

Advanced HSE Competence (Level 3)



COURSE OUTLINE

- INTRODUCTION
- HSE-MS
- RISK ASSESSMENT
- FIRE SAFETY
- EMERGENCY ACTION PLAN
- JOURNEY MGT/DEFENSIVE DRIVING
- OCCUPATIONAL HEALTH & SAFETY
- ENVIRONMENTAL AWARENESS
- SECURITY MANAGEMENT
- ENVIRONMENTAL WASTE MGT



INTRODUCTION

- Since accidents are caused, by unsafe act or/and unsafe condition, they can be prevented. The causes of accident can be identified, and eliminated through:
- Engineering
- Education
- Enforcement, and
- Encouragement



HSE-MS

- **HSE-MS:** Health, Safety, and Environment Management System.
- It is a quality management system for managing risks within the company and to protect PARE-Personnel, Assets, Reputation, and Environment where the company is carrying out its activities.



HSE MANAGEMENT SYSTEM

It is a quality management system(QMS) which:

- ensures a safe operation within an organization
- integrates HSE into the business objectives of an organization



ELEMENTS OF HSE-MS

1. Leadership commitment
2. Policy & strategic objectives
3. Organization, responsibilities, resources, standards and documentation
4. Hazards and effects management process
5. Planning and procedures
6. Implementation
7. Audit
8. Management Review



HSE-MS METHODOLOGY

1. Identify the business process
2. Breakdown the process into its constituents activities
3. Identify HSE critical activities
4. Establish the HEMP objectives
5. Identify methods for achieving HEMP
6. Select appropriate controls for safety assurance
7. Document the HSE-MS process



Task 1.0

- What is hazard and list the effect of hazard to your health?

Time: 10mins



HAZARDS AND EFFECTS MANAGEMENT PROCESS

- ✓ Hazards and Effects management Process (HEMP) is a process of identifying the hazards and the effects in order to eliminate or ALARP the hazard.



THE 4 KEY STEPS OF HEMP

- Identify: what can go wrong?
- Assess: how likely? What consequence?
What is the risk?
- Control: is there a better way? Is
prevention control adequate?
- Recovery: escalation controls adequate?
is recovery adequate?



Task 2.0

- What are the benefits of HSE?

Time: 5mins



Benefits of HSE-MS

1. To identify control points to prevent the occurrence of top events eg accident.
2. It demonstrates the ability of management to control risks
3. It ensures continuous improvement
4. It provides synergy between HSE and business objectives



Task 3.0

- List 5 of law Enforcement Agencies you know of?

Time: 10mins.



Enforcement agencies

- **Health and Safety Executive (HSE)**
- – manufacturers, factories, workshops and industrial premises and nuclear installations, mines and quarries
- **local authorities**
- –offices, shops, warehouses, consumer services and catering, hospitality, leisure and entertainment venues
- **fire and rescue authorities**
- – Workplace fire precautions



Powers of enforcement officers

- enter premises at all reasonable times
- ask questions and require answers – sometimes ‘under caution’
- examine documents and records and take copies
- sample substances
- examine machinery
- direct that something should be left undisturbed
- take photographs



Enforcement actions

- verbal warning
- written warning
- improvement notice
- prohibition notice



Penalties

- Fines up to £20,000 (depending on the offence)
- Imprisonment up to two years



BASIC FIRE SAFETY

- **DEFINITION:** Fire is a chemical reaction between combustible materials and oxygen in which energy is evolved in the form of heat and light.
- Fire is a rapid combination of two or more combustible substances with oxygen resulting in the production of heat and light.



Task 4.0

- List the things you stand to lose due to Fire outbreak.

Time: 5mins



Losses due to fire

Fire is a friend as well as an enemy. It is the single biggest threat to any business, irrespective of size. Fire losses include:

1. Lives, properties, machinery, etc
2. Production
3. Information
4. profit



Chemistry of combustion

- Combustion is the process of burning. For combustion to occur certain elements must be present.



Chemistry of combustion



FOR FIRE TO EXIST, THE FOLLOWING THREE ELEMENTS MUST BE PRESENT:



- Enough oxygen to sustain combustion
 - Enough heat to raise the material to its ignition temperature
 - Some sort of fuel or combustible material.
-
- Take away any of these and the fire will be extinguished



Task 5.0

- List the causes of fire you know of.

Time: 5mins



Causes of fire

- Ignorance
- Carelessness
- Smoking in prohibited areas
- Arson
- Defective electrical equipment
- Spontaneous ignition
- Natural causes e.g. thunder, earthquake, volcanic eruption



Methods of fire prevention

- Good house keeping
- Education
- Enforcement
- engineering



FIRE FIGHTING/FIRE EXTINCTION

- Fire fighting or extinction is the principle of eliminating one or more basic elements of fire from the fire triangle of combustion.

There are 3 methods of fire extinction:

1. **Starvation**: the elimination of fuel
2. **Smothering**: the elimination of oxygen
3. **Cooling**: the reduction of temperature.



How fire spreads

1. Direct burning – chemical reaction
2. Convection (the transfer of heat from one point to another through movement of fluid)
3. Radiation (energy which comes from a source & travels through space)
4. Conduction is the movement of heat or electricity through something (such as metal or water)
5. Fire creeps
6. burning materials falling unto another



Task 6.0

- How can you prevent fire?

Time: 5mins.



How to fight fire

The most important fire fighting method is to prevent it from occurring



Classes of fire

- Fire is classified according to the type of fuel that is burning.

NOTE:

- Using the wrong type of fire extinguisher on a fire may make matters worse.



The Five (5) Classes of fire

- **class A Solids** –fire – paper, wood, textiles etc
- **class B Liquids or liquefiable solids** –fire - petrol, diesel, hydrocarbons
- **class C Gases** –fire – flammable gases
- **class D Metals** –fire – Magnesium, Titanium
- **class F Cooking oil fires** – deep fat fryers, commercial kitchens etc



Important Note:

- Always conduct fire drills as many times as possible
- Sound the fire alarm
- Everybody runs to the muster point
- Call external help before it gets too late



How to use fire extinguisher:

- 1. Pull the safety tag and pin
- 2. Aim at the base of the fire
- 3. Squeeze the handle levers
- 4. Sweep the jet from side to side



Very Important Notes:

1. Use the right type of extinguisher
2. Keep your escape route clear and your back to it
3. Get within effective range but stay safe
4. Always be prepared to abandon the fight - if you don't think it's safe, escape!
5. Speed is important
6. Beware - Noise, visibility, steam!



Type Extinguishers:



Water H2O
Use on class A Fires



CO2
Use on class B Fires



Type Extinguishers:



Foam

Can be Use on class A and Class B Fires



Beware!

1. Fires involving gas will reignite if the source is not isolated
– explosion risk!
2. If possible, turn off power before tackling a fire in electrical equipment
3. Be prepared to abandon the fight if you don't start to control the fire quickly



Task 7.0

- What is Stress?

Mention some stress factors that you know?.

Time: 10mins.



Signs of stress

- increased breathing rate
- anxiety
- raised blood pressure
- irritability
- lack of concentration
- loss of temper
- crying



Stress factors

- pressures of the job
- feelings of inadequacy
- confusion about, or difficulty in coping with, new responsibilities
- lack of challenge in the job
- relationships with colleagues
- work demands that conflict with domestic/home responsibilities/demands
- problems with management
- working conditions



Stress

- Adverse reaction to external pressure
- Physical health problems (e.g. raised blood pressure)
- Mental health problems (e.g. depression)
- Causes include poor communication,
- Overwork and conflict, Excessively high workloads, with unrealistic deadlines making people feel rushed, under pressure and overwhelmed. Insufficient workloads, making people feel that their skills are being underused. A lack of control over **work** activities.
- **Controls include:**
 - sympathetic policy
 - good people management
 - being flexible





Workplace Harassment Prevention



Bullying and Harassment – (invisible violence)

Note: It is not only physical violence that can affect people at work. Bullying and harassment can make people's lives miserable.

Bullying and harassment may be by an individual against an individual (perhaps by someone in a position of authority such as a manager or supervisor, even if it is inadvertent) or involve groups of people



Bullying or harassment can take different forms. It includes the following:

- ❖ Insulting someone by word or behavior.
- ❖ Copying e-mails that are critical about someone to others who do not need to know.
- ❖ Picking on someone or setting them up to fail.
- ❖ Excluding or victimizing someone.
- ❖ Unwelcome sexual advances e.g. touching, standing too close, etc.
- ❖ Preventing individuals progressing by intentionally blocking promotion or training opportunities.
- ❖ It might be carried out through the tone of voice and body language, not just through the words used.



Examples of bullying and harassment some employees experience



Consequence of Bullying & Harassment.

- It affects the quality of work, the quality of life and the amount of time taken off work for stress-related problems.
- Some employees worry about going to work, others become irritable, anxious or depressed.
- Employees experience panic attacks or loss of self-confidence and self-esteem
- Some may even turn to alcohol and tobacco consumption.
- It can also have an impact on other areas of life including personal relationships and family life.
- Research shows that bullying does not just affect the people who experience it first hand: it also affects the people who witness it, lowering general morale, damaging team work and in some cases leading to time off work by the colleagues of the person who is being bullied.



