grouped as they will require similar controls; *(It is recommended that these groups included in their identification process areas, work tasks where there is a history of injury following person performing manual tasks.)*
- Following analysis of the risk, dependant on the risk level, further action may need to be developed to manage the risk. Details of the proposed actions are to be recorded on the S2077 form as well as in the risk register with a due date included. Where applicable a notification is also to be raised.
- When the Hazardous Manual Tasks are reviewed periodically, the new assessment can be saved as a new version. This folder can be made available through the site intranet safety page;
- A listing of the Hazardous Manual Tasks for the site is to be added to the site OHS Risk Register and risk rated. This will be regarded as the central register for the Hazardous Manual Task for the site;
- For High and Significant risk Hazardous Manual Tasks that are performed on a regular basis, an operations work instruction/procedure should be created and implemented and JSEA completed to manage the hazard effectively; and
- Refer to the below for guidance on assessing Hazardous Manual Tasks.

4.2 Hazard Identification, Assessment and Control

In order to manage the risks, CS Energy must, in consultation with their workers and elected Health and Safety Representatives:

- Identify reasonably foreseeable hazards that could give rise to the risk;

- Eliminate the risk as far as reasonably practicable;
- If it is not reasonably practicable to eliminate the risk, minimize the risk so far as is reasonably practicable by following the hierarchy of control process; and
- Review and if necessary revise control measures.

4.2.1 Identifying Hazards

Hazards that arise from manual tasks generally involve interaction between a worker and:

- The work tasks and how they are performed;
- The tools and equipment and how they are handled; and
- The physical work environment.

Hazards may be identified by (but not limited to):

- Consultation with workers;
- Review of workplace injuries, incidents and inspection reports;
- Review of trends; and
- Observation of manual tasks.

S2077 Hazardous Manual Task Assessment will assist in this process.

4.2.2 Characteristics of Manual Tasks

Manual tasks may be characterised by:

- Repetitive Force – using force repeatedly over a period of time to move or support an object;
- Sustained Force – occurs when force is applied continually over a period of time;
- High Force may be exerted by the back, arm or leg muscle in any task that is very demanding physically, a worker needs help because of the effort required or requires multiple people to perform the task;
- Sudden Force – Tasks where force is applied suddenly and with speed;
- Repetitive movement – using the same part of the body to repeat similar movements over a period of time;
- Posture – An ideal posture is one where the trunk and head are upright and forward facing, the arms are by the side of the body, with the forearms are either hanging straight or at right angles and the hand is in the handshake position. Postures that are awkward and sustained are particularly hazardous;
- Vibration – There are two forms of vibration including whole of body (e.g. when driving a vehicle over a rough road) or hand arm vibration (using a jack hammer).
- Work History – review the incident history for the site and identify previous manual handling activities that have caused musculoskeletal injuries e.g. raking pyrites or isolating spectacle valves, etc.

4.2.3 Measure the Risk Hazardous Manual Tasks

The risk associated with the Hazardous Manual Task should be measured by taking into consideration the:

- Duration and number of people performing the task;
- Number of times a day the particular job is performed;
- Outcome should an injury be sustained.

Other relevant observations that should be noted include the following:

Observations	Examples
Actions and movements	push, lift, swing, lower, bend, twist, carry, hold
Work area and work station layout	crowded, open-plan, different heights
Working posture and position	up-right, crouched, leaning
Location of loads and distances moved	up, down, across, for metres, centimetres
Weights and forces	how much push or pull involved, heavy, light etc
Characteristics of the loads and equipment	balanced, top-heavy, rough, smooth, hot, cold, large, tiny etc
Work organisation	teams, rotating, variable, repetitive etc
Work environment	cold, dusty, well-lit, dim, old, new etc
Skills and experience of the employees	trained, untrained, apprentice, senior, first job, paid or voluntary
The personal characteristics	height, weight, flexibility, age, fit, unfit etc
The clothing of the employee	suitable, unsuitable, well-fitting, flowing, durable etc
Work History/Incident history	Pyrites, Spectacle valves etc. that have been associated with injuries in the past work.

4.2.4 Assessing the Risk of a Manual Task to be a "Hazardous Manual Task"

A documented risk assessment is required for any manual task that has been identified as being a Hazardous Manual Task. Questions to ask in the risk assessment process include:

- Does the task involve repetitive movement (more than 2 per minute), sustained (held for more than 30 seconds or done for more than 2 hours over a whole shift) or awkward body postures or repetitive sustained forces?
- Does the task involve high or sudden force or vibration?
- Does the work area design or layout (nature, size, weight or number of things handled or the work environment e.g. hot or cold) increase the risk?

