IPB University
Bogor Indonesia

Inspiring Innovation with Integrity
in Agriculture, Ocean and Biosciences for a Sustainable World

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Safety Induction

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Introduction

- Today's induction session will cover:
  - Safety introduction
  - Risk Assessments
  - Safety Signs
  - Emergency Evacuation

Why Safety is Important

- Legal Requirement (Law Number 1/1970 about Occupational Safety)
- Reduce the likelihood of injury and accidents
- Improved Productivity
- Protect from legal impacts (compensation claims)

Health and Safety…and YOU

- Take reasonable care of your own safety and anyone affected by your actions
- Alcohol or drugs
- Co-operate with the University on H&S issues (including personal issues)
- Improper conduct or behaviour
- Report defects or safety contraventions (to your supervisor/manager)

Learning and Working Safely at IPB University

- While we all have a legal obligation to comply with policy and procedures relating to workplace health and safety at IPB University; you can also help prevent injuries to yourself and others by taking some simple precautions. These include:
  - Making sure your own work area is tidy and without hazards;
  - Making sure your workstation is set up correctly;
  - Learning the basics of safe manual handling;
  - Using safety and personal protective equipment properly where applicable; and
  - Managing your stress levels.


HAZARD
7

Hazard and Risk

- “Hazard” – something with the potential to cause harm

- “Risk” – a combination of the likelihood and potential severity of harm from a hazard being realised

Risk Assessments

Risk assessment is a term used to describe the overall process or method where you:

- Identify hazards and risk factors that have the potential to cause harm (hazard identification).
- Analyze and evaluate the risk associated with that hazard (risk analysis, and risk evaluation).
- Determine appropriate ways to eliminate the hazard, or control the risk when the hazard cannot be eliminated (risk control).

One of Risk Assesment tools is Job Safety Analysis

Job Safety Analysis - Step 1

- Step one – Watch the work being done and watch the surroundings

Job Safety Analysis – Step 2

- Step two – Break the job down into steps

	SEQUENCE OF TASK	POTENTIAL HAZARDS	ACTION OR PROCEDURE
Step 1			
Step 2			
Step 3			
Step 4			
Step 5			
Step 6			

Job Safety Analysis – Step 3

- Step three – Describe the hazard in each step of the task

  One of the primary purposes of the JSA is to make the job safer

  The information gathered in this step will be valuable in helping to eliminate and/or reduce hazards associated with the job, and improve the system weaknesses that produced them

Identifying Types of Hazards

- Acceleration: When we speed up or slow down too quickly
- Toxic: Toxic to skin and internal organ
- Radiation: Non-ionizing – burns, Ionizing – destroys tissue
- Pressure: Increased pressure in hydraulic and pneumatic systems
- Mechanical: Pinch points, sharp points and edges, weight, rotating parts, stability, ejected parts and materials, impact
- Flammability/Fire: In order for combustion to take place, the fuel and oxidizer must be present in gaseous form.
- Biological: Primarly airborne and blood borne viruses

Identifying Types of Hazards

- Explosives: Explosions result in large amounts of gas, heat, noise, light and over-pressure.
- Electrical Contact: Inadequate insulation, broken electrical lines or equipment, lighting strike, static discharge etc.
- Chemical Reactions: Chemical reactions can be violent, can cause explosions, dispersion of materials and emission of heat.
- Ergonomics: Eight risk factors; high frequency, high duration, high force, posture, point of operation, mechanical pressure, vibration dan environmental exposure.

Accident Type

- Struck-by: A person is forcefully struck by an object. The force of contact is provided by the object.
- Struck-against: A person forcefully strikes an object. The person provides the force or energy.
- Contact-by: Contact by a substance or