



Government of **Western Australia**
Department of **Mines and Petroleum**
Resources Safety

Guide to manual tasks high impact function (HIF) audit 2010

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Level 1, 303 Sevenoaks Street (cnr Grose Ave), Cannington WA 6107
Postal address: Mineral House, 100 Plain Street, East Perth WA 6004
Telephone: (08) 9358 8002 Facsimile: (08) 9358 8000
ResourcesSafety@dmp.wa.gov.au
www.dmp.wa.gov.au www.wa.gov.au

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Introduction

This high impact function (HIF) audit is designed to cover the standards related to the management of the risks associated with manual tasks. The term “manual task” covers any activity that requires a person to use his or her physical body (musculoskeletal system) to perform work. This includes the use of force for lifting, lowering, pushing, pulling, carrying, moving, holding or restraining anything. It also includes work involving repetitive actions or sustained postures and concurrent exposure to vibration.

Injuries from performing manual tasks at work, collectively referred to as musculoskeletal disorders, are the leading cause of injury in Western Australian mining workplaces. Injuries from performing manual tasks at work can result from sudden damage to the musculoskeletal system or from cumulative wear and tear on the musculoskeletal system. The risk management process of hazard identification, risk assessment, risk control and control evaluation provides a framework within which all manual task risk factors that cause or contribute to the development of musculoskeletal disorders, both acute and cumulative, can be considered.

Manual tasks that are potentially hazardous include those tasks:

- that have one or more of the characteristics of a hazardous manual task including
 - repetitive or sustained application of force;
 - repetitive or sustained awkward postures;
 - repetitive or sustained movements;
 - application of high force;
 - exposure to sustained vibration;
 - involve handling of a person or an animal; and/or
 - Involve handling of unstable or unbalanced loads that are difficult to grasp or hold.
- where an associated injury (musculoskeletal disorder) or pain or discomfort has been reported; and
- that workers are physically incapable of performing or can only do for a short time.

Note: As a general guide, repetitive means a movement or action is performed more than twice a minute, and sustained means a movement or posture is continued or held for more than 30 seconds at a time.

Risk factors that are known to lead or contribute to injury (musculoskeletal disorders) include:

- direct risk factors
 - postures and movements of the worker including:
 - ... repetitive and/or awkward postures or movements
 - ... sustained and/or awkward postures or movements
 - the forces (or exertion) involved in the task, including:
 - ... high force
 - ... jerky or unexpected forces
 - ... speed and force
 - the frequency, repetition and duration of the task.
- indirect (contributing) risk factors
 - the work environment including heat, cold, humidity, wind, lighting, floor or ground surfaces and housekeeping
 - systems of work, work organisation and work practices including – high workloads, tight deadlines, low worker control, unsuitable or insufficient resources, extended shifts

- exposure to vibration including whole body vibration and hand–arm vibration (exposure levels must be measured over the whole shift and recovery times modified accordingly for extended shifts).

The source/s of the risk/s, that is the underlying root cause/s of the risk factor/s being present, may relate to:

- the work area design and layout;
- the nature of the item being used;
- the nature of the load being handled;
- the working environment; and/or
- systems of work, work organisation and work practices.

Further guidance material on the risks associated with manual tasks and the management of those risks is provided at www.dmp.wa.gov.au/7221.aspx, including:

- Manual Tasks in Mining Fact Sheet series
- Guidance for Mining Workplaces: Implementing an Effective Programme to Manage the Risks Associated with Manual Tasks
- Training package: Prevention of Musculoskeletal Disorders from Performing Manual Tasks in Mining Workplaces.

Note: Where, in the intent, the word “verify” is used, this means that it is a regulatory requirement, which is mandatory and has to be complied with. Where, in the intent, the word “ensure” is used, it is not a mandatory requirement, but it does set out a recommended safe method that, if followed, should minimise the potential for an adverse incident to take place.

Note: High impact function (HIF) audits examine the way in which certain functions with a high hazard potential are performed within an organisation. The process looks at the function vertically, from inception to completion, down through the organisation. For example, the HIF audit for electrical tagging out systematically scrutinises this process from its roots in the policy and procedures of the organisation to the point where an operator physically uses it.

