

15/1 OCCUPATIONAL HEALTH AND SAFETY POLICY

DATE: 30/01/2007

AGENDA: COUNCIL MEETING: 01/02/2007

REPORT: DIRECTOR: CORPORATE SERVICES

*** Attached hereto is an Occupational Health and Safety Policy drafted by Erudile Professional Services.

BACKGROUND

Due to the fact that our municipality was not complying with regard to the Occupational Health and Safety Act, during October 2006, a company called Erudile Professional Services was appointed to assist the municipality in fully complying to the afore-mentioned act. Part of their exercise was to draft a policy which will be a guiding tool in implementing this act.

FINANCIAL IMPLICATIONS

None

STAFF IMPLICATION

None

LEGAL IMPLICATIONS

None

CURRENT POLICY

None

OTHER PARTIES CONSULTED

SAMWU, IMATU and Supervisors

RECOMMENDATION

1. That the Occupation Health and Safety Policy be adopted by Council.

(FOR DISCUSSION)

Council Minutes: 01/02/2007

Cllr Zim proposed that the matter be recommended to Council as follows and was seconded by Cllr Mohlomi.

RESOLVED:

1. That the Occupation Health and Safety Policy be adopted by Council.
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H.R. MANAGER
SETSOTO LOCAL MUNICIPALITY

MUNICIPALITY SETSOTO MUNICIPALITEIT
MMASEPALA WA SETSOTO



**OCCUPATIONAL HEALTH
AND
SAFETY POLICY**

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CHAPTER 1

1.1 INTRODUCTION

- 1.1.1 The Setsoto Local Municipality was established in terms of Section 12 of the Local Government: Municipal Structures Act, Act No 117 of 1998 and was published in the Provincial Gazette No 184 dated 28 September 2000.
- 1.1.2 The new Local Municipality is category B Municipality with a collective executive system combined with a ward participatory system as contemplated in Section 3b of the Determination of Types of Municipalities Act, 2000 (Act No.1 of 2000)
- 1.1.3 Setsoto Municipality is situated in the Eastern Free State within the regional boundaries of Thabo Mofutsanyana District Municipality. The Local Municipality area measures 5948.35km in extent and comprises four urban areas namely: Ficksburg, Senekal, Marquard, and Clocolan, as well as their surrounding rural areas.
- 1.1.4 Setsoto Municipality comprises of the following sector departments:
- Municipal Manager
 - Technical Services
 - Financial Services
 - Corporate Services

1.2 VISION STATEMENT FOR SETSOTO MUNICIPALITY

- 1.2.1 To develop Setsotso into a unified, viable and progressive municipality, that serves the needs of its entire people in a responsible, economic, and sustainable manner.

1.3 NEED AND SCOPE OF THE POLICY

- 1.3.1 The need for the policy stems from the Occupational Health and Safety Act, 1993 which requires the employers including municipalities amongst other things to develop and adopt occupational health and safety policy.
- 1.3.2 Further more this policy is intended to create a framework for decision making in respect of human resources management in as far as occupational health and safety is concerned in the municipality.
- 1.3.3 The policy is intended to:
- i) promote and maintain the highest degree of physical, mental and social well being of workers.
 - ii) Prevent amongst workers the ill health caused by their working conditions.

- g) "Harassment" means any objectionable conduct, comment or display by a person that: -
- i. is directed at a worker
 - ii. is made on the basis of race, creed, religion, colour, sex, sexual orientation, marital status, family status, disability, physical size or weight, age, nationality, ancestry or place of origin; and
 - iii. constitutes a threat to the health or safety of the worker.
- (h) "Labour organisation" means a labour organisation as defined in the Trade Union Act.
- (i) "Municipal Manager" includes a person acting in his/her stead or in terms of a power delegated in writing by the Municipal Manager.
- (j) "Municipal Structures Act" means the Local Government Municipal Structures Act, 1998 (Act No. 117 of 1998)
- (k) "Municipality" means SETSOTO Local Municipality
- (l) "Occupational health and safety representative" means an occupational health and safety representative designated pursuant to Section 16 of the Occupational Health and Safety Act, 1993.
- (m) "Occupational health committee" means an occupational health committee established pursuant to Section 15 of the Occupational Health and Safety Act.
- (n) "Occupational health affair" means a person appointed as an occupational health officer pursuant to Section 71 of the Occupational Health and Safety Act.

CHAPTER 2

2.1 HEALTH AND SAFETY POLICY STATEMENT

- 2.1.1 Management of Setsoto Municipality is vitally interested in its employees' health and safety.
- 2.1.2 Our objective is to protect our workers from injury and illness.
- 2.1.3 Setsoto Municipality, as the employer, is ultimately responsible for its workers health and safety.
- 2.1.4 Management of Setsoto Municipality is vitally interested in its employees' health and safety.
- 2.1.5 Our objective is to protect our workers from injury and illness.
- 2.1.6 Setsoto Municipality, as the employer, is ultimately responsible for its workers health and safety.

2.2 DECLARATION BY THE MUNICIPAL MANAGER

- 2.2.1 I, Municipal Manager of Setsoto Municipality am personally committed to taking every reasonable precaution for the protection of all workers. To fulfil this commitment Setsoto Municipality will make every effort to provide and maintain a safe and healthy workplace by adhering to acceptable industry standards and complying with occupational health and safety legislation. In keeping with occupational health and safety legislation, a healthy and safe workplace will be accomplished in consultation and cooperation with management and employees, in particular the workers health and safety representative
- 2.2.2 Supervisors will be held accountable for the health and safety of workers under their supervision. Responsibility includes ensuring that machinery and equipment are safe and that work practises are in compliance with established legislation, workplace practises and procedures. To protect their health and safety, workers must receive adequate specific work task training.
- 2.2.3 Every employee must protect his or her health and safety and the health and safety of other workers by working in compliance with legislation and established workplace practices and procedures. Contractors will be required to operate according to legislative requirements using best practises and following Setsoto Municipality policies and procedures regarding health and safety.
- 2.2.4 Health and safety is an integral part of this organisation's everyday business. It is in the best interest of all to join together and put into practice health and safety principles in all work activities.
- 2.2.5 This policy must therefore be regarded as binding to all members of the Setsoto Municipality. The Municipality will monitor and review the

implementation of the policy on an annual basis in order to ensure that the policy objectives are achieved.

2.2.6 Signed..... Municipal Manager -

Date:.....

CHAPTER 3

3.1 COMMITMENT TO HEALTH & SAFETY OF WORKERS ✓

- 3.1.1 The health and well-being of our employees and host communities are of prime importance. We believe that all occupational illnesses, workplace injuries, and environmental incidents are preventable and will therefore never compromise Health and Safety standards and procedures in the quest for other business priorities.
- 3.1.2 It is the policy of Setsoto Municipality that accident prevention and health promotion shall be considered of primary importance in all phases of operation and administration. Our aim is zero occupational illnesses, injuries and incidents
- 3.1.3 At Setsoto Municipality, no job is important and no service so urgent that we cannot take time to perform our work safely and in an environmentally conscientious manner. Each line manager and each employee is responsible for assuring that all activities result in an acceptable level of risk to themselves, to others present, to the general population and to the environment
- 3.1.4 Management of Setsoto Municipality recognizes and accepts its legislative responsibilities, and furthermore, is committed to establishing and maintaining a consultative environment in which management and staff work together to continually improve safety and health in the organisation. Our occupational Health and Safety programme will follow the principles contained within the International Labour Organisation's safety management guidelines as the means of ensuring that the highest standards of Occupational Health and Safety integrate with improved work performance.

3.2 PURPOSE OF THE OCCUPATIONAL HEALTH AND SAFETY POLICY ✓

- 3.2.1 The policy aims to:
- a) Establish rules and consistent standards for safe places of work;
 - b) Promote awareness and understanding of hazards that can result in harm;
 - c) Promote good health and safety practises at all levels in all organisations;
 - d) provide information and training standards so that every employee is able to prevent harm to themselves or others at the point of action;
 - e) Demonstrate management's full commitment to their employees' health and safety;

- f) Show employees that safety performance and organisational performance are compatible;
- g) Members of the Setsoto Municipality are urged to take commitment to health and safety beyond merely reading the policy. They have to translate the policy into effective action.

