Principles of Safe Working Practices

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QCTO: Occupational Health, Safety Quality Practitioner Qualification – NQF Level 5

ISO NET (Pty) Ltd

Learner Guide

Course Content:

Safety practices required for working environments

Introduction
Department of Labour
Chief Directorate of Occupational Health and Safety
Inspections
Powers of inspectors
Prohibition notice
Contravention notice
Improvement notice
Other powers
General duties of employers towards workers
What must the employer do to ensure that the work environment is safe and without risk to the health of his or her workers
All workers have the right to be informed
General duties of manufacturers, designers, importers, sellers or suppliers regarding the use of articles and substances at work
Articles
Manufacturers, designers, importers, sellers and suppliers must ensure that:
Substances
General duties of the worker
Rights of the worker
The right to information
The right to participate in inspections
The right to comment on legislation and make representations
The right not to be victimised
The right to appeal
Duty not to interfere with or misuse objects
Health and safety representatives
What are health and safety representatives?
How many health and safety representatives must be designated?
When must health and safety representatives be designated?
When must health and safety representatives perform their activities?
What may health and safety representatives do?
Health and safety audits
Identify potential dangers
Investigate incidents
Make representations
Inspections
Attend committee meetings
Health and safety committees
What is the purpose of health and safety committees?
When must health and safety committees be established?
How many members does a health and safety committee comprise?
How often do health and safety representatives meet?
Who determines the procedure at the meeting?
May health and safety committees consult experts for advice?

What do health and safety committees do?
Make recommendations
Discuss incidents
Recordkeeping
Other functions
Deductions
Report to the Chief Inspector regarding occupational diseases
Cooperation with the inspector
Answering questions
Investigations
Prosecutions
Assistance from an inspector
Have a look at the following table, it provides a summary of the current OHS Act regulations.

INTRODUCTION to HEALTH and SAFETY

The impact of accidents
Accident statistics
Prevention is better than cure
Reasons for preventing accidents
The Occupational Health and Safety Act
Purpose of the OHS Act
structure of the OHS Act
Sections
Regulations
The Inspector
Responsibilities of the employer
Health and Safety Policy
Line of responsibility
Roles and Responsibilities
Vice-Chancellor
Senior Management
Managers and Heads of Department
Responsibilities of the employee
Liability
Criminal liability
Civil liability
Vicarious liability

HEALTH and SAFETY REPRESENTATIVES

Value of health and safety reps
Health and safety rep appointment
Health and safety rep functions
The OHS Act states that health and safety reps may also be responsible for:
Quarterly health and safety inspections
Reasons for regular health and safety inspections
Procedure for health and safety inspections
Health and safety checklists
Health and safety meetings

HEALTH and SAFETY COMMITTEES

Campus-wide crisis
Hazardous substances
Gas and vessels under pressure
Signage
Electrical machinery
Ladders
Smoking in the workplace
Wellness
Management control
Best practice in safety, health and environment
Risk management
Proactive monitoring
HEALTH and SAFETY INFORMATION and RESOURCE
Terms and definitions
Emergency preparedness and response relevant to work areas

Safety practices required for working environments

Health and Safety in the Workplace

Information provided by the Department of Labour

This guide was written in the interest of the health and safety of workers in South Africa. It is not intended as a substitute for the Occupational Health and Safety Act, 1993. It is intended to explain the Act in simple, non-legal terms to all the role players in the South African occupational health and safety field.

To this end the role of the occupational health and safety (OHS) inspectors of the Department of Labour is explained. The duties and rights of workers, as extended to them in the Act, are set out. The roles and responsibilities of employers, manufacturers, designers, importers, suppliers and sellers, in ensuring the health and safety of workers are highlighted.

And finally, the functions of health and safety representatives and committees are clarified.

Introduction

The Occupational Health and Safety Act, 1993, requires the employer to bring about and maintain, as far as reasonably practicable, a work environment that is safe and without risk to the health of the workers.

This means that **the employer must ensure that the workplace is free of hazardous substances, such as benzene, chlorine and micro organisms, articles, equipment, processes, etc. that may cause injury, damage or disease. Where this is not possible, the employer must inform workers of these dangers, how they may be prevented, and how to work safely, and provide other protective measures for a safe workplace**.

However, it is not expected of the employer to take sole responsibility for health and safety. The Act is based on the principle that dangers in the workplace must be addressed by communication and cooperation between the workers and the employer.

The workers and the employer must share the responsibility for health and safety in the workplace. Both parties must pro-actively identify dangers and develop control measures to make the workplace safe.

In this way, the employer and the workers are involved in a system where health and safety representatives may inspect the workplace regularly and then report to a health and safety committee, who in turn may submit recommendations to the employer.

To ensure that this system works, every worker must know his or her rights and duties as contained in the Act

The Act and Regulations The Act, known as the Occupational Health and Safety Act of 1993 (Act 85 of 1993) consists of 50 sections promulgated by Parliament.

The purpose of the Act is to provide for the health and safety of persons at work or in connection with the use of plant and machinery. It further provides for the protection of

persons other than persons at work from hazards arising out of or in connection with the activities of persons at work.

Various regulations, on specific topics, are incorporated into the Act from time to time by the Minister of Labour. The Act or Regulations can be purchased from the Government Printer in Gazette form or bound form from various publishers

Department of Labour

Chief Directorate of Occupational Health and Safety

The Occupational Health and Safety Act is administered by the Chief Directorate of Occupational Health and Safety of the Department of Labour. In order to ensure the health and safety of workers, provincial offices have been established in all the provinces. To this end, occupational health and safety inspectors from these provincial offices carry out inspections and investigations at workplaces.

Inspections

Inspections are usually planned on the basis of accident statistics, the presence of hazardous substances, such as the use of benzene in laundries, or the use of dangerous machinery in the workplace. Unplanned inspections, on the other hand, usually arise from requests or complaints by workers, employers, or members of the public. These complaints or requests are treated confidentially.

Powers of inspectors

If an inspector finds dangerous or adverse conditions at the workplace, he or she may set requirements to the employer in the following ways:

Prohibition notice

In the case of threatening danger, an inspector may prohibit a particular action, process, or the use of a machine or equipment, by means of a prohibition notice. No person may disregard the contents of such a notice and compliance must take place with immediate effect.

Contravention notice

If a provision of a regulation is contravened, the inspector may serve a contravention notice on the workers or the employer. A contravention of the Act can result in immediate prosecution, but in the case of a contravention of a regulation, the employer may be given the opportunity to correct the contravention within a time limit specified in the notice which is usually 60 days.

Improvement notice

Where the health and safety measures which the employer has instituted, do not satisfactorily protect the health and safety of the workers, the inspector may require the employer to bring about more effective measures. An improvement notice which prescribes the corrective measures is then served on the employer.

Other powers

To enable the inspector to carry out his or her duties, he or she may enter any workplace or premises where machinery or hazardous substances are being used and question or serve a summons on persons to appear before him or her.

The inspector may request that any documents be submitted to him or her, investigate and make copies of the documents, and demand an explanation about any entries in such documents. The inspector may also inspect any condition or article and take samples of it, and seize any article that may serve as evidence.

Note: The above mentioned powers of inspectors are not absolute. Any person who disagrees with any decision taken by an inspector, may appeal against that decision by writing to the Chief Inspector, Occupational Health and Safety, Department of Labour, Private Bag X117, Pretoria, 0001.

General duties of employers towards workers

What must the employer do to ensure that the work environment is safe and without risk to the health of his or her workers?

The employer must provide and maintain all the equipment that is necessary to do the work, and all the systems according to which work must be done, in a condition that will not affect the health and safety of workers.

Before personal protective equipment may be used, the employer must first try to remove or reduce any danger to the health and safety of his workers.

Only when this is not practicable, should personal protective equipment be used.

The employer must take measures to protect his or her workers' health and safety against hazards that may result from the production, processing, use, handling, storage or transportation of articles or substances, in other words, anything that workers may come into contact with at work.

To ensure that these duties are complied with, the employer must:

- identify potential hazards which may be present while work is being done, something is being produced, processed, used, stored or transported, and any equipment is being used
- establish the precautionary measures that are necessary to protect his or her workers against the identified hazards and provide the means to implement these precautionary measures
- provide the necessary information, instctions, training and supervision while keeping the extent of workers' competence in mind. In other words, what they may do and may not do
- not permit anyone to carry on with any task unless the necessary precautionary measures have been taken
- take steps to ensure that every person under his or her control complies with the requirements of the Act
- enforce the necessary control measures in the interest of health and safety
- see to it that the work being done and the equipment used, is under the general supervision of a worker who has been trained to understand the hazards associated with the work

- such a worker must ensure that the precautionary measures are implemented and maintained.

All workers have the right to be informed

The employer must see to it that every worker is informed and clearly understands the health and safety hazards of any work being done, anything being produced, processed, used, stored, handled or transported, and any equipment or machinery being used. The employer must then provide information about precautionary measures against these hazards.

The employer must inform health and safety representatives when an inspector notifies him or her of inspections and investigations, to be conducted at the premises. The employer must also inform health and safety representatives of any application for exemption made, or of any exemption granted to him or her in terms of the Act.

Exemption means being exempted from certain provisions of the Act, regulations, notices or instructions issued under the Act.

The employer must, as soon as possible, inform the health and safety representatives of the occurrence of an incident in the workplace. An incident is an event that occurs at the workplace where a person is killed, injured or becomes ill.

It is also the spillage of a hazardous chemical substance, for example, when a tank leaks formaldehyde (a chemical product used in industry) due to a faulty valve, or where machinery out of control, without killing or injuring anyone.

General duties of manufacturers, designers, importers, sellers or suppliers regarding the use of articles and substances at work

Articles

Manufacturers, designers, importers, sellers and suppliers must ensure that:

- their articles are safe and without risk to health and comply with all prescribed requirements
- when a structure or an article is installed on any premises, it must be done in such a way that neither an unsafe situation not a health risk is created.

Substances

Manufacturers, designers, importers, sellers and suppliers of any substances must ensure that:

- such substances are safe and without risk to health when it is used properly
- information is available on the –
- use of the substance at work
- health and safety risk associated with the substance
- conditions that are necessary to ensure that the substance will be safe and without risk to health when properly used
- procedures in case of an accident.

If a person to whom an article or substance has been sold or supplied, undertakes in writing to take specified steps to ensure that the article or substance will meet all the prescribed requirements, and will be safe and without risk to health, the duties of the importer, designer, seller, supplier or manufacturer will subsequently shift to the person who undertakes to take such steps.

General duties of the worker

It is the duty of the worker to:

- take care of his or her own health and safety, as well as that of other persons who may be affected by his or her actions or negligence to act. This includes playing at work. Many people have been injured and even killed owing to horseplay in the workplace, and that is considered a serious contravention
- where the Act imposes a duty or requirements on the worker to cooperate with the employer
- give information to an inspector from the Department of Labour if he or she should require it
- carry out any lawful instruction action which the employer or authorised person prescribes with regard to health and safety
- comply with the rules and procedures that the employer gives him/her
- wear the prescribed safety clothing or use the prescribed safety equipment where it is required
- report unsafe or unhealthy conditions to the employer or health and safety representative as soon as possible
- if he or she is involved in an incident that may influence his or her health or cause an injury, report that incident to the employer, and authorised person or the health and safety representative as soon as possible, but no later than by the end of the shift.

Rights of the worker

The Occupational Health and Safety Act has extended workers' rights to include the following:

The right to information

The worker must have access to –

- the Occupational Health and Safety Act and regulations
- health and safety rules and procedures of the workplace
- health and safety standards which the employer must keep at the workplace.

The worker may request the employer to inform him or her about –

- health and safety hazards in the workplace
- the precautionary measures which must be taken

- the procedures that must be followed if a worker is exposed to substances hazardous to health.

The worker may request that his or her private medical practitioner investigate his or her medical and exposure records. If the worker is a health and safety representative, he or she may investigate and comment in writing on exposure assessments and monitoring reports.

The right to participate in inspections

If the worker is a health and safety representative, he or she may accompany a health and safety inspector from the Department of Labour during an inspection of the workplace and answer any questions the inspector may ask.

The right to comment on legislation and make representations

The worker may comment or make representations on any regulation or safety standard published under the Occupational Health and Safety Act

The right not to be victimised

An employer may not dismiss a worker from his service, reduce a worker's salary or reduce a worker's service conditions because –

- the worker supplied information, which is required of him or her in terms of the Act, to someone who is charged with the administration of the Occupational Health and Safety Act
- the worker complied with a lawful notice, (e.g. a prohibition, contravention notice, etc.)
- the worker did something which in terms of the Act should have been done
- the worker did not do something which in terms of the Act is prohibited
- the worker has given evidence before the Industrial Court or a court of law on matters regarding health and safety.

The right to appeal

The worker may appeal against the decision of an inspector. Appeals must be referred in writing to the Chief Inspector, Occupational Health and Safety, Department of Labour, Private Bag X117, Pretoria, 0001.

Duty not to interfere with or misuse objects

No-one may interfere with or misuse any object that has been provided in the interest of health and safety. A person may, for example, not remove a safety guard from a machine and use the machine or allow anybody else to use it without such a guard.

Health and safety representatives

What are health and safety representatives?

They are full-time workers nominated or elected and designated in writing by the employer after the employer and workers consulted one another and reached an agreement about who will be health and safety representatives.

Further they must at least be familiar with the circumstances and conditions at that part of the workplace for which they are designated. Agreement must also be reached on the period of office and functions of the health and safety representative and must be settled amongst the employer and the workers.

How many health and safety representatives must be designated?