1 Hazardous manual task identification

Point	Standard	Guideline
1.1	Formal procedures are in place to identify potentially hazardous manual tasks.	<p>Intent: To verify that formal procedures exist to identify potentially hazardous manual tasks.</p> <p>Personnel: Senior managers, line managers, and safety and health personnel.</p> <p>Method: Seek documented evidence that potentially hazardous manual tasks are identified. Check documents such as injury, incident or hazard reports, first aid reports, and shift report forms to confirm that potentially hazardous manual tasks are reported.</p> <p>Observe employees undertaking manual tasks at the workplace and check records to confirm that manual tasks, which are observed to have one or more of the characteristics of a hazardous manual task, are reported. Refer to introduction of this guide for information on what makes a manual task potentially hazardous and the characteristics of a hazardous manual task.</p> <p>The number of potentially hazardous manual tasks identified should reflect the risk. Cross check the number of potentially hazardous manual tasks identified or reported against the number of injuries from performing manual tasks reported at the site to confirm that an accurate list of hazardous manual tasks is obtained.</p> <p>Speak to managers, line managers, safety and health personnel to verify procedures are in place.</p> <p>Refer MSIA s 9</p>

Point	Standard	Guideline
1.2	Employees are encouraged to identify and report potentially hazardous manual tasks.	<p>Intent: To verify there is no impediment to identifying and reporting potentially hazardous manual tasks.</p> <p>Personnel: Supervisors, safety and health personnel, maintenance staff, safety and health representatives, and employees (operations, maintenance and contractors).</p> <p>Method: Confirm employees use shift report forms, hazard reports etc. to report potentially hazardous manual tasks arising through the shift and the information is passed onto the next shift (or maintenance).</p> <p>Check first aid reports, AXTAT information, and hazard, incident and accident records to confirm employees report hazards, near misses (e.g. discomfort reports), minor injuries and major injuries resulting from performing manual tasks.</p> <p>Speak to supervisors, employees and safety and health representatives to verify employees are encouraged to report and discuss tasks that are physically demanding or difficult and/or where pain or discomfort occurs.</p> <p>Speak to employees and safety and health representatives to verify they have the knowledge to recognise and report potentially hazardous manual tasks.</p> <p>Refer MSIA ss 11 and 77</p>
1.3	Procedures are in place to report injuries (musculoskeletal disorders) resulting from performing manual tasks at work.	<p>Intent: To verify that formal procedures exist to report injuries (musculoskeletal disorders) from performing manual tasks at work.</p> <p>Personnel: Induction personnel, safety and health personnel, first aid officers or nurses, supervisors and employees (operations, maintenance and contractors).</p> <p>Method: Check records such as daily first aid records to confirm that injuries (musculoskeletal disorders) from performing manual tasks at work are reported.</p> <p>Check that induction of employees and contractors includes and emphasises that occurrences and accidents from performing manual tasks at work resulting in injury (musculoskeletal disorders) are reported and recorded.</p> <p>Refer MSIA ss 11 and 77</p>

2 Assessing the risk arising from hazardous manual tasks

Point	Standard	Guideline
2.1	There is a formal procedure to assess the risk arising from identified hazardous manual tasks.	<p>Intent: To verify the existence of a formal manual task risk assessment procedure.</p> <p>Personnel: Senior managers, line managers, and safety and health personnel.</p> <p>Method: Confirm the existence of manual task risk assessment reports.</p> <p>Refer MSIA s 9</p>
2.2	The risk assessment has considered all of the risk factors and identifies the source/s (underlying root cause/s) of the risk.	<p>Intent: To verify that manual task risk assessment procedures assess all risk factors and identify the source/s (i.e. underlying root cause/s) of the risk.</p> <p>Personnel: Safety and health personnel, safety and health representatives, and personnel involved in risk assessment procedures.</p> <p>Method: Seek documented evidence the risk assessment has considered all of the risk factors and identifies the source or cause of the risk factors being present. Check the manual task risk assessment reports to confirm all risk factors known to lead to or contribute to injury (musculoskeletal disorders) are assessed.</p> <p>Check the manual task risk assessment reports to confirm the source/s of the risk factor is/are identified. Refer to introduction of this guide for information on risk factors and sources of risk.</p> <p>Refer to MSIA s 9</p>
2.3	<p>The risk assessment evaluates the severity of the risk arising from the identified hazardous manual task giving consideration to:</p> <ul style="list-style-type: none"> the likelihood of the risk; and the consequence of the risk <p>and is prioritised according to existing occupational safety and health (OSH) risk management systems.</p>	<p>Intent: To verify the risk assessment process evaluates the severity of the risk arising from a hazardous manual task (considering the likelihood and consequence of the risk), and this information is used to prioritise the management of the risk according to existing OSH risk management systems.</p> <p>Personnel: Safety and health personnel, safety and health representatives, and personnel involved in risk assessment procedures.</p> <p>Method: Seek documented evidence the risk assessment evaluates the severity of the risk. Check the manual task risk assessment reports to confirm the likelihood and the consequence of the risk is considered in evaluating the severity of the risk.</p> <p>Check records to confirm hazardous manual tasks are prioritised for management according to the existing OSH risk management systems.</p> <p>Refer to MSIA s 9</p>