3.2.2 STRATEGY

- a) To integrate health and safety responsibilities into everyday working practices and managerial responsibilities
- b) To assess work activities by identifying hazards and evaluating risks
- c) To reduce risks through the regular assessment of risks and subsequent provision and maintenance of safe machinery, buildings, facilities, equipment and systems of work;
- d) To minimize unavoidable risks through the use of physical control
- e) Measures including provision of personal protective equipment.
- f) To provide safe arrangements for the use, handling, storage and transport of articles and substances;
- g) To provide necessary information, instruction, training and supervision to ensure the health and safety of staff and others
- h) To consult with health and safety committees and employee representatives on health and safety matters
- i) To implement a monitoring, inspection and auditing procedure to ensure effective management of health and safety throughout the Municipality.
- j) To make arrangements for coordination and cooperation with and dissemination of information to, employees of other employers and contractors who may be required to work in the Municipality.

3.2.3 AUTHORITY

- a) The Act holds the Municipal Manager of Setsoto Municipality accountable for the health and safety of the Municipality employees. He has in turn delegated operational responsibility and authority for health and safety implementation to the Director of Corporate Services and, through this office, to line managers of departments and units for their areas of responsibility

CHAPTER 4

4.1 RESPONSIBILITIES OF THE EMPLOYER

- 4.1.1 Identify potential hazards which maybe present while work is being done, and any equipment is being used.
- 4.1.2 Ensure that plant, tools, equipment and machinery are safe, maintained in good working order and those materials and operational processes are without risk to health.
- 4.1.3 Establish the precautionary measures that are necessary to protect his or her workers against the identified hazards and provide means to implement these precautionary measures in order to reduce or remove the risks associated with the hazards
- 4.1.4 Provide the necessary information, instructions, training, and supervision.
- 4.1.5 Not permit anyone to carry on with any task unless the necessary pre measures have been taken.
- 4.1.6 Take steps to ensure that every person under his control complies with the requirements of the act.
- 4.1.7 Enforce the necessary control measures in the interest of health and safety.
- 4.1.8 See to it that work being done and equipment being used is under the general supervision of a worker who has been trained to understand the hazards associated with the work and such a worker must ensure that the precautionary measures are implemented and maintained.
- 4.1.9 Delegate responsibilities to 16.2 employees.
- 4.1.10 Decide if 16.2 appointee may sub-delegate responsibilities.
- 4.1.11 Provide 16.2 appointee with appropriate information, training, facilities and time to execute.

4.2 DUTIES OF THE CORPORATE SERVICES DIRECTOR

- 4.2.1 Ensure full compliance with the OHS Act.
- 4.2.2 Make written appointments indicating duties, functions and responsibilities
- 4.2.3 Document all agreements relevant to OHS

- 4.2.4 Report all deviations , deficiencies and concerns to Municipal Manager for authorisation, action, and implementation within reasonable timeframes.
- 4.2.5 Ensuring that all aspects of the programme are identified, assessed, suitable risk control measures are implemented, maintained, evaluated and reviewed for efficiency and compliance.

4.3

DUTIES OF SHE OFFICERS

- 4.3.1 Incident Investigations
- 4.3.2 Internal Audits
- 4.3.3 Monitoring of legal compliance
- 4.3.4 Training, development and facilitation of employees, reps, awareness, information, formal and informal training. Committee meetings, remedial actions, Contractor control,
- 4.3.5 Support structures for reps and committees
- 4.3.6 Maintain OHS information, records and database
- 4.3.7 Supervise COID Act execution and compliance
- 4.3.8 Report on incidents, trends, risks

4.4

DUTIES OF EMPLOYEES

- 4.4.1 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.
- 4.4.2 Follow all the health and safety rules and procedures that are provided and communicated by the employer or anyone authorised or competent to do so.
- 4.4.3 Wear the prescribed safety clothing or use the prescribed safety equipment where it is required
- 4.4.4 Cooperate with an employer or any person who has been authorised by the employer to carry out duties in terms of the act.
- 4.4.5 Inform the employer or their health and safety representative of any unhealthy or acts that they are aware of.
- 4.4.6 Give information to an inspector from the Department of Labour if he or she should require it
- 4.4.7 Formally report any incident that they were involved in or aware of that could cause a health problem or that resulted in an injury.

4.4.8 Not to interfere with, damage or misuse anything that is provided in the interest of health or safety. This applies to intentional and or careless or irresponsible actions.

4.5

RIGHTS OF EMPLOYEES

- 4.5.1 A workplace that is safe and without risk to health.
- 4.5.2 A copy of the OHS Act and Regulations must be made available in the workplace and easily accessible.
- 4.5.3 Know and understand the full meaning, purpose and benefits of the health and safety rules and procedures of the workplace.
- 4.5.4 Know the health and safety hazards, potential exposure risks and possible effects.
- 4.5.5 Know what precautionary measures must be taken to prevent uncontrolled exposure to self and or others.
- 4.5.6 Know the routine operational and emergency procedures that must be followed if an employee is exposed to hazardous substances.
- 4.5.7 Comment on the legislation and make representations to the advisory council and or other appropriate body on any regulation or safety standard published under the OHS Act.

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OCUPATTIONAL HEALTH AND SAFETY REPRESENTATIVES TRAINING MANUAL

There are 2 main aims of this training:

1. To provide appointed Health & Safety Reps with an overview of the O.H.S Act. This includes knowing what the act says about the duties and responsibilities of employers and their employees and what it requires of them.

2. To provide Health & Safety Representatives with an understanding of their role as such. This includes knowing what their duties and responsibilities are and how they should carry them out.

The training is broken down into 4 sections:

- ❖ OHS Act and Regulations
 - ❖ Hazard Identification
 - ❖ Incident Investigation
 - ❖ Safety, Health and Environmental Inspections
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OHS ACT AND REGULATIONS

1. INTRODUCTION

The Occupational Health and Safety Act, Act 85 of 1993, requires the employer to bring about and maintain, as far as possible, a safe work environment that is without risk to the health of the workers. The employer must ensure that the workplace is free of hazardous substances 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.

The employer, however, cannot take this responsibility alone. The workers and employers must share on the responsibility for health and safety in the workplace because 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. Both parties must identify dangers and develop control measures to make the workplace safe.

Statistics

- 1.2 million workers killed on the job per year
- 1.6 million workers fall ill every year
- 6000 - 7000 incidents reported in S.A. each year

2. THE ACT AND REGULATIONS

The Occupational Health and Safety Act of 1993 (Act 85 of 1993) consists of 50 sections promulgated by Parliament.

Purpose of the Act:

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.

Scope of the Act:

- Implemented in South Africa in 1993
 - Makes provision for the handling of occupational health risk exposure threats.
 - Covers all types of occupational health and safety hazards and risks
 - Requires compliance of Employers, Employees, self employed persons, contractors, piece workers, casual & temp labour, designers, manufacturers, distributors, suppliers, part time workers and visitors.
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Aim of the 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 thereto.

Contents of the OHS Act Regulations

- A. General Regulations
- B. Health Regulations
- C. Mechanical Regulations
- D. Electrical Regulations

3. OCCUPATIONAL HEALTH AND SAFETY POLICY

A health and Safety policy is a written statement by an employer stating the company's commitment for the protection of the health and safety of employees and to the public. It is an endorsed commitment by management to its employees regarding their health and safety.

Purpose of the Occupational Health and Safety Policy

Some of the reasons why workplaces need a health and safety policy are:

- To demonstrate management's full commitment to their employees' health and safety;
- To show employees that safety performance and business performance are compatible;
- To state the company's safe beliefs, principles, objectives, strategies and processes to build buy-in through all levels of the company;
- To outline employer and employee accountability and responsibility for workplace health and safety;
- To comply with the Occupational Health and Safety Act
- To set out safe work practices and procedures to be followed to prevent workplace injuries and illnesses.

4. DEPARTMENT OF LABOUR

The Act was drawn up in consultation with representatives from employer and employee organizations, trade unions and the public and private sectors.

The Chief Directorate of Occupational Health and Safety of the Department of Labour, administers the OHS Act.

In order to ensure the health and safety of workers, provincial offices have been established in all the provinces
Inspectors from these provincial offices carry out inspections and investigations at workplaces.

Department of Labour Inspections

Inspections are usually planned on the basis of the accident statistics ; the presence of hazardous substances; the use of dangerous machinery in the workplace; and following reports of the accidents.

Unplanned inspections usually arise from requests or complaints by workers, employers, or members of the public. All complaints or requests are treated confidentially.