Method of Controlling Bullying at work

- Employers can tackle bullying in the workplace through a written formal policy, making it clear that bullying and harassment will not be tolerated.
- It should set out the steps to be taken to prevent bullying happening and clarify the responsibilities of supervisors and managers.
- Written guidance and training sessions can help to promote awareness of what behavior is acceptable and the damaging effects of bullying and harassments.
- Complaints of bullying can usually be dealt with through disciplinary procedures, they need to set standards of behavior.
- Managers and supervisors need to maintain fair policies for dealing promptly with complaints from employees.



- Employees need to be sure that they will get a sympathetic response if they make a complaint.
- Finally, employers need to be understanding & supportive.



Task 8.0

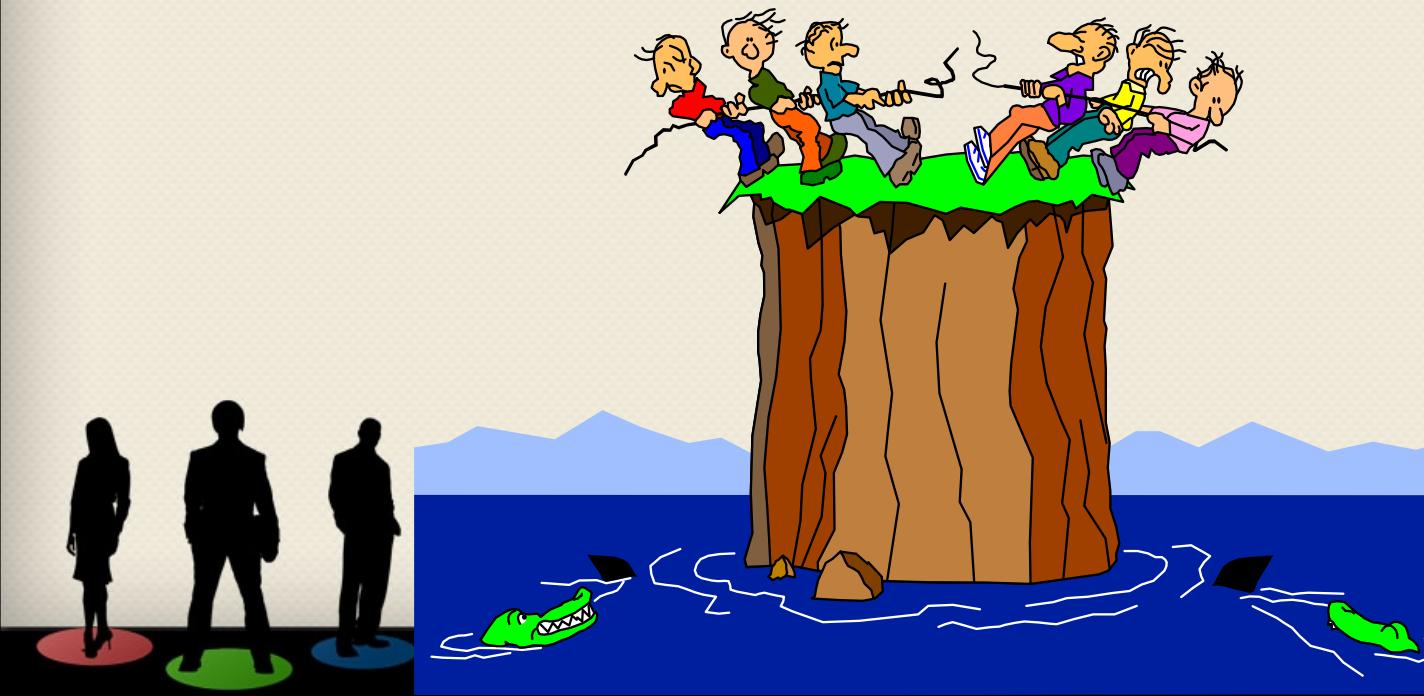
- In two sentences, define what Risk Management is.

Time: 10mins



What is Risk Assessment?

Risk Assessment is a systematic approach to identify hazards, evaluate risk and incorporate appropriate measures to manage and mitigate risk for any work process or activity.



WHY we need to do RA?

- Protect Ourselves
 - RA is key to prevention of accident
 - Everyone deserve to go home safely at the end of the day
- Elevate safety awareness & ownership
 - Aware of hazards, risks and controls and practicing safe science
- Compliance with Regulations



Definition – HAZARD

“Source or situation or act with a potential for harm in terms of human **injury** or **ill health** or a **combination of these**” (2 pg13)

e.g. - Toxic or flammable substances, electric energy, working at heights etc.



Definition - RISK

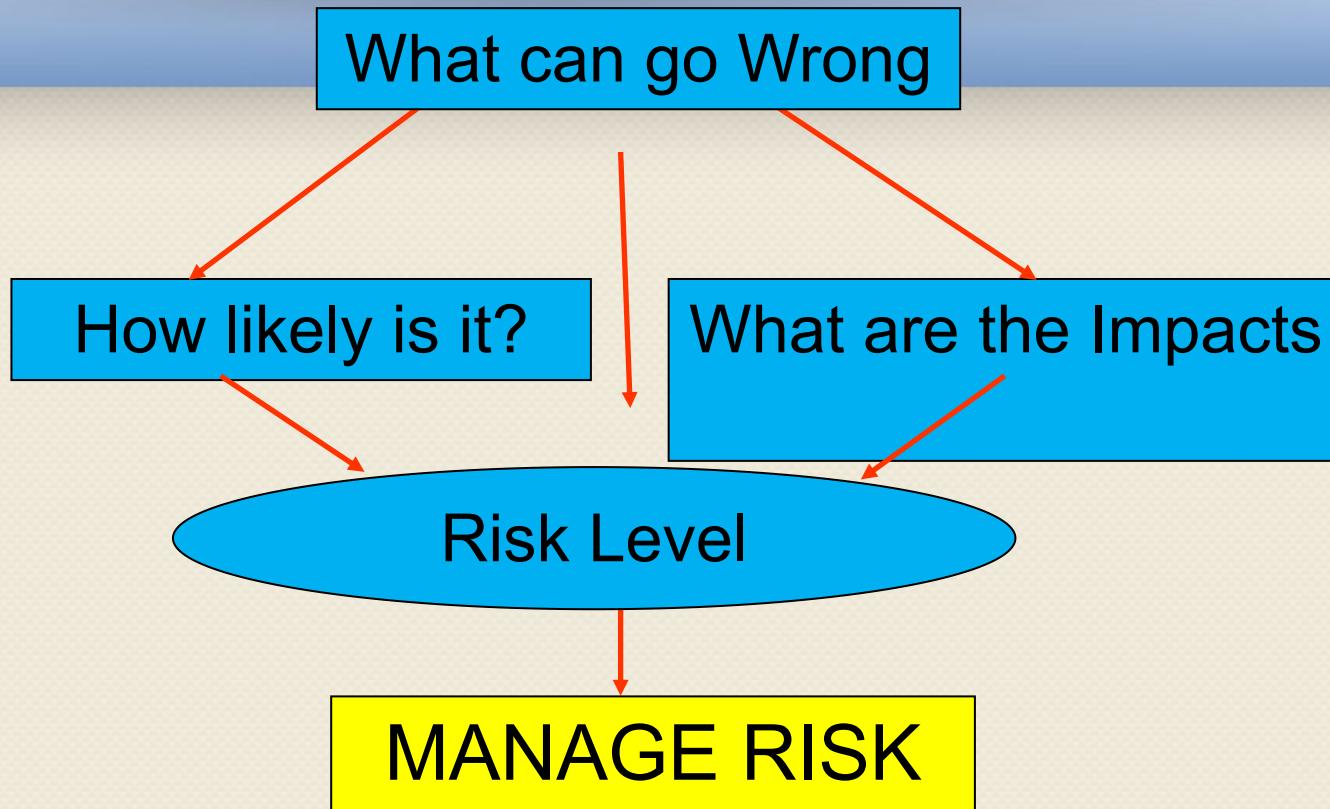
- Combination of the likelihood of an occurrence of a hazardous event or exposure(s) and the severity of injury or ill health that may be caused by the event or exposure(s) (13 page 13)
- Likelihood that a hazard will cause a specific harm or injury to person or damage property (MOM)

Risk means the chance that someone will be harmed by the hazard.

