

A large construction site with a tall crane and a building under construction. The crane is orange and has a long horizontal jib. The building is a multi-story structure with a concrete frame. The sky is blue with some clouds. The text is overlaid on the image.

Creating a Culture of Safety and Promoting Hazards Reporting in the Construction Sector in Kenya.

OBJECTIVES

1. Definition of terms
2. Hazard classification and hazard information sources
3. Hierarchy of hazard control
4. Deciding on controls
5. Risk Mitigation Strategies
6. Risk Management Process
7. Inherent, target and residual risk
8. Impact of failure to address hazard
9. Barriers to hazard reporting
10. Breaking the barriers to hazard reporting
11. Legal compliance
12. Safety by design

DEFINITION OF TERMS

Hazard is any source with a potential damage, harm or adverse health effects on something or someone.

Risk is a combination of two things – the chance that the hazard will cause harm and how serious that harm could be

Safety culture is a combination of the attitudes, values and perceptions that influence how something is actually done in the workplace, rather than how it should be done.

Target-To eliminate the hazards or reduce the risk to as low as is reasonably practicable



HAZARD CLASSIFICATION



Psychological

1. Stress
2. fatigue
3. bullying
4. violence
5. aggression
6. harassment
7. burnout



Physical Hazards

1. body stressing.
2. confined spaces.
3. electricity.
4. heat.
5. heights.
6. noise.
7. vibration.



Ergonomics

1. Improperly adjusted workstations and chairs
2. Frequent lifting
3. Poor posture
4. Awkward movements
5. Repeating the same movements
6. Having to use too much force

How and where can you get hazard information:

1. Observation of Work Processes
2. Tools, equipment and machinery manuals
3. Safety Data Sheet from manufacturers
4. Internal and external Audit reports
5. Previous records on injury and illness
6. Industrial hygiene assessments
7. Hazard Identification and risk assessment register
8. Job Hazard Analysis



Biological

1. bacteria
2. viruses
3. parasites
4. moulds
5. fungi.



Safety Hazards

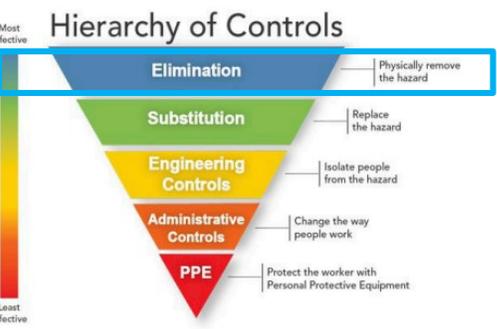
1. Spills on floors tripping hazards
2. Working from heights
3. Unguarded machinery
4. moving machinery parts



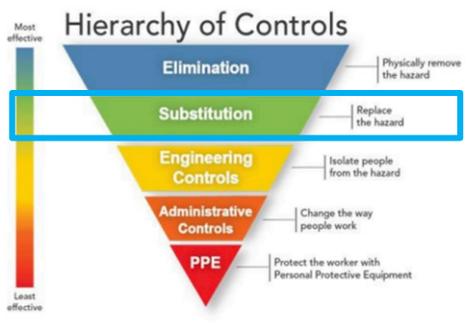
Chemical Hazards

1. Liquids -paints, acids, solvents
2. Vapors and fumes
3. Gases -acetylene, propane,
4. Flammable -gasoline,
5. Pesticides

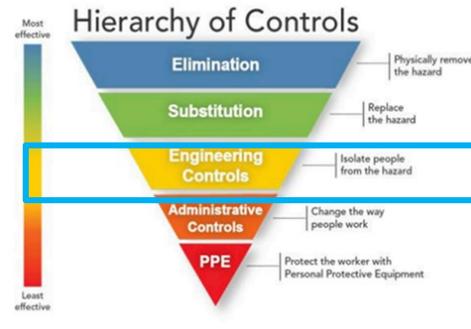
HIERARCHY OF HAZARD CONTROL



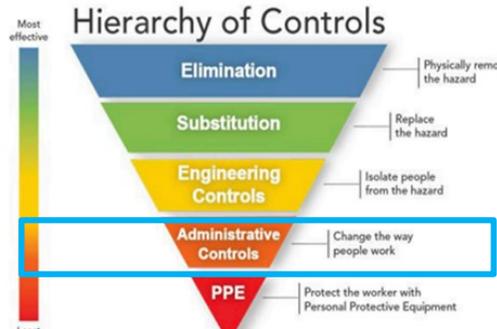
Source: NIOSH.