Powers of inspectors

If an inspector finds dangerous or poor conditions at the workplace s/he may serve one of the following notices.

A prohibition notice to stop further high-risk actions, processes or the use of a particular machine or piece of the equipment

A contravention notice may be served on workers or employer. A contravention of the Act can result in immediate prosecution. The employer may be given an opportunity to correct a contravention of a Regulation within a time limit specified in the notice.

An improvement notice may be served on the employer when the inspector requires the employee to implement more effective prevention or risk control measures.

Other powers

The inspector may enter any workplace or premises where machinery or hazardous substances are being used and question or serve a summons on person/s to appear at an interview or formal inquiry. The inspector may

- o Request that any documents be submitted to him or her,
- o Investigate and make copies of the documents, and
- o Demand an explanation about any entries in any documents,

- o The inspector may also inspect any condition or article and take samples or it, and seize any article that may serve as evidence.

NOTE: The inspector must provide a receipt for any evidence removed from the workplace.

The above 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 X 117,
Pretoria
001**

Any person aggrieved by any decision taken by an inspector may appeal against such decision to the chief inspector, but appeal must be within 60 days after the inspector's decision was made known. Any person aggrieved by the decision taken by the chief inspector may appeal against such decision to the industrial court.

5. GENERAL DUTIES OF EMPLOYERS

The employer must see all the following general duties are carried out properly. It is practical to designate these duties and make sure that the appointees are competent and equipped to execute them properly.

GENERAL DUTIES OF EMPLOYER:

- To provide and maintain a working environment that is safe and without risk to the health and safety of employees.
 - Eliminate or mitigate hazards before resorting to personal protective equipment.
 - Ensure that production processing, use handling, storage or transportation of any article or substance is done safely and without risk to health
 - Establish the hazards to health and safety of persons in their activities in the business, establish what precautionary measures are necessary and provide such measures.
-
- Provide information, instruction, training and supervision as may be necessary to ensure health and safety of employees.
 - NOT to permit any employee to work unless precautionary measures have been taken.
 - Ensure that this Act is complied with by every person in his employment or on the premises under his control.
 - Enforce such measures as may be necessary in the interest of health and safety (discipline)
 - Ensure that work is performed and plant or machinery is used under general supervision of a person trained to understand the hazards associated with it and who have the authority to ensure that precautionary measures taken by the employer are implemented
 - Ensure that employees know and understand what is expected of them and why, as well as what actions they should take while carrying out their duties and tasks.

Paleng
Buidi
Kazibulo

6. GENERAL DUTIES OF EMPLOYEES

- Take care not to harm yourself or other people around you. (Acts or Omissions)
 - Co-operate with your employer or other persons on the premises to ensure that all comply with legal requirements.
 - Carry out any lawful order given to you.
 - Ensure that all health and safety related instructions given to you and all health and safety procedures laid down for the workplace are obeyed.
 - Report any hazardous situations or conditions to the Health and Safety Representative or employer.
 - Report any incident which may affect your health or safety to the H & S rep for your area or to the employer before the end of the shift.
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7.DUTIES OF EMPLOYERS TO HEALTH & SAFETY REPS:

- Provide training required for the H & S Rep to perform his duties
 - Make time available for inspections during working hours.
 - Inform Health & Safety Reps of steps taken to minimize hazards.
 - Inform Health & Safety Reps of the Occupational Hygiene programme, biological monitoring and medical surveillance to monitor the H & S of employees.
 - Inform Health & Safety Reps beforehand of planned inspections, investigations or formal inquiries by inspectors.
 - Inform the Health & Safety reps of any incidents/accidents that occurred in his section of the workplace.
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8. FUNCTIONS OF SAFETY REPS

- Investigate any Health & Safety matters that are brought to their attention by another employee.
 - Report such Health & Safety matter to the employer
 - Investigate accidents/incidents in his/her workplace
 - Identify hazards in the workplace by doing regular inspections.
 - Reporting such hazards in the correct manner.
 - Attend Health & Safety Committee meetings and advise them on matters affecting Health & Safety of employees at work and causes of accidents/incidents
 - ~~Review the effectiveness of the Health & Safety measures.~~
-
- Consult with inspectors at the workplace and accompany them on inspections of workplace.
 - Attend any investigation or formal inquiry.
 - May inspect any documents that the employer is compelled to keep in terms of the O.H.A.S.A
 - May accompany a technical advisor on an inspection after gaining approval of his employer.
 - Participate in any Health & Safety audit.

9. MEMBERS OF HEALTH & SAFETY COMMITTEES?

- All designated H & S Reps

- Persons nominated by the employer in writing.

The number of nominees shall not exceed the number of H & S Reps nominated.

10. DUTIES OF HEALTH & SAFETY COMMITTEES

- Hold meetings at least once every three months
- Monthly meetings are recommended.
- Inspector may direct the health & safety committee to hold a meeting if more than 10% of the employees at specific workplace hand a written request to him.
- Note corrective action taken by the employer arising from reports received from Health & Safety Reps
- Make recommendations to the employer on matters affecting the Health & Safety of employees.
- ~~Discuss incidents/accidents that occurred at the workplace and~~
recommend corrective action
- May also report to an inspector
- Keep minutes of meetings and recommendations made to the employer.

HAZARD IDENTIFICATION AND RISK ASSESSMENT

The term HIRA (Hazard Identification and Risk Assessment) describes a process, which involves the identification of hazards and the assessment or measurement of potential workplace risks that can be linked to hazards and prevent incidents. HIRA is the first step in the preparation for a risk assessment. It provides a documented baseline step in the preparation for the risk control evaluations and reviews.

Incidents are the results of poorly managed risks and all employers and employees have to have a responsible attitude towards fellow workers, neighbours, the community and anyone outside of the company who may be exposed to potential harmful SHE risks. A responsible attitude means the employer and employee need to look at all operations and work materials and procedures, and take 'due care' to see that anyone who comes into contact with products is not exposed to any health, safety, or environmental risks and therefore reduce incidents.

HIRA is a structured approach used to identify all the hazards that have the ability to cause harm to people, tools, equipment, machines and the environment. It also acts as a driver to make us look at the conditions and circumstances that may make a hazard a high risk.

Once the hazards are known or clarified, conditions and other changing factors can be assessed and ranked according to this risk or clarified, conditions and other changing factors assessed and ranked according to this risk or likelihood of harm or damage. HIRA provides us with a system of checks and balances so that high-risk issues are not overlooked.

1. MOTIVATION FOR HIRA

Firstly, every country has legislation, which lays down certain minimum SHE steps or standards that must be followed to reduce risks and occupational incidents. These standards are generic and are only indicators of the absolute minimum controls that we can expect to be in place. Each industry and

Organisation must also look at their own particular risks and make sure that all those "extra risks" that are specific to their operations are also taken care of in a responsible way. In South Africa, as well as in many other countries, the fact that every citizen is entitled to a healthy and safe environment.

Secondly, millions are wasted every year due to industrial incidents. Incidents result in physical harm and disablement, medical costs, loss of earnings, and worker rehabilitation costs. The loss of plant, equipment, materials and product spoiling results in further losses. If incidents are prevented, the company and the community at large. If profits increase, more money can be re-invested in the business and employment figures would also improve.

Everyone is exposed to hazards and risks every day and in every environment:

- In the home overloaded electricity circuits cause many fires. These result in deaths, bad burns, loss of furnishings and personal possessions and property;
- Work incidents cost the country millions in lost production, insurance claims and human injury, illness and rehabilitation.;
- Road traffic accidents effect individuals, families, and communities and in many instances, also affect the environment.
- Contaminated litter that finds its way into the community results in health risks and disease, and involves very high curative medicine and clean up costs.
- In the environment the irresistible dumping of toxic materials on unlicensed dumpsites pollutes water supplies, or close to or in rivers and storm water drains.

Once you get into the habit of looking at hazards and assessing the risk that they pose, you find that you are a more responsible citizen, worker and family member. Most accidents need not happen- all you need is a good knowledge of

how hazards can be dangerous, and then apply a bit of forward thinking. Knowledge is a powerful tool when used in the right context. With a bit of practice it becomes automatic to see potential dangers and take steps to advise others or avoid an incident or loss whether this is at home, at work, in schools or even in recreation areas.