A representative must be designated for every workplace consisting of 20 or more workers. Therefore, where only 19 workers are employed, it is not necessary to designate a representative. In the case of shops and offices, one representative must be designated for every 100 workers or part thereof.

For example, one representative must be designated in the case of 21 to 100 workers. But two representatives must be designated where 101 to 200 workers are employed, etc.

In the case of other workplaces, one representative must be designated for every 50 workers or part thereof. For example, one representative must be designated in the case of 21 to 50 workers. But two representatives must be designated where 51 to 100 workers are employed.

Depending on circumstances, an inspector may require the designation of more representatives, even in the case where the number of workers is less than 20. For example, the layout of a plant may be of such a nature that the designation of only one representative for 50 workers is insufficient.

The inspector may then require the designation of more representatives. However, if the employer and workers so agree, more than the prescribed number of representatives may be designated.

When must health and safety representatives be designated?

Within four months after the commencement of the employer's business. An employer with more than 20 workers, whose business is operative for less than four months, does not have to designate representatives.

In the case where, for example, seasonal workers are employed on farms, causing the number of workers to exceed 20 for a period less than four months, the designation of representatives is also not necessary.

When must health and safety representatives perform their activities?

All activities regarding the designation, function and training of representatives must be performed during normal working hours.

What may health and safety representatives do?

Health and safety representatives are entitled to do the following:

Health and safety audits

Representatives may check the effectiveness of health and safety measures by means of health and safety audits.

Identify potential dangers

Representatives may identify potential dangers in the workplace and report them to the health and safety committee or the employer.

Investigate incidents

Representatives may together with the employer investigate incidents, investigate complaints from workers regarding health and safety matters, and report about it in writing.

Make representations

Representatives may make representations regarding the safety of the workplace to the employer or the health and safety committee or, where the representations are unsuccessful, to an inspector.

Inspections

As far as inspections are concerned, representatives may –

- inspect the workplace after notifying the employer of the inspection
- participate in discussions with inspectors at the workplace and accompany inspectors on inspections
- inspect documents
- with the consent of his/her employer, be accompanied by a technical advisor during an inspection.

Attend committee meetings

Representatives may attend health and safety committee meetings.

Health and safety committees

What is the purpose of health and safety committees?

Members meet in order to initiate, promote, maintain and review measures of ensuring the health and safety of workers.

When must health and safety committees be established?

At least one committee must be established when two or more representatives are designated.

How many members does a health and safety committee comprise?

The employer determines the number of committee members, based on the following:

- if only one committee has been established for a workplace, all the representatives must be members of that committee
- if two or more committees have been established for a workplace, each representative must be a member of at least one of those committees.

Therefore, every representative must be a member of a committee. The employer may also nominate other persons to represent him or her on a committee but such nominees may not be more than the number of representatives designated on that committee.

If, however, an inspector is of the opinion that the number of committees in a workplace is inadequate, he or she may determine the establishment of additional committees.

How often do health and safety representatives meet?

They meet whenever it is necessary, but at least once every three months. The committee determines the time and place. However, if 10% or more of the workers put a request for a meeting to the inspector, the inspector may order that such a meeting be held at a time and place which he or she determines.

Who determines the procedure at the meeting?

The members of the committee elect the chairperson and determine his or her period of office, meeting procedures, etc.

May health and safety committees consult experts for advice?

Yes, committees may co-opt persons as advisory members for their knowledge and expertise on health and safety matters. However, an advisory member does not have the right to vote.

What do health and safety committees do?

The committees only deal with health and safety matters at the workplace or sections thereof for which such committees have been established. Generally, health and safety committees have the following functions:

Make recommendations

A committee must make recommendations to the employer about the health and safety of workers. Where these recommendations do not lead to solving the matter, the committee may make recommendations to an inspector.

Discuss incidents

A committee must discuss any incident that leads to the injury, illness, or death of any worker and may report about it in writing to the inspector.

Recordkeeping

A committee must keep record of every recommendation to the employer and every report to an inspector.

Other functions

Committee members must perform any other functions required of them by regulation.

Deductions

An employer may not make any deduction from a worker's remuneration with regard to anything he or she is required to do in the interest of health and safety in terms of the Act.

Report to the Chief Inspector regarding occupational diseases

If a medical practitioner examines or treats someone for a disease that he or she suspects arose from that worker's employment, the medical practitioner must report the case to the worker's employer and to the Chief Inspector.

Cooperation with the inspector

Compliance with directions, subpoenas, requests or commands

Employers and workers must comply with the directions, subpoenas, requests or orders of inspectors. In addition, no one may prevent anyone else from complying.

Answering questions

The inspector's questions should be answered, but no-one is obliged to answer a question by which he or she might incriminate him or herself. To incriminate oneself means that one is suggesting that one is responsible for a contravention.

Investigations

When the inspector so requires, he or she must be provided with the necessary means and be given the assistance he or she may need to hold an investigation. The inspector may also request that investigations be attended. No one may insult the inspector or deliberately interrupt the investigation.

Prosecutions

When the worker does something which in terms of the Occupational Health and Safety Act is regarded as an offence, the employer is responsible for that offence, and he or she could be found guilty and sentenced for it, unless the employer can prove that:

- he or she did not give his or her consent
- he or she took all reasonable steps to prevent it
- the worker did not act within the scope of his or her competence, in other words, that the worker did something which he or she knew he or she should not have done.

The foregoing also applies to a mandatory of an employer, for example, a subcontractor, unless the parties agree beforehand in writing on how the mandatory will comply with the provisions of the Act.

Assistance from an inspector

Inspectors may be contacted at the following provincial offices of the Department of Labour:

Northern Province

Provincial Director Department of Labour Private Bag X9368 PIETERSBURG 0700	Tel: (015) 290 1744 Fax: (015) 290 1670

Mpumalanga

Provincial Director Department of Labour Private Bag X7263 WITBANK 1035	Tel: (013) 655 8700 Fax: (013) 690 2622

Gauteng North

Provincial Director Department of Labour PO Box 393 PRETORIA 0001	Tel: (012) 309 5000 Fax: (012) 323 5449

Gauteng South

Provincial Director Department of Labour PO Box 4560 JOHANNESBURG 2000	Tel: (011) 497 3000 Fax: (011) 834 1081

Free State

Provincial Director Department of Labour PO Box 522 BLOEMFONTEIN 9300	Tel: (051) 505 6200 Fax: (051) 447 9353

North West

Provincial Director Department of Labour Private Bag X2040 MMABATHO 2735	Tel: (018) 384 2033 Fax: (018) 384 2745

KwaZulu-Natal

Provincial Director Department of Labour PO Box 940 DURBAN 4000	Tel: (031) 336 1500 Fax: (031) 307 6882

Northern Cape

Provincial Director Department of Labour Private Bag X5012 KIMBERLEY 8300	Tel: (053) 838 1500 Fax: (053) 832 4798

Eastern Cape

Provincial Director Department of Labour Private Bag X9005 EAST LONDON 5200	Tel: (043) 701 3000 Fax: (043) 43 9719

Western Cape

Provincial Director Department of Labour PO Box 872 CAPE TOWN 8000	Tel: (021) 460 5911 Fax: (021) 465 7318

Head Office address of the Chief Directorate of Occupational Health and Safety

Department of Labour Private Bag X117 Pretoria 0001	Tel: (012) 309 4774 Fax: (012) 309 4382

Have a look at the following table, it provides a summary of the current OHS Act regulations.

Health related regulations	Scope of application	Regulations
Asbestos Regulations, 2001	These Regulations shall apply to every employer and self-employed person who carries out work at a workplace that may expose any	3. Notification of asbestos work 4. Exposure to asbestos 5. Information and training 6. Duties of persons who may be exposed 7. Assessment of potential exposure

	person to asbestos dust at that workplace	8. Air monitoring 9. Medical surveillance 10. Respirator zone 11. Control of exposure to asbestos 12. Cleanliness of premises and plant 13. Control of exposure to asbestos of persons other than employees 14. Asbestos that forms part of structure of workplace, building, plant or premises 15. Asbestos cement sheeting and related products 16. Records 17. Personal protective equipment and facilities 18. Maintenance of control measures 19. Labelling, packaging, transportation and storage 20. Disposal of asbestos 21. Demolition 22. Prohibition
Hazardous Biological Agent Regulations, 2001	These regulations shall apply to every employer and self-employed person at a workplace where: a) HBA is deliberately produced, processed, used, handled, stored or transported; or b) an incident, for which an indicative list is given in Annexure A to this Regulation occurs that does not involve a deliberate intention to work with a HBA but may result in persons being exposed to HBA in the performance of his or her work.	3. Classification of biological agents 4. Information and training 5. Duties of persons who might be exposed to HBA 6. Risk assessment by employer or self-employed person 7. Monitoring exposure at workplace 8. Medical surveillance 9. Records 10. Control of exposure to HBA 11. Personal protective equipment and facilities 12. Maintenance of control measures, equipment and facilities 13. Prohibitions 14. Labelling, packaging, transporting and storage 15. Special measures for health and veterinary isolation facilities 16. Special measures for laboratories, animal rooms and industrial processes 17. Disposal of HBA
Hazardous Chemical Substances Regulations, 1995	These regulations shall apply to an employer or a self-employed person who carries out work at a workplace which may expose any person to the intake of an HCS at the workplace.	3. Information and training 4. Duties of persons who may be exposed to hazardous chemical substances 5. Assessment of potential exposure 6. Air monitoring 7. Medical surveillance 8. Respirator zone

		9. Records 9A. Handling of hazardous chemical substances 10. Control of exposure to HCS 11. Personal protective equipment and facilities 12. Maintenance of control measures 13. Prohibitions 14. Labeling, packaging, transportation and storage 15. Disposal of hazardous chemical substances
Lead Regulations, 2001	These regulations shall apply to every employer and self- employed person at a workplace where lead is produced, processed, used, handled or stored in a form in which it can be inhaled, ingested or absorbed by any person in that workplace.	3. Exposure to airborne lead 4. Information and training 5. Duties of persons who may be exposed 6. Assessment of potential exposure 7. Air monitoring 8. Medical surveillance 9. Respirator zone 10. Records 11. Control of exposure to lead 12. Personal protective equipment and facilities 13. Cleanliness of premises and plant 14. Maintenance of control measures 15. Prohibitions 16. Labeling, packaging, transportation and storage 17. Disposal of lead waste
Noise Induced Hearing Loss Regulations, 2003	These regulations shall apply to an employer or self-employed person who, at any workplace under his or her control, carries out work that may expose any person at that workplace to noise at or above the noise-rating limit.	3. Exposure to noise 4. Information and training 5. Duties of persons who may be exposed to noise 6. Assessment of potential noise exposure 7. Noise monitoring 8. Medical surveillance 9. Noise zone 10. Control of noise exposure 11. Record 12. Hearing protective equipment 13. Maintenance of control measures
General regulations	**Scope of application**	**Regulations**
Environmental Regulations for	These regulations in general refers to the physical conditions of the work environment	2. Thermal requirements 3. Lighting 4. Windows 5. Ventilation

Workplaces, 1987		6. Housekeeping 8. Precautions against flooding 9. Fire precautions and means of egress
Facilities Regulations, 1990	These regulations in general refers to sanitary facilities, toilets, bathrooms, showers, dining facilities, drinking water, certain prohibitions as well as the conditions of these facilities that forms part of the work environment	2. Sanitation 3. Facilities for safekeeping 4. Change-rooms 5. Dining-rooms 6. Prohibition 7. Drinking water 8. Seats 9. Condition of room and facilities
General Administrative Regulations, 2003	These regulations in general refers to sanitary facilities, toilets, bathrooms, showers, dining facilities, drinking water, certain prohibitions as well as the conditions of these facilities that forms part of the work environment	2. Access to premises 3. Exemption 4. Copy of the Act 5. Health and safety committee 6. Negotiations and consultations before designation of health and safety representatives 7. Designation of health and safety representatives 9. Recording and investigation of incidents 10. Witness at inquiry 11. Returns
General Safety Regulations, 1986	These regulations refers to general health and safety matters or requirements set for the work environment	2. Personal protective equipment and facilities 2A. Intoxication 2B. Display of substituted notices and signs 2C. Admittance of persons 3. First aid, emergency equipment, and procedures 4. Use and storage of flammable liquids 5. Work in confined spaces 6. Work in elevated positions 7. Working in danger of engulfment 8. Stacking of articles 9. Welding, flame cutting, soldering and similar operations 10. Operating trains 13A. Ladders 13B. Ramps
Electrical regulations	**Scope of application**	**Regulations**

Electrical Installation Regulations, 2009	These Regulations shall apply to every user or lesser of an electrical installation as well as Approved inspection authorities.	2. Responsibility for electrical installations 3. Approved inspection authorities for electrical installations 4. Functions of approved inspection authorities for electrical installations 5. Design and construct action 6. Electrical contractor 7. Certificate of compliance 8. Commencement and permission to connect installation work 9. Issuing of certificate of compliance 10. Disputes 11. Application for registration as a registered person 12. Withdrawal of registration and approval 13. Substitution of lost, damaged or destroyed certificate 14. Fees payable
Electrical Machinery Regulations, 1988	These Regulations shall apply to every employer, employee and self-employed person who carries out work whilst using electrical machinery at a workplace.	2. Safety equipment 3. Work on disconnected electrical machinery 4. Notices 5. Switch and transformer premises 6. Electrical control gear 7. Switchboards 8. Electrical machinery in hazardous locations 9. Portable electric tools 10. Portable electric lights 11. Electric fences 12. Inspection Authorities 13. Earthing 14. Supports 15. Clearances of power lines 16. Protective Supports 17. Insulators and Fittings 18. Conductors 19. Overhead service connections and overhead service conductors 20. Crossings 21. Bare conductors on premises 22. Schemes to be submitted to the Postmaster General
Machinery regulations	**Scope of application**	**Regulations**
Driven Machinery	These Regulations shall apply to every	2. Scope of Application 3.Revolving Machinery