Risk = Hazard effect x Probability
(likelihood of Occurrence)



Risk Concepts



Risk management also includes control and monitoring of risks, as well as communicating these risks

Electricity – hazards

- Electric shocks
- Burns
- Fires
- Death

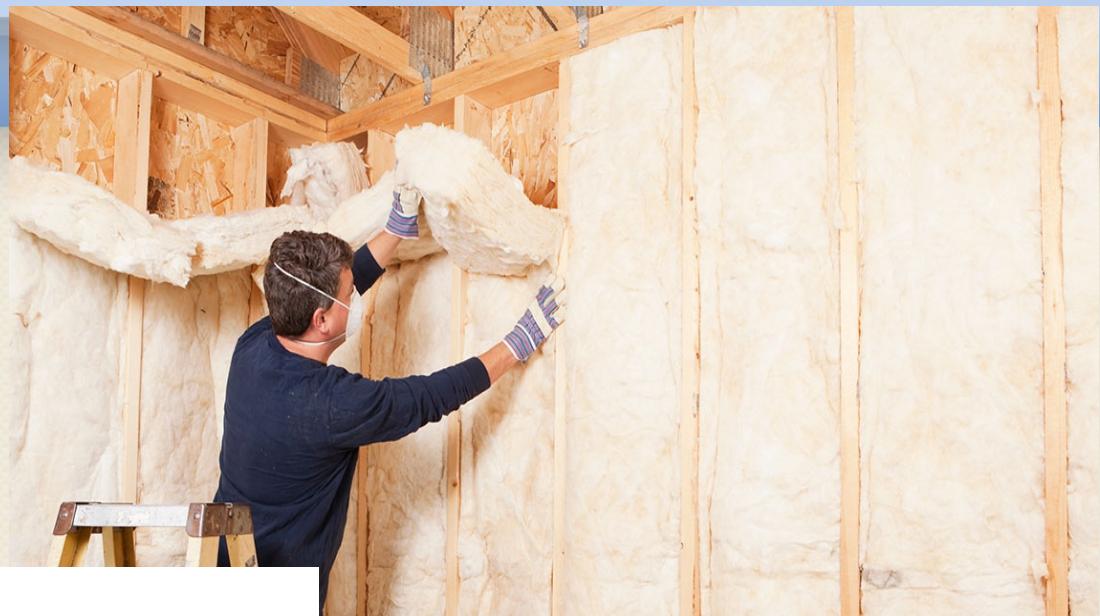
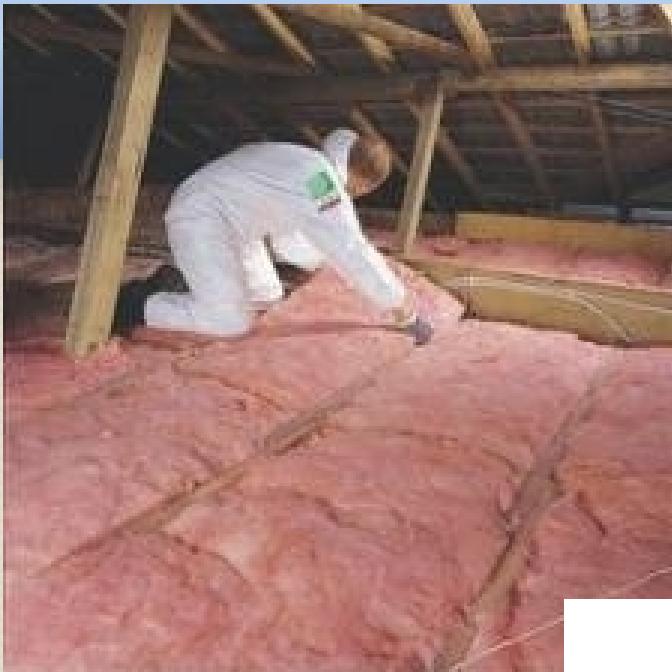


Electricity – controls

- Risk controls to protect equipment:
- Fuses
- Circuit breakers
- Risk controls to protect users:
 - – Insulation
 - – Earthing
 - – Residual current devices
 - – Voltage reduction



INSULATION



Earthing

Earthing



Grounding

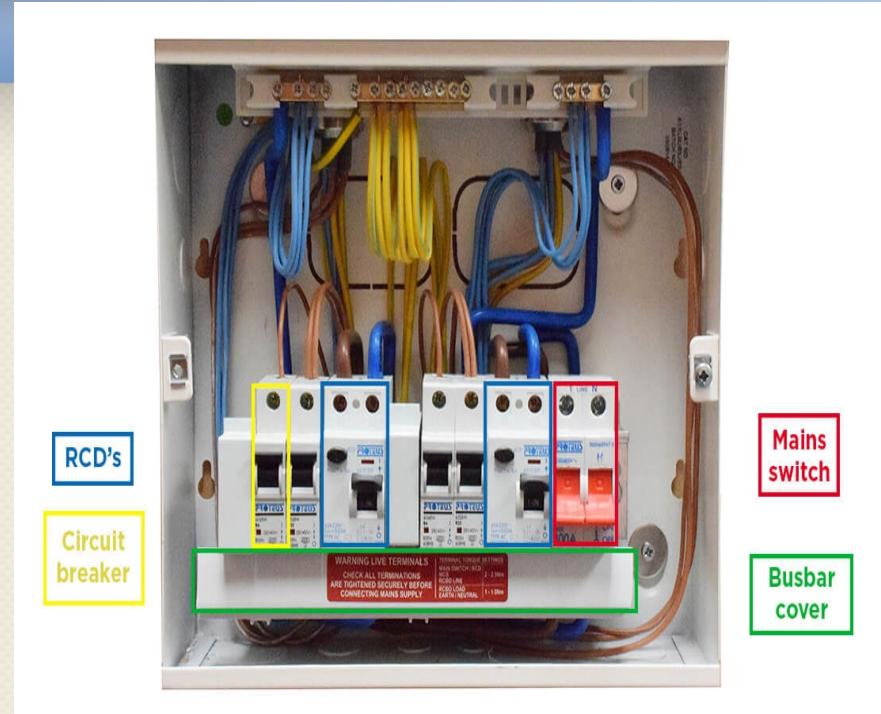


Vs

Difference between Earthing and Grounding



Residual Current Devices



Voltage Reduction

- **Voltage Drop** - Definition. Wires carrying current always have inherent resistance, or impedance, to current flow. **Voltage drop** is defined as the amount of **voltage** loss that occurs through all or part of a circuit due to impedance. ... This condition **causes** the load to work harder with less **voltage** pushing the current.

AN ISO 9001:2000 COMPANY

ALLIED
Your Welding Ally!

VOLTAGE REDUCTION DEVICE



ENERGY SAVING &
SHOCK PREVENTIVE DEVICE
BY REDUCING OUTPUT VOLTAGE



Electricity testing and maintenance

- installation, checks and maintenance by competent, suitably qualified electricians or electrical engineers
- Only authorized people with specific training can repair electrical equipment
- Portable appliances likely to require more frequent testing



Reporting Electrical Defects

- Visual inspection of equipment before use.
- Be alert for obvious signs of damage, e.g. scorching, burning smells and frequently blown fuses.
- Report electrical shocks and damage/defects to manager/supervisor.



Task 9.0

- What will you do in the case of an electric shock (seeing someone under an electric shock)



Electric shock

- Seek help
- Try to turn off electricity supply
- Try to separate casualty from supply (stand on dry insulating material and use items that do not conduct electricity – only attempt if voltage low)
- Follow training; if not trained, seek help
- **DO NOT:**
 - touch the casualty
 - put yourself at risk of electrocution



Working at height

- Common tasks
- Hazards
- Control methods
- Access equipment and safe methods of access



Working at height – tasks

- Place considered ‘at height’ if a person could be injured falling from it – even if it is at or below ground level
- Examples of situations that can result in falls from height:
 - – using ladders
 - – working on scaffolding
 - – going onto roofs/in roof spaces
 - – using chairs to access high places
 - – working above ceilings



Working at height – hazards

- Falling from a high place
- Objects falling from height and striking people
- Being dislodged from or crushed by structures
- Contact with high-level lighting/electrical equipment



Working at height – reducing risk

- Assess the risk
- Plan the job carefully (consider environment, height, duration, tasks and means of escape)
- Select the right equipment for the job
- Select competent, experienced and trained people
- Supervise the job
- Consider using fall-arrest equipment
- Check equipment regularly



Bad practice – ladders



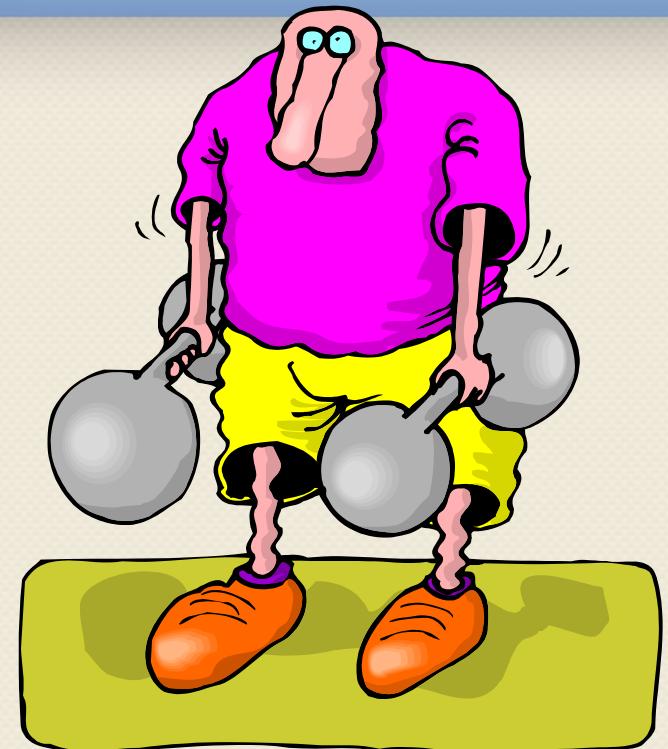
Task 10.0

Kindly explain why this is an hazard

Legal Requirement

Reasonable Practicable

Action is considered to be practicable when it is capable of being done.