2. POLICY IN CONTEXT

With good planning, management systems, and teamwork, most incidents can be prevented. The employer needs to anticipate and/or identify all the hazards. This is done by surveying the workplace and getting information from both employees and specialists who are familiar with those hazards. People with the necessary competence (knowledge and skills) are appointed to carry out these

tasks. On completion of this module you should be able to help with basic risk assessments in the workplace. As you will be able to see an impact of these risks, you will be in a position to act as a leader, and coach and inform others of;

- (a) The risks they are exposed to;
- (b) Unnecessary risks that their attitude and habits expose others to;
- (c) And the positive contribution that risk controls will make to everyone concerned.

HIRA (Hazard Identification and Risk Assessment) is:

- It is a simple but effective procedure that is only one part of the incident management programme;
- It supports moral, legal and financial planning;
- It is a useful tool to identify employee training needs;
- It is tool that can be used by all employees to reduce incidents;
- It is the foundation for SHE risk assessment- in other words it is the first step in a risk assessment process;

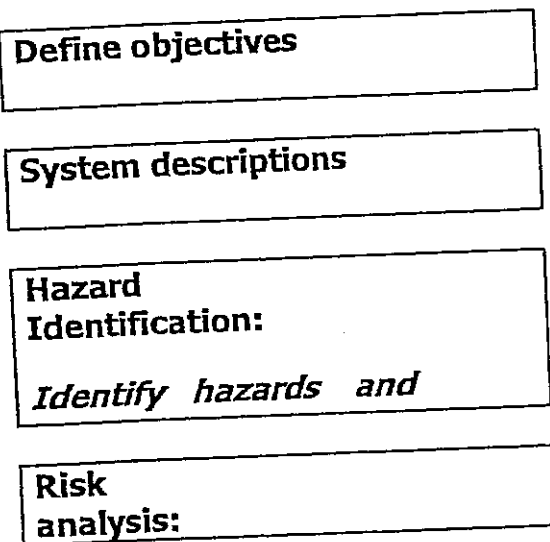
- It provides multi-disciplinary team members with the opportunity to initiate cost effective and integrated planning and/ or remedial action plans.

HIRA (Hazard Identification and Risk Assessment) is not:

- It is not the final solution;
- It is not an isolated "one of" activity;
- It is not a "desk driven" process;
- It is not a "top down" exercise.

3. THE HIRA PROCESS

Figure 1 depicts the HIRA process



Analyze hazards and

Risk Assessment:
Consolidate and prioritize

Decision making:
Develop an action plan

Validation of control:
Evaluate results for further

Modify system or process

RISK MANAGEMENT

4. THE PURPOSE OF HIRA

HIRA is a proactive incident prevention tool. We are surrounded by hazards every day of our lives. Under controlled and "usual" circumstances and conditions, these hazards do not put us at risk. With a change in conditions and circumstances these hazards can become the cause of death and with HIRA, SHE deficiencies can be identified systematically and followed by action to achieve measurable performance outcomes.

All employees should be trained to apply basic HIRA principles in all their designated tasks and job areas. Correct information, general awareness, and informed decision making is the key to good management.

5. SCOPE OF HIRA

HIRA helps us to determine how simple or complex a risk assessment needs to be. An effective HIRA study should be structured, practical and encourage participation.

It should address the following:

- Actual practice and not written or verbal instructions.
- All areas, processes, work groups, and individuals
- All aspects of the work activity.
- All impacts that could be affected either singly or in an inter-related way- safety, health and environment.
- Routine and non-routine activities and processes.
- Planned and possible emergency linked changes to the work environment.

HIRA looks further than static conditions and raw materials, or finished goods. It also looks at changing processes and circumstances and conditions. People who carry out effective HIRA exercises also consider engineering factors and designs, and human abilities, capacities and general behaviour. These need to be evaluated in the context of specific processes and work activities.

6. TERMINOLOGY OF HAZARD IDENTIFICATION AND RISK ASSESSMENT.

There are many definitions for the terms used in the risk management field. It is important to use common terminology to prevent contradiction and confusion when applying the risk management process. For the purpose of this module an explanation of terms is given below.

- **Consequence – Consequence is known as the outcome of an event. There may be or more consequences from an event. Consequence may be expressed qualitatively or quantitatively and range from positive to negative.**
- **Degree of harm- means severity (always negative)**

- Exposure- How often and for how long employees are exposed to a hazard.
 - Frequency-Occurrence per unit time, (usually per year). May be expressed qualitatively or quantitatively).
 - Probability/Likelihood- Means the chance of an event occurring;
 - Severity- Severity is the measurable negative impact of the incident that has occurred.
 - Harm- Harm may be classified as injuries, occupational diseases or losses. Harm may also be connected to damage to facilities (e.g. buildings, equipment, vehicles).
 - Hazard-A hazard can be described as conditions, circumstances or objects with the potential to cause harm. It implies a source of/ or exposure to danger. (Sub-standard act or condition).
-
- Risk- ~~The likelihood that occupational injury or harm to persons will~~ occur. However in general Risk Assessment there may be risk of production loss without injury. Then one looks at the combined effect of the probability or frequency of occurrence of an undesirable occurrence and the probability of the consequence of the occurrence.
 - Due diligence- Taking all reasonable care to protect the health and safety of all employees. Provide equipment, maintain the equipment, use equipment as prescribed, provide information relating to the equipment, and provide competent supervision.
 - Incident – An incident is an undesired event that results in harm to people, damage to property or loss to process
 - Danger- Danger can be viewed as chance o harm or loss.
 - Safety – According to the Oxford dictionary safety is freedom of dangers (unacceptable risk). Safety is a state of mind by which employees are constantly aware of the possibility of injury at all times.
 - Risk estimation – this is the process used to assign values to the frequency and severity of a risk. May be derived qualitatively or quantitatively.
 - Hazard identification – Process to find elements of risk.

- Risk Management – Process to protect the organization, and resources and profits against the adverse consequences of risk, by reducing the frequency of occurrence and / or the consequence of exposure:
- Risk assessment – the overall process of risk identification, analysis and risk evaluation.
- Risk analysis – the systematic use of information to estimate the risk.
- Risk evaluation – Process of comparing estimated risk against given risk criteria to determine the significance of the risk.
- Prioritisation of ranked risks – prioritisation of the ranked risks is the listing of risks in order from high impacts to low impacts
- Risk treatment - process of selection and implementation of measures to reduce the severity and/or frequency / probability of risks occurring.
- Risk Avoidance – Decision not to become in a risk situation.
- Risk Reduction – Action taken to lessen the probability and or severity associated with risk.
- Toleratable risk – risk that is acceptable in a given context based on the current values of society.
- Significant risk – those risks that are not accepted, in any given context based on the current value of society.
- Risk Control – those actions taken to reduce loss from the business.

Outcome of HIRA – Continuous SHE system improvement

Frequency – the number of incidents that occur within a given time period.

An accurate analysis would need you to look at:

- Major incidents;
- “Near misses” or warnings;
- Incidents involving damage to materials, plant and equipment only.

Depending on the nature and impact of an incident you may want to have an even more diagnostic indicator to use for remedial action. In that case a more focused analysis could include –

- Geographic location;

- Specific operations and processes;
- Different shifts; or
- Different employee's responsibility areas.

Severity – the negative impact of the incidents that have occurred, examples include

- The number of days lost;
- Cost of medical treatment, health care and rehabilitation
- Cost of repairing, replacing material, equipment etc.;
- The number (and monetary value) of spoilt products;
- The number of hours of downtime;
- The number of man-hours used to get back to normal production levels (investigation, interviews, reports, etc.);
- ~~Manpower costs (overtime, replacement staff, training etc.)~~
- Insurance premium rates and payment of indirect costs.

7. CAUSES AND EFFECTS OF INCIDENTS

Past incidents have been investigated and it was found that the causes could be divided into three groups:

- 88% HUMAN FACTORS – Unsafe acts which were caused by human error of deficiency;
- 10% ENGINEERING FACTORS – Unsafe conditions that were caused by inadequate design or work procedures;
- 2% INEVITABLE – Unavoidable events which were caused by acts of God (e.g. floods, lightning) or happened after all steps have been taken to anticipate and cater for such an event.

In a study by Frank Bird, more than 1.7 million incidents were investigated in all types of industries. All of these incidents showed the same pattern when they were analysed. For every 600 incidences where no loss or harm to people occurred, there are

- 30 incidents that cause property damage

- 10% incidents that cause minor injuries or occupational illnesses; and
- 1 incident that ends in a major injury or occupational disease, or a fatality.

