

Construction, Explosives and Major Hazard Installation

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employment & labour

Department:
Employment and Labour
REPUBLIC OF SOUTH AFRICA

A **NATION** 
THAT **WORKS** **FOR ALL**





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Mandate

Bill of Rights- Constitution of South Africa

24. Everyone has the right

- a. to an environment that is not harmful to their health or well-being; and
 - b. to have the environment protected, for the benefit of present and future generations, through reasonable legislations and other measures that
- 



Occupational Health and Safety Act

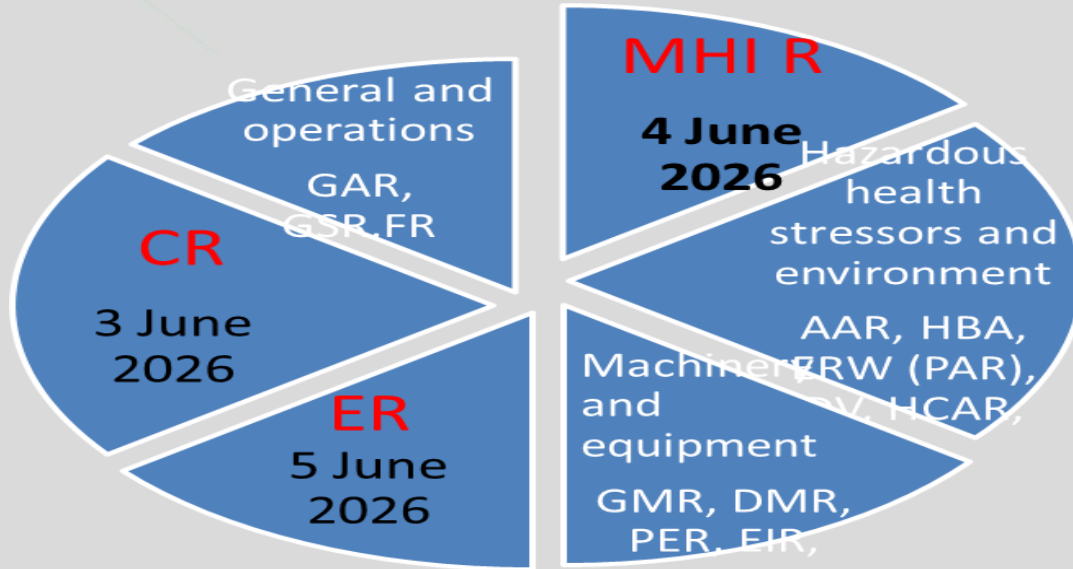
Purpose of OHS Act, 83 of 1993

to protect for the health and safety of:

- persons at work (employees, visitors, contractors & regulators)
 - persons in connection with the use of plant and machinery (operators)
 - the protection of persons other than the persons at work against hazards to the health and safety arising out of or in connection with the activities of persons at work (public)
 - Establish an advisory council regarding OHS matters
- 

OHSA and Regulations

23 Regulations





Major Hazard Installation Regulations

Aims

Protect workers and public members from risk pose by dangerous/hazardous substances

Objectives

- Major installations are build for safety
 - Located at a strategic area where they do not pose a risk to vulnerable (e.g. schools, airports, hospitals, parks, residential areas)
 - Operated safely and maintained in a good state of repair
 - Emergency plan in case of loss of containment
- 



Scope of Application

Regulation 2

major hazard installations:

- Prescribed quantities (3 Classes – low , medium and High)
- 3 Chapters (1 : named substances, 2: categories and 3 – pipeline)
- Exclusions: below thresholds, nuclear installations, rolling stock in transit,*

Local government: (land planning and zoning, disaster management and emergency plan activation)

Historical major incidents:

- major incidents associated with Major hazard installation
 - Thermal radiation, toxic emissions , explosions
 - Video
- 



Definitions

***"duty holder"** means an employer, a self-employed person, a user or a pipeline operator who is in control of an establishment;*

- is a legal persona(e), who is liable in their personal capacity : 16 (1)- CEO, MD or a board,
 - must have overall control of an establishment
 - Ensure compliance with the Act and its Regulations
 - Duty holder can enter into contractual agreements, appoint 16.2, 3(1)
- 



Definitions

***"establishment"** means a major hazard installation under the control of a duty holder where Chapter 1, 2 or 3 dangerous substances are present;*

- *MHI must be on a land under the control of one duty holder, even though there is/are single/multiple MHI/s even if there is a road/ railway/ canal/ tunnel*
 - *excludes different ERFs, establishments owned/operated by different MHIs*
 - *in the event where the landowner, allows a group of independent establishments, he/she has a duty to ensure there is no domino or knock down effect*
 - *Land owner must carry a cumulative QRA, communicate the results (MHIs & LG)*
- 



Definitions

- ***"impact zone"** means the zone where other installations or neighbours could be affected due to a major incident;*
- danger area, where there is calculated possibilities that a person either employee or public can be harmed if they are found to be in that area when a major incident occurs
- ALARP regions (unacceptable), (tolerable) as well as (acceptable)