4.2.5 Managing the Risk

When managing the risk the first option should always be to eliminate the risk as far as reasonably practicable.

If it is not reasonably practicable to eliminate the risk then we must minimise the risk so far as is reasonably practicable by following the hierarchy of control process. The following are example of controls.

Hierarchy of Control	Example of Control Measures
Elimination (get rid of)	Design plant fit for purpose. Deliver good to point of use or automate process.
Substitution (change)	Replace heavier with lighter Replace hand tools with power tools
Isolation (separate)	Separate the vibrating machinery from the user.
Engineering (make something new)	Use mechanical lifting devices
Administration (instruction and signs)	Rotate workers between different tasks Arrange workflows to avoid peak physical and mental demands towards the end of the shift
Personal Protective Equipment (gloves)	Provide vibration resistant gloves

Once the manual handling risk has been measured, appropriate control measures should be put in place to minimise the risk of injury.

Control measures that have been implemented must be reviewed and if necessary revised in consultation with the workers and their Health and Safety Representatives to make sure they work as planned to maintain a work environment that effectively manages risk to Health and Safety.

Employees / workgroups are to provide detail on the control measures to be adopted in the controls section of Form S2077 Hazardous Manual Tasks Assessment.

The risks and associated controls should also be documented in the site OHS Risk Register.

5 DOCUMENTATION

Form S2077 Hazardous Manual Tasks Assessment is to be used to identify in consultation with the workers any Hazardous Manual Tasks in the team work area and the controls to reduce the risk of injury. The form is to be completed by members of the work team and signed off by the supervisor. The JSEA may also be utilised for controlling the risk of injury for complex Hazardous Manual Tasks.

Completed Hazardous Manual Task Assessments are to be returned to the site Health and Safety department and the details included in the site OHS Risk Register. They are to be saved in the [Site] Hazardous Manual Task TRIM Folder. "F/12/9487" - LINKS TO - Hazards Management Task Assessments (ALL SITES)

6 TRAINING

The training is based on the program supplied by Work Health and Safety Queensland called “The PErforM *(perform)* Program”. This program is based on a participative ergonomic approach which is an internationally recommended approach for reducing musculoskeletal disorder.

Training should be provided during the site specific induction new job program and then every two years as part of an ongoing control program. This could include induction into the site or into a new task.

The presentation called “No Sprains, No Gains (PErforM) is available on the internet at No sprains, big gains | WorkSafe.qld.gov.au . A copy is also available in TRIM at "B/MM/12/1063". The Form S2077 - Hazardous Manual Task Assessment has been developed to support the methodology from this program.

Training should be provided to:

- Workers required to carry out, supervise or manage hazardous manual tasks;
- In house designers, engineers and officers responsible for the selection and maintenance of plant/or design of the task; and
- Health and Safety Representatives.

Training should include:

- Manual Task management;
- Specific manual task risks and control measures;
- How to perform manual tasks safely including how to use mechanical aids; and
- How to report a problem or maintenance issue.

Training needs to be regularly reviewed for relevance and documented records of the training should be kept.

7 MONITORING AND REVIEW

Control measures that have been implemented must be reviewed and if necessary revised in consultation with the relevant workers and their Health and Safety Representatives to make sure they work as planned to maintain a work environment that effectively manages risk to health and safety.

Factors that may affect the likelihood or consequence of an outcome may change, as may the factors that affect the suitability or control options. It is therefore necessary to repeat the risk management cycle regularly and update the details of the hazardous manual task in the site OHS Risk Register accordingly.

A review and as necessary revise risk control measures are to be performed:

- when the control measure does not minimise the risk so far as is reasonably practicable;
- before a change at the workplace that is likely to give to a new or different health and safety risk that the control measure may not effectively control;
- if a new hazard or risk is identified;
- if the results of consultation indicate that a review is necessary; or
- if a health and safety representative requested a review.

These updates should occur at regular intervals and at a minimum as part of the **annual** risk management, budgeting and planning calendar.