Legal Requirement

Reasonable Practicable

Reasonable usually takes into account:

- The **severity** of harm & degree of risk (or likelihood) of that injury or harm occurring. Greater risk, reasonable to go to very considerable expense & effort to reduce it
- How much is **known** about the hazard & the ways of eliminating, reducing or controlling it. What are others practicing & what the standards recommend?



Legal Requirement

Workplace Safety And Health (Risk Management) Regulations 2006

Enforced from 1st September 2006.

The WSH (Risk Management) Regulations require employers, the self-employed and principal (including contractor and sub-contractor) to conduct risk assessments for the purpose of identifying workplace safety and health risks and implementing measures to control the hazards and reducing the risks.

Whoever generates the risk shall manage the risk.



Legal Requirement

Workplace Safety And Health (Risk Management) Regulations 2006

Penalties

Any person who fails to comply may be fined up to N1,000,000 for the first offence.

For a second or subsequent offence, the person may be fined up to N3,000,000 or jailed up to 6 months or both.



Task 11.0

- Why is there a need for Risk Management Regulation?

Time: 7mins



RISK MAGEMENT REGULATIONS

Why is there a need for Risk Management Regulations ?

- ▶ to hold stakeholders accountable for managing the risks they create
- ▶ to reduce risk at source

What is a hazard ?

- ▶ means anything with the potential to cause bodily injury

What is a risk ?

Means the likelihood that a hazard will cause a specific bodily injury to any person.

ALARP



RISK CONTROL

What can be done to control risks in the workplace ?

Some measures are : (from most to least preferred)

- Elimination – eliminate the hazard from the workplace
- Substitution - substituting a hazardous substance or process with a less hazardous one.
- Engineering controls - installing machine guarding or enclosing a noisy machine.
- Administrative controls - applying a permit-to-work system or lock-out and tag-out procedures.
- PPE - provision and use of these equipment, AND
- SWP – Safe Work Procedures



RECORDS of RISK ASSESSMENT

How often must the risk assessment be reviewed ?

- At least once every 3 years;
- After an accident;
- When there is significant **change** in work processes, introduction of new machinery or chemicals;
- Information on safety technology or requirement made known



Task 12.0

- What process do you go through when Assessing Risk?

Time: 7mins



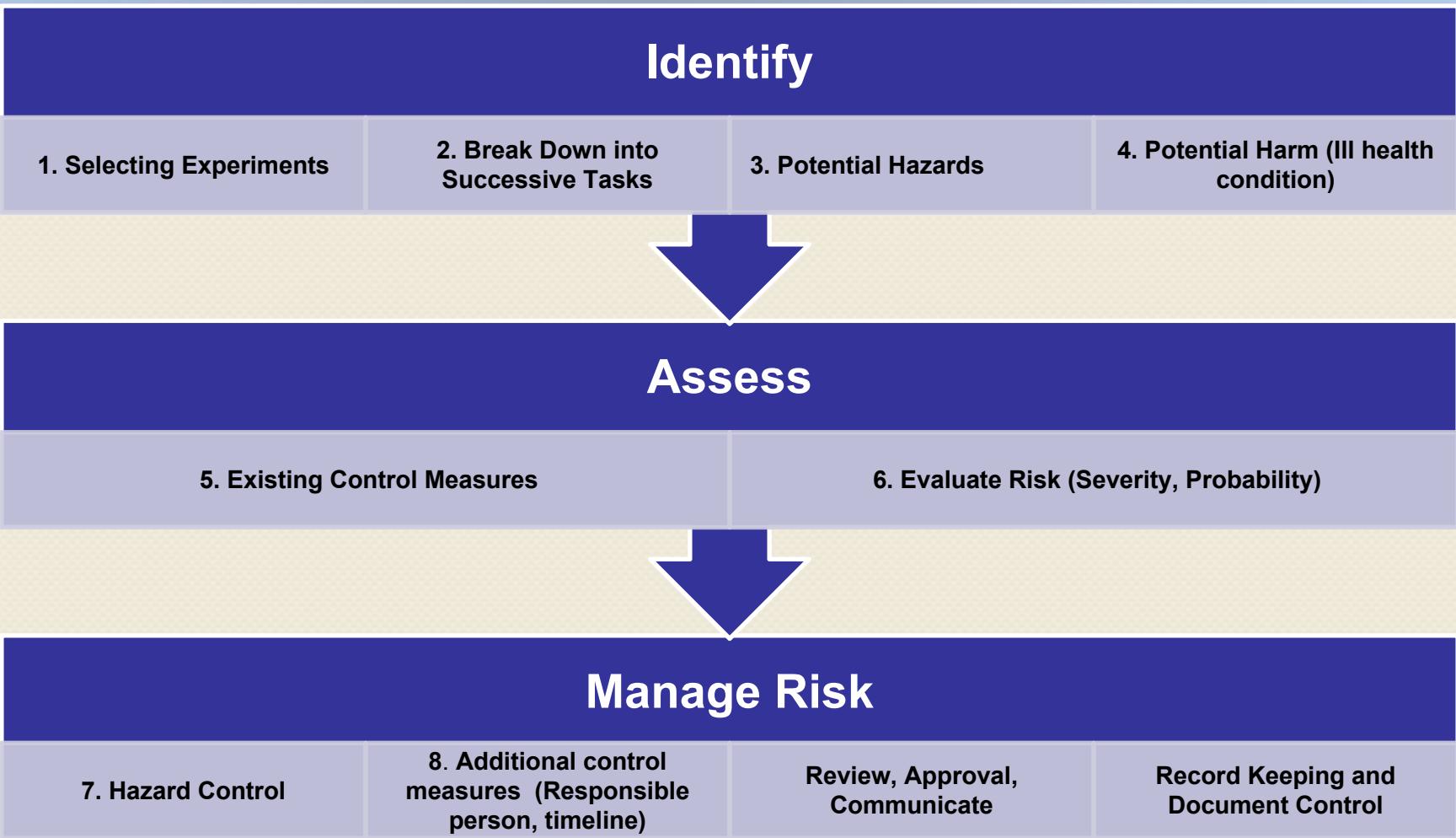
Risk Assessment Process

- IDENTIFY the hazards
- ASSESS the risks and available control measures
- MANAGE the risk
 - CONTROL the risks through implementation of appropriate control measures
 - MONITOR the controls to evaluate their effectiveness
 - Communication of Risks & Controls



Risk Assessment

Flowchart



Task 13.0

- Mention some of the hazards you can commonly see in your workplace.

Time: 10mins.



What are some hazards in the work?

- Chemicals
 - Radiation
 - Fire
 - Electrical
 - Biological
 - Physical
- Slips and trips
 - Falling hazard
 - Ergonomics
 - Thermal
 - Noise etc...