Point	Standard	Guideline
2.4	The manual task risk assessment is completed in consultation with the employees who perform the task.	<p>Intent: To verify employees who perform a manual task are consulted during the risk assessment process for that task and there is no impediment to this consultation.</p> <p>Personnel: Supervisors, safety and health personnel, safety and health representatives, and employees (operations, maintenance and contractors).</p> <p>Method: Check risk assessment reports to confirm employees are consulted.</p> <p>Speak to supervisors, employees and safety and health representatives to verify employees are consulted during the risk assessment process.</p> <p>Speak to employees and safety and health representatives to verify they have the knowledge to meaningfully participate in the manual task risk assessment process.</p> <p>Refer MSIA s 9.1(c)</p>

3 Hazardous manual task risk control

Point	Standard	Guideline
3.1	There is a formal risk control plan to minimise employees' exposure to hazardous manual tasks.	<p>Intent: To verify that a risk control plan has been prepared for the management of hazardous manual tasks.</p> <p>Personnel: Senior managers, line managers, and safety and health personnel.</p> <p>Method: Check that records show there is a risk control plan to eliminate hazardous manual tasks or, where elimination is not possible, measures are implemented to minimise the risk arising from the tasks, as far as is practicable.</p> <p>Check the risk control plans assign responsibilities and include completion dates.</p> <p>Refer MSIA s 9.1</p>
3.2	Hazardous manual task risk control measures are implemented according to the hierarchy of control.	<p>Intent: To ensure risk control measures for hazardous manual tasks follow the hierarchy of control.</p> <p>Personnel: Senior managers, line managers, and safety and health personnel.</p> <p>Method: Check records to confirm the implemented risk control measures follow the hierarchy of control, namely:</p> <ul style="list-style-type: none"> • where practicable the hazardous manual task is eliminated; or • where elimination is not practicable, design or engineering controls have been implemented to reduce the risk as far as is practicable; and • administrative controls are implemented as an interim measure or to supplement design or engineering controls. <p>Observe examples of implemented controls in the workplace, to confirm the hierarchy of control has been followed, as far as is practicable.</p>
3.3	The implemented risk controls address the source (underlying root cause) of the risk identified in the risk assessment process.	<p>Intent: To ensure control measures are addressing the source (i.e. underlying root cause) of the risk identified in the risk assessment process.</p> <p>Personnel: Senior managers, line managers, and safety and health personnel.</p> <p>Method: Check that records show how the identified source of the risk identified in the risk assessment process has been eliminated or altered to reduce the risk by the implemented control measure.</p> <p>Observe examples of implemented controls in the workplace to confirm the source of the risk has been eliminated or altered to reduce the risk.</p>