Regulations, 2015	employer, employee and self-employed person who carries out work whilst using driven machinery at a workplace	4. Circular Saws 5. Band Saws and Band Knives 6. Wood Planning Machines 7. Wood Moulding and Mortising Machines 8. Sanding Machines 9. Grinding Machines 10. Shears, Guillotines, Presses 11. Slitting Machines 12. Mixing, Agitating and Similar Machines 13. Rolls and Calendars 14. Washing Machines, Centrifugal Extractors, Etc 15. Air Compressors 16. Refrigeration and Air Conditioning Installations 17. Transportation Plants 18. Lifting machines, hand powered lifting devices and lifting tackle 19. Approval and registration of lifting machinery entity 20. Approval and registration of training providers
General Machinery Regulations, 1988	These Regulations shall apply to every employer, employee and self-employed person who carries out work whilst using machinery at a workplace.	2. Supervision of machinery 3. Safeguarding of machinery 4. Operation of machinery 5. Working on moving or electrically alive machinery 6. Devices to start and stop machinery 7. Reporting of incidents in connection with machinery 8. Notifiable substances 9. Information regarding regulations
Lift, Escalator and Passenger Conveyor Regulations, 1994	These Regulations shall apply to every employer and self-employed who installs, uses and have lifts, escalators and passenger conveyors in their workplace.	2. Permission to install and use 3. Design and Construction action 4. Particulars of lifts, escalators or passenger conveyors 5. Inspections and Tests 6. Maintenance 7. Record keeping
Pressure Equipment Regulations, 2009	These regulations shall apply to the design, manufacture, operation, repair, modification, maintenance, inspection and testing of pressure equipment	3. General Requirements 4. Duties of manufactures 5. Duties of importers and sellers 6. Duties of users 7. Approved and duties of approved inspections authorities. 8. Registration of steam generator 9. Pressure equipment marking

	with a design pressure equal to or greater than 50 kPa, in terms of the relevant health and safety standard incorporated into these Regulations.	10. Pressure safety accessories 11. Inspection and test 12. Risk based inspection 13. Repairs and modifications 14. Records 15. Access 16. Door interlocks 17. Gas reticulation equipment and systems 18. Transportable gas containers 19. Fire extinguishers
Specific regulations	**Scope of application**	**Regulations**
Regulations concerning the Certificate of Competency, 1990	Certificate of Competency: A certificate of competency as a mechanical or electrical engineer. Certificate will be issued by Chief Inspector with the recommendations of the Commission of Examiners	2. Issue of Certificates 3. Suspension or cancellation of Certificates 4. Substitution of lost, damaged or destroyed Certificates 5. Commission of Examiners 6. Qualifying examination 7. Acceptance as candidate
Construction Regulations, 2014	These regulations apply to all persons involved in construction action work. Regulations 3 and 5 are not applicable where the construction work carried out is in relation to a single storey dwelling for a client who intends to reside in such dwelling upon completion thereof.	3. Application for Construction Work Permit 4. Application for a permit to perform construction work. 5. Duties of client 6. Duties of Designer 7. Duties of Principal Contractor and Contractor 8. Management and Supervision of Construction Work 9. Risk Assessment for Construction Work 10. Fall Protection 11. structures 12. Temporary works 13. Excavation 14. Demolition work 15. Tunneling 16. Scaffolding 17. Suspended platforms 18. Rope Access Work 19. Material hoists 20. Bulk mixing plant 21. Explosive Actuated Fastening Device 22. Cranes

		23. Construction vehicles and mobile plant 24. Electrical installations and machinery on construction The sites 25. Use and temporary storage of flammable liquids on construction sites 26. Water environments 27. Housekeeping and general safeguarding on construction sites 28. Stacking and storage on construction sites 29. Fire precautions on construction sites 30. Construction employees' facilities 31. Construction health and safety technical committees 32. Approved Inspection Authorities
Diving Regulations, 2001	These regulations basically shall apply to all diving operations and all persons engaged in diving operations in the Republic of South Africa or the territorial waters thereof.	3. Training of divers 4. Designated medical practitioners, medical examinations and medical certificates of fitness 5. Diving supervisor 6. Operations manual 7. Control of diving operations 8. Decompression 9. Compression chambers and bells 10. Plant and equipment 11. Council for Diving 12. rules, syllabi and examinations 13. Registration as learner diver 14. Registration as a diver 15. Registration as a diving supervisor 16. Applications 17. Withdrawal of certificate of registration 18. Fees payable
Explosives Regulations, 2003	These regulations shall apply to any employer, self-employed person or user who operates an explosives workplace for the purpose of manufacturing, testing, storing or using explosives.	3. Classification of explosives for manufacturing 4. Licensing of explosives workplaces 5. Non-detona table and non-sensitised explosives 6. Danger area 7. Danger buildings 8. Safeguarding of explosives workplace 9. Design, Construction and manufacture 10. Importation of explosives 11. Safety distances 12. Supervision of explosives workplace 13. Safe handling of explosives 14. Emergencies 15. Incidents

		16. Closure of explosives workplaces 17. National Explosives Council 18. Approved inspection authorities 19. Standards of training
Major Hazard Installation Regulations, 1993	These regulations shall apply to employers, self employed persons and users, who have on their premises, either permanently or temporarily, a major hazard installation or a quantity of a substance which may pose a risk that could affect the health and safety of employees and the public.	3. Notification of Installation 4. Temporary Installations 5. Risk assessment 6. On-site Emergency Plan 7. Reporting of risk and emergency occurrences 8. General Duties of Suppliers 9. General duties of local government 10. Closure
Regulations on Hazardous Work by Children in SA, 2010	These regulations is there to prohibit or place conditions upon the work that may be required, expected or permitted to be performed by child workers, and which is not prohibited in terms of any law.	3. Risk assessment 4. Respiratory hazards 5. Work in elevated position 6. Lifting of heavy weights 7. Work in cold environment 8. Work in hot environment 9. Work in noisy environment 10. Power tools and cutting or grinding equipment 11. Report to department of social development
Draft Ergonomics Regulations, 2017	These Regulations will focus on a programme approach to manage physical and cognitive ergonomics in the workplace. These regulations shall apply to: (a) an employer or a self-employed person who carries out work at a workplace which may expose any person to physical or cognitive ergonomic risk factors in that workplace; and	3. Information and Training 4. Duties of those who may be at Risk of Exposure to Ergonomic Risk Factors 5. Duties of Designers, Manufacturers and Suppliers 6. Ergonomic Risk Assessment 7. Risk Control 8. Medical Surveillance 9. Maintenance of Controls 10. Record 11. Ergonomics' Health and Safety Technical Committee 12. Offensives and Penalties

	(b) a person, who designs, manufactures, erects, installs or supplies machinery, equipment or articles for use at work	

INTRODUCTION to HEALTH and SAFETY

We have a basic instinct to survive. People develop "common sense" strategies that help them avoid harm. Safety is one of these strategies. Workplace health and safety is important for a number of reasons. Let's start by considering the negative impacts of accidents, and laws that are in place to protect employees.

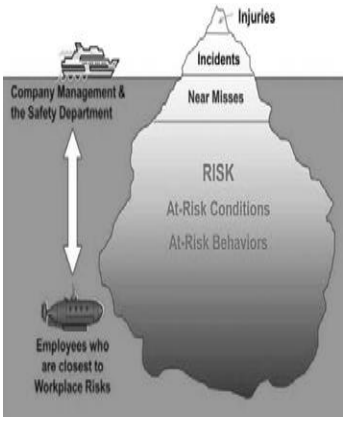
The impact of accidents

Accident statistics

More than 200,000 workplace accidents in South Africa, involving mainly unskilled or semi-skilled workers, are reported to the Compensation Commissioner every year. Not all incidents and accidents are reported, so we cannot be sure of numbers. Various studies have shown that major and serious incidents are the 'tip of the iceberg'.

Over ten times as many reported incidents are near miss cases, which reflect poor management control. Every near miss had the potential to be a *serious* accident – it is an early warning. Accidents usually have multiple causes and contributing factors.

The costs of incidents and accidents also look like an iceberg: some costs can be recovered (the small tip), but many other costs are hidden below the surface, and have far-reaching consequences. This is why we want to prevent accidents and incidents. Refer to Part 1.1.3 below.



Source: Doug Handy (2014) *Traditional Safety or Behaviour-Based Safety*

Prevention is better than cure

Good safety management is based on the *prevention* of accidents, according to a research report in the *Journal of Safety Research*. Preventing accidents means that we prevent injury and suffering, prevent damage to infrastructure and equipment, and avoid unnecessary costs to ourselves and our employer.

Reasons for preventing accidents

There are moral, social, financial, and legal reasons for preventing accidents.

I. Moral: It is morally right to protect employees and other persons in the workplace from any form of harm or suffering. The employer has a moral duty to show concern for responsibility also informs a '*duty of care*' in common law.)

II. Social: It is important to prevent injuries and disease because of the negative impact these have on society. Consider the potential social impacts, for example:

- Health and wellbeing
- Support for families and Productivity loved ones;
- Contributions to NGOs and worthy causes.
- Standard of living;

III. Financial: Injuries, diseases and damage to property have financial impacts, many of which are 'hidden', and not covered by insurance. Also note that as the number of accidents increase, so insurance premiums increase. Consider the costs, for example:

a. Dealing with injury – first aid, phone calls, transport, admin reports, etc;
b. Time lost while injured employee is off work;
c. Disputations to work schedule;
d. Repairing or replacing damaged equipment
e. Employing, and training, temporary or replacement staff
f. Time spent conducting investigations;
g. Legal costs
h. Reputational damage

IV. Legal: The employer has a duty to comply with the Occupational Health and Safety Act, and do everything *reasonably practicable* to prevent harm to employees and other persons. A '*duty of care*' is a legally enforced moral duty that requires the employer to anticipate possible causes of injury and illness, and do everything reasonably practicable to remove or minimise these possible causes of harm. Refer to Part 1.2 below.

The Occupational Health and Safety Act

Health and safety in the workplace is guided primarily by the Occupational Health and Safety Act

(85 of 1993). We call it the OHS Act.

Purpose of the OHS Act

"To provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith."

Structure of the OHS Act

The OHS Act consists of 50 sections – which apply to all workplaces – and 20 regulations. The OHS Act is available online, and a copy (of sections 1 to 50) is printed and distributed to all health and safety reps At .

Sections

1. Definitions 2. Establishment of Advisory Council for Occupational Health and Safety 3. Functions of Council 4. Constitution of Council 5. Period of Office and remuneration of members of Council 6. Establishment of Technical Committees of Council 7. Health and Safety Policy 8. General duties of employers to their employees	15. Duty not to interfere with, damage or misuse things 16. Chief Executive Officer charged with certain duties 17. Health and Safety Representatives 18. Functions of Health and Safety Representatives 19. Health and Safety Committees 20. Functions of Health and Safety Committees 21. General Prohibitions 22. Sale of certain articles prohibited	33. Joint enquiries 34. Obstruction of investigation or inquiry or presiding Inspector or failure to render ass 35. Appeal against decision of Inspector 36. Disclosure of information 37. Acts or omissions by employees or mandataries 38. Offences, penalties and special orders of court 39. Proof of certain facts 40. Exemptions 41. This Act not affected by

9. General duties of employers and	23. Certain deductions prohibited	agreements
self-employed persons to	24. Report to inspectors regarding	42. Delegation and assignment of
persons other than their	certain incidents	functions
employ	25. Report to Chief Inspector	43. Regulations
10. General duties of	regarding occupational disease	44. Incorporation of health and
manufacturers and others	26. Victimization forbidden	safety standards in regulations
regarding articles and substances for use at 11. Listed work	27. Designation and functions of Chief Inspector 28. Designation of Inspectors by	45. Serving of notices 46. Jurisdiction of Magistrate's Courts
12. General duties of employers regarding listed work 13. Duty to inform	Minister 29. Functions of Inspectors 30. Special powers of Inspectors	47. State bound 48. Conflict of Provisions 49. Repeal of Laws
14. General duties of employees at work	31. Investigations 32. Formal enquiries	50. Short title & commencement

Regulations

The regulations in the OHS Act are identified by their titles (*not* by numbers). Most of these regulations apply to (marked with an asterisk * below). All the regulations are available online.