Looking at these percentages, suggests that we can control about 98% of causative factors and that only 2% are inevitable!

Controls are systems and measures that ensure a certain standard or direction is maintained at all times.

Controls start with the work environment, and move on to include tooling, processing, work methods, safe operating procedures, communication, selection and placement, training, job observation and coaching.

8. LOSS CAUSATION MODEL

Fundamental features

- Incidents do not just happen. There's a sequence of events that leads up to an incidence.
- We need to address and control the first three "causative factors" of the domino sequence to prevent incidents and their effects;
- There are tested solutions and methods that we can use to address lack of control, personal factors, job factors unsafe acts and unsafe conditions;
- The effects of incidents are seldom confined to one area or SHE discipline.
- Indirect costs often far exceed direct costs.

- Long term effects are often experienced for many years or even a lifetime.

Basic causes of incidents could range from inadequate safety awareness or training, inadequate safety standards and a lack of enforcements of these standards. HIRA is an excellent tool to check that standards are correct, available and used in practice and not just left in a file.

Many theories have been researched and developed in an attempt to give a rational interpretation of the causes of incidents. For purpose of this module we will compare the sequence of events leading to an incident to a row of six dominoes, each one representing one factor in the chain. When one Domino becomes unstable and falls, it sets off a chain reaction, and causes all remaining dominos to fall.

9. LACK OF CONTROL

Management control means managing the SHE programme in its totality. Control implies identifying hazards, assessing and ranking risks, implementing the standards, planning, organising, setting and measuring objectives, evaluating results and needs, correcting deviations.

Without control, no SHE programme can succeed. A lack of control sets off a chain of events that will lead to incidents, injuries and costs. The end result is loss of health or fitness, property plant or equipment, damage and all the associated costs.

Causes of poor controls:

- Lack of commitment from management (no policy, training, appointments, inspection, etc.)
- Inadequate SHE programme (no continuous monitoring);

- Inadequate SHE standards (not available or not followed);
- Inadequate compliance with standards (no checks, remedial action, follow up)

Examples of lack of control

New employees do not attend an induction module or on the job training before starting work or when transferring to a new job in the same company.

- There are no written safe work procedures or work instructions available or accessible.
- No medical screening is carried out to identify existing health problems or disease before being placed in an environment that has hazardous substances.

10. BASIC CAUSES – PERSONAL AND JOB FACTORS

These are often referred to as the basic causes, root causes, real causes, and indirect causes, underlying or contributing causes. Here we look at why people perform unsafe acts and why unsafe conditions exist.

11. IMMEDIATE CAUSES – UNSAFE ACTS AND CONDITIONS UNSAFE ACTS

Unsafe acts

Different people act and respond in different ways in similar environment or situation. Every person's activities have some effect on at least one other person. In the work environment people act and respond in different ways when faced with a situation. While one employee will act responsibly and safely, another person in a similar situation or under similar conditions will perform an unsafe act.

Examples –

- **Working at unsafe speeds**
- **Ignoring safety / maintenance procedures;**
- **Failure to use guards**
- **Playing in the workplace**
- **Arranging / placing objects unsafely**
- **Taking chances;**
- **Failing to wear personal protective;**
- **Ignoring signs/notices;**
- **Failure to wear personal protective equipment.**

Unsafe condition

~~The employer has the responsibility to ensure that the workplace and all the equipment are made safe and free from risks. All designs, installations and operations must be surveyed and the suitability of equipment and procedures checked.~~

Examples of unsafe conditions –

- **Inadequate guards or barriers, inadequate or improper PPE**
- **Defective tools, equipment or materials, congestion or restricted action, inadequate warning systems – fire and explosion hazards, poor housekeeping;**
- **Hazardous environment conditions – gasses, dusts, smokes, fumes;**
- **Noise exposure;**
- **High / low temperatures / humidity / air quality;**
- **Inadequate or excessive illumination;**
- **Inadequate ventilation.**

12. THE INCIDENT

Incidents are unplanned events. They do not conform to the normal or expected mode of operation. The severity and outcome may vary, but this depends largely on luck. Incidents result in a measurable loss due to physical injury, property damage, and material loss or business interruption.

Injury and/or damage and losses

The outcome of an incident is not easy to predict. It will vary according to the existing conditions and circumstances at that specific time. It could result in no measurable loss ("near miss") or it could lead to business interruption, or a catastrophe.

The same situation with different prevailing circumstances present at the time may result in an incident where there is physical injury or harm (occupational illness), or even a fatality.

13. COSTS

All unplanned events cost money. Insurance covers some losses, but premises have to be paid. Uninsured costs are insured or obvious costs.

The following senses are applied when identifying workplace hazards:

- Memory: The individual identifying hazards within a specific area may have read or heard accounts of incidents that have caused accidents and thus recognise similar factors.
- Experience: Exposure to work areas and elements thereof for long periods of time presents the individual with a certain working knowledge and therefore he might have an advantage over novices in recognising hazards. The individual may have been involved with accidents or accident investigations and recognise similar factors.
- Imagination: Accidents often happen as a result of several factors coming together to form an unsafe condition.

14. ISSMEC- PRINCIPLE TO IDENTIFYING HAZARDS

Using ISSMEC as a tool, follow a series of logical and practical steps to control hazards and reduce incidents. It provides a "quick check" process, to assess conditions and activities in the workplace. Checks can be applied to a single task – high focus; a job, a department or process; or the whole SHE system – broad focus.

Every employee should be able to apply ISSMEC in the work situation on a daily basis in order to identify and evaluate problems and areas that require improvement. Both ISSMEC and HIRA act as basic stabilisers for the six cause and effect dominos.

-
- Identify possible causes of incidents:
 - Identify hazards and risks:
 - Report and record all incidents, including near misses:
 - Conduct incident investigations:
 - Carry out workplace inspections, surveys and audits:
 - Use job safety analysis & work procedures for job observations:
 - Assess critical risk areas:
 - Review and evaluate procedures:
 - Observe the actual against "the theory of practice"

 - Set standards of practice and procedure:
 - Comply to legislative requirements:
 - Verify minimum SHE system standards if necessary:
 - Develop or update existing standards if necessary:
 - Verify validity of JSA / WSWPs and update if necessary:

 - Set standards of responsibility and accountability:

- **Meet legal appointment requirements:**
- **Meet minimum SHE System requirements:**
- **Provide suitable subject specific training and verify competence – set up appropriate monitoring structure:**

Measure performance against standards:

- **Measure conformance to legal standards (e.g. occupational hygiene and environmental surveys):**
- **Do daily pre work checks, and planned inspections:**
- **Benchmark against system standards**
- **Measure against local and international standards – ISO, ILO, WHO, Codes OF Practice, Bureau of Standards, etc.**
- **Measure against company standards:**
- **Measure against industry specific standards.**

Evaluate compliance with standards

Task observation (formal and informal)

Verify the actual activities match written safe work procedures:

Control deviations operating procedures

- **Review processes and operating procedures;**
- **Review engineering controls**
- **Revise standards where indicated;**
- **Communicate strengths and weaknesses;**
- **Formulate recommendations and remedial action requirement (consult with others):**
- **Provide resources and training implementation – follow up changes and re-evaluate.**

15. HAZARD CLASSIFICATION

The identification of hazards are grouped into the following broad categories:

- **Workplace structures and general design hazards:**

- Fixed and portable machinery and equipment hazards (manual or powered by energy sources);
- Fire hazards;
- Workplace environments hazards;
- Chemical hazards;
- Biological hazards;
- Ergonomic factors;
- Environmental hazards;
- Psychological and behavioural factors;
- Organizational hazards;

Workplace structures and general design hazards

The workplace environment can in itself be hazardous if the design, location or building materials used are not suitable for the purpose and nature of activities carried out there.

Examples of Workplace structures are buildings, structures and fixed installations

(materials, design, stability, fit-for-purpose; access and egress; ease of movement of people and materials; emergency equipment, and procedures).

Fixed and portable machinery and equipment hazards (manual or powered by energy sources)

The use of any equipment that is incorrectly designed, not guarded properly, or not handled correctly will create a risk of injury or harm.

- Manually operated equipment (trolleys, drum jockeys, decanting hoists);
- Energised equipment (compressors, mixers, pneumatic drills, jigs, cranes, forklifts, presses, lathes, cutting and welding equipment, guillotines, chain saws, conveyors, compactors).