Acute vs. Chronic Effects

RISK CONTROL

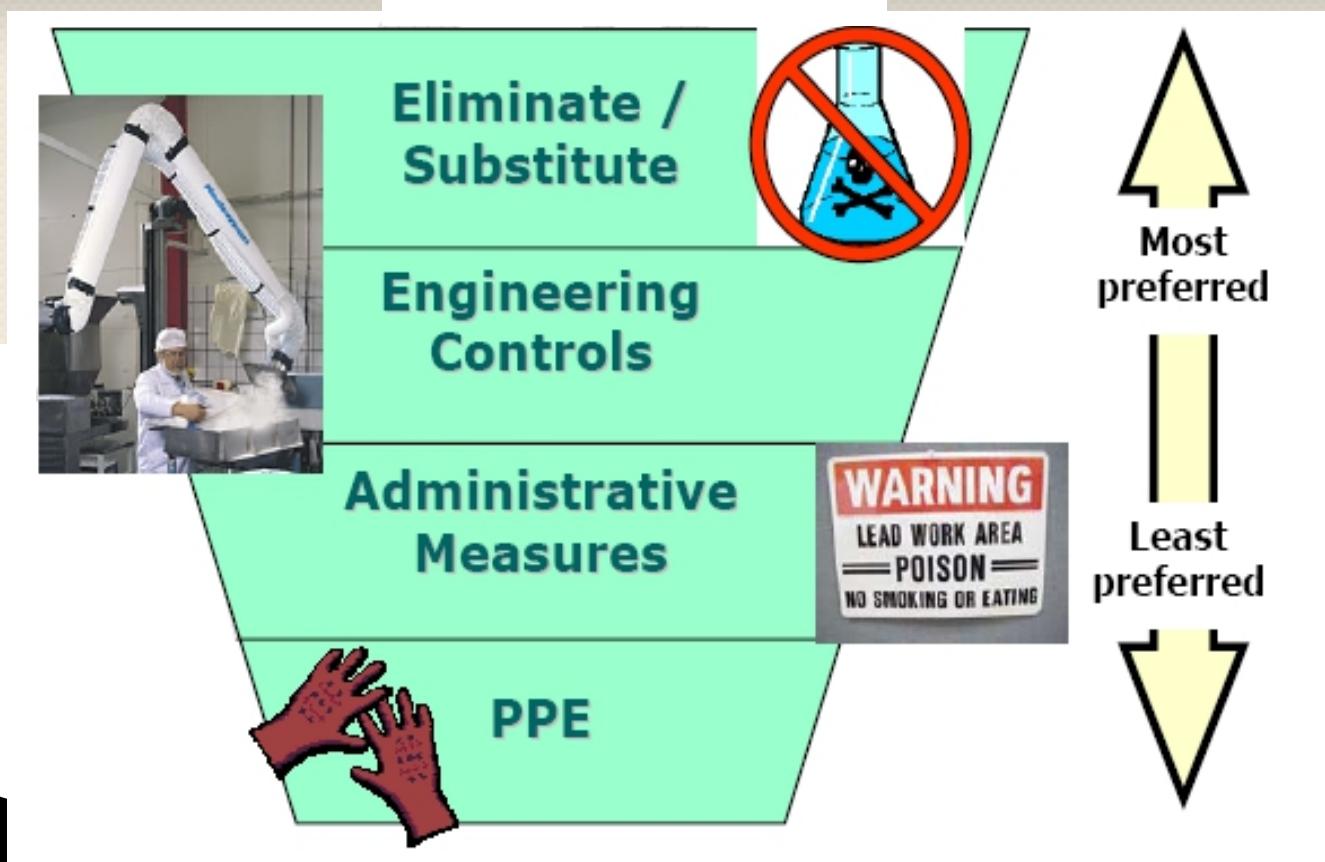


Risk Control

- Using Hierarchy of Controls to reduce the risk
- Using the concept of As Low As Reasonably Practicable (ALARP)



Hierarchy of Risk Control Measures



Record Keeping

1. Risk Assessment record has to be kept for at least 3 years under the WHS (RM) Regulations requirement.
- Recommended to keep record as long as the process/activity is still valid, before end of any product life cycle or to tie in with the period other legislation requires pertaining to the particular process/activity.



Implementation & Review

1. Management staff or Principle Investigator will need to approve the implementation of control measures.
2. Monitoring of the process or activity has to be carried to ensure that there is no residual risk or additional risk arising from the control measures.
3. Risk assessors have to check or monitor the new implementation of control measures and to communicate with respective lab or operational personnel.
4. Review on Risk Assessment to be carried on the following basis:
 - At lease once every three years base on legislative requirements
 - After an accident/incident occurrence
 - Any change in process or activity



Managing Safety and Health Risk - Objectives

To ensure that:

- The hazards inherent in the operations have been systematically identified and assessed and are fully understood at the appropriate levels in the organisation
- Arrangements are in place to control these hazards and to deal with the consequences should the need arise
- The necessary information, training, auditing and improvement process are in place



Task 14.0

- What is Risk?

Time: 5min.



HSE Risk - Definition

Risk = Consequence resulting from the release
of a hazard

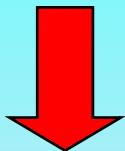
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Probability of the occurrence of that event



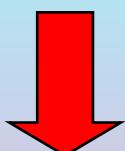
Effects of Safety and Health Hazards

Identify



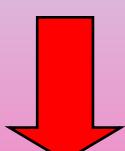
Are people exposed to harm resulting from the company's operations?

Assess



What are the causes, consequences & effects?
How likely is the loss of control?
What is the risk & is it ALARP?

Control



Can the causes be eliminated?
What controls are needed & can they be effective?

Recover

Can the potential consequences & effects be mitigated?
What are the recovery measures required?
Are the recovery capabilities suitable & sufficient?

Step 1- Hazard

Identify all HAZARDS in the Training class



HAZARD - Definition

Hazard is defined as:

Anything that has the potential to cause harm, ill health and injury, damage to property, products or the environment, production losses or increase liabilities

Hazard

At workplace categorized:
Physical, Chemical, Biological & Psychosocial



Hazard - examples

Chemical

- Hydrocarbon under pressure
- Smoke
- Toxic material
- Volatile fluids in tanks

Physical

- Moving road tankers / vehicles
- Elevated objects
- Noise
- People working at heights
- High voltage



Hazard - examples

Biological

- Toxicological lab
(catering facility at distant work station)

Phycosocial

- Working outside the country without family members.



Task 15.0

List Top Events or Incidents which will
result when hazards are released and
relate them to the hazards identified



Top Event - definition

Top Event is defined as:

The incident which occurs as a result of the hazard being released



Top Event - examples

- Loss of containment
- Electrical shock
- Fall from heights
- Exposure to toxic material
- Exposure to radioactive material
- Effluent discharge into waterways
- Emissions of toxic gases



Step 3 - Consequences

List consequences which result from
hazard being released

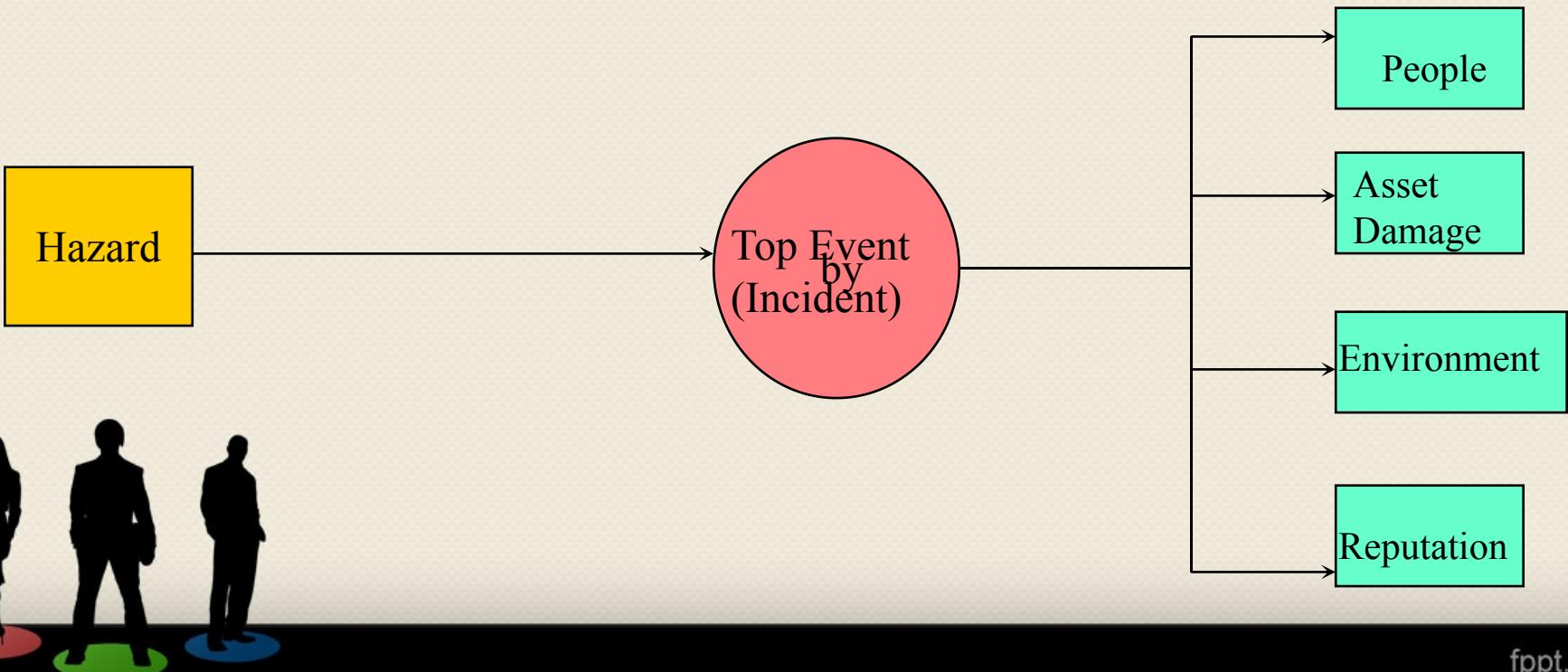


Consequence - definition

Consequence is defined as:

An event or chain of events that results from the hazard being released. They describe the undesirable events (usually accidents and safety related) that may potentially result from the top event if the event is not managed with recovery controls.

In our driving a car on a busy motorway example with the driver lacking the knowledge of how to counteract the tyre blow out, it can then leads to or result to serious injury or Fatality.



