

# **GUIDE FOR MAJOR HAZARD FACILITIES**

INFORMATION, TRAINING AND  
INSTRUCTION FOR WORKERS AND  
OTHER PERSONS AT THE FACILITY

MARCH 2012



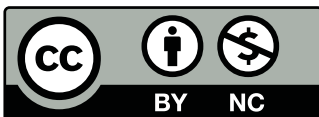
**safe work australia**



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# 1. INTRODUCTION

The objective of the Work Health and Safety (WHS) Regulations is to prevent major incidents occurring at major hazard facilities (MHFs) and to protect persons from the effects of such major incidents, should one occur.

To help achieve this objective, the WHS Regulations include a number of obligations regarding the provision of information, training and instruction for workers and other persons present at a major hazard facility.

The intent of providing workers with appropriate information, training and instruction is to ensure that they can competently perform their duties and tasks without risk to their health and safety or the health and safety of any other person, and to ensure that they have a thorough understanding of the potential major incidents, major incident hazards, operational procedures and control measures at a facility. An understanding of these key areas of major incident prevention will enable workers to contribute to the elimination and/or minimisation of risks, which in turn will contribute to the overall safe operation of a facility.

This Guide assists operators of MHFs to comply with their obligations to provide workers with the necessary information, training and instruction to enable them to:

- understand how major incidents and major incident hazards differ from those normally encountered in workplace health and safety
- understand what major incidents could occur at the facility, what major incident hazards might cause them to occur, and what control measures the facility relies upon to prevent them occurring or mitigate their effects on health and safety
- be familiar with the purpose and structure of a Safety Management System (SMS) and to contribute to the implementation of the SMS, including control measures
- understand and comply with the requirements of the SMS, including the control measures
- understand the requirements and operation of an emergency plan
- fulfil the safety role for workers established by the operator under the Regulations.

Use of this guidance material will also assist operators in:

- ensuring that visitors at a MHF are provided with the necessary information and instruction to allow them to take appropriate safety precautions while at the facility, and to take appropriate action if the emergency plan is activated while they are at the facility
- discharging their primary duty of care and consultation obligations under Section 19 and Sections 47-49 of the Work Health and Safety Act.

This Guide forms part of a set of guidance material for MHFs that includes information on:

- Notification and Determination
- Safety Assessment
- Safety Management Systems
- Developing a Safety Case Outline
- Preparation of a Safety Case
- Safety Case: Demonstrating the Adequacy of Safety Management and Control Measures
- Providing Information to the Community
- Emergency Plans.

### **WHAT DO THE REGULATIONS REQUIRE?**

Information provided to workers must be suitable and adequate having regard to the nature of the work and risks and the control measures implemented. Information about hazards at the facility and safety instructions must be provided to a person other than a worker who enters the major hazard facility as soon as practicable. Further details of the WHS Regulations are set out in Appendix A.

Relevant definitions are set out in Appendix B.

## 2. WHAT SHOULD THE INFORMATION, TRAINING AND INSTRUCTION COVER?

### 2.1 Information for workers

Regulation 39 sets out the general duties for the provision of information, training and instruction to workers. It requires a person conducting a business or undertaking to ensure that information, training and instruction provided to a worker is suitable and adequate having regard to:

- the nature of the work carried out by the worker
- the nature of the risks associated with the work at the time the information, training or instruction is provided
- the control measures implemented.

At a MHF this should include:

- any possible major incidents and major incident hazards, including major incident hazards relating to security
- the major incident risks, including the implementation of control measures
- the content and implementation of the safety management system for the MHF
- the emergency plan and any role workers have in the plan
- any review of risk management.

These topics are also reflected in the safety role for workers under regulation 574 and the consultation obligations of regulation 575. As such, the information, training and instruction provided should give workers the necessary knowledge and skills to fulfil the obligations of the safety role and should also equip workers to effectively contribute to the various matters for which consultation is mandated.

The information, training and instruction provided should be site-specific and should emphasise major incident prevention and control and the importance of worker participation in the key areas of major incident prevention. The MHF information, training and instruction is required in addition to any general workplace health and safety training.

Information, training and instruction should be provided on the topics outlined below.

#### **MAJOR INCIDENTS AND MAJOR INCIDENT HAZARDS**

MHF operators must identify all major incidents that could occur in the course of operation of the MHF and all major incident hazards at the MHF. The information, training and instruction provided to workers on this topic could include:

- the major incidents and major incident hazards for the facility
- how major incident hazards are different from the hazards generally encountered in workplace health and safety
- how major incident hazards are identified
- how major incident hazards are to be controlled and the role of workers in controlling them
- a history of incidents at the MHF, including major incidents and any incidents that could have led to a major incident
- a history of major incidents in the industry, their causes and consequences, and any lessons learned from these incidents.