* Asbestos Regulations, 2001

* Certificate of Competency Regulations, 1990 [*e.g. engineering workshop*]

* Construction Regulations, 2003 [*e.g. if there is any Construction work on campus*]

* Diving Regulations, 2009 [*e.g. deep water research in DIFS*]

* Driven Machinery Regulations, 1988 [*e.g. in workshops, laboratories, laundries*]

* Electrical Installation Regulations, 2009 [*e.g. Electrical section*]

* Electrical Machinery Regulations, 1988 [*most people use portable electrical tools*]

* Environmental Regulations for Workplaces, 1987 [*re lighting, ventilation, noise protection, fire safety & precautions, etc, in our work environment*]

- Explosives Regulations, 2003

* Facilities Regulations, 1990 [*employees require seating, drinking water, sanitary facilities, etc*]

* General Administration Regulations, 2003 [*management's administrative procedures with regard to health and*

safety in the workplace]

* General Machinery Regulations, 1988 [*ensuring safety with regard to driven machinery*]

* General Safety Regulations [*refers to PPE, first aid facilities, use of ladders, limited access to high risk areas, welding equipment, stacking and storage, eviction of intoxicated persons, etc*]

* Hazardous Biological Agents Regulations, 2001 [*e.g. in Microbiology and Zoology*]

* Hazardous Chemical Substances Regulations, 1995 [*e.g. in science laboratories*]

* Health and Safety of Children at Work Regulations [*e.g. students under 18 doing hazardous work – involving power tools, heavy weights, heat, cold, noise, etc*]

* Incorporation of Safety Standards into Electrical Installation Regulations, 2009 [*e.g. Electrical section*]

* Lead Regulations, 2001 [*e.g. in welding or use of lead- based paint is used*]

* Lift, Escalator and Passenger Conveyor Regulations, 1994 [*buildings with lifts*]

* Major Hazard Installation Regulations [*e.g. hazardous chemical stores*]

* National Code of Practice: Evaluation of Training Providers for Lifting Machine Operators [*e.g. maintenance workshops*]

* Noise-induced Hearing Loss Regulations, 2003 [*e.g. noise zones such as workshops and building sites*]

* Pressure Equipment Regulations, 2009 [*e.g. fire extinguishers, diving and gas cylinders, compressors*]

* Regulations for the Integration of the Occupational Health and Safety Act, 1995 [*refers to integration of Labour Laws*]

The Inspector

The Department of Labour (DoL) Inspector may visit the workplace at any time to check if management is complying with the requirements of the OHS Act.

Responsibilities of the employer

As an employer, is obliged to "provide and maintain, *as far as is reasonably practicable*, a working environment that is safe and without risk to the health of his/her employees"

Health and Safety Policy

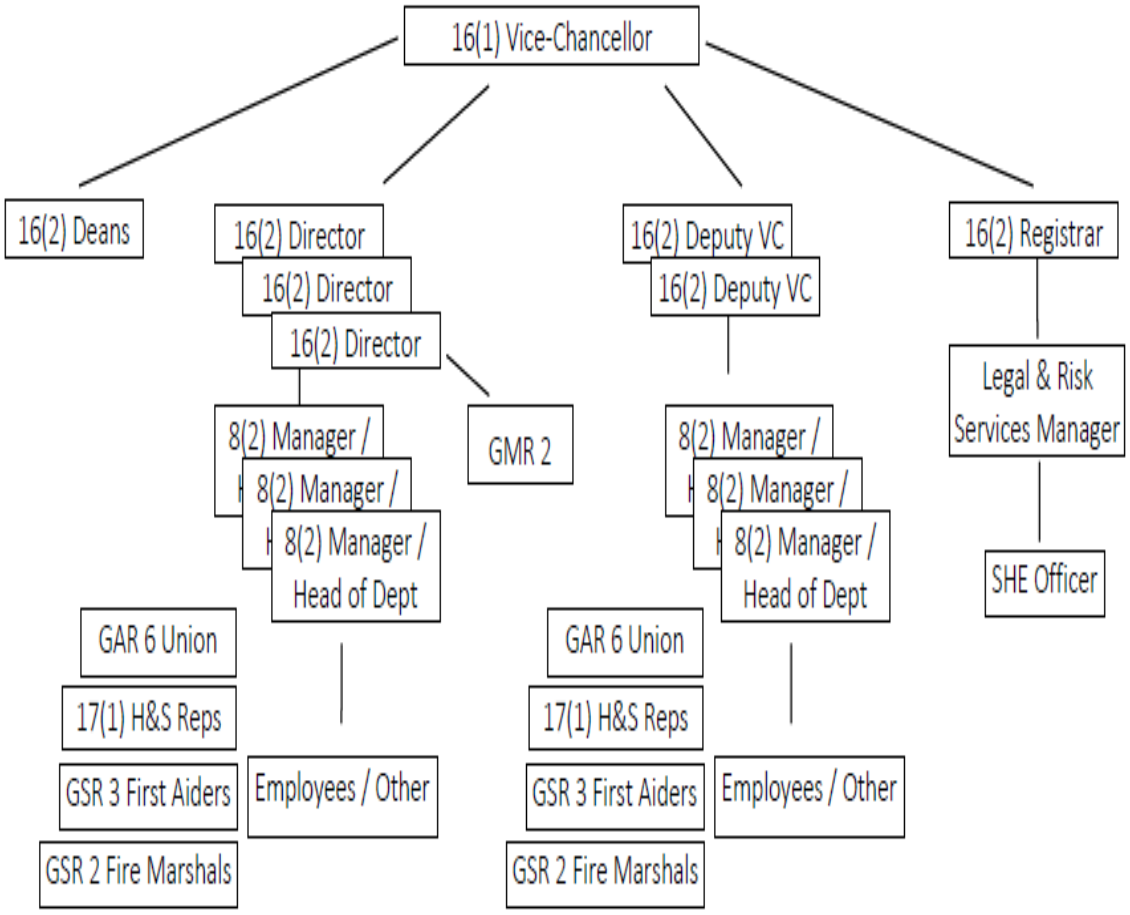
The employer is obliged to have a health and safety policy when directed by the Chief Inspector. By proactively formulating and implementing a health and safety policy, has demonstrated its commitment to promoting health and safety.

’s health and safety policy has the following principles:

- Provide and maintain an environment that is safe and without risk to the health and safety of members of the community;
- Provide facilities and adequate resources to support the University’s efforts to comply with the OHS Act and related regulations;
- Carry out risk management activities to ensure that risks relating to working procedures and practices, and conditions in the work environment, are identified and adequately controlled;
- Develop safety protocols for maintaining systems in connection with the use, handling, storage, transport and disposal of hazardous articles and substances;
- Ensure that all members of the community are provided with safe working procedures and adhere to appropriate health and safety standards;
- Encourage all staff to serve as appropriate role models for students and promote health and safety standards in teaching, learning, research and technical support;
- Monitor the effectiveness of the University’s health and safety provisions in consultation with management and designated Health and Safety Representatives, to ensure continued improvement in terms of eliminating work- related injury and illness;
- Ensure that this Health and Safety Policy is kept current in terms of any changes in legislation.

Line of responsibility

Health and safety must be managed in all areas of campus. For this reason, the OHS Act requires delegation of responsibility at all levels, from the Vice-Chancellor through the various lines of management, including heads of departments, managers, wardens, supervisors, and team leaders.



Roles and Responsibilities

Specific roles and responsibilities, as dictated by the OHS Act, should be clearly defined, in writing. Role-players include:

- Senior management;
- Line management (managers, HODs, supervisors, team leaders, wardens);
- Safety, health & environmental officer;
- Health and safety representatives;
- Health and safety committees;
- Supervisor of machinery - GMR 2 (1);
- Trade union representatives
- Employees;
- Mandataries;
- Students.

Vice-Chancellor

The *Vice-Chancellor* – referred to as the Chief Executive Officer in the OHS Act – is responsible for the overall management and control of Rhodes University. S/he is charged with certain duties in terms of the OHS Act:

- Ensure that the duties of the employer are carried out;
- Assign any duty to any person under his/her control;

- Remains accountable, even though s/he has delegated responsibility

Senior Management

has adopted a model and strategy whereby senior management is individually, collectively, and ultimately responsible for identifying risks and being accountable for managing the risks within their operational areas – including health and safety.

The VC delegates responsibility – *not* accountability – to one or more Section 16(2) appointee(s), as s/he does not have the time or capacity to oversee all health and safety programmes.

In a context, 16(2) appointees are usually Deans and Senior Managers who report directly to the VC – such as DVCs, Directors and Registrars.

Section 16(2) appointees must ensure in their areas of responsibility/accountability that managers and heads of departments (refer to Part 1.3.5) fulfil the duties of the employer.

Managers and Heads of Department

Managers and HODs are responsible for ensuring that day-to-day health and safety management practices are implemented (see also Part 8.2, management control). In terms of the OHS Act, Section 8 (General duties of employers to their employees), this includes:

- Provide and maintain equipment and safe systems of work;
- Identify hazards, assess associated risks, and remove/minimise these;
- Inform employees of any/potential hazards and risks;
- Provide the necessary protective measures and ensure these are used by employees;
- Monitor and enforce health and safety control measures, take corrective action where required;
- Provide training, supervision, information and talks to improve safety awareness;
- Appoint Health and Safety Reps, First Aiders and Fire Marshals;
- Continuous risk assessment, including regular health & safety inspections;
- Incidents/accidents to be reported and investigated;
- Copy of the OHS Act and regulations must be available to employees.

Rhodes University's Machinery Supervisor (GMR 2 Appointee) is responsible for ensuring compliance with the provisions of the OHS Act and its regulations in relation to machinery in the workplace. S/he is also responsible for managing the appointed contractors relating to inspection and servicing of fire extinguishers, pressure vessels under pressure, goods hoists and lifts.

Responsibilities of the employee

Employees do not only have rights, they also have responsibilities. The OHS Act requires the

employee to:

- Take *reasonable care* for the health and safety of him/herself;
- Take *reasonable care* for the health and safety of others who may be affected by his/her acts or omissions;
- Carry out lawful orders;
- Obey health and safety les;
- Follow stipulated safe work procedures;
- Report any incidents/accidents;
- Report any unsafe conditions in the workplace;
- Co-operate with the employer in addressing safety concerns.

Liability

Liability means that you are legally responsible for something. It may be imposed under *civil* law and *criminal* law.

Criminal liability

Criminal law – a type of 'public law' – deals with the relationship between the state and the general population. This means that the state would be involved in a criminal law case against a person who has been negligent or wilfully breaks the law.

Any *employee* found guilty of an offence in terms of the OHS Act shall, on conviction, be liable to a fine not exceeding R50,000 or to imprisonment for a period not exceeding one year, or to both.

An *employer* found guilty of an offence in terms of the OHS Act shall, on conviction, be liable to a fine not exceeding R100,000 or to imprisonment for a period not exceeding two years, or to both.

Civil liability

Civil law – a type of 'private law' – deals with disputes between individuals and/or organisations where a (negligent or intentional) wrongful act harms another. The victim lays a claim in a civil law case and if successful, is awarded compensation.

For example, the victim of a car accident claims damages against the driver for loss or injuries sustained in the accident.

Vicarious liability

Vicarious liability means that the Line Manager can be held responsible for any offence committed by a subordinate employee, according to public law. It will depend on whether the employee was found to be acting in a personal capacity, or in the course of his/her employment.

To avoid vicarious liability, the employer should ensure that *all reasonable steps* have been taken to prevent the employee's acts or omissions.

HEALTH and SAFETY REPRESENTATIVES

The appointment of health and safety reps helps to develop a culture of health and safety in the workplace.

Value of health and safety reps

Health and safety reps support their fellow employees with regard to health and safety concerns in the workplace. They also play a vital role in supporting management, through:

- Bringing health and safety problems to their attention;
- Helping them follow correct health and safety procedures;
- Helping take action to resolve health and safety concerns in the workplace;
- Coordinating feedback from employees regarding how safety concerns are dealt with;
- Introducing new employees to the health and safety system at work.

Health and safety rep appointment

The OHS Act has the following requirements:

- There must be designated Health and Safety Representatives where there are 20 or more employees, or if the inspector (see Part 1.2.3) instcts the employer to do so.
- There must be one H&S rep for every:
- 50 employees, or part thereof, in most workplaces; or
- 100 employees, or part thereof, in the case of offices and shops.
- H&S reps should be full-time employees who are familiar with workplace conditions and activities.
- The employer should provide facilities, assistance and training for the H&S rep to carry out his/her functions – as *reasonably* required and agreed on.
- H&S rep activities must be conducted during ordinary working hours; any time *reasonably* spent on this is deemed to be time spent on duties as an employee.
- The employer must consult with employees and/or trade union regarding the election or nomination of H&S reps, their period of office, how they perform their functions, and circumstances in which they may be removed as H&S reps.

Health and safety rep functions

The OHS Act states that all activities in connection with the designation, functions and training of health and safety reps should take place during ordinary working hours, any time *reasonably* spent doing this should be viewed as time spent on duties as an employee. The main responsibilities of a health and safety rep are to:

Represent fellow employees' interests in terms of workplace health and safety. In summary, this means:

i. Monitor and report on health & safety concerns in the workplace (see 2.3.1):
   - Review effectiveness of health and safety measures;
   - Identify potential hazards and major incidents;

   Examine causes of incidents, in collaboration with the employer;
   Investigate complaints relating to employees' health or safety concerns;
   Do regular health and safety inspections in your designated workplace;
   Inform Line Manager of any health and safety concerns;

and:

Serve on a health & safety committee (see 2.3.2):
   Attend health and safety sub-committee meetings;
   Discuss health and safety concerns that have not been resolved.

The OHS Act states that health and safety reps may also be responsible for:

- Visiting incident sites and attend inspections;
- Attending investigations/formal inquiries;
- Accompanying an inspector during inspections;
- Participating in internal audits;
- Being accompanied by a technical advisor if approved by your employer

Quarterly health and safety inspections

Reasons for regular health and safety inspections

Regular inspections play an important part in overall workplace health and safety, and help prevent accidents and injuries. Inspections enable the H&S rep to:

- Find out about employees' and supervisors' concerns regarding health and safety;
- Gain a better understanding of the workplace;
- Identify existing and potential hazards;
- Discover underlying causes of hazards;
- Monitor measures put in place to control hazards (e.g. work procedures, personal protective equipment, engineering controls, policies);
- Make recommendations to the employer for corrective action.