Fire Hazards

Fire damages and damages material; equipment; plant and product, can result in loss of life. Minor changes in conditions or operational and process sequencing, or failure to follow safe operating procedures can result in a fire.

Examples of causative factors include

- Aisle obstruction
- Stacking and storing
- Demarcation and signs:
- Combustibles and flammables
- Poor waste controls and systems
- Uncontrolled electricity discharges
- Chemical reactions

Workplace environmental hazards

- Radiation (ionising and non-ionising):
- Noise;
- Lighting (natural and artificial)
- Air quality (natural and chemical ventilation)
- Temperature and humidity levels;
- Mechanical vibration.

Chemical Hazards

Chemicals can be hazardous in their 'pure state' or they can become hazardous when their state is altered due to changing conditions or chemical reactions.

Chemicals can be broadly grouped as:

- Corrosives (acids and alkalis)
- Explosives (gases and powders)
- Flammable liquids (petroleum based substances);
- Toxic substances (liquids, dusts, gases, mist, fumes, vapours)
- Dangerous gases (cyanide)

Chemicals enter the body via the skin; the mouth, throat and intestinal tract (digestive system); and the nose, throat and lung respiratory system).

Biological Hazards

Exposure is caused by human contact with organic materials that have a negative reaction on the body's autoimmune system.

Examples include:

- Insects:
- Animal proteins:
- Moulds:
- Fungi:

- Parasites:
- Larvae:
- Spores:
- Viruses and bacteria:
- Protein from natural fibres and other organic particles:

Ergonomic Factors

Here the focus is on human beings and their interactions with products, equipment, facilities, procedures and environments used in work and everyday living. Ergonomic controls aim to best match the capabilities, limitations and needs of people to the articles that people use, and the environment they use them in.

All work activities should allow the worker freedom of movement and comfortable postures. Where muscular force is needed, the largest appropriate muscle groups should be used. Work activities should be performed with the joints at mid point of their range of movement. (This applies particularly to head and neck, shoulders and trunk, the legs and arms).

Ergonomics hazard studies include:

- **Workplace design (ease of movement and access and egress – materials and people, energy consumption):**
- **Workflows and workstations, (heights, visibility, mental demands);**
- **Hand held tools (design and use of)**
- **Seating and general body posture (support, comfort, natural body position)**
- **Manual material handling, (facilities, job design, equipment, inherent human factors)**
- **Repetitive motion task demands (motor skills co-ordination)**

Environmental Hazards

Environmental hazards are all those hazards that have a direct, indirect or cumulative effect on the physical, chemical, biological and social entities, conditions and dynamics that surround us.

Environmental hazards should include studying the effects of actions on:

- **Resource conservation:**
- **Water pollution:**
- **Soil pollution:**
- **Air pollution:**
- **Plants:**
- **Animals:**

Psychological and behavioural factors

The World Health Organisation defines health as "the Balance of mental, physical and social well being and not merely the absence of illnesses. The employee should be recognised and treated as a "whole entity". Employee attitude and behaviour is directly influenced (positively or negatively) by corporate culture, mental attitude and personal coping mechanisms.

Work environment factors

- Dissention between fellow workers, supervisory and management staff, and inter-departmental differences;
- Lack of clear direction, recognition and reward;
- Action or messages that are ambiguous or contradict corporate values and culture strategy and policy.
- Organisational restructuring and job insecurity;
- Lack of structured opportunities to participate in decision-making and the change process.
- Unexplained changes, poor communication systems and uncertainty.

Job factors

- ~~Mentally demanding jobs that require high levels of concentration and precision outputs. Examples include air traffic controllers, fine hand~~
eye co-ordinating skills; that are inherently dangerous by nature: critical decision-making; operators working at high precision activities where no margin of error is possible without excessive financial loss or human harm (underground blasting, air traffic control, etc. new or unusual task lack of skills;
- Lack of standards;
- Poor general working or work environment conditions;
- Poor ergonomic conditions which lead to physical discomfort, pain, fatigue and exhaustion:
- Unreasonable output or performance expectations and demands;
- Repetitive work without stimulation of decision making; or the opportunity to use intellect or innovation;
- Excessive overtime;
- Work overload / shift work;
- Lack of recognition or inequality in treatment
- Tension due to unresolved interpersonal differences
- Cultural misunderstandings or misconceptions;
- Perceived (or actual) favouritism or victimisation;

- Shift patterns.

Personal factors

Mental health and attitude has a marked effect on safe behaviour and should be included in general risk assessment activities. (There are those who are willing and able; willing but unable; and able but unwilling)

- Job dissatisfaction;

Poor self esteem, self confidence; and ill health – personal or loved ones; financial and security concerns;

-
- Problems with family relationships;
 - Unreasonable family expectations or demands
 - Physical, mental or substance abuse – self or dependents;
 - Chronic depression – mental or chemical causes * "Burn out"
 - Single parent pressures – financial and time constraints.

Organisational Hazards

This area is critical to the overall success of any SHE management system; however it is often the area that receives the least active work on a continuous basis.

- SHE policy, strategic goals and business plans (including financial forecasts)
- Appointment of competent staff to provide subject expertise on multi faceted and cross-field risk related areas; Delegation of duties and responsibilities.
- Use of historical data and the accessing of best practice methodology to follow up to date technology and management principles.
- Corporate awareness, information dissemination, communicating and training systems and standards, safe systems at work.

- Effective SHE committees input and contributions
- Multi disciplinary coordination systems and methods, legal compliance measurements;
- Ongoing inspections, coaching, mentoring and performance measurement;
- Managerial level audits, evaluations performance reviews and revised action plans.
- Financial and programme impacts – including corporate governance and duty of care issues;
- Attention to socio-economic impacts and continuous improvement measurements

16. THE HIRA PROCESS

The following general principles should be systematically addressed;

- The aim of risk assessments is to identify the major risks in the workplace and not obscure those risks with excess of information or by concentrating on minor risks;
- Consider aspects of the work such as the substances or equipment used, and the work process, which could cause harm.
- Take into account what safety controls and other measures already exist. The effectiveness of these controls needs to be carefully reviewed;
- Be systematic in looking at hazards and risks, remember that risk assessment is a process;
- It should be ensured that all aspects of the work activity are reviewed.

The risk assessment should address what actually happens in the workplace during the work activity;

- Actual practice may differ from what is supposed to happen in written instructions, procedures. Etc. This is frequently the way risk creeps into an operation unnoticed.

- Especially considered non-routine operations. For example, maintenance operations and changes in methods of work.
- Pay attention to interruptions or changes to the workplace (equipment, substances or methods work and people) as these are frequent causes of accidents. Changes need to be carefully managed.
- All employees and those who may be affected must be considered, including maintenance staff, security guards, visitors and contractors.

The risk assessment should highlight those groups and individuals who may particularly be at risk, such as the young and inexperienced, and those who are required to work alone or have disabilities.

The risk assessment process should take into account the existing safety ~~measure and controls, for example, codes of practice, procedures, guards,~~ special instructions and so on. These may be adequate to reduce the risk sufficiently so that the law can be complied with, but they may not be working properly. It is particularly important that this is objectively assessed.

The level of detail on the risk assessment should match the level of risk. The purpose is not to deal with every minor hazard. A suitable and sufficient risk assessment reflects what employees might foresee in terms of hazards in their workplaces.

In most cases it is better to first make a rough assessment to prioritise the risk. Then, in the second assessment more sophisticated techniques can be used to deal with the major risks.

17. THE SCOPE OF RISK ASSESSMENT

Risk assessments are scoped taking the following into consideration;

- Geographically based, such as localized work practises e.g. elevated work positions, workshops, etc.

- Especially considered non-routine operations. For example, maintenance operations and changes in methods of work.
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17. THE SCOPE OF RISK ASSESSMENT

Risk assessments are scoped taking the following into consideration;

- Geographically based, such as localized work practises e.g. elevated work positions, workshops, etc.

- **Functionality based, such as types of activities, jobs, duties, responsibilities etc.**
 - **Hazards or issue based, such as the hanging wall, electricity, machinery etc.**
 - **Discipline based, such as mechanical engineering, electrical engineering, environmental management etc.**
 - **Legal compliance, requirements you have to comply to.**
-

ACCIDENT/INCIDENT INVESTIGATIONS.

WHY ARE INCIDENTS INVESTIGATED?