Point	Standard	Guideline
3.4	Formal justification is available where elimination or design or engineering controls are deemed not to be feasible.	<p>Intent: To ensure elimination or design or engineering controls have been adopted where practicable.</p> <p>Personnel: Senior managers, line managers, engineers, designers, and safety and health personnel.</p> <p>Method: Each hazardous manual task risk assessment and control report should include how the hierarchy of control was implemented to eliminate or minimise the risk. Where elimination was not practicable and design or engineering controls were not implemented then reasoned justification should be documented. Failure to implement elimination or design or engineering controls is not justified where there is an identified hazardous manual task and administrative control measures are seen as a cheaper or easier alternative.</p>
3.5	Employees performing the manual task are consulted in the development and implementation of risk control measures.	<p>Intent: To verify employees doing a manual task are consulted in devising, developing and implementing risk control measures for that task and there is no impediment to this consultation.</p> <p>Personnel: Supervisors, safety and health personnel, safety and health representatives, and employees (operations, maintenance and contractors).</p> <p>Method: Check records to confirm employees are consulted as part of the risk control derivation, development and implementation processes.</p> <p>Speak to supervisors, employees, safety and health personnel, and safety and health representatives to verify employees are consulted during the derivation, development and implementation of risk control measures.</p> <p>Speak to employees and safety and health representatives to verify they have the knowledge to participate in the risk control processes.</p> <p>Refer MSIA s 9.1(c)</p>

4 Monitoring and review of implemented control measures

Point	Standard	Guideline
4.1	There is a formal plan to monitor and review the effectiveness of the implemented risk control measures.	<p>Intent: To ensure there is a formal plan to monitor and review the implemented risk control measures and that they are effective and any new risks arising are identified.</p> <p>Personnel: Senior managers, line managers, engineers, designers, and safety and health personnel.</p> <p>Method: Check records to confirm implemented risk controls have been assessed for effectiveness and to identify whether any new risks have been introduced.</p> <p>Check records to confirm there is evidence of ongoing monitoring of the effectiveness of risk control measures and, where applicable, continuous improvement of the control measures is undertaken.</p>
4.2	Employees performing the task are consulted in the review and monitoring of the implemented control measures.	<p>Intent: To verify employees doing a task are consulted in reviewing and monitoring implemented risk control measures for that task and there is no impediment to this consultation.</p> <p>Personnel: Supervisors, safety and health personnel, safety and health representatives, and employees (operations, maintenance and contractors).</p> <p>Method: Check records to confirm employees are consulted as part of the review and monitoring processes.</p> <p>Speak to supervisors, employees and safety and health representatives to verify employees are consulted during the review and monitoring processes.</p> <p>Speak to employees and safety and health representatives to verify they have the knowledge to input into the review and monitoring processes.</p> <p>Refer MSIA s 9.1(c)</p>
4.3	Action is taken when a risk control measure is ineffective or a new risk arises from the control measure.	<p>Intent: To ensure action is taken when a risk control measure is ineffective or a new risk arises from the risk control measures already implemented.</p> <p>Personnel: Senior managers, line managers, engineers, designers, and safety and health personnel.</p> <p>Method: Check records for any inadequate risk control measures and the resultant actions taken. Similarly, check for actions taken in respect of any new risks identified.</p>

5 Training

Point	Standard	Guideline
5.1	Employees have received training in the identification of hazardous manual tasks and in the management of the risk arising from those tasks commensurate with their role and responsibilities.	<p>Intent: To verify employees (at all levels) have been provided with information and training about identifying hazardous manual tasks and managing the risks arising from those tasks commensurate with their role and responsibilities.</p> <p>Personnel: Managers (all levels), training personnel, safety and health personnel, safety and health representatives, and employees (operations, maintenance and contractors).</p> <p>Method: Check training records to confirm information and training about identifying hazardous manual tasks and managing risks arising from hazardous manual tasks is included in induction programmes and this training is refreshed regularly.</p> <p>Speak to employees (at all levels, including management) to verify they have received this training.</p> <p>Refer MSIA ss 9.1 (b) and 9.2 and MSIR r 4.13</p>
5.2	Employees have received task-specific training before performing manual tasks.	<p>Intent: To verify employees undertaking manual tasks have the knowledge and skills to employ safe work practices.</p> <p>Personnel: Training personnel, supervisors, safety and health representatives, and employees (operations, maintenance and contractors).</p> <p>Method: Check training records. Check JSA, SOP or JHA or similar documents for inclusion of safe manual task practices or procedures. Observe if employees undertaking manual tasks are employing these safe work practices or procedures. Speak to employees to verify they have received adequate information and training to employ safe work practices.</p> <p>Refer MSIA ss 9.1 (b) and 9.2 and MSIR r 4.13</p>
5.3	Competency based assessment is undertaken.	<p>Intent: To verify employees performing manual tasks are competent in performing the tasks safely.</p> <p>Personnel: All employees performing manual tasks at mine site (operations, maintenance and contractors).</p> <p>Method: Check training records for competency based assessments.</p> <p>Refer to MSIR r 4.13</p>