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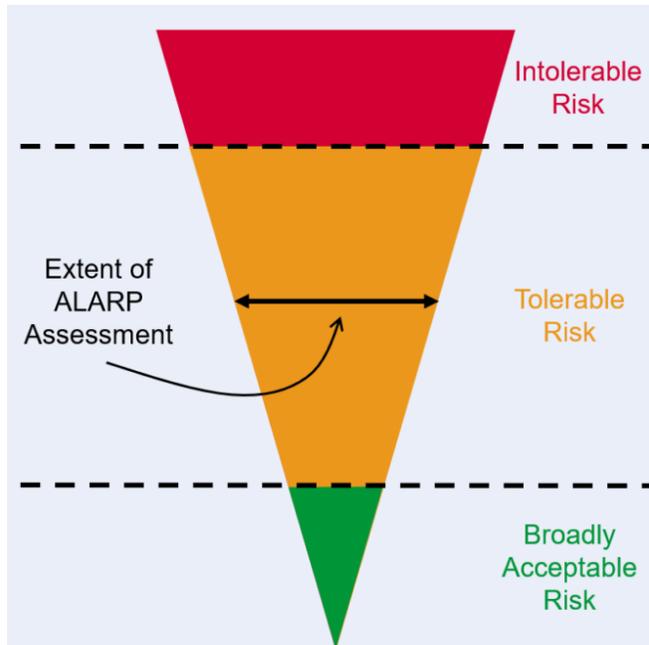
Source: NIOSH.



autoXpress	
CAR MAINTENANCE CHECKLIST	
	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Check Engine Light	
Check Oil Level	
Check Coolant Level	
Check Brake Pads/Fluid	
Check Tire Pressure	
Check Wiper Blades	
Check Battery Charge	
Check Air Filter	
Check Spark Plugs	
Check Fluid Levels	
Check Belts and Hoses	
Check Headlight Beam Pattern	
Check Suspension System	
Check Steering & Alignment	
Check Fuel System Components	
Check Exhaust	
Wash Wax & Polish	



DECIDING ON CONTROL FEASIBILITY



ALARP" is short for "**As Low As Reasonably Practicable**". Reasonably practicable involves weighing a risk against the trouble, time and money needed to control it.

The ALARP level is reached when the time, trouble and cost of further reduction measures become unreasonably disproportionate to the additional risk reduction obtained.

Consider whether it is:

1. Right for the hazard
2. Appropriate, given how likely injuries/illnesses are
3. Consistent with employer policies, laws, and regulations
4. Not too burdensome to workers
5. Recognized as an appropriate practice in the industry
6. Effective, reliable, and durable
7. Readily available
8. Cost-effective, short- and long-term



MITIGATION STRATEGIES

Four Types of Risk Mitigation



RISK MANAGEMENT PROCESS



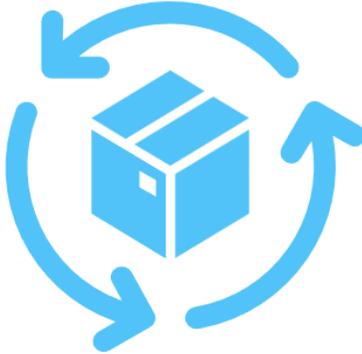
RISK MANAGEMENT



**IDENTIFY
HAZARDS**



**ASSESS
RISKS**



**CONTROL
RISKS**



**RECORD
FINDINGS**



**REVIEW
CONTROLS**

INHERENT, RESIDUAL & TARGET RISK

Extremely serious	5	5	10	15	20	25 INHERENT RISK
Very Serious	4	4	8	12	16	20
Serious	3	3	6	9 RESIDUAL RISK	12	15
Minor	2	2	4	6	8	10
Not Significant	1	1 TARGET RISK	2	3	4	5
		1	2	3	4	5
		Rare	Unlikely	Possible	Likely	Certain

Inherent Risk-Before any controls or measures are taken(untreated risk)

Residual risk-Remaining level of risk after existing controls or measures are taken to mitigate the inherent risk

Target risk-Satisfactory level of risk after new mitigation measures have been introduced

IMPACTS OF FAILURE TO ADDRESS HAZARD

Failure to recognize and control the hazards can result to:

- Injuries, disabilities and fatality in worst case scenario death
- Delays in meeting targets due to increased sick offs
- Property damage
- Loss of business
- Increased employee turn over
- Increases premiums
- Prohibition and improvement notices by DOSHS
- Civil cases
- Compensation
- Loss of productive time undertaking investigation



BARRIERS TO HAZARD REPORTING

1. Lack of or inadequate training
2. Unclear reporting channels
3. Complex reporting systems
4. Lack of top leadership commitment
5. Lack of safety culture
6. Fear of retaliation
7. Failure to action on reports and give timely feedback
8. Complacency
9. Peer pressure
10. Work pressure
11. Risk tolerant



BREAKING BARRIERS TO HAZARD REPORTING

1. Leadership commitment and involvement
2. Providing a psychologically safe environment
3. Timely corrective action and feedback
4. Recognizing and awarding
5. Training and awareness
6. Having reporting stems that are easy to understand and use



LEGAL COMPLIANCE

OSHA 2007

Section 3 requires Every occupier shall carry out appropriate risk assessments

Section 13 requires employees to report hazard and which he cannot correct

Section 16 prohibits creation of hazards in the workplace by engage in any improper activity

Section 61(2) An importer, manufacturer, designer or supplier of machinery, plant, and equipment shall avail information concerning the correct installation, use, maintenance and disposal of the machinery, plant and equipment and provide information on any likely hazards and means to prevent or control them.