- To prevent or control recurrence of a similar incident.
- To take prompt and effective action (corrective action) to prevent recurrence, with incident prevention in mind
- Not to place blame

WHAT IS AN ACCIDENT

An accident is an undesired and unplanned event mainly caused by human error and/or high risk conditions that results in or has the potential for physical harm to persons and/or damage to property and/or interruption of business

WHAT INCIDENTS SHOULD BE INVESTIGATED?

All incidents with the potential for loss should be investigated

WHAT IS AN INCIDENT INVESTIGATION?

An analysis, evaluation, and report of an incident, based on information gathered by an investigator.

A complete investigation includes the objective evaluation of all the facts, opinions, statements, and related information, as well as an action plan, or steps to prevent or control a similar recurrence.

The Investigation should:

- ascertain both immediate and root (underlying) causes
- Support the development of mitigation measures to prevent a recurrence
- reappraise existing risk assessments
- review control standards and success in meeting them
- Identify activities or jobs causing the greatest number of incidents of particular large value in larger firms and groups
- Identify system failures in an organization contributing the greatest number of incidents of particular value
- Refer corrective action back to system failure and to rectify the system
- Satisfy legal reporting and recording duties and
- Obtain details which might be needed if the incident becomes a subject to an insurance claim or legal action.

PRE - INVESTIGATION PHASE

When an incident has occurred, managers should adhere to the following:

- Legal Requirements
- Taking control of the incident scene
- Identify preventative measures
- Gather information
- Manage incident investigation process
- Coordinate internal and external communication
- Manage report writing
- Manage onsite closeout
- Manage post investigation activities

TAKING CONTROL OF THE INCIDENT SCENE

- Arrange for first aid treatment / medical care / ambulance
- Isolate the scene: Isolate the incident scene, with barriers and signs where appropriate, to keep people out if:
 - Fatality
 - Lost time incident
 - Major injury incident
 - Dangerous occurrence
- Non employee taken straight to hospital: This will protect evidence until the investigation is over. Only allow access to the scene by the Emergency Services, Law Enforcement agencies and investigators
- Evacuate and make safe the incident scene

Before arriving at the site, the responsible person communicates with the point of contact or the appropriate site readiness designee to assure that the scene and evidence are properly secured, preserved, and documented and that preliminary witness information has been gathered. For example:

- Turn off powered equipment
- Impose a no smoking rule
- Ensure people stand up wind of spillages of hazardous materials

LEGAL REQUIREMENTS

Occupational Health and Safety Act (Act no 85 of 1993)

Section 24: Report to inspector regarding certain incidents.

Section 24.1: Each incident occurring at work or arising out of or in connection with the activities of persons at work, or in connection with the use of plant or machinery, in which, or in consequence of which-

- a) *any person dies, becomes unconscious, suffers the loss of a limb or part of a limb or is otherwise injured or becomes ill to such a degree that he is likely either to die or to suffer a permanent physical defect or likely to be*

- unable for a period of at least 14 days either to work or to continue with the activity for which he was employed or is usually employed;
- b) a major incident occurred; or
 - c) the health or safety of any person was endangered and where -
 - I) a dangerous substance was spilled;
 - II) the uncontrolled release of any substance under pressure took place;
 - III) machinery or any part thereof fractured or failed resulting in flying, falling or uncontrolled moving objects; or
 - IV) machinery ran out of control;
- shall, within the prescribed period and in the prescribed manner, be reported to an inspector by the employer or the user of the plant or machinery concerned, as the case may be.

General Administrative Regulation under the Occupational Health and Safety Act

Section 8: Reporting of incidents and occupational diseases: -

Section e.1: An employer or user, as the case may be, shall -

- a) within seven days of any incident referred to in Section 24.1 of the Occupational Health and Safety Act (Act no 85 of 1993) give notice thereof to the provincial director in the form of WCL1 or WCL2; and
- b) where a person, in consequences of such an incident, dies, becomes unconscious, suffers the loss of a limb or part of a limb, or is otherwise injured or becomes ill to such a degree that he or she is likely to die or to suffer a permanent physical defect, such incident, including any other incident contemplated in section 24.1b and c of the Act, shall forthwith also report to the provincial director by telephone, facsimile or similar means of communication.

Section 8.2: If an injured person dies after notice of the incident in which he or she was injured was given in terms of sub regulation 1. the employer or user, as the case may be, shall forthwith notify the provincial director of his or her death.

(3) Whenever an incident arising out of or in connection with the activities of persons at work occur to persons other than employees, the user, employer or self-employed person, as the case may be, shall forthwith notify the provincial director by facsimile or similar means of communication as to the —

- (a) name of the injured person;
- (b) address of the injured person;
- (c) name of the user, employer or self-employed person;
- (d) address of the user, employer or self-employed person;
- (e) telephone number of the user, employer or self-employed person;

- (f) name of contact person;
- (g) details of incident:
 - (i) What happened;
 - (ii) where it happened (place);
 - (iii) when it happened (date and time);
 - (iv) how it happened;
 - (v) why it happened; and
 - (h) names of witnesses.

(4) Any registered medical practitioner shall, within 14 days of the examination or treatment of a person for a disease contemplated in section 25 of the Act, give notice thereof to the chief inspector and the employer in the form of WCL 22.

(5) Any other person not contemplated in this regulation may in writing give notice of any disease contemplated in section 25 of the Act, to the employer and chief inspector.

Section 9: Recording and investigation of incidents

9.(1) An employer or user shall keep at a workplace or section of a workplace, as the case may be, a record in the form of Annexure 1 for a period of at least three years, which record shall be open for inspection by an inspector, of all incidents which he or she is required to report in terms of section 24 of the Act and also of any other incident which resulted in the person concerned having had to receive medical treatment other than first aid.

(2) An employer or user shall cause every incident which must be recorded in terms of subregulation (1), to be investigated by the employer, a person appointed by him or her, by a health and safety representative or a member of a health and safety committee within 7 days from the date of the incident and finalised as soon as is reasonably practicable, or within the contracted period in the case of contracted workers.

(3) The employer or user shall cause the findings of the investigation contemplated in subregulation (2) to be entered in Annexure 1 immediately after completion of such investigation.

(4) An employer shall cause every record contemplated in subregulation (1) to be examined by the health and safety committee for that workplace or section of the workplace at its next meeting and shall ensure that necessary actions, as may

be reasonable practicable, are implemented and followed up to prevent the recurrence of such incident.

Section 10: Witness at inquiry

10.(1) When an inspector is directed to hold a formal inquiry into an incident in terms of section 32(1) of the Act, he or she shall notify the employer or user concerned of the date, time and place of such inquiry.

(2) The employer or user shall forthwith advise in writing those persons who witnessed an incident, the union recognised by him or her and any other person specified by the inspector, of such date, time and place, and that their presence shall be required at the inquiry.

~~(3) The employer or user concerned shall ascertain which of the persons he or she has advised in terms of subregulation (2) are likely to refuse to attend the inquiry, and shall forthwith advise the inspector of the names and addresses of such persons in for the inspector to subpoena such persons.~~

(4) A subpoena issued in terms of section 32(2) of the Act shall be in the form of Annexure 2: Provided that, when a subpoena is served personally on a person, the service of such subpoena may be affected by any person authorised thereto by the inspector who has signed it.

INVESTIGATION

The investigation should focus on the hazard identification and immediate causes of the incident.

An immediate cause is either:

- ❖ An unsafe act by the individual or 3rd party
- ❖ An unsafe condition (either equipment or environment or both)
- ❖ Or both an unsafe act and an unsafe condition

What are unsafe acts???

Unsafe acts:

- Working at unsafe speed
 - Working without authority
 - Failure to secure machinery/material
 - Rendering safety devices inoperative
 - Arranging or placing object unsafely
 - Fooling, teasing abusing workmates
 - Using equipment unsafely or limbs instead of equipment supplied
 - Adjusting or working on moving machinery
 - Taking up unsafe positions
 - Failure to use personal protective equipment.
-

What are unsafe Conditions???