## 2. WHAT SHOULD THE INFORMATION, TRAINING AND INSTRUCTION COVER?

### **CONTROL MEASURES**

The information, training and instruction provided to workers on control measures should include the following:

- the definition and components of risk
- the control measures
- the control measures particular to this MHF
- the control measures specific to a particular worker's role
- the critical operating parameters for those risk control measures
- why these control measures are important and what would happen if they did not work
- what the worker needs to do if a control measure fails
- how they are implemented and maintained
- how workers are involved in their implementation
- how they are reviewed.

### **SAFETY MANAGEMENT SYSTEM (SMS)**

MHF operators have a duty to establish and implement a SMS that provides a comprehensive and integrated system for the management of all aspects of risk control in relation to the occurrence and potential occurrence of major incidents at the MHF.

Operators must then use the SMS as the primary means of ensuring the health and safety of workers at the facility. The SMS should also be used to ensure the safe operation of the major hazard facility.

The effective implementation and maintenance of a SMS is largely dependent on the competency of the workforce at a facility. Therefore, the information, training and instruction provided should be sufficient to provide workers with a thorough understanding of the purpose and structure of the SMS and also what specific activities they are expected to do to implement the relevant SMS elements. Experience has found that it is critically important for the workers who are most involved in the direct implementation of elements of the SMS to participate in the development of those elements.

The information, training and instruction provided on the SMS may include the following:

- what is an SMS and what is its purpose
- SMS structure
- what are the particular elements of the SMS and where can the SMS be found
- how workers contribute to the development, implementation and review of the SMS
- why worker involvement is important
- the operator's Safety Policy and specific safety objectives
- the specific tasks and responsibilities allocated to workers
- how to perform those specific tasks and responsibilities
- how the SMS is reviewed.

## 2. WHAT SHOULD THE INFORMATION, TRAINING AND INSTRUCTION COVER?

### **EMERGENCY PLAN**

The MHF operator is required to prepare an emergency plan for the facility that addresses all health and safety consequences of a major incident occurring. As the purpose of the emergency plan is to limit the magnitude and severity of all major incidents both on and off-site, the emergency plan should be appropriate to the hazards and risks of a facility and specific to that facility.

The Regulations require operators of MHFs to consult with workers at a facility in relation to the development, testing and implementation of the emergency plan. Involvement at all stages of the process ensures that worker knowledge is incorporated into the plan, and that workers understand and are capable of fulfilling their roles in an emergency.

The information, training and instruction provided must be sufficient to ensure that all people at the facility (workers and visitors) will be able to quickly and confidently do what they are required to do in the event of an emergency. Response to emergencies and alarms must be an important part of visitor induction at all MHFs. Most facilities include an emergency exercise program as an essential part of the training of their workers, especially those that have major roles under the emergency plan. In turn, such training will also prepare workers for their contribution towards the emergency plan and allow those workers that have assumed specific responsibilities under the plan to develop the appropriate levels of knowledge and skills to effectively discharge these duties.

The information, training and instruction provided to workers on emergency plans should include the following:

- legislative requirements and responsibilities
- elements of an emergency plan for MHFs
- emergency planning assumptions of the organisation
- particular emergency measures for identified hazards at the MHF
- worker involvement in the development, testing and implementation of the plan
- specific roles and responsibilities of workers in an emergency
- information on safety systems and equipment
- emergency procedures
- emergency contacts
- skills practice
- emergency drills.

### **SAFETY ROLE FOR WORKERS**

The Regulations require the MHF operator to implement a safety role for workers at a facility which enables them to:

- contribute to the identification of major incidents and major incident hazards
- contribute to the consideration of control measures in the conduct of the safety assessment for the facility and to the conduct of a review of risk management at the major hazard facility.

Information, training and instruction on the core components of the safety role—that of major incidents, major incident hazards and control measures—are dealt with in previous sections of this guidance material. The information, training and instruction provided under these specific headings should provide workers with sufficient skills and knowledge to be able to fulfil their obligations under the safety role for workers.



## 2. WHAT SHOULD THE INFORMATION, TRAINING AND INSTRUCTION COVER?

### **SAFETY CASE**

MHF operators must consult with workers in relation to the preparation of the safety case for the facility.

Therefore, the operator should provide workers with information, training and instruction on the preparation of the safety case to equip them with the appropriate knowledge to effectively participate in this consultation. Such information, training and instruction should include the following:

- the purpose of a safety case
- the elements of a safety case
- the operator and worker responsibilities in preparing and implementing a safety case.