84. (1) Every manufacturer, importer, supplier or distributor of chemicals shall make available to employers, material safety data sheets for chemicals and other hazardous substances,

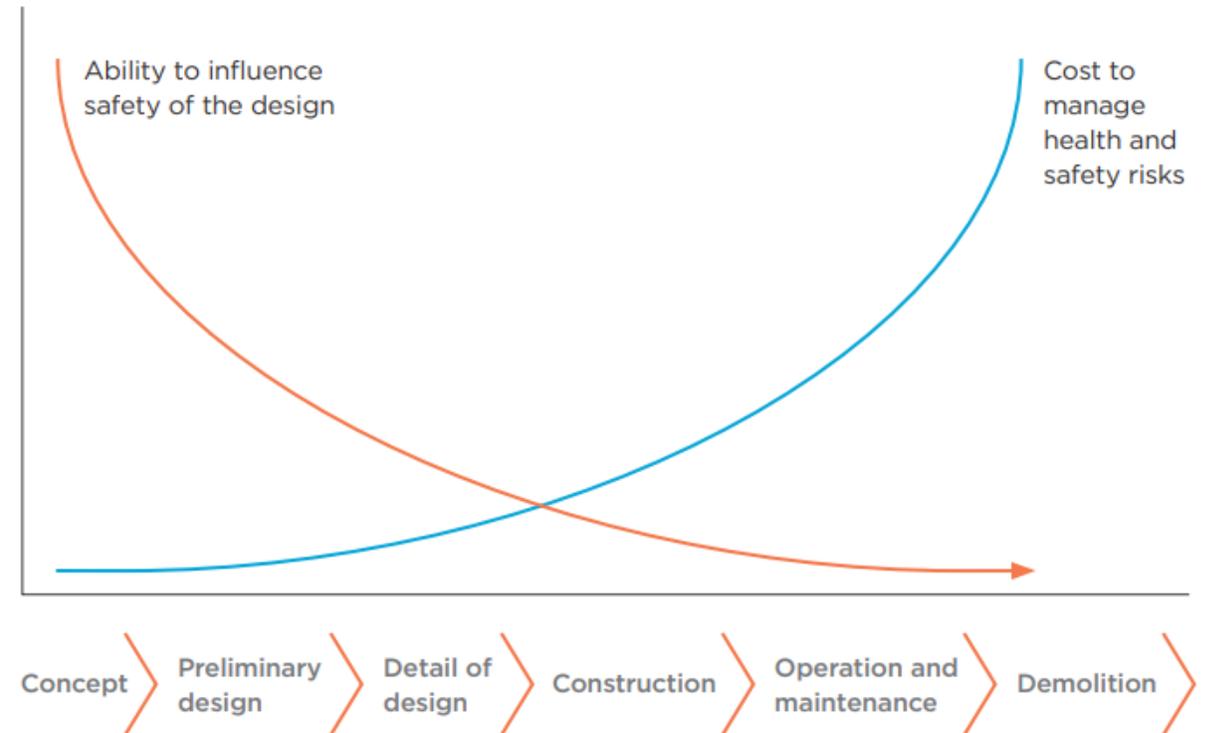
96. (1) An employer shall issue a permit to work to any employee, likely to be exposed to hazardous work processes or hazardous working environment, including such work processes as the maintenance and repair of boilers, dock work, confined spaces, and the maintenance of machinery and equipment, electrical energy installations, indicating the necessary precautions to be taken.



SAFETY BY DESIGN GAINS

Health and Safety by Design' is the process of managing health and safety risks throughout the lifecycle of structures, plant, substance or other products. Designers are in a strong position to make work healthy and safe from the start of the design process.

1. Significant reductions in work-related ill-health and injuries.
2. Reduced damage to property, environment, and related costs.
3. Enhances the health, wellbeing and productivity of workers.
4. Most effective risk control measure
5. The design of plant or structures contributes to a significant proportion of work-related injuries, and solutions already exist for many of those design problems.
6. It is more efficient and effective to manage risk in the design phase than to retrofit health and safety solutions.
7. Design based on Health and Safety by Design principles can reduce the need for retrofitting, personal protective equipment, health monitoring, exposure monitoring, and maintenance.



Source: Symberszki chart of influence over a product's lifecycle (adapted from Szymberski, R, (1997), Construction Project Safety Planning. TAPPI Journal, 80 (11), 69–74)

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