Procedure for health and safety inspections

- Health and safety reps are required to:
    - Do quarterly health and safety inspections (one per term) in their designated area and complete the report (see checklists below);
    - Make sure Line Manager reads and counter-signs inspection report, and supports actions required;
    - Keep original and send a copy to the Safety, Health and Environmental Officer.

Depending on the workplace, additional and/or more frequent inspections may be necessary. For example, laboratories or machinery should be inspected by specialist staff, and portable electrical equipment and portable ladders may be inspected by the relevant users.

If there is an accident/incident in the workplace, the H&S rep may also help to investigate this and complete an incident report.

Health and safety checklists

Various health and safety checklists are provided to suit the diverse activities and functions on campus. Health and safety reps can use these checklists as templates for their quarterly inspection reports, and change them to suit their particular workplace:

Health and Safety Representatives

- Laboratories (Science) & Health Care
- Venues (lecture halls etc)
- Theatre (Drama Dept)
- Offices
- Library
- Food Services (kitchens)
- Maintenance (grounds, workshops etc)
- Housekeeping & Cleaning Services
- Student residences (Wardens)
- Portable ladders
- Electrical appliances

Health and safety meetings

All health and safety representatives must serve on at least one committee, as required by the OHS Act.

These meetings provide an opportunity to discuss unresolved health and safety concerns and make recommendations to management, and also to discuss ways of promoting workplace health and safety.

HEALTH and SAFETY COMMITTEES

A health and safety committee must be formed when the employer has appointed two or more health and safety representatives. There may be more than one committee, to avoid excessive numbers at a meeting and to accommodate diverse working environments.

The employer must provide the necessary facilities, equipment and stationery for a committee to carry out its functions.

Duties of the committee

A health and safety committee should:

- Meet every three (3) months or more often - the main health and safety committee is an institutional committee that meets four times a year, with additional meetings set where required. At , the sub-committees meet four times a year, usually (i) March, (ii) May, (iii) July, (iv) October;
- Discuss incidents in which someone was killed, injured, or became ill (section 24 incidents);
- Make recommendations to the employer regarding health and safety concerns;
- Keep a record of all recommendations for at least 3 years.

Purpose of meetings

The purpose of health and safety committee meetings is for the employer to consult with the committee "…with a view to initiating, developing, promoting, maintaining and reviewing measures to ensure the health and safety of his employees".

What this means:

- Initiating: putting measures in place and starting systems that promote employees' health and safety.
- Developing: strengthening and improving these measures to ensure health and safety.
- Promoting: raising awareness and making sure that all employees follow health and safety measures.
- Maintaining: keeping up these efforts on an ongoing basis to ensure health and safety.
- Reviewing: checking and evaluating the success of these health and safety measures.

Example: Committees report into the main Health and Safety Committee:

- Offices
- Housekeeping
- Food Services (kitchens)
- Maintenance (grounds, workshops, etc)
- Laboratories (Science) and Health Care
- Student residences (Wardens, under Division of Student Affair

RISKS and HAZARDS

It is important to identify any hazards in the workplace, assess the associated risks, and take appropriate steps to remove or minimise them.

The employer must, as far as is reasonably practicable, make employees aware of any health and safety hazards attached to any work that they do, as specified in the OHS Act section 13.

The employer must also provide, and ensure that employees use, the necessary precautionary measures associated with these hazards.

Hazards

Hazard = a source of or exposure to danger, that can cause injury, illness or death. Hazards are generally considered to be unsafe conditions or unsafe acts, but a more complex perspective is summarised in Part 4.1.3 below.

Unsafe conditions

There are many causes and contributing factors in workplace incidents. Here are some examples of unsafe conditions which could play a role in causing an accident:

- Disorderly/messy work area
- Overcrowded work space
- Poor ventilation
- Faulty equipment
- Protective clothing not available
- Loose items
- Slippery floor
- Moving machinery
- Insufficient lighting
- Hazardous substance storage.

Unsafe acts

Here are some examples of unsafe acts which could play a role in causing an accident:

- Working without safety equipment or protective clothing
- Working without correct skills or knowledge
- Working in a dangerous area
- Working in a sh
- Doing unauthorised work
- Working with items unsecured
- Leaving items standing in an unsafe place
- Working on moving machinery
- Fooling around or taking chances

Hazard classification

For your interest, a more complex perspective classifies hazards according to the following categories:

- Physical hazards: such as noise, vibrations, temperature, humidity, dust levels, electricity, lighting, radiation, working at heights, unguarded machinery, moving machinery parts, items that cause slipping or tripping, etc.
- Chemical: such as gases, chemical dusts, liquids, fumes, mists, vapours.
- Biological: such as blood-borne infections, vises, bacteria, fungi, insect bites, faeces, poisonous plants and animals.
- Ergonomic: such as poorly adjusted workstations and chairs, poor posture, use of force, repetitive actions.
- Psycho-social: such as work pressure, job security, job satisfaction, management style, health issues, personal stress.

Some examples of hazards and their potential impacts:

Hazard		Potential impacts
1. Hot surface	**Unsafe Condition**	**i. burn injury; ii. infection; iii. damaged equipment; etc.**
2. *Touching* a hot surface	**Unsafe *Act***	**i. burn injury; ii. infection; iii. damaged equipment; etc.**
3. Bloody material	**Unsafe Condition**	**i. infection by blood-borne pathogen; ii. HIV/AIDS; iii. hepatitis B vis; iv. long-term health condition; etc.**
4. *Unprotected* handling of bloody material	**Unsafe *Act***	**i. infection by blood-borne pathogen; ii. HIV/AIDS; iii. hepatitis B vis; iv. long-term health condition; etc.**
5. Exposed moving part on machine	**Unsafe Condition**	**i. injury & blood loss; ii. amputation; iii. infection; iv. damaged machinery; etc.**

Risks

Risk = likelihood/probability that injury or damage will happen, if a situation is out of control.

Risk assessment

The employer is responsible for identifying hazards in the workplace and assessing the associated risk. It may take the form of baseline risk assessments, or issue-based risk assessments, or continuous risk assessments – which include quarterly health and safety inspections.

At , Managers or Heads of Department should ensure that risk assessments are carried out. They should involve relevant staff, and follow the basic steps:

- Identify the hazards;

- Identify who might be harmed and how (potential impacts);
- Evaluate the risks and decide on control measures;
- Record the chosen control measures and implement the plan;
- Review the assessment and update where required.

Inspecting the workplace

Health and safety reps play an important role in helping the employer identify hazards, through regular health and safety inspections. For this reason, when doing inspections, health and safety reps should:

- Be thorough: Set time aside to do an inspection, and check each area carefully.
- Check all areas: Look for hidden dangers – items that are out-of-the-way or not visible.
- Look for redundant items: Report equipment or material that is not being used, so that it can be removed and/or used elsewhere.
- Be detailed: Make notes of exactly where each hazard was found. Take photographs!
- Look for root causes: A hazard is a symptom of a deeper root cause; it can only be eliminated if the root cause is identified and eliminated
- Prioritised: Give highest priority to dealing with hazards that pose a greater risk.
- Act immediately on urgent hazards: Ensure that immediate action is taken to address a hazard that poses a serious threat to health and safety

INCIDENTS and ACCIDENTS

In this chapter, we will consider incidents and accidents in terms of health and safety concerns, and also in terms of compliance with the OHS Act. The primary aim of the OHS Act is to *prevent* workplace incidents and accidents.

Some say an 'accident' is a type of 'incident'; others say 'accidents' and 'incidents' are different:

- *Accident*: An event that results in injury or ill-health.
- *Incident*: A near miss event or an undesired circumstance which has the *potential* to cause injury, ill- health, damage or other loss.

Regardless of how we define them, incidents/accidents have unpredictable and harmful results. The employer must investigate the cause and take corrective action to prevent it from happening again.

Incidents and injuries – what all employees need to know

The Human Resources Division, and every Line Manager, should ensure that employees know

all les and procedures. This includes guidelines on *who* to contact in the event of an incident or injury.

The OHS Act (section 13) states that the employer (represented by HR or a Line Manager) has a duty to inform a health and safety representative as soon as possible if there has been an incident in the workplace.

- Procedures at : procedures to follow in the event of incidents or injuries
    - Any employee call first aider [*if injury*].
    - Any employee inform Line Manager (or Health & Safety Rep – who informs Line Manager) *as soon as possible* [*injury or non-injury*].
    - Line Manager or First Aider call emergency medical services* if required [*if injury*].
    - Line Manager inform Health & Safety Rep and initiate incident recording, reporting and investigation [*injury or non-injury*]
    - Line Manager phone HR Admin within 24 hours regarding Injury on Duty [*if injury*].
    - Line Manager submit accident report to HR Admin within 2 days [*if injury*].
    - Line Manager ensure recording and investigation of incident + copy sent to SHE Officer [*injury or non- injury*].

HR ensure COID documentation is completed and sent to DoL Compensation Commissioner [if injury]; SHE Officer ensure record of investigation is completed and sent to DoL Provincial Director [section 24 incident

Emergency medical services:

Visit the page www..ac.za/safety/emergencies for a document – *Emergency Contact Numbers* – which provides a list of emergency numbers, including emergency medical services.

You are encouraged to add names of key contacts within your building/department, and place the list on your noticeboards.

Recording and reporting incidents and injuries

This section provides more detail regarding actions required in the event of incidents and injuries. Line Managers and Health and Safety Reps are encouraged to familiarise themselves with these procedures.

Section 24 incidents: report to Dept of Labour

Serious incidents/accidents are addressed in section 24 of the OHS Act. These include incidents where the affected person required medical treatment other than first aid, and certain types of near miss incidents.

The OHS Act categorises section 24 incidents as follows:

- Section 24(a) and (b): injury or ill-health incidents (Injury on Duty) Such incidents include:
  - When a person dies;
  - When a person becomes unconscious;
  - When a person loses a limb or part of a limb;
  - When a person is injured/becomes ill, or is likely to die or suffer permanent physical defect;
  - When a person is unable to work for 14 days or longer;
  - When a 'major incident'/disaster occurs. *

A 'major incident'/disaster is defined by the OHS Act as: "an occurrence of catastrophic proportions, resulting from the use of plant or machinery, or from activities at a work place". This would result in the activation of emergency procedures – see the Emergency Management Plan (also refer to Part 7.3.5, campus-wide crisis).

- Section 24(c): near miss incidents
- The OHS Act defines a near miss as "any unforeseen event involving one or more hazardous substances which, but for mitigating effects, actions or systems, could have escalated to a major incident". Such incidents involve property damage but no personal injury, where:
- The health or safety of any person was *endangered*; and
- A dangerous substance was spilled;
- There was an uncontrolled release of any substance under pressure;
- Machinery ran out of control;
- There were flying, falling or uncontrolled moving objects.

Section 24 incidents must be reported by the employer to the Department of Labour (DoL) Provincial Director within seven (7) days. If not, the employer will be guilty of a criminal offence and will have to pay a penalty.

Recording section 24 incidents

Findings of the investigation must be recorded within seven (7) days

- *Annexure 1*: this *Recording and Investigation of Incident* form is prescribed by the OHS Act, General Administrative Regulations (9).
- A copy of the report must be sent to the *SHE Office* to ensure that due process is followed.
- The *Health and Safety Committee* should examine the report to consider and make relevant recommendations.
- Records must be kept on file for at least *three years*.

Recording non-employee incidents/accidents:

The provincial director must be notified if there is an incident involving a non-employee – as prescribed by the OHS Act General Administrative Regulation 8(3) – including the following information:

- Name of injured person;
- Address;
- Name of employer/entity;
- Address;
- Phone number;
- Name of a contact person;
- Names of witnesses;
- Details of the incident, including:

i) What happened;

ii) Place where it happened;

iii) Date and time when it happened;

iv) How it happened;

v) Why it happened.

Minor incidents: report internally

A minor or non-disabling injury incident involves personal injury that requires some form of treatment, but does not result in disability (temporary or permanent), and no workdays are lost.

The affected person may need to stop working for a short time, e.g. to receive first aid.

Recording minor incidents

The following serve as records:

- *Annexure 1*: this official *Recording & Investigation of Incident* form is the recommended form of record- keeping, as it complies with the OHS Act.
- *First aid register*: include date, name of injured employee, nature of injury, first aid items used, and name of first aider, when recording details of first aid given for minor injuries.
- *Medical records*: where medical treatment was given by a professional medical practitioner.
- *accident report*: the form used according to HR's *Procedures for Injury on Duty*.

Investigating incidents and injuries

Incident investigation is recognised as best practice – it helps the employer find out what happened, who was affected, where, when, how and why it happened.

Armed with this knowledge, appropriate steps can be taken to prevent an (even more serious) incident in future. The employer must, as far as reasonably practicable, implement the necessary actions to prevent such an incident occurring again.

Considerations for investigations:

Any incident should be investigated as soon as possible; details can be lost or forgotten! The person conducting the investigation may be the user of the machinery concerned, or a member of the health and safety committee, or a health and safety rep in a particular work area, or a person appointed by management. The investigator should:

- Secure the scene (to preserve evidence of what caused the incident, and also to prevent any additional injuries);
- Take note of physical evidence;
- Take note of eyewitness accounts;
- Conduct interviews with affected persons;
- Build up a consistent account of the incident.

Information to be taken into account:

The investigator may need to look at the following information and documentation:

- Records of workplace inspections;
- Policies and procedures applicable;
- Records of risk assessments (relevant to the work being done);
- Equipment operation manuals;
- Records of training (when, and relevance to the work being done);
- Condition of any equipment involved;
- Records of equipment maintenance (preventative maintenance and servicing, or any recurring issues or failures);
- Records of workplace accidents/incidents (and any similar incidents/accidents/injuries in the past?).