8 DEFINITIONS

Term	Definition
Consultation	This involves sharing of information, giving workers a reasonable opportunity to express their views and taking those views into account at each step of the risk assessment process. Consultation must also include all other duty holders e.g. Person in Charge of Business or Undertaking, Officers.
CS Energy Sites	CS Energy sites are Callide Power Station, Kogan Creek Power Station, Wivenhoe Power Station, Brisbane Central Office and other groups conducting business for CS Energy.
Contractor	A person who carries out work under a contract for services with CS Energy, either as an individual or as an Employee of a company other than CS Energy or its related bodies corporate as defined in the *Corporations Act 2001 (Cth).*
Employee	A person having a valid contract of employment with CS Energy and/or is in receipt of salary or wages from CS Energy or its related bodies corporate as defined in the *Corporations Act 2001 (Cth).*
Hazard	A source of potential harm to personnel, plant or the environment.
Hazardous Manual Task	A task that requires a person to lift, lower, push, pull, carry or otherwise move, hold or restrain any person, animal or thing involving one or more of the following: repetitive or sustained force; high or sudden force; repetitive movement; sustained or awkward posture; exposure to vibration.
Job Safety & Environment Analysis (JSEA)	A method for identifying, assessing, controlling, monitoring and documenting the hazards and risks posed in each activity/task or item of plant involved in work.
Musculoskeletal Disorder (MSD)	An injury to, or a disease of the musculoskeletal system, whether occurring suddenly or over time.
Risk Management	Risk management is a systematic approach to determine the control measures required to eliminate or reduce risk to as low as reasonably practical (ALARP), where risk is the likelihood of injury, environmental harm, property damage and/or loss of supply. It is process of identifying hazards, assessing risks associated with that hazard, identifying control measures to eliminate or mitigate the risks associated with the hazard, and then reviewing the outcomes to ensure they are effective.
OHS Risk Register	A documented list detailing the health and safety hazards and corresponding risk mitigation measures for a site, business unit or specific work undertaken.

9 REFERENCES

Reference No	Reference Title	Author
	Work Health and Safety Act & Regulations 2011	
	Hazardous Manual Tasks Code of Practice 2021	
"B/MM/12/1063"	Presentation - No Sprains No Gains (PErforM) - Workplace Health and Safety Queensland	WHSQ
"B/D/12/80299"	Form S2077 - Hazardous Manual Task Assessment Template	CS Energy
"B/D/18/6609"	Procedure – CSE – H&S – CS-OHS-76 – Health and Safety Risk Management	CS Energy
"F/12/9487"	LINKS TO - Hazards Management Task Assessments (ALL SITES)	CS Energy

10 RECORDS MANAGEMENT

In order to maintain continual improvement, suitability, safety and effectiveness of the organisation, registered documents will be reviewed on a two-yearly basis or at intervals specified by legislative or regulatory requirements. Review of registered documents should occur where it has been identified that there are changes in technology, legislation, standards, regulation or where experience identifies the need for alteration to the content. Registered documents should also be reviewed following an incident, change management process, modification or where directed as part of a risk assessment process. A 'review' can simply mean that it has been identified, confirmed and appropriately recorded that no changes are required and that the existing process remains the same.

Government Owned Corporations must ensure that records are retained according to accountability, legal, administrative, financial, commercial and operational requirements and expectations. In compliance with records retention and disposal, all documentation created in relation to business must be retained in line with minimum retention periods as detailed in legal retention and disposal schedules.

11 APPENDIX

11.1 Appendix 1 – S2077 Hazardous Manual Task Assessment (example only)

Hazardous Manual Task Assessment
Form S2077
Ver. 2 (19.11.12)

This form is used to assess a manual task to confirm it as a "Hazardous Manual Task" because it has a "significant" or "high" risk factors associated with the task. This assessment is to be saved in the relevant site **Hazardous Manual Tasks** folder in TRIM. This form can be referred to in the development of the JSEA where required. A list of Hazardous Tasks for each site is to be listed in the Site OHS Risk Register.

Part 1. Details of Manual Task Assessment.

Site: KOGAN CREEK POWER STATION		Date: 04 / 11 / 2012	Time: 09:40:00
Name of Lead Assessor / Supervisor: J. SMITH.	Position: PRODUCTION SUPERVISOR	Name of Team Member: B. BROWN	Position: OPERATOR
Name of Team Member: C. GREEN	Position: P.T.W OFFICER	Name of Team Member:	Position:

Part 2 (a). Manual Task Description and Assessment.