Unsafe conditions:

- Unsafe construction
- Lack of machine guards
- Inadequate guarding
- Defective working conditions
- Poor layout
- Overcrowding in workplace
- No personal protective equipment
- Unsafe lighting
- Storage of hazardous substance

THE INCIDENT INVESTIGATION PROCESS

1. Decide on the type of incident that has occurred and identify its severity

Near miss and minor incidents do not require overly detailed investigation. Detailed investigation will be required for:

- Fatality
- Lost time incidents
- Major injury incidents
- Industrial diseases
- Dangerous occurrences
- Non employee taken straight to hospital

2. Get an overview

- Identify and separate any witnesses
- Get a brief overview of the situation from witnesses and victims
- Decide whether the incident falls within one of the categories
- For serious incidents, contact the relevant Senior Manager and Departmental or Corporate Safety Adviser for support

3. Interview the injured person or witnesses:

- Put the person at ease.
- Interview on-the-spot.
- Interviews should be private.
- Get the individual's version.
- Ask necessary questions at the right time.
- Repeat the story, once you have heard it.
- End each interview on a positive note.
- Record critical information quickly.
- Drawings and photos sometimes helps.

4. Record the facts

- Document the incident scene before any changes are made
 - Take photographs
 - Draw sketches
 - Record measurements
- List all equipment and substances used
- Gather all supporting documents such as procedure notes, training records, equipment maintenance records.

BASIC CAUSES OF ACCIDENTS:

Personal factors:

- Lack of knowledge or skill
- Mental or physical defects
- Improper attitude

Job factors:

- Unsafe conditions
- Poor work standards

Basic remedies!

- Educate, train, motivate
- Personnel placements and adjustments
- Discipline
- Engineering revision
- Job safety analysis

Accident prevention methods

- ❖ Evaluation procedures
- ❖ Engineering revision
- ❖ Education & training
- ❖ Employment practises
- ❖ Example setting
- ❖ Enthusiasm
- ❖ Enforcement
- ❖ No excuses

HOW DO WE ELIMINATE UNSAFE ACTS AND UNSAFE CONDITIONS?

- Identify personal and job factors
- Use inspection lists to identify deviations and take corrective action.

Definition of disabling injury

- Any injury on duty where:
- The person does not return to work for normal work on his next shift.
- Fractured any bone - also hairline fractures
- Loss of limb or part of limb
- Unconsciousness

Definition of minor injury

- Any injury on duty where the worker is injured today - he might or might not go for medical treatment - but he returns to work the same shift or next shift!

Occupational disease

- Specific signs and symptoms
- Target specific organs/systems
- Usually results in permanent damage

COSTS OF INCIDENTS

The real costs of accidents can be measured and controlled

Indirect costs:

Items such as

- Hiring and training replacements,
- Investigations.
- Wages paid to injured
- Over time costs,
- Extra supervisor time
- Decreased output of
- Injured worker on return
- Clerical time
- Building/equipment damage
- Product damage
- Product delays

PREVENTIVE MEASURES AND CORRECTIVE ACTION

The following preventive measures and corrective action can be taken in order to minimize and avoid incidents:

1. Engineering Controls

Engineering controls are based on the following broad principles:

If feasible, design the facility, equipment, or process to remove the hazard and or substitute something that is not hazardous or is less hazardous.

- Redesigning, changing, or substituting equipment to remove the source of excessive temperatures, noise or pressure;
- Redesigning a process to use less toxic chemicals
- Redesigning a work station to relieve physical stress and remove ergonomic hazards; or
- Designing general ventilation with sufficient fresh outdoor air to improve indoor air quality and generally to provide a safe, healthful atmosphere.

If removal is not feasible, enclose the hazard to prevent exposure in normal operations.

Where complete enclosure is not feasible, establish barriers or local ventilation to reduce exposure to the hazard in normal operations. Examples include

- Ventilation hoods in laboratory work
- Machine guarding, including electronic barriers;
- Isolation of a process in an area away from workers, except for maintenance work;
- Baffles used as noise absorbing barriers

2. Management Controls

Any procedure which significantly limits daily exposure by control or manipulation of the work schedule or manner in which work is performed is considered a means of management control.

Management controls may result in a reduction of exposure through such methods as changing work habits, improving sanitation and hygiene practices, or making other change in the way the employee performs the job.

The use of personal protective equipment is not considered a means of management control. Examples of management controls are:

- o Removal of tripping, blocking and slipping hazards;
- o Removal of accumulated toxic dust on surfaces; and
- o Wetting down surfaces to keep toxic dust out of the air
- o Measures aimed at reducing employee exposure to hazard by changing work schedules, these measures include:
 - Lengthened rest breaks;
 - Additional relief workers;

- Exercise breaks to vary body motions; and
- Rotation of workers through different jobs

3. Personal Protective Equipment (PPE)

When exposure to hazards cannot be engineered completely out of normal operations or maintenance work, and when safe work practices and administrative controls cannot provide sufficient additional protection from exposure, personal protective clothing and or equipment may be required. PPE includes items such as:

- Face shields
- Steel - toed shoes
- Safety glasses
- Hard hats
- Knee guards
- Leather aprons
- Mesh gloves
- Life jackets
- Respirators
- Ear muffs
- Safety goggles
- Harnesses

P.P.E. compliance

- Awareness and understanding
- Report concerns
- Set an example
- Encourage correct use
- Assist with maintenance
- Investigate complaints
- Training participants
- "duty to inform"

It is the responsibility of the employee, Supervisor and Health and safety representative to ensure that personal protective equipment is correctly checked, stored and maintained!

WORKPLACE INSPECTIONS

1. THE INSPECTION PROCESS

- All risks present at the workplace must be managed
- Top management to introduce a formal management system
- Identified hazards must be checked regularly against set standards (Legal, Best practice, Company standards)
- Deviations need to be reported to various role players (supervisors and SHE Committee) and corrective action steps to be implemented after discussions at committee meetings.
- Employee involvement on all levels is critical for success

2. DEFINITION OF AN INSPECTION:

An inspection is a methodical observation process for performing close, critical examination of structures, materials equipment, practices and conditions.

3. ADEQUATE INSPECTIONS

During the process of an inspection SHE Representatives must focus on the following:

- Identifying and correcting improper practices or conditions which may lead to loss
- Confirmation of equipment adequacy
- Identifying planned and ad-hoc changes
- Identifying ergonomic needs
- Identifying environmental impact of operations
- Demonstrating concern for employee welfare
- Identifying and reinforcing proper activities
- Identifying the effectiveness of corrective action

4. INSPECTION STEPS

- Identify workplace hazards
- Analyze the risk of those hazards
- Identify the causes which allow the hazard or reduce it to a level of consistent with the needs of the organization
- Assign responsibility for implementing corrective action
- Establish target dates for completion
- Implement corrective action
- Monitor the progress of implementation
- Determine effectiveness of corrective actions taken

5. KEY ACTIVITIES

I. Preparation:

- Adequate knowledge
- Inspectors must have adequate knowledge of the operation, the equipment and the work being performed
- Knowledge of regulations, standards and procedures applicable to work area
- Knowledge of what to look for and where to look
- Inspectors must be prepared to be objective

II. Planning:

- Define the area to be covered during the inspection and the type of hazards in area identified
- Area covered, should include basements and out-of-the-way places
- Familiarization with location of equipment, production flow, raw material used and stored, mobile equipment, potential to generate hazards

III. Use of Checklists:

- Manufacturers provided checklists
- Internally developed checklists
- Checklists to provide
- Specific detail of area
- Reminder of what to look for
- Provide space for record keeping during inspections

IV. Equipment needed:

- Obtain and use correct personal protective equipment
- Record keeping equipment: clipboards, checklists, report forms, pencils, pens
- Validation equipment used for measurements: Measuring tape, or camera

V. Conducting the Inspection

- Stick to the inspection plan
- Use the checklist as a reminder
- Use an internal classification plan
- Commend proper performance by employees
- Record all conditions and practices which do not meet comp[any standards, regulations or codes
- If life or health is endangered, ensure that immediate action is taken

- Analyze conditions and acts to identify their underlying causes and the systems that allow them to exist

VI. Developing Corrective Actions:

- Requires knowledge of the causes of incidents
- Consider:
 - The severity of loss from the hazard
 - The frequency at which loss could occur
 - The cost to implement recommended control actions or alternative methods
 - Which control actions should be implemented

VII. Assigning responsibilities for Corrective Actions

- Normally immediate supervisor
 - Knowledge of staff
 - Persons (S) assigned must have necessary authority to make corrections happen
 - Sometimes even CEO e.g. policy changes, high cost major modifications to plant or machinery
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VIII. Effective follow - up

- List all required corrections
- List names of corresponding responsible persons, target dates, actual completion dates
- Review and note progress if not complete
- Verify whether signed off by responsible employee
- Update the list regularly