Common causes of incidents/accidents:

In most cases, people tend to look for somebody or something to *blame*. However, it is more important to look for the *root cause* – so that we can learn from the incident. Near miss incidents should also be reported and taken seriously – so we can learn from the experience. Armed with the knowledge of how and why it happened, the employer can take appropriate steps (such as making improvements to working conditions and/or practices) to prevent an (even more serious) incident happening again.

Here are a few examples of some common causes of accidents:

- *Lack of planning*: If work is done without proper planning on how best to work safely and effectively, there is more chance of an accident.
- *Recommendation: Plan your work, and then work your plan*

- *Lack of instctions*: If work begins before employees know exactly what to do (or perhaps they are too scared to ask questions about the job), there is more chance of an accident.
- *Recommendation: Employer, provide training. Employees, ask questions, it's the smart thing to do*!
- *Poor housekeeping*: If a workplace is disorderly or messy, employees also get disorderly and messy, and there is more chance of an accident.
- *Recommendation: Keep the workplace well maintained and orderly*.
- *Taking shortcuts*: Shortcuts cut life short! If work is done unsystematically and misses out important steps, there is more chance of an accident.
- *Recommendation: Follow standard work procedures*.
- *Casual attitude*: Being casual can lead to a casualty! There is more chance of an accident when employees think they are too clever to listen to instctions or they think "it will never happen to me", or they work without correct safety procedures and PPE/safety equipment.
- *Recommendation: Follow safety procedures and use PPE*.
- *Distractions*: If employees are distracted (e.g. using a cell phone, chatting) and lose focus, there is more chance of an accident. Don't become a statistic because you took your eyes off the task "just for a minute."

  Recommendation: Stop if you must deal with something important, or keep your focus on your work.
- *Stress*: If employees are tired or worrying about health or troubles at home, there is more chance of an accident or injury. Don't let your worries burden you day and night!

  Recommendation: Encourage the employee to seek help or counselling.

FIRST AID

The OHS Act requires the employer to provide prompt first aid treatment in the case of injury or emergency. First aid aims to:

- Preserve life;
- Prevent the injury or illness from becoming worse;
- Promote recovery.

<u>First aid kits</u>

The Manager or HOD in each section/department/division/hall at should ensure that a first aid kit is available and accessible in their building/area on campus, wherever there are five (5) or more people in the building. Each department/division/section should manage its own first aid supplies

The location of the first aid kit should be clearly indicated with signage, and a staff member (usually the workplace first aider) designated to inspect and manage the contents of the first aid kit.

- <u>Number of first aid kits</u>: The number of first aid boxes in the workplace should be determined by the employer. The Manager/HOD should take into account the nature of the work, types of injuries that are likely to occur, and the number of employees in that particular workplace.

- Contents of first aid box: The minimum contents required in a first aid box are stipulated in the OHS Act, General Safety Regulations. Contents will vary according to the nature of work, e.g. a researcher doing fieldwork has different needs from an office administrator, or someone working in a kitchen or in a workshop.
- First aid register: A *First Aid Register* (e.g. a small notebook) should be kept with the first aid box. The first aider who attends to the injury should record the following details: date, name of person receiving first aid, brief description of injury/illness, first aid items used, and name of first aider.

First aiders

The OHS Act requires all workplaces with ten (10) or more employee to have first aiders. A first aider is any person with first aid training who takes charge of an emergency scene and gives first aid. A first aider is not able to provide professional medical services.

- Number of first aiders: There should be at least one first aider, with a valid certificate of competency in first aid, per 50 employees – or per 100 in the case of shops or offices.
- first aiders: A list of all certified first aiders on campus is kept up-to-date on the safety website. Managers/HODS in each building should ensure that an up-to-date list of nearby first aiders is visible near their first aid box.
- First aid training: staff who work full-time and intend to remain at the for the foreseeable future may apply to go on a first aid course. In Grahamstown, first aid training is offered by St John Ambulance Centre in Hill Street.
- Level 1 training is the standard requirement; some people may also continue on to Level 3. On successful completion of the course, participants receive a Document C accredited Certificate of Competency in First Aid, which is valid for three years.
- First aider responsibilities: employees who are first aiders, as part of their workplace responsibilities, are obliged by law to respond to any emergency situation in the workplace. They are not obliged to provide first aid outside the workplace.

FIRE SAFETY

Lives lost in a fire can never be replaced. Many organisations in South Africa never fully recover after a major fire – losing orders, contracts, key employees and reputation – or may have to close down, resulting in lost jobs and services to the community. This is why it is important to focus on workplace fire prevention, as well as being prepared for the unexpected: having an emergency action plan.

Causes and prevention of fire

Fire is a kind of chemical reaction, involving three major components – illustrated as the three sides

of a triangle.

Chemistry of fire and spread

A fire needs fuel + oxygen + heat to start, and to keep burning. It is a kind of chemical reaction, involving these three major components – illustrated as the three sides of a triangle.

The heat of a fire spreads through:

- Direct flame – e.g. burning match or wind-driven firebrand from bush fire.
- Conduction – movement of heat through solid matter, e.g. steel.
- Radiation – heat given off by an object without direct contact, e.g. an electric heater.
- Convection – movement of heat through the air.

Triangle of combustion

He at ***Fu el***

Oxygen

The oxidising agent is usually Oxygen.

The fuel may be:

- Combustible solids – e.g. paper, wood, fabrics, plastic, rubber, coal.
- Flammable liquids – e.g. oil, paraffin, spirits, petrol.
- Flammable gases – e.g. LPG,

Knowing the type of fire

If you know the type of fire you are dealing with, it helps you decide how best to control it. Fires are classed according to the type of material that is burning – most commonly: A (solid organic), B (flammable liquid/gas), C (electrical), or D (metal). This is summarised in *Table 1* (classes of fire) on the next page.

Links between cause and prevention of fire

The major causes of fires – based on the findings of a study of 20,000 industrial fires – are summarised in *Table 2* (causes and prevention of fire). Notice how we can learn from past accidents: by establishing the causes, we can make recommendations for the prevention of further fires in our workplaces.

Electrical problems were found to be the main cause of fires (21%), followed by friction (14%), reaction between different substances (12%), open flames (9%), smoking (8%), spontaneous ignition (8%), hot surfaces (7%), sparks (6%), and overheated materials (3%). The last 12% were attributed to a variety of less common, or unknown, causes.

The study found that most fires started while the premises were unoccupied.

In private homes, the ten appliances most likely to catch fire are the washing machine, tumble dryer, dishwasher, cooker, fridge/freezer, central heating, microwave, toaster/grill, TV and electric blanket.

A common mistake made by many people is to place a hot appliance too close to furniture, such as a heater under a desk. Another dangerous mistake is to block off the ventilation area of electrical equipment – this causes it to overheat and catch fire.

Table 1: Classes of fire

CLASS OF FIRE	MOST SUITABLE extinguisher	OTHER suitable extinguishers
A (solid organic materials): solid materials such as wood, paper, coal, plastic and fabrics.	Water: has a cooling effect, but can conduct electricity. Fire hose reels rely on a functioning municipal water supply. Mostly used in stockrooms, schools, offices, etc. Only use to fight class A.	Foam: floats on flammable liquids to tame the fire and helps prevent re-ignition. To clean up the affected area, it must be washed away and left to evaporate. Mostly used in garages, homes, vehicles, workshops, etc. Can be used to fight class A & B. Dry powder
B (flammable liquid/gas): oil, petrol, paraffin, spirits, benzene.	Dry powder/DCP: is a multipurpose drychemical extinguisher, filled with a yellow powder, mono ammonium phosphate, which smothers the fire and absorbs some of the heat. Non-conductive but mildly corrosive if moisture is present, so proper clean-up is essential. Mostly used in schools, general offices, hospitals, homes, etc. Can	Fire blanket: is made of fire- retardant material such as fibreglass or wool. The blanket is placed over the fire to cut off the supply of oxygen to the fire. Mostly used in kitchens and laboratories. Carbon dioxide Foam Do not use water!
C (electrical): involving contact with live electrical installations, e.g. short-circuiting machinery and overloaded electrical cables.	Carbon dioxide: CO_2 displaces O_2 (oxygen) and smothers the fire. It has limited cooling power. Environmentally friendly. Leaves no residue, so clean-up is not needed. Mostly used where contamination is to be avoided, e.g. kitchens, computer rooms, laboratories, etc. Not very effective on class A fires (only temporarily displaces oxygen). Can be used to fight class B & C.	Dry powder Do not use water!

D (metal): involving combustible metals, e.g. magnesium & titanium (used in lightweight equipment), aluminium (in some pots and pans, etc) – mostly in the presence of sawdust, machine shavings & other metal shavings	Dry powder or special extinguisher approved for use on combustible metals.	Do not use water (or other common fire-fighting materials), as it can 'excite' combustible metal fires and make them worse.

We will find out more about some of the main causes of fire in *Table 2* on the next page. The column labelled "PREVENTION" provides some recommendations to prevent fire, but note that this is not an exhaustive list.

In your particular workplace, you need to think carefully about the specific types of fire hazards that are present. You need to give careful thought to what kinds of precautions you should have, in order to prevent fire.

Table 2: Causes and prevention of fire

CAUSES (fire hazards)	SOURCE OF IGNITION	PREVENTION (fire precautions)
▪ Poor maintenance of electrical appliances. ▪ Overloaded circuits. ▪ Misuse/abuse of appliances. ▪ Use of incorrect appliances.	1. Electrical 21%	▪ Ensure wall sockets and multi-plug adaptors are not overloaded. ▪ Switch off appliances when not in use. ▪ Never n cables under carpets. ▪ Have temporary wiring replaced.
▪ Hot bearings in machines. ▪ Broken or badly fitted machine parts. ▪ Badly adjusted power drives and conveyors.	2. Friction 14%	▪ Machinery & equipment should be inspected & tested on a regular basis. ▪ Ensure mechanical equipment is properly maintained. ▪ Report any defects immediately.
▪ Metal particles mixing with materials being processed, causing mechanical sparks.	3. Reacting substances 12%	▪ Machinery & equipment must be inspected & tested on a regular basis. ▪ Ensure mechanical equipment is properly maintained.

▪ Misuse/abuse of gas & oil burners. ▪ Abuse & misuse of cutting & welding torches, petrol/paraffin blowtorches.	4. Open flames 9%	▪ Remove combustible material from area where open flames are used. ▪ Always have a fire extinguisher ready for use. ▪ Personnel doing cutting & welding must be fully trained. ▪ Hot work permits must be issued where required.
▪ Smoking in areas where combustible material is present. ▪ Dropped cigarettes/matches & incorrect disposal.	5. Smoking 8%	▪ Provide sufficient ashtrays & designated smoking areas. ▪ Empty all ashtrays into metal containers. ▪ Adhere to no-smoking zones. ▪ Keep matches away from children & individuals lacking control.
▪ Oil waste and bbish. ▪ Build-up of dust/deposits in tumble driers, ducts & flues. ▪ Stored low-grade material waste (mixed paper, cardboard, newspaper, magazines, etc).	6. Spontaneous ignition 8%	▪ Ensure oil-soaked materials are not left lying around. ▪ Discard oil-soaked materials in metal bins with lids. ▪ Sawdust used as absorptive material on the floor should be swept up and discarded immediately.
▪ Hot surfaces of heaters, irons boilers, hot pipes & flues, etc, too close to materials which can catch fire.	7. Hot surfaces 7%	▪ Never leave heaters, irons, etc, on when unattended. ▪ Keep combustible materials away from hot surfaces.
▪ Sparks from burning bbish, furnaces, braais, campfires, angle grinders, etc.	8. Sparks 6%	▪ Keep flammable liquids & combustible materials away from area where there is burning of bbish, braais, campfires, etc. ▪ Industrial vehicles should be static-proof when working in vicinity of flammable gases.
▪ Abnormal temperatures in industrial processes. ▪ Heated flammable liquids & substances in driers.	9. Overheated materials 3%	▪ Do not put materials soaked with flammable liquids into driers. ▪ Store cleaning fluids & other flammable liquids in an approved flammable store. ▪ Know the safety info of each liquid – use the material safety data sheet (MSDS).

Action in the event of fire

Response to fire

If you see a fire, no matter how small, you must immediately alert the local fire department, as they have trained and equipped professionals who can deal with it. Fires spread and get out of control very quickly! Think of the four golden les:

Fire Action! 4 Golden rules

In the event of a fire or other emergency, remember four golden les:

1. Alarm: Raise the alarm to alert others – siren/whistle /panic button/air horn/shout "Fire, get out!"

2. Emergency Services: Call no matter how small.

Save these numbers on your cell phone:

CPU Emergency **046 603 8999**

Makana Fire & Rescue **046 622 4444**

3. Extinguish: Only try to extinguish if safe to do so. *

Evacuate: Everyone must get out. Crawl if necessary, to avoid smoke/heat suffocation.

Help people with disabilities.

Close windows and doors if you can.

Don't take risks: do NOT use lifts; do NOT open closed doors (there may be fire in the room); do NOT go back inside – until instcted by Fire Officer or Emergency Coordinator.

Meet at your Assembly Point for roll call.

First think about the safety of people, then the safety of the building and its contents.

EMERGENCY NUMBERS *save on your cell phone!*

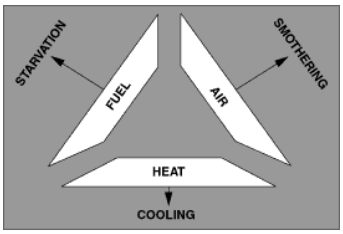
Fire Department: 046 622 4444 / 046 603 6000

Campus Protection: 046 603 8999 (EMERGENCIES) 046 603 8146/7 (CPU office).