Definitions

***"installation"** means a technical unit within an establishment, above or below ground level, in which substances are produced, used and stored and which includes all the equipment, structures, pipework, machinery, tools, railway sidings and quays, warehouses and similar structures necessary for the operation of that installation;*

- entire establishment and accounts for all the inventory kept
 - ALARP regions (unacceptable), (tolerable) as well as (acceptable)
- 



Definitions

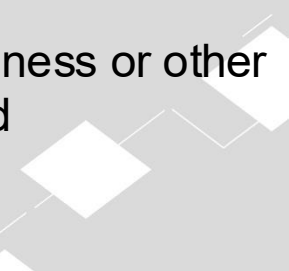
***"near miss"** means an event (causing damage to property, a negative impact on the environment or loss of human life) or operational interruption that could plausibly have resulted if the circumstances had been slightly different;*

- Includes any risk that might play a part in the chain of events leading to the danger
- 



Definitions

***"responsible person"** means a person designated, in writing, by a duty holder to be responsible, in a full-time capacity, for the premises on which an establishment is operated;*

- A responsible person is a person who is legally appointed by the duty holder and his direct control
 - Their main duty is to ensure safe operation and compliance to these Regulations.
 - or in relation to a proposed a person who in the course of a trade, business or other undertaking carried on by that person has commissioned its design and construction;
- 

Regulatory Framework

LG

Approval
**NBS &
BR ACT**
Section 4

DEL

AIA QRA

Registration
and
licensing

Public
Participation

Monitoring and enforcement

MHI R 3(1)

QRA (SANS 1461)

EP (SANS 1514)

MIPP (Medium, High)
Safety Reports (high)

- Information and Training
- Suppliers (SDS& 24 hr. support)
- Report emergencies and major incidents
- Revocations and suspension

PSM

- Change in details
- Updating of the QRA safety report & renew registration (5 years)
- License validity – design life but not more than 25 years after issue
- Review EP (3 years)
- Test the EP (annual with LG)
- Closure (ceasing of operations)



Maximum Quantities

The design capacity of the MHI

Read with the Regulation 4 (3):

- (c) an inventory list and safety data sheets of all substances that resulted in the installation being classified as an establishment;
- (d) a statement containing the envisaged maximum quantity of substances that may be present at the establishment at any one time;

Aggregation Rule : multiple MHIs

2% Rule





Major Incident Prevention Policy

Regulation 11

(1) The duty holder must prepare and retain a written major incident prevention policy, as contemplated in **Annexure C**, on the—

- (a) **construction and building** of the establishment;
- (b) **change** in the establishment; or
- (c) **safe operation** of the establishment.- High hazard Establishment

(2) Every duty holder must, **within 36 months** after the entry into force of these Regulations, establish and have in record a major incident prevention policy.





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Major Incident Prevention Policy

Regulation 11

- (3) The major incident prevention policy must provide for a high level of **protection for employees and the public** and **must include at least**—
- (a) the **aims and objectives** of the policy;
 - (b) the **roles and responsibilities** of the establishment's management;
 - (c) process safety **performance indicators**;
 - (d) commitments towards the maintenance and **continual improvement** of the policy;
 - (e) the aims and objectives of the—
 - (i) **emergency** plan;
 - (ii) **evacuation plan** regarding the speedy evacuation of persons roll-call after evacuation; and plant shutdown;
 - (f) **reasons for revision**;
 - (g) **Mandatory agreements**; and
 - (h) The **process safety management system** with principles specified in **Annexure D**.



Major Incident Prevention Policy

Regulation 11

(4) A duty holder must **review** the major incident prevention policy, every **five years** or **when there is a change** in the establishment which renders the existing policy inadequate:

- Provided that an **updated copy is available** for inspection by an inspector and a local government.
- *read with Regulation 4(3) (j) : **MIPP** to be submitted with notifications and renewal applications*



Principles of MIPP

- *must be proportionate to the hazards associated with major incidents present in the establishment*
 - *aims and principles of action with respect to the control of hazards associated with major incidents* High hazard Establishment
 - *aims and principles of action with respect to the control of hazards associated with major incidents*
- 



Major Incident Prevention Policy

Application - Medium and High (annexure C & D)

- formal document established in writing,
- ensures a high level of protection from process hazards,
- that outlines an organization's commitment to preventing major incidents,
- create a structure for identifying, assessing, and managing risks associated with the operations
- Must include resources to implement the PSMS



a mini safety report

GOAL: achieving
plant safety and
ensuring high level
of protection to
human and
environment

Applies : onsite and
offste



PSMS

1. Organisation and personnel
 2. Identification and evaluation of major hazards
 3. Operational control
 4. Management of change
 5. Planning for emergencies
 6. Monitoring performance
 7. Audit and review**Safety Report**
- 

Conclusion

“Malcom Turnbull “

“if we learn from every disaster, whether be - fire or a flood, we can learn something from it so we can respond to the next one better”



THANK YOU



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