Details of the task being performed	ISOLATING FABRIC FILTER CELL
Why this task was selected for the assessment	DIFFICULT POSITION TO ISOLATE DAMPER INSTRUMENT AIR VALVES
Work area / location of task	MIDDLE LEVEL OF FABRIC FILTER CELLS.
Personnel involved in performing the task	OPERATIONS AND PRODUCTION CONTROL OFFICERS
General description	REACH THROUGH HAND RAIL TO CLOSE VALVE AND APPLY LOCK, CHAIN AND TAG.
Posture	BENDING, DOWN AND REACHING BEFORE APPLYING FORCE TO CLOSE VALVE
Forceful / muscular exertions	EXERTION OF BACK AND CORE OF BODY
Repetition and durations	FOUR VALVES TO CLOSE - ISOLATE WHEN BAGS REQUIRE REPLACING
Tools or equipment used	LOCK, CHAIN AND TAGS TO ATTACH TO VALVES.
Work/task organisation and environment	VALVES ARE AT FEET LEVEL OR LOWER TO ACCESS.

Once Part 1 and Part 2 (a) are completed, turn the page and complete Part 2 (b) before completing Part 3.

Part 3. Confirmation of Consultation.

I have consulted with the work group on the Hazardous Manual Task and the work group has been informed of the agreed control measures to reduce the risk of injury.

Name of Supervisor: J. SMITH	Signature: J Smith	Date: 4 / 11 / 2012	☑ SAP Notification Raised. No. 103 814 63

Comments: WORK ORDER RAISED FOR MODIFICATION TO VALVES

Part 4. Office Use Only (To be completed by the Site Health and Safety Department)

☑ Hazardous Manual Task Assessment added to the site TRIM folder	TRIM Record No. K/F/12/1234	
☑ Hazardous Manual Task added to Site OHS Risk Register	Added by (Name): KRISS VEEHER	Date: 4 / 11 / 2012

Comments:

1

Hazardous Manual Task Assessment
Form S2077
Ver. 2 (19.11.12)

Part 2 (b) Manual Task Risk Assessment.

Risk Factors - Indicate on the body chart which area(s) of the body you feel are affected by the task. If more than one body part is affected, you may shade the different body parts in different colours or shape. If so, use the matching colour or shape when scoring the risk factors. For Example: **Red** or triangle for arms on the body and scoresheet; **Blue** or circle for low back on the body and scoresheet; and **Green** or square for legs on the body and scoresheet. Give each risk factor a score out of five. One (1) is when the risk factor is not present and five (5) is when the risk factor is the most severe level experienced.
Risk Controls: As a minimum, where the risk score is 4 or 5 introduce appropriate controls to lower this risk of the Hazardous Manual Task.

Exertion – How much force is the person using? – think about starting or stopping quickly

1	2	3	4	5
No Effect		Moderate force & speed		Max force or speed

Awkward Posture – How Awkward is the person's posture?

1	2	3	4	5

Vibration – How much are the whole body or hand (s) being vibrated?

1	2	3	4	5
None		Moderate		Extreme

Duration – How long is the actions performed for?

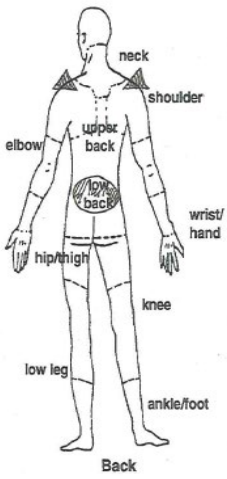
1	2	3	4	5
< 10 mins	10-30 mins	30 min- 1 hr	1 – 2 hrs	> 2 hrs

Repetition - How often are similar actions done?

1	2	3	4	5
No repetition		Cycle time < 30 sec		Cycle time < 10 sec

Risk Rating – Give your assessment a risk rating based on the scores above.

1 or 2	3	4	5	Risk Rating
Low	Moderate	Significant	High	4



Eliminations – Eliminate the problem task completely.
Controls:

Substitution – Replace the heavy items with lighter, smaller or easier to handle.
Controls:

Isolation – Remove yourself from any supporting or propping exertions using crates, trolley etc to move heavy objects.
Controls:

Engineering / Redesign – Redesign task to use equipment to absorb forces.
Controls: EXTEND SPINDLES ON VALVE TO RAISE TO HANDLES TO A MORE ERGONOMIC POSITION.

Administrative – These are best used as part of a control strategy or in the interim while design controls are developed.
Controls:

Personal Protective Equipment - Equipment that protects the worker while performing the manual task.
Controls:

2