Extinguishing fire

- **Principles of firefighting**

Remember the *Triangle of Combustion* (see Part 7.1.1) – we aim to remove one (or more) sides of this triangle to put out a fire.



Starvation: removes fuel from the fire – not possible in most cases.

Smothering: eliminates oxygen supply (air) to the fire – use dry powder, fire blanket or sand

Cooling: eliminates the heat, so ignition temperature cannot be reached – use water or remove the source of heat (if safe).

Types of fire extinguishers

If you know the type of fire you are dealing with, it helps you choose the correct fire extinguisher. Remember that fires are classed according to the type of material that is burning (*Table 1*). Look for the symbol on the fire extinguisher (A, B or C, or all of these) to check which type of fire it can be used on.

The most common types of extinguishers at are DCP (dry powder) and fire hose reels (water), but in certain areas you will also find CO_2 (computer labs) and fire blankets (kitchens).

Table 3: Types of extinguishers used on class A, B, C and D fires.

Extinguisher type: **Fireclass** △	**WATER** 	**POWDER** 	**CO_2** 	**FIRE BLANKET** 
Solid **A** materials	?	?	?	
Flammable liquids **B**	✗	?	?	?
Electrical **C**	✗	?	?	
Metal **D**	✗	?	✗	✗

Using a hand-held extinguisher

Adopt the PASS principle:

P – Pull the pin
A – Aim the nozzle at base of fire
S – Squeeze the trigger
S – Sweep the nozzle from side to side

Planning for better fire safety

It is of utmost importance to focus on *preventing* workplace fires. It is equally important to *be prepared for an unexpected emergency*, by having an emergency action plan

Safety inspections

An important aspect of workplace fire safety is to *reduce the risk* of fire by inspecting for hazards. The Fire Department may come to inspect premises At .

Regular monthly checks by fire marshals play a valuable role in ensuring that the workplace remains fire safety compliant. Adopt the CARE principle:

C – check: Do regular checks in the workplace for fire hazards – such as those listed in *Table 2* (causes and prevention of fire) and in the workplace health and safety inspection checklist – see Part 2.3.1 (quarterly health and safety inspections) and Part 4.2.2 (inspecting the workplace).

A – act: Ensure that action is taken as soon as possible to address all hazards you find – either immediate action, or calling in assistance or maintenance staff to implement the necessary fire precautions.

R – report: Communicate your findings, recommendations and actions to your workplace health and safety rep– who should record this information in the workplace health and safety inspection report.

E – educate: Alert your colleagues of any fire safety concerns, and remind them of ways to improve fire safety – at staff meetings or using your workplace emailing list.

Fire-related resources

Fire alarms

It is vital to have a distinctive and recognized system for signalling to all employees that they should evacuate the workplace, or carry out other actions as per the emergency plan. If there is no automatic alarm, the Director/HOD/Manager must ensure that there is some way of warning occupants if their lives are in danger.

- Manual evacuation alarm: Anything that makes a loud noise, e.g. referee's whistle, hand bell, megaphone with siren, air horn, break-glass box, etc. Until such time as a building

has an automatic alarm installed, a manually set off device is better than nothing.

- Automatic fire detection alarm: A fire alarm system with a smoke/heat/gas detector that sets off automatically in response to smoke/heat/gas. At , these have a direct radio link to the Campus Protection Unit, so if the fire alarm system is set off, the CPU will automatically receive a signal.
- Signal tests: If your building has an automatic fire detection alarm, you should contact the CPU to arrange for a signal test session, for example, before you hold a fire drill in your building.

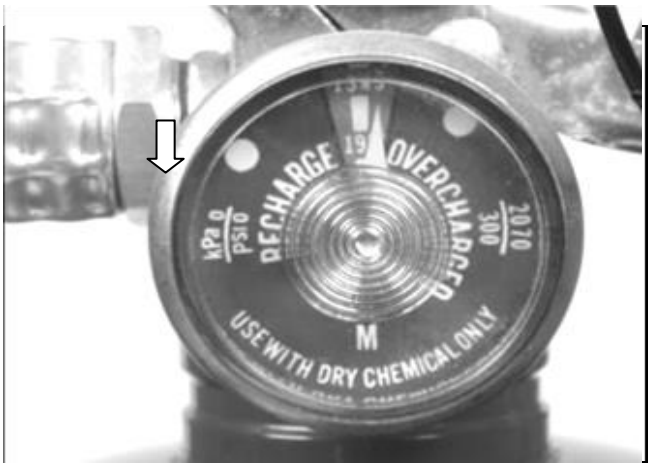
At , the *Electrical* section of Infrastructure and Operations is responsible for installing and maintaining fire alarms.

Firefighting equipment

At least once a month, fire marshals should check fire hydrants and hand- held fire extinguishers in their area, as follows.

- Check that it is properly mounted;
- Check the label to see when it was last inspected;
- Check that access to the extinguisher is not blocked;
- Check the gauge, if its position has moved out of the green into the red area, it requires servicing – contact the Engineering section;
- Check that signage is in place to indicate location of fire-fighting equipment.

Extinguisher in good working order (gauge in green area).



The *Engineering* section of Infrastcture and Operations at is responsible for supplying and maintaining fire- fighting equipment – approximately 450 fire hose reels and 1500 handheld fire extinguishers – on campus. They contract a certified service provider to inspect and service all fire-fighting equipment on an annual basis.

Escape routes and fire exits

Emergency action plan

Rhodes University's leadership is responsible for leading the emergency management planning process – which includes

(i) reducing risks and hazards;

(ii) preparing resources to respond to any emergency;

(iii) responding to the emergency event, and

(iv) returning the workplace to normal after the event.

All buildings at should have a building-specific emergency evacuation procedure, and all occupants should be familiar with these procedures.

Emergency coordinator

The Emergency Coordinator should be a senior member of staff, usually a Director, HOD or Manager, whose responsibilities include the following:

- Coordinating emergency planning, including calling a workplace meeting* of the emergency team to plan and review workplace emergency procedures – especially before and after fire drills.

* In larger buildings, different departments/sections/areas should cooperate to establish an emergency team and plan the building's evacuation procedures.

- Assessing situations and deciding whether it is an emergency that calls for action and evacuation.
- Supervising emergency action and evacuation.
- Coordinating outside emergency services, such as the local fire department and emergency medical response, and ensuring that they are available and notified in an emergency.
- Directing the shutdown of critical workplace systems, machinery, etc, when required.

Emergency team

A coordinated team of responsible staff members must be in place – in all buildings and areas on campus comprised of the following role-players:

- Emergency coordinator: Senior member of staff with supervisory abilities.
- Fire marshals (also called fire wardens/floor monitors/incident officers): Two per floor or building area (in case one is not present at the time).
- Health and safety rep(s): Should be involved in emergency planning.
- First aider(s): Should be involved as they need to carry the first aid kit in an emergency. Contact details of nearby first aiders should also be included, in case your own first aider is are not present at the time.

Emergency action planning

The emergency action plan should at the very least address the following important issues:

- How to report fire or emergency;

- When to evacuate, and emergency evacuation procedures and routes – including floor plans, routes for each level or area in building;
- Emergency assembly points – primary and alternative – approx. 50 metres away (to avoid being injured by falling or burning debris, flying glass from broken windows, etc) where all occupants should meet so that the Emergency Coordinator can check that everyone is present and safe, and give further instctions.
- Contact details of all important emergency services, and contact details of all role-players in your department/section/unit;
- Procedures of emergency team role-players in your department/section/unit – e.g. who will operate fire extinguishers, who will carry the first aid kit, who will marshal staff out of the building, check the toilets and storerooms, assist people with disabilities, monitor entrance/exit points in the building, etc
- Procedures of specific role-players in your department/section/unit – e.g. who will shut down critical workplace systems, or machinery, etc.

Emergency kit

It is useful to have the following items at the ready for any emergency:

- Reflective bib/vest: worn by emergency team members - improve visibility;
- Whistle or loudhailer/megaphone: help with directing occupants;
- Checklists of building occupants (per area/level);
- First Aid Box: to deal with any injuries;
- Torch or emergency lighting: in case of poor visibility;
- Cell/mobile phone;
- Emergency Contact List of emergency service providers etc;
- Drinking water

Information and training

Knowledge and understanding play an important role in reducing risks and hazards. Forewarned is forearmed! Managers or heads of department (or their designees) are responsible for ensuring that all occupants in their buildings are made aware of fire safety.

- Fire safety talks: Campus Protection Unit and the SHE Officer give fire safety talks to student residences and departments/divisions on campus, by request.
- Fire drills: Fire drills should be held annually at least, or quarterly in the case of residences, in all buildings

  in consultation with the Campus Protection Unit – and should be attended by all staff and students. The building emergency team should meet before and after fire drills to plan and review their

emergency procedures (discussed in 7.4.1 above).

- Basic fire training: The Safety, Health and Environmental Officer ns a 1-morning fire marshal course, addressing the following: a basic understanding of fire and the safety risks associated with fire, preventing fire, actions to take in the event of a fire, and elements of planning for workplace emergencies and evacuations – in preparation for the role of workplace fire marshal, or other role-player in an emergency evacuation.

Company crisis

Senior Management is responsible for planning and devising a coherent strategy for the as a whole to respond to crises or major incidents on campus. The COMPANY Emergency Management Plan should be kept up-to-date for this purpose.

Each and every Manager/HOD – as well as senior management and operational staff – should be familiar with this document and identify the necessary role-players in their area of responsibility.

- Safety shoes;
- Hard hats;
- Gloves;
- Aprons;
- Eye protection;
- Ear protection.

Hazardous substances

Each and every lab or department that works with chemicals and other hazardous materials should have printed Material Safety Data Sheets for each chemical in that area – readily accessible (even during power failures) in case of emergency, e.g. for first aid or fire-fighting info.

The employer is responsible for limiting the amount of hazardous chemical substances or biological agents which may contaminate the working environment. At, there are systems in place for responsible disposal of hazardous waste such as:

- Hazardous biological waste
- Hazardous chemicals
  - Toxic solvents & paint
  - E-waste
  - Fluorescent light bulbs

- Computers
- Cell phones
- Batteries
- Printing cartridges
- Sharp

Gas and vessels under pressure

Work with vessels under pressure can be hazardous, for example, there might be an uncontrolled release of a substance under pressure, which could cause an injury. The employer must comply with the Pressure Equipment Regulations, and also the South African National Standards – which provide requirements for handling, storing and maintaining LPG (liquefied petroleum gas).

Signage

According to the South African Bureau of Standards, the following system applies to safety signage:

- INFORMATION – general: WHITE symbol/writing on GREEN (emerald) background. Example: direction to emergency exit.
- INFORMATION – fire-fighting: RED symbol on WHITE background. Example: fire hose reel.
- WARNING: BLACK symbol on YELLOW (gold) background. Example: fire hazard.
- PROHIBITORY (don't): BLACK symbol on WHITE background with RED border or oblique. Example: no smoking.
- MANDATORY (do): WHITE symbol on dark BLUE (ultramarine) background. Example: safety shoes must be worn.

Electrical machinery

Machines and electricity can cause severe injuries. Regulations regarding electrical machinery should be followed in all work areas. For example, machinery and equipment should be operated in a designated area and machine guards should be in place, and portable electrical equipment should be unplugged when being cleaned or repaired.

More than 90% of faults can be picked up by regular visual inspections. It is easy to check the following:

- No obvious signs of damage to the equipment casing, cable or plug;
- No signs of overheating on casing, cable or plug;
- Equipment positioned to avoid strain on cables;
- Equipment, cables and plugs positioned to avoid contact with dampness or water;
- Cables do not create tripping hazards;
- Cable placed where it cannot be damaged (e.g. not trapped by furniture or door);
- No overloading of extension leads or multi- plugs;
- Equipment ventilation points not obstructed

Ladders

The OHS Act requires the employer to ensure that all staff who work with ladders are properly informed and trained in the correct use of ladders. Line Managers are responsible for ensuring that staff receive this training. Ladders should be inspected and maintained on a regular basis.