### **MONITORING, REVIEW AND REVISION**

In order for the information, training and instruction to remain relevant and effective, the operator should monitor the information, training and instruction to ensure that it is achieving what it sets out to achieve and that the content is reviewed and, if necessary, adequately revised. Competencies for all workers should be reviewed periodically to ensure they cover the range of normal duties and those duties expected to be undertaken in an emergency.

In particular, information, training and instruction should be reviewed and, if necessary, revised following:

- a review of risk management under regulation 559 or 569 (this covers hazard and incident identification, the safety assessment, the emergency plan and the safety management system)
- a review of the safety case for the facility under regulation 570.

### **RECORDING THE TRAINING**

Keeping good records of training provided to workers and visitors is an essential element of an effective training system. The records should indicate:

- what the training was about
- who received the training
- when it was provided
- who provided the training.

Copies of course content and assessment tools as well as specific assessment records should be kept to show that you have complied with the regulations.

Accurate training records will assist the operator in reviewing the training provided and with the scheduling of refresher training. Records may be kept electronically and should be made available to workers and regulators. Records made available to workplace health and safety representatives should be in a form that does not identify any particular worker or could reasonably be expected to identify the worker.

The records should be kept as long as the worker is engaged or caused to be engaged at the facility by the operator.

## 2. WHAT SHOULD THE INFORMATION, TRAINING AND INSTRUCTION COVER?

### 2.2 Information for visitors

Regulation 571 requires the operator of a licensed MHF to ensure that persons (other than workers) who enter a MHF are as soon as practicable:

- informed about the hazards at the MHF that may affect them
- instructed in the safety precautions they should take
- instructed in the actions they should take if the emergency plan is activated while they are on-site.

MHF operators should ensure the information they provide to visitors is sufficient to enable them to recognise the hazards present and understand how these hazards may affect them.

The use of safety induction talks, safety rules, and the provision of safety guidelines or safety pamphlets and emergency instructions should be considered as a means of instructing visitors on the safety precautions they should take while at the facility and what actions to take if the emergency plan is activated.

# 3. HOW THE INFORMATION, TRAINING AND INSTRUCTION IS PROVIDED

## 3.1 Scope and depth

The scope and depth of the information, training and instruction provided may vary depending on the role and responsibilities of each of the workers involved at a MHF.

Like permanent workers, temporary and short-term workers also require a level of knowledge and skill appropriate for the work required.

Consistent with accepted approaches to training and adult learning, it is preferable that training be an appropriate mixture of principles and practice, with some means of assessment by suitably qualified personnel to check that the training has been understood. Typical training for plant operators at MHFs in how to operate their units consists of:

- classroom-type training in the processes and equipment that operate in the unit
- step-by-step instruction in detailed operating procedures
- weeks or months in the plant with an experienced, qualified operator showing how the procedures are carried out in the plant
- written questions and practical demonstration of competence to a qualified assessor before being passed as able to operate the unit.

An example of the scope and depth of training that might be given to various personnel at a site on its work permit system is included at the end of the guidance material.

The information, training and instruction must be presented in a manner that is easily understood by those workers who receive or use the information. This may require the provision of information and training material in appropriate languages.

## 3.2 Induction information and training

In addition to the task-specific information, training and instruction required for the operation of the MHF, induction information and training should be provided to all new workers, including supervisors and managers, to:

- encourage new workers to be safety conscious and dedicated to the safety requirements and commitments at the facility
- communicate the specific major hazards and corresponding control measures at the MHF.

## 3.3 Refresher information and training

The operator should ensure that the initial information, training and instruction provided at the MHF is followed up, and refresher and supplementary training are provided at appropriate intervals.

Even when there have been no changes in the operation of the MHF, refresher training may be necessary to ensure that key work health and safety aspects are addressed and competencies are maintained.

## 4. CONSULTATION WITH WORKERS

In addition to what is included in previous sections of this guidance material, the following information is provided to assist operators with their specific duty to consult with workers at a facility.

### 4.1 What is consultation?

Consultation is a two-way exchange between the MHF operator and workers involving the sharing of relevant information, giving workers a reasonable opportunity to express their views, and taking those views into account before making decisions on health and safety matters. It also involves advising workers of the outcomes of the consultation.

### 4.2 Why is consultation necessary?

Safety at a MHF is more easily achieved when people at the facility communicate with each other about the potential health and safety problems and work together to find adequate solutions to these problems.

By drawing on workers' detailed and practical knowledge of the MHF and its operations, operators are more likely to identify all major incident hazards, make more informed decisions about the potential major incidents that could occur at a facility and choose more effective control measures.