Consequences - examples

- Serious injury
- Death
- Latent illness or disease which has long gestation period
- Property damage - own or public
- Environmental damage
- Loss of reputation leading to loss in current and prospective business
- Loss of revenue - paying for compensation, medical expenses, production loss or deferment



Task 16.0

What is Threats?

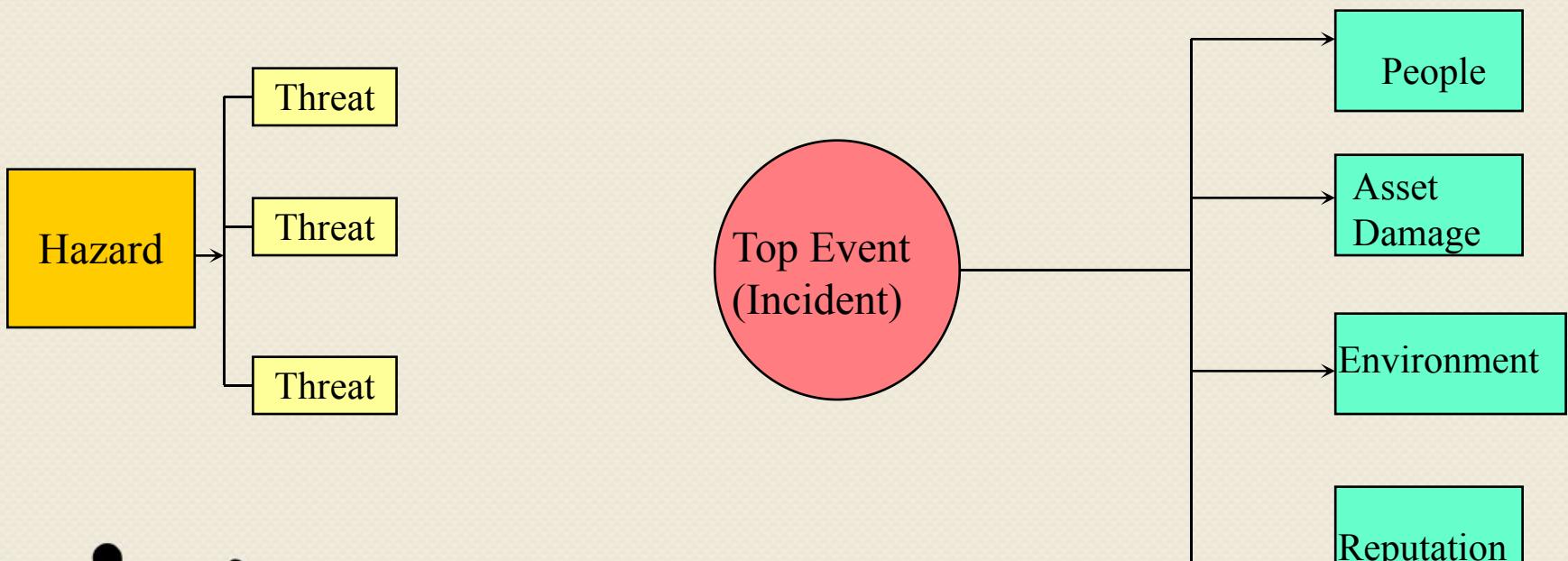
Time: 5min.



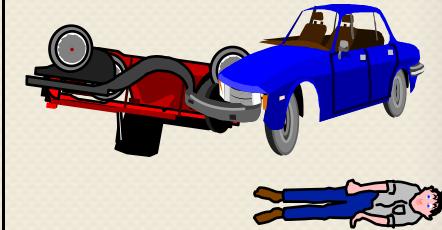
Threat - definition

Threat is defined as:

A possible direct cause that will potentially release the hazard to become a top event- includes thermal, biological, electrical, chemical, kinetic, climatic, radiation or human factors.



Examples Of Identifying & Managing Safety and Health Risk

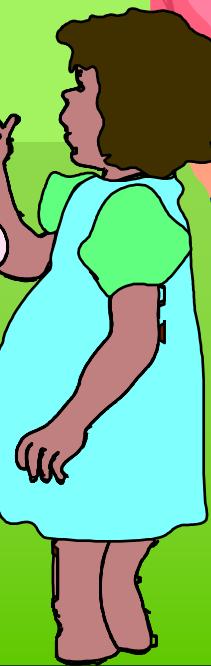
<u>Hazard</u>	<u>Threat</u>	<u>Barrier</u>	<u>Top Event</u>	<u>Recovery Measures</u>	<u>Consequences</u>
					
Moving Vehicle	Slippery Road	Slow Down	Loss of Control	ABS	Accident, Injuries, Fatalities



B E W A R E

O F T H E

B U L L



Common Terms Defined

- **Escalation Factor:** A condition that leads to increased risk by defeating or reducing the effectiveness of controls (a control decay mechanism).

In our driving a car on a busy motorway example, an escalation factor would be the driver lacking the knowledge of how to counteract the tyre blow out, therefore the driver not appreciating the need to steer into the skid to keep control.

- **Escalation Factor Control:** A control that manages the conditions which reduce the effectiveness of other controls.

Once the escalation factors are identified, the next step is to look at what controls we have in place to manage them.

In our driving a car on a busy motorway example with the driver lacking the knowledge of how to counteract the tyre blow out, a control for this could be advanced driver training is completed to obtain this knowledge.



The Children & the Bull

- Hazard = the bull
- Top Event = Loss of containment (escape of bull)

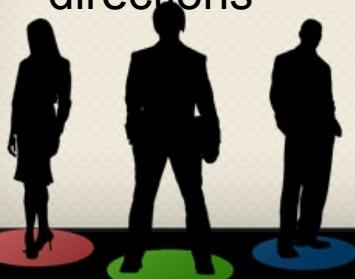
Threats	Controls/Barriers	Escalation Factors
– corroded fence	– galvanised material	– acid rain
– rotting posts	– treated wood – metal posts	– termites, age – corrosion
– bull leans on fence	– barbed wire	– anger (state of mind) – Red Ball, barking dog
– bull charges fence	– barbed wire, 4 strands – metal posts – electric fence	– yelling child, dog
– falling tree limbs	– prune trees	– weather, age, insects
– gate unlatched/open	– sign, lock	– ability to read, – vandalism



The Children & the Bull

- Consequences = multiple fatalities
- Top Event = Loss of containment (escape of bull)

Recovery Measures	Escalation Factors	Escalation Factor Controls
dog attack bull	dog not trained	send for regular training
run to car	panic situation	carry out simulation exercise
shoot the bull	failed to fire	Regular service of gun
climb tree	Height phobia	Therapy and practice
run in different directions	panic situation	carry out simulation exercise



CONTINGENCY / EMERGENCY ACTION PLANS (EAPS)



Task 17.0

- **What is Emergency Action Plan?**

Time: 5min.



- Emergency action plans EAPS , simply describe the actions a safety officer should take to ensure their safety in case of any emergency. Eg fire



NOTE!

- An emergency action plan should be drawn irrespective of how professional your JHA may be. EAP
- Every Contingency plan should be constantly practiced (drill) to ensure employees fully understand it.



- An EAP must be in written format.
- DRILLS should be continuously performed until it is obvious every employee understands it perfectly.



REASONS FOR DRILLS ARE TO:

- Familiarize personnel with the contents of the plan.
- Acquaint personnel with their emergency duties and responsibilities.
- Evaluate the plan to determine its workability
- Identify deficiencies and make necessary correction or adjustment



WHAT DO YOU PLAN AGAINST?

- Security issue (hostages, robberies, etc.)
- Hazardous materials incident
- Fire
- Flood.
- Earthquake etc
- Building / equipment collapse



EMERGENCY ACTION PLANS (EAPS)

ALL EAPS MUST HAVE THE FOLLOWING

- All EAPs must have the following:
 - Procedures for reporting a fire or other emergency
 - Procedures for emergency evacuation, including the type of evacuation and exit route assignments



EMERGENCY ACTION PLANS (EAPS)

ALL EAPS MUST HAVE THE FOLLOWING

- Procedures to be followed by employees who must remain behind to operate critical plant/facility equipment/operations before they evacuate



Task 18.0

- **What is Evacuation Plan?**

Time: 5mins.



EVACUATION PLANS

Well detailed evacuation map should be developed.