6 Design of workplaces and design and purchasing of plant and equipment

Point	Standard	Guideline
6.1	Design and planning activities include hazard and risk analysis procedures to identify where potentially hazardous manual tasks can be designed out.	<p>Intent: To verify that formal procedures exist to identify where any potentially hazardous manual tasks can be designed out at the planning, design and development phase of equipment, plant, buildings and structures.</p> <p>Personnel: Managers, engineers, designers, consultants, purchasing personnel, and safety and health personnel.</p> <p>Method: Check records such as contractor and consultant references, contract documents, purchasing policy, tendering specifications and safety plan. Seek documented evidence that the process of planning and developing the design of the equipment, plant, building or structure includes identifying and designing out potential hazardous manual tasks. Confirm ergonomics specifications have been considered and where applicable incorporated into the design.</p> <p>Refer MSIA ss 9 and 14 and MSIR Part 6</p>
6.2	<p>Ergonomic considerations have been incorporated into relevant equipment* and plant** purchases.</p> <p>* Equipment includes items such as hand tools, and workplace furniture such as chairs and workstations.</p> <p>** Plant includes mobile and fixed plant.</p>	<p>Intent: To ensure purchasing procedures include ergonomic considerations for all equipment and plant purchases.</p> <p>Personnel: Safety and health personnel, safety and health representatives, supervisors, equipment and plant users and operators, maintenance staff, and purchasing staff.</p> <p>Method: Check purchasing policies and documents to confirm, where applicable, ergonomic considerations have been incorporated into the purchasing processes.</p> <p>Speak to purchasing staff to verify they are aware of relevant ergonomic considerations.</p> <p>Speak to users and operators to verify new equipment and plant is suited to purpose and when it is used or operated does not increase the risk of a musculoskeletal disorder. Refer to introduction of this guide for a list of characteristics of a hazardous manual task.</p>

Point	Standard	Guideline
6.3	Design, planning and purchasing activities take into consideration any reports of equipment and plant issues that have resulted in injury (musculoskeletal disorders).	<p>Intent: To verify that any historical or known information on musculoskeletal disorders is utilised in the planning, design and purchasing processes.</p> <p>Personnel: Safety and health personnel, first aid officers or nurses, safety and health representatives, supervisors, equipment and plant users and operators, maintenance staff, and purchasing staff.</p> <p>Method: Check records to confirm that equipment and plant issues causing musculoskeletal discomfort or pain are reported and communicated to purchasing officers and other staff responsible for the purchasing of equipment and plant.</p> <p>Speak to equipment and plant users and operators to verify issues with equipment and plant can be and are reported.</p> <p>Speak to purchasing staff to verify they are aware of any issues with equipment and plant causing musculoskeletal disorders.</p> <p>Refer MSIR Part 6</p>
6.4	Employees who perform manual tasks in a workplace or use or operate equipment or plant are consulted in the planning, design and purchasing processes.	<p>Intent: To verify employees completing manual tasks in a workplace building or structure or who are involved in the use or operation of equipment or plant are consulted in planning, design and purchasing processes.</p> <p>Personnel: Designers, engineers, consultants, safety and health personnel, safety and health representatives, supervisors, equipment and plant users and operators, maintenance staff, and purchasing staff.</p> <p>Method: Seek documented evidence to confirm employees are consulted as part of the workplace and plant planning, design and/or purchasing processes.</p> <p>Speak to supervisors, equipment and plant users and operators, maintenance staff, purchasing staff and safety and health representatives to verify employees are consulted during the planning, design and purchasing processes.</p> <p>Speak to designers, consultants, engineers, employees, and purchasing staff to ensure they are aware of relevant ergonomics and safety standards and guidelines.</p> <p>Refer MSIA s 9.1(c)</p>