### 4.3 When is consultation required?

The WHS Act requires that the person conducting a business or undertaking must, so far as is reasonably practicable, consult with workers who carry out work who are (or likely to be) directly affected by a work health and safety matter.

In particular, MHF operators must consult with workers in:

- preparing the safety case outline
- preparing, testing and implementing the emergency plan
- establishing, implementing and reviewing the SMS for the facility
- conducting a review
- implementing the safety role for workers
- preparing and reviewing the safety case for the facility.

#### **FURTHER INFORMATION**

The *Code of Practice: Work Health and Safety Consultation, Cooperation and Coordination* provides further guidance on the importance of consultation and different ways of consulting with workers, including information on mechanisms to facilitate worker participation and representation.

# APPENDIX A — WHS REGULATIONS

| Regulation | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>39</b>  | <p><b>Provision of information, training and instruction</b></p> <p>(1) This regulation applies for the purposes of section 19 of the Act to a person conducting a business or undertaking.</p> <p>(2) The person must ensure that information, training and information provided to a worker is suitable and adequate having regard to:</p> <ul style="list-style-type: none"> <li>(a) the nature of the work carried out by the worker; and</li> <li>(b) the nature of the risks associated with the work at the time the information, training or instruction is provided; and</li> <li>(c) the control measures implemented.</li> </ul> <p>(3) The person must ensure, so far as is reasonably practicable, that the information, training and instruction provided under this regulation is provided in a way that is readily understandable by any person to whom it is provided.</p> |
| <b>571</b> | <p><b>Information for visitors</b></p> <p>The operator of a licensed major hazard facility must ensure that a person other than a worker who enters the major hazard facility is as soon as practicable:</p> <ul style="list-style-type: none"> <li>(a) informed about hazards at the major hazard facility that may affect that person; and</li> <li>(b) instructed in safety precautions the person should take; and</li> <li>(c) instructed in the actions the person should take if the emergency plan is implemented while the person is on-site.</li> </ul>                                                                                                                                                                                                                                                                                                                           |
| <b>574</b> | <p><b>Safety role for workers</b></p> <p>(1) The operator of a determined major hazard facility must, within the time specified in the safety case outline for the major hazard facility, implement a safety role for the workers at the major hazard facility that enables them to contribute to:</p> <ul style="list-style-type: none"> <li>(a) the identification of major incidents and major incident hazards under regulation 554; and</li> <li>(b) the consideration of control measures in the conduct of the safety assessment under regulation 555; and</li> <li>(c) the conduct of a review under regulation 559.</li> </ul> <p>(2) The operator of a licensed major hazard facility must implement a safety role for workers at the facility so as to enable them to contribute to the conduct of a review under regulation 569.</p>                                            |

| Regulation | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 575        | <p><b>Operator of major hazard facility must consult with workers</b></p> <p>(1) For the purposes of section 49(f) of the Act, the operator of a determined major hazard facility must consult with workers at the major hazard facility in relation to the following:</p> <ul style="list-style-type: none"> <li>(a) the preparation of the safety case outline for the major hazard facility;</li> <li>(b) the preparation, testing and implementation of the major hazard facility’s emergency plan;</li> <li>(c) the establishment and implementation of the major hazard facility’s safety management system;</li> <li>(d) the conduct of a review under regulation 559;</li> <li>(e) the implementation of the workers’ safety role under regulation 574(1);</li> <li>(f) the preparation and review of the major hazard facility’s safety case.</li> </ul> <p>(2) For the purposes of section 49(f) of the Act, the operator of a licensed major hazard facility must consult with workers at the major hazard facility in relation to the following:</p> <ul style="list-style-type: none"> <li>(a) the testing and implementation of the major hazard facility’s emergency plan;</li> <li>(b) the implementation of the major hazard facility’s safety management system;</li> <li>(c) the conduct of a review under regulation 569;</li> <li>(d) the implementation of the workers’ safety role under regulation 574(2);</li> <li>(e) a review of the major hazard facility’s safety case.</li> </ul> |

# APPENDIX B — DEFINITIONS

**Control measure**, in relation to risk to health and safety, means a measure to eliminate or minimise the risk.

**Facility** means a workplace at which Schedule 15 chemicals are present or likely to be present.

**Major hazard facility (MHF)** means a facility:

- at which Schedule 15 chemicals are present or likely to be present in a quantity that exceeds their threshold quantity
- that is determined by the regulator under Part 9.2 to be a major hazard facility.

**Major incident** at a major hazard facility is an occurrence that:

- results from an uncontrolled event at the major hazard facility involving, or potentially involving, Schedule 15 chemicals
- exposes a person to a serious risk to health and safety emanating from an immediate or imminent exposure to the occurrence.