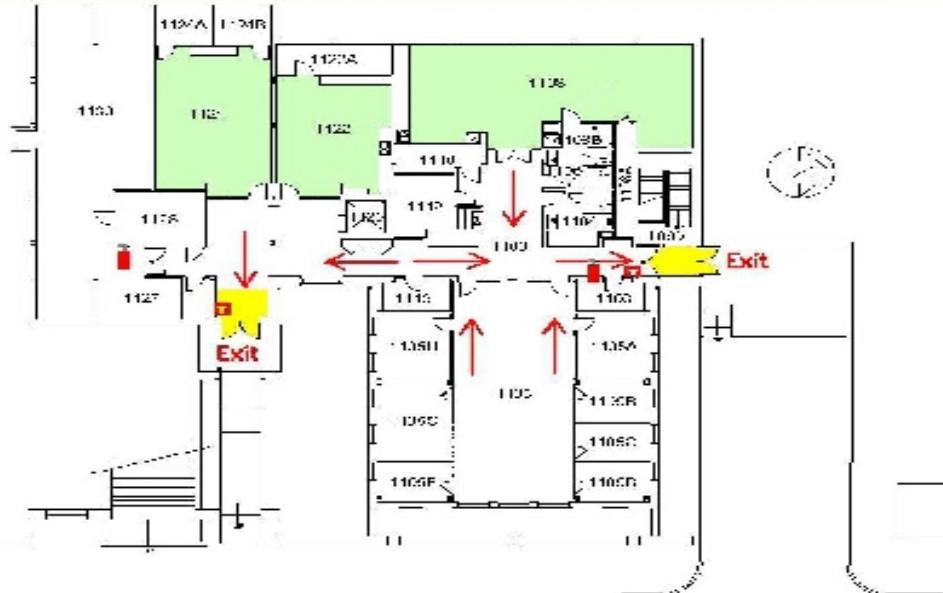
- All exits should be identified on the map.
- Location of fire extinguishers should be identified.



EMERGENCY ACTION PLANS (EAPS)

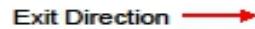
SIMPLE EVACUATION MAP

Alumni Center First Floor Emergency Evacuation Map



Meeting Point

Key



AED/Defibrillator on second floor



Evacuation Guidelines

- In case of fire or other emergency requiring evacuation, activate the nearest fire alarm pull station.
- Exit in a calm and orderly fashion. Once you have evacuated to a safe location, immediately call 911.
- Assist injured personnel, if time permits, and make sure all doors are closed and hazardous work operations are shut down as you exit.
- Help any physically impaired individuals in need of assistance.
- In case of evacuation, meet in Lot A3 on the southeast side of the building.

Safety Guidelines

- Familiarize yourself with the location of exits, alarm pull stations, and fire extinguishers.
 - Attempt to control a fire yourself with a fire extinguisher only when the fire is small and you have been trained.
 - Keep fire doors closed to prevent the spread of smoke and fire.
- Severe Weather**
- In the event of a tornado, proceed to room 1108, 1122 or 1124. Keep away from exterior doors and windows.

JOURNEY MANAGEMENT



JOURNEY MANAGEMENT

Journey management includes plans, procedures involved in the safe and efficient transportation of goods and personnel over land, air and water.



WHAT JOURNEY SHOULD BE MANAGED?

Any journey carried out in the pursuit of companies business whether by company or its contractor should be managed according to required standard.



WHY SHOULD A JOURNEY BE MANAGED?

- A Journey in its self is a potential risk if not managed properly can course a serious hazard.
- A planed journey document serves as a very good guideline.
- A planed and well managed journey is often smoothly coordinated.



PERSONALITIES IN JOURNEY MANAGEMENT:

managing journeys is not left for the HSE officer only, quality journey management usually involves every arm:

- The authorizing person (the management)
- the journey manager (appointed by management)
- The drivers
- the passengers (persons involved in the journey)



RESPONSIBILITIES OF PERSONALITIES IN JOURNEY MANAGEMENT:

RESPONSIBILITIES OF THE AUTHORIZING PERSON:

- He / she is responsible for appointing journey managers



RESPONSIBILITIES OF THE JOURNEY MANAGERS:

- The journey manager is responsible for the planning, monitoring and the analysis of the journey.
- The journey manager remains responsible for the vehicle, the drivers and the passengers until they return to base.



RESPONSIBILITIES OF THE DRIVER:

- The driver should only drive on instruction.
- The driver should always state the conditions of his vehicle, the load, etc, he should always make sure things are going in accordance to the journey plans.



RESPONSIBILITIES OF THE DRIVER (CONTN):

- The driver should not move until he has received and understood the journey plan, and also the manifest.
- The driver shall contact the journey manager if there are any problems or difficulties en-route and other dealings.



RESPONSIBILITIES OF THE PASSENGER:

- The passenger must wear life saving belt'.
- The passenger should ensure no unauthorized passengers are carried on the way by the driver.
- They should ensure the driver adheres to the journey plan by quickly reporting any wrong move to the journey manager.



Task 19.0

- **What is Defensive Driving?**

Time: 5mins.



DEFENSIVE DRIVING

- Defensive driving is driving to prevent accidents or collision in spite of the incorrect actions of others
- Other road users and the adverse conditions around you the driver and thus save lives, time, money and properties.



THE SIX ADVERSE CONDITIONS

- LIGHT
- WEATHER
- ROAD
- TRAFFIC
- VEHICLE
- DRIVER



BAD LIGHTINGS

low or high have negative effects on drivers.



BAD LIGHTINGS

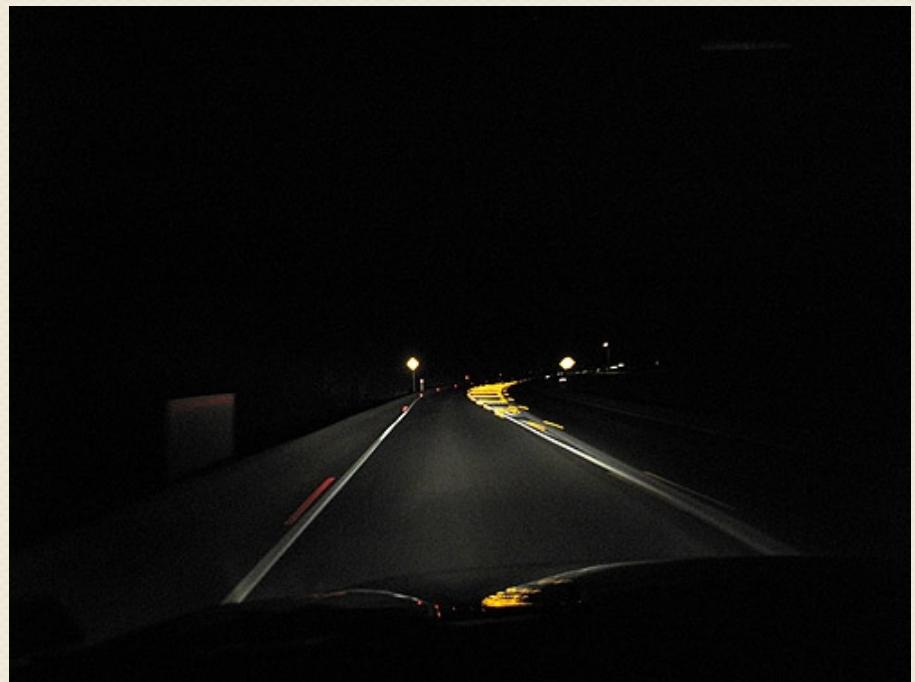
FOR LOW LIGHT

PROBLEM:

Poor vision

SOLUTION:

- Turn on your full head lamp
- Or Pull over completely



BAD LIGHTINGS

FOR VERY BRIGHT LIGHTS

Problem:

Poor vision

Solution:

<vehicle behind>

Adjust Rear-view mirror

<vehicle in front>

Reduce speed or Pull over



MORE SO FOR VERY BRIGHT LIGHT

- Turn the rear view away completely so the light rays do not strike your Eyes directly, slowdown and let the vehicle go in front of you.
- For lights from the on-coming vehicle, Communicate twice to the driver by flashing Your lights, if the driver falls to turn down the high beam then slowdown till he passes by.

For this case, Please park if you can't see clearly, it usually takes 4 -7 seconds to recover sight.



DEFENSIVE DRIVING

WEATHER

WEATHER:

In weathers like rain, dews (hammaran) and high winds

DO THE FOLLOWING:

- Increase following distance
- Put on low beam headlights
- Park if the rain is very heavy



DEFENSIVE DRIVING

ROAD

NOTE: study the characteristics of the road you are driving on as this will determine how you will drive.

What to study

The shape, road surface, shoulder,

- Reduce speed if the road condition is very bad or if the road is new to you.



DEFENSIVE DRIVING

TRAFFIC

TRAFFIC: means everything using the road

IMPORTANTLY:

- Avoid the rush hours and congested routes whenever possible.
- Be considerate, don't claim right if this is necessary to prevent a collision.



THE DRIVER

- Drivers error accounts for 70% of all collision.
- FACTORS THAT AFFECT DRIVERS
- Age – attitude – alcohol - fatigue – emotions



PERFECT TRIP:



PERFECT TRIP

- A perfect trip is one completed without any of the four driving errors:
- COLLISIONS
- TRAFFIC VIOLATIONS
- VEHICLE ABUSE
- SCHEDULE DELAYS

A defensive driver aims at making perfect trips always.



PERFECT TRIP



A defensive driver aims at making perfect trips always.





Welcome to Occupational Health and Safety



OCCUPATIONAL HEALTH & SAFETY



Dirty hands is a gateway to all kinds of sickness!