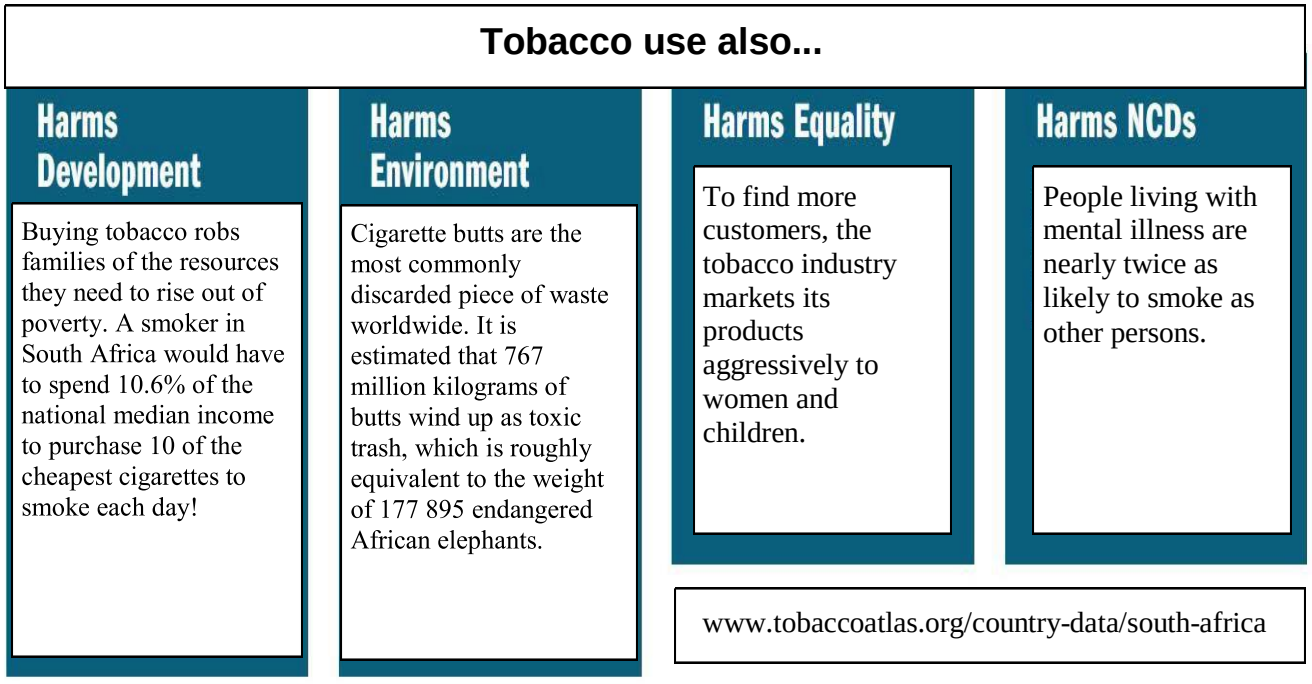
Smoking in the workplace

Cigarettes and butts are a health and safety hazard - they contain toxic and non-biodegradable materials which can remain in the environment for up to 10 years, and they can start anyway fires.

Smoking Policy: Both the OHS Act and the Tobacco Products Control Act apply At , and all staff, students and visitors should note:

- Smoking is not permitted inside any building or partially enclosed public space - including walkways, corridors, lobbies, stairwells, elevators, toilets, cafeterias, verandas, courtyards, partially enclosed gardens, covered patios and parking lots, sport stadiums, vehicles controlled by the University, and any other common area frequented by persons during the course of their work or study.
- Smoking outside should be at sufficient distance from any window, entrance or air inlet – not closer than 10 meters – and situated so that no smoke drifts into any building, or into an area where a non- smoker is present.
- Safely dispose of extinguished cigarettes into designated bins.

Rights of Non-smokers: Non-smokers have a right to *not be forced to breathe second-hand smoke*. It is a human right, in the interests of the common good and public health.



Wellness

A volunteer group of staff members at are committed to promoting a *culture of wellness* (social, emotional, spiritual, physical and financial wellbeing). These Peer Educators are trained by the Institutional Wellness Specialist to support their fellow workers and provide guidance about where to go for help if a person has concerns or is having problems, for example, relationship problems, alcoholism, dg abuse or health problems. They are trained to treat all information as confidential.

It is important to be sensitive to and manage health issues such as HIV/AIDS appropriately in the workplace. From a health and safety perspective, it is best to make use of *Universal Precautions*. This means that we would *always* take precautions – as if all human blood and body fluids are infectious.

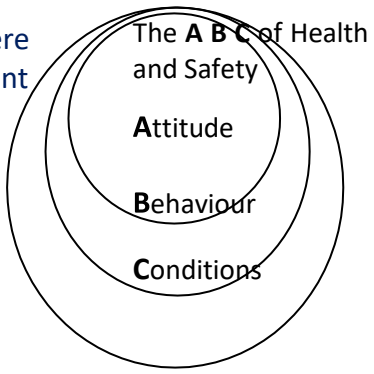
Management control

The active involvement of senior management in an organisation's health and safety programme will ensure high standards in safety, health and environment. Good management involves planning, organising, resourcing, leading/directing, and controlling.

Best practice in safety, health and environment

The likelihood of incidents and accidents can be greatly reduced where both working conditions and working behaviour are safe. Management should control the interaction between three important aspects:

- People;
- Safe systems of work;
- Natural and work environment.



Risk management

The OHS Act states that the employer should ensure that, as far as is *reasonably practicable*, employees are not exposed to hazards, or that steps are taken to protect them from possible injury.
Once the risks have been assessed, management should make decisions regarding how to deal with these risks

A common risk control approach is to consider the options in terms of the 4 T's – terminate, treat, transfer or tolerate.

- Terminate: Remove the risk by changing a work practice or system. Best option.
- Treat: Reduce the risk by implementing engineering and management controls, to minimise the likelihood of its occurrence or minimise its impacts (potential or actual).
- Transfer: Pay a third party or insurance company that will take the risk on your behalf.
- Tolerate: Take no action because the risk is so low that it is deemed acceptable, or risk

reduction/ mitigation steps are not cost-effective. Monitor in case changes result in it becoming intolerable.

Proactive monitoring

The purpose of proactive monitoring is to predict and control hazardous situations before an incident happens. The employer requires the cooperation of employees in proactive monitoring, which involves:

i. Carrying out appropriate inspections and reporting;

ii. Identifying common problems and poor working conditions or practices;

iii. Providing training that meets workplace needs;

iv. Taking action to address safety issues that were reported previously;

v. Identifying the resources (human, financial) required to address safety concerns;

vi. Ensuring that risk assessments remain valid;

vii. Reporting any unsafe or unhealthy situation to the employer or to a health and safety rep as soon as possible after comes to the employee's attention.

HEALTH and SAFETY INFORMATION and RESOURCES

The information provided in this course is not meant to be comprehensive; it serves as a launch pad for your continued learning. You are encouraged to take initiative to find out more, so that your learning and development continue for many years.

Terms and definitions

Various terms and definitions are referred to in the OHS Act, and in this course. Some of the most common ones are provided below, in alphabetical order.

- Accident: an occurrence that results in personal injury, illness or death.
- Chief Executive Officer: the person who has overall responsibility in the workplace.
- Danger: anything that may cause injury or damage to a person or to property.
- Duty of Care: a legally enforced moral duty to anticipate possible causes of injury and illness, and to do everything reasonably practicable to remove or minimise these possible causes of harm.
- Employee: any person who works for an employer and is paid or is entitled to be paid, or a person who works under the direction or supervision of an employer or any other person.
- Employer: one who employs or provides work for any person, with a stated or unstated agreement to pay that person.
- Hazard: exposure to, or a source of, danger.

- Healthy: free from illness or injury.
- Machinery: any article, or combination of articles, that can be used for converting energy to perform work. It may also be used for receiving, storing, transforming, transmitting, etc… any form of energy.
- Mandatary: an agent or contractor/subcontractor who performs work for the employer, but is also anemployer in his/her own right.
- Mitigate: remove, reduce or control a hazard or risk.
- Plant (with regard to OHS Act): buildings, fixtures, fittings, implements, equipment, tools and appliances – anything used in connection with the operations of an organisation.
- Omission: Failure to act.
- Premises: includes buildings, vehicles, vessels, trains and aircraft.
- Properly used (with regard to machinery): used with reasonable care and with due regard toany information or instctions provided.
- Reasonably practicable: This allows the employer to choose the most appropriate/efficient meansof controlling a hazard/risk from a range of possibilities, bearing in mind the following:

  (a) how significant a risk is (its extent and severity),

  (b) the state of knowledge reasonably available concerning that hazard/risk and of any methods for removing or mitigating that hazard/risk,

  (c) the availability and suitability of means to remove or mitigate that hazard/risk, and

  (d) the cost of removing or mitigating that hazard/risk in relation to the benefit of doing so.
- Risk: the probability/likelihood that injury or damage will happen.
- Safe: free from any hazard.
- SANS: South African National Standard.
- User (with regard to machinery): a person who uses plant or machinery for his/her own benefit.
- Work (verb): work as an employee during the course of employment, or as a self-employed person during such time as s/he devotes to work.
- Workplace: any premises or place where a person performs work during the course of employment.

Emergency preparedness and response relevant to work areas

STAGE 1 - EMERGENCY CONTROLLER & COMMITTEE				
List the Emergency Committee				
Who is the Emergency Controller?				
Who are the Deputy Emergency Controllers?				
Who is the media spokesperson?				
STAGE 2 - SITE PLANS				
MARK EACH QUESTION AS PER FOLLOWING ABBREVIATIONS: Y (YES), IH (IN HAND), N (NO)		**YES**	**NO**	**IN HAND**
Has a Site Plan A been established and exhibited for the information of all employees?				
Has a Site Plan B been completed?				
Is Site Plan B kept in a secure place?				
Are copies of Plan B held by the Emergency Committee?				
STAGE 3 - ACTION PLAN				
Have vital installations, services and vulnerable areas been identified and recorded?				
Have additional protective measures to meet emergency situations been planned and recorded?				
Can emergency personnel be accommodated and fed on the premises?				
Is there a plan in writing for continuity of trading/manufacturing if sections of the workforce are absent?				
Are there emergency shutdown procedures for plant?				
STAGE 4 - EMERGENCY CONTROL CENTRE (ECC)				
Has an ECC been established?				
Are communications from and to the ECC adequate?				
Is it equipped as suggested?				
Is it adequately protected at all times?				
STAGE 5 - APPOINTMENT OF EMERGENCY PERSONNEL				
Has the number and type of specialist teams and personnel been decided upon and recorded?				
Has sufficient information been obtained on secondary skills?				
Is this recorded on an information schedule as suggested?				
Has an emergency control organisation stcture been set up and all names and appointments recorded?				
Have emergency duties of full-time risk control employees been identified and incorporated in job descriptions?				
Have volunteers been appointed to fill specialist teams and other emergency roles and their names and appointments recorded?				
Have those volunteers who require an addendum to the contract of service had this incorporated?				
Have special emergency equipment and supplies been identified, obtained or located and recorded?				
Is this equipment securely stored yet readily available to authorised persons at all times?				
Is there an organised training programme for emergency personnel?				

Do employees undergoing this training have operational management consent?			
STAGE 6 -COMMUNICATIONS (ESSENTIAL SERVICES – POLICE - MEDIA)			
Has the list of essential telephone numbers and addresses been compiled?			
Has it been distributed and either displayed or retained as recommended?			
Is there an adequate internal system to communicate warnings and/or emergency instctions to all employees?			
Is there an alternative means (apart from the telephone) of communicating with external emergency services?			
Are means of communication for emergency personnel adequate?			
Are all staff and members of management aware of the les and their specific duties, where applicable, in dealing with the news media?			
STAGE 7 - EVACUATION PROCEDURES – ASSEMBLY AREAS AND PROTECTION POINTS			
Is the responsibility for ordering evacuation of a particular building, area, site or location clearly understood by management?			
Are the means of immediate implementation of evacuation procedures known to those responsible?			
Is the primary means of initiating evacuation backed up by an alternative evacuation warning system?			
Do all employees know the evacuation signal - and the alternative if it differs from the primary means?			
Do all employees know their main and alternative routes from premises to their assembly areas and protection points?			
Are these routes clearly marked and readily and safely usable at all times?			
Do supervisory staff know their responsibilities in an evacuation of their areas?			
Are exit points, routes, assembly areas and protection points marked on Site Plans A and B?			
Has a general evacuation drill been held in the last 6 months?			
Have arrangements been made for elderly and/or infirm persons?			
Are all employees accounted for at assembly areas by call of roll?			
STAGE 8 - FIRE PROCEDURE			
Do all employees know what to do if they discover a fire?			
Are the instctions for calling the Fire Brigade quite clear?			
Do these instctions apply to those on duty at night and over weekends, e.g. contract security guards?			
Have all employees been shown how to use fire extinguishers of the correct type and fire hose reels?			
Is there a clear procedure for mobilising the in-house fire team during working hours?			
Is this team adequately trained and equipped to fight fires?			
Are access routes for fire-fighting vehicles kept clear and usable at all times?			
Is there good liaison with the local Fire Brigade?			
Are fire procedures and evacuation instctions displayed in writing on staff notice boards (in conjunction with Site Plan A)?			
Where sub-division for emergency control purposes has been carried out, are suitable notices displayed in each sector or zone?			

Are new staff briefed in these procedures?			
Are these procedures included in induction brochures/leaflets issued to new staff members?			
STAGE 9 - STRIKES & RIOTS			
Have production procedures or processes that could suffer immediate damage or loss if suddenly dispted by a work stoppage been identified?			
Have plans been made and recorded or steps taken to prevent or alleviate			
Is the plan for continuity of operations in writing, viable and kept up-to-date?			
Is there a recorded plan of action to be taken in the event of a strike?			
Does it take sufficient account of the protection and safeguarding of property and people?			
Is there a written plan of action to protect company property and people in the event of a riot on or near the premises?			
Is there a communication team of volunteer employees trained in the use of the switchboard and fax?			
Do company protective personnel know the legal aspects of arrest, search and use of force?			
Is policy clear on the extent to which employees are expected to go in defending company property?			
Has a policy on the carrying and use of firearms on company premises?			
STAGE 10 - BOMB THREATS – NOTIFICATION - PROCEDURES			
Have all telephonists, switchboard operators and receptionists (and relief personnel) had training in handling bomb threats?			
Is a bomb threat procedure checklist handy to these employees and do they know how to use it?			
Do employees down to supervisory level and their families know how to respond to such calls received either at work or at home?			
STAGE 11 - SALVAGE/RECOVERY			
Does management understand that certain outside agencies (e.g. insurance brokers, assessors, police) must be informed before any salvage or recovery action is undertaken?			
Has a list of equipment that may aid salvage and recovery been drawn up and one copy held in the Emergency Control Centre?			
STAGE 12 - POST EMERGENCY ANALYSIS			
Has the responsibility for carrying out this stage been allocated to a specific person or persons in ?			

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