An **occurrence** includes any of the following

- escape, spillage or leakage
- implosion, explosion or fire.

**Major incident hazard** means a hazard that could cause, or contribute to causing, a major incident.

## Operator

- in relation to a facility, means the person conducting the business or undertaking of operating the facility, who has:
  - management or control of the facility
  - the power to direct that the whole facility be shut down.
- in relation to a proposed facility, means:
  - the operator of a proposed facility that is an existing workplace
  - the person who is to be the operator of a proposed facility that is being designed or constructed.

**Safety assessment** is the process by which the operator of a major hazard facility systematically and comprehensively investigates and analyses all aspects of risks to health and safety associated with all major incidents that could occur in the course of the operation of the major hazard facility.

**Safety policy** is a statement by the company/business of its commitment, intentions and principles in relation to its overall work health and safety performance, which provides a framework for action and for the setting of its work health and safety objectives and targets.

**Schedule 15 chemical** means a hazardous chemical that:

- is specified in Schedule 15, table 15.1 of the WHS Regulations
- belongs to a class, type or category of hazardous chemicals specified in Schedule 15, table 15.2 of the Regulations.

**Threshold quantity**, in relation to a Schedule 15 chemical, means:

- the threshold quantity of a specific hazardous chemical as determined under clause 3 of Schedule 15
- the aggregate threshold quantity of 2 or more hazardous chemical as determined under clause 4 of Schedule 15 (regulation 5).

A **Worker** is a person who carries out work in any capacity for a person conducting a business or undertaking, including work as:

- an employee
- a contractor or subcontractor
- an employee of a contractor or subcontractor
- an employee of a labour hire company who has been assigned to work in the person's business or undertaking
- an outworker
- an apprentice or trainee
- a student gaining work experience
- a volunteer
- a person of a prescribed class.



# APPENDIX C — EXAMPLE - WORK PERMIT SYSTEM TRAINING

## Work Permit System Training

Once a MHF operator has decided on the system to be used for work permits at a MHF (or a revision to that system), all workers need to know and understand what is expected of them. This training can take many forms and is likely to vary with the extent of involvement (or safety role) the trainee has within the permit system. A typical training scheme might be as follows.

### Induction

All personnel would be informed of the existence and purpose of the permit system. The general requirement that no maintenance or non-routine work can be conducted at the MHF without a valid permit is the main aspect of the system that should be emphasised in the general induction for new workers. The training may also include what the operator classifies as “work” and the types of permits that may be issued at the facility (e.g. Cold Work, Hot Work, Confined Space Entry, etc.). For people not involved in doing the work or issuing a permit, this may be sufficient information for their role.

### Permit receiver

Maintenance fitters and contractors who carry out work need to be provided with more information and training for the permit system to function safely.

Permit receiver training might cover the general workflow of a permit (e.g. work order request, equipment preparation/isolation, filling out the permit form, permit approval, site inspection before commencing work, accepting the permit, conducting the work, site clean up after work and handing back the permit). Aspects of the system that the maintenance fitter or contractor must follow need to be covered in detail in the training. These may include aspects such as:

- permit receiver to report to area operator and inspect worksite with operator before commencing work
- use of safety locks or other equipment
- conducting a Job Safety Analysis (JSA)
- complying with the permit conditions
- retaining copy of permit while conducting the work on-site
- who to contact if problems develop during work and how to make contact
- what to do at completion of work
- how equipment is returned to service.

## Area operator training

This training is likely to be similar to the Permit Receiver training but with an emphasis on the role of the operator in the permit system. This may include the following aspects:

- preparing equipment for maintenance (e.g. gas freeing, washing, etc.)
- isolation procedures (often referred to as Lock Out/Tag Out)
- conducting gas tests for Hot Work or Confined Space Entry
- possible fire watch duty for hot work, rescue team and communications for confined space work
- accompanying maintenance personnel to the worksite
- handover after the work.

## Permit issuer/approver

The person(s) responsible for approving and issuing permits probably has the most demanding role in ensuring that work is done safely, and therefore is likely to require more detailed training in addition to that covered by the training for permit receivers and area operators. The additional training might include:

- risk assessment
- equipment preparation procedures for different needs
- reading and understanding process and instrumentation drawings, safety data sheets, etc.
- checking/accepting JSA
- use of special equipment such as gas detectors.

Some of the associated aspects—such as isolation procedures, JSA and gas testing—may be included as integral parts of the permit system training or as stand-alone modules. All personnel undergoing the training would be expected to demonstrate knowledge and understanding of their role in specific assessments before being allowed to perform the role.