HEALTH

- The state of complete well being of a person; not merely the absence of diseases or illness but a state of physical, social and mental well being of a person.
- Occupational health is a preventive health service that is given to workers with the aim to promote efficiency and productivity in the worker and also preventing the work from been the cause of workers' sickness.



Aims and objectives

1. To promote and maintain the health of the workers and employers.
2. To prevent occupational (work-related) diseases and injuries at work
3. To protect every individual at the work place against hazards
4. To plan and maintain the work place
5. To adapt the work to man and man to work



PROMOTION OF WORKERS HEALTH

- BALANCED DIET
- ADEQUATE REST
- JOB SATISFACTION/MOTIVATION
- UNDERSTANDING/COOPERATION
- PERSONAL HYGIENE
- ENSURING PRE-EMPLOYMENT AND PERIODIC MEDICAL EXAMINATIONS



IMPROVEMENT OF WORKING CONDITIONS AND OPERATIONS

- SATISFACTORY DESIGN
- PROVISION OF LIGHTING, VENTILATION AND LOW NOISE
- PROVISION OF SAFETY EQUIPMENT (PPE)
- ADEQUATE SANITARY CONDITIONS



BENEFITS

TO WORKERS

- ✓ LOW SICKNESS
- ✓ HEALTHY WORKFORCE

TO WORKPLACE

- ✓ SAFE WORKING CONDITIONS AND OPERATIONS
- ✓ LOW ACCIDENT RATE



TO COMPANY

- ✓ INCREASED EFFICIENCY
- ✓ HIGH PRODUCTIVITY
- ✓ INCREASE PROFITS



PERSONAL HYGIENE

Make sure you keep yourself clean always!



>Wash your hands always, >> do your laundry,
>>> wash your mouth >>> Take clean bath before / after work



Relationship between health and work

- Work can affect health in two ways:
 1. Directly, and
 2. indirectly



Task 20.0

- Identify ways your work can affect your health and safety directly and indirectly?

Time: 15mins.



Key elements of occupational health

1. Health Protection, e.g. First aid, record keeping, training
2. Health promotion e.g. Assessment and management of health risks associated with environment and lifestyle, employee assistance programs, record keeping



Application of OH principles

IAC&R



TYPES OF HEALTH HAZARDS

1. PHYSICAL HAZARDS
2. CHEMICAL HAZARDS
3. BIOLOGICAL HAZARDS
4. ERGONOMIC HAZARDS
5. PSYCHOSOCIAL HAZARDS



HEALTH RISK ASSESSMENT(HRA)

- It is a structured approach to IAC&R health hazards in the work place.



AREAS OF HRA APPLICATION

1. New activities or projects
2. Existing program
3. Change to existing activities
4. Post operational activities
5. Acquisitions
6. mergers



Steps in HRA process

- Identify the health risks in each job
- Assess the health risks
- Control measures to bring risks to ALARP
- Assign recovery measures
- Create awareness so that workers will be trained and informed of HRA issues and controls.



GOOD HEALTH AND HYGIENE IN A WORK PLACE

Management/employers' role

- a) Detection
- b) Evaluation
- c) Elimination, control or reduction

Workers'/employees' role

- a) Proper use and maintenance of PPE
- b) Maintain good personal hygiene
- c) Good house-keeping



PERSONAL HYGIENE

Companies take personal hygiene seriously. Be wise and save Your job!



- >Good personal hygiene keeps you away from sickness
- >Good personal hygiene can even determine your relationship with others.



Security Management

Definition: security is a proactive measure taken to protect , prevent and safeguard both human and material resources.

- Objectives of security awareness:
 1. To protect both human and material assets
 2. To eradicate bad and negative influences among the workers
 3. To control internal and external crimes
 4. To ensure operational efficiency in production
 5. To ensure that the company remains in business



Task 21.0

- Mention the elements of Security Threats?

Time: 10mins.



Element of Security Threats

- Unprotected doors and windows
- Unsafe banking habits
- Inattentive to developments around you
- Over grown tree branches over fences
- Unusual or unknown caller
- Unguarded or uninvited visitors
- Turning your office into a money transactions outfit
- Inadequate fencing



THEFT

- Theft is taking somebody else's or a company's property without due consent.



Types of theft

1. Fraud
2. Burglary
3. Pilferage
4. Organized crime



Reasons why some employees steal

1. Resentment to real or imagined injustice
2. To augment income
3. In an emergency situation
4. Absence or inadequate theft control measures
5. For excitement
6. Inborn (heredity)
7. Hunger
8. Greediness
9. Carelessness on the part of the owner



Control measures for theft

1. Counselling
2. Effective access control and other security measures
3. Investigation of new employee's past records
4. Better remuneration for workers
5. Immediate and efficient investigation of losses
6. Physical defences, perimeter fences and lighting system
7. Adequate security patrol
8. Identification of vulnerable point
9. Improved recruiting standard



Security tips

1. Always keep money in a safe place
2. Be careful with keys
3. Never assume a stranger wandering if the building is a member of staff
4. Never leave callers alone in your office
5. Do not disclose confidential information to a stranger
6. Do not assume all staff are as honest as you



Environmental Resources

An environmental resource is any material, service, or information from the **environment** that is valuable to society. This can refer to anything that people find useful in their environs, or surroundings. Food from plants and animals, wood for cooking, heating, and building, metals, **coal** , and oil are all environmental resources.



Renewable Resources

A **renewable resource** is a **resource** which can be used repeatedly and replaced naturally. **Renewable** energy never runs out, example: solar energy is powered by heat the sun never runs out. ... New **resources** may include goods or commodities such as paper and leather. It is also very healthy for the **environment**.



Non-Renewable

A **nonrenewable resource** is a **resource** of economic value that cannot be readily replaced by **natural** means on a level equal to its consumption. Most fossil fuels, such as oil, **natural** gas and coal are considered **nonrenewable resources** in that their use is **not** sustainable because their formation takes billions of years.



Environmental Resources

- Renewable: eg water, solar energy, plants
- Non-renewable: eg petroleum, solid mineral



ENVIRONMENTAL POLLUTION

- Environmental pollution is the release of any substance into the environment in such quantity or level that will be detrimental or cause harm to the environment.
- Any substance that can cause pollution is a pollutant.



TYPES OF POLLUTION

- Air pollution
- Water pollution
- Land/soil pollution



Sources of pollution

- Oil/chemical spill/leakage
- Sewage discharge into water bodies
- Indiscriminate discharge of waste into water
- Bush burning
- Release of combustion gases into the atmosphere



Effect of Environmental Pollution

- Health problems
- Ozone layer depletion
- Global warming
- Flooding and erosion
- Deforestation
- Reduced soil fertility, etc



Waste control

- Waste control or management is the deliberate effort at putting away waste without re-contaminating the environment

Definition:

Waste is any material resulting from any activity which has no immediate economic benefit and must be disposed of.



FORMS OF WASTE

- Gaseous waste
- Liquid waste
- Solid waste



Waste classification

- Hazardous waste
- Non-hazardous waste



Hazardous waste

- Medical waste
- Sewage
- Empty containers of chemical/oil
- Radioactive waste



Non-hazardous waste

- Industrial waste
- Domestic waste
- Office waste



Consequence of improper waste mgt.

- Filthy environment
- Health problems
- Drainage blockages/erosion
- Siltation of water bodies
- Contamination of soil, water and air



Benefits of a proper waste mgt

- Good health
- Good environment
- Cost minimization
- New product
- Business generation
- Good housekeeping



Your role in waste mgt

- Tidy up your premises regularly
- Avoid littering the streets with waste
- Look for ways to minimize waste through re-use or re-cycling
- Avoid dumping of waste into water bodies
- Take your waste to an approve dumpsite for disposal
- Empower yourselves economically



Oil spill and sabotage

- Definition: oil spill is the release of discharge of oil from a source or its place of containment into the environment.



Source of oil spill

- Equipment failure
- Human error
- Sabotage/theft
- Corrosion



What is sabotage

- Sabotage is defined as a willful destruction of properties or prevention from achieving a set goal.



Regulation on sabotage

- No compensation
- Imprisonment of culprits
- Local contractors excluded from clean up exercise



Consequences of sabotage

- A) COMPANY:

- Loss of oil
- deffered production
- clean-up cost
- Cost of repairs



Consequences of sabotage

- B) COMMUNITY:
 - Loss of compensation
 - Arrest without warrant and subsequent imprisonment of suspect
 - Poor relationship with oil companies
 - Damage to the environment



Impact of oil spill on the Env.

- Air pollution
- Water pollution
- Soil pollution
- Destruction of vegetation
- Reduced crop yield
- Fire outbreak



Strategies for oil spill prevention through sabotage.

- Improved community relations
- Surveillance of facilities
- Environmental awareness



Oil spill control process

- Isolate/stop at source
- Containment
- Recovering
- Storage/transportation
- Clean up
- Disposal
- rehabilitation



Waste management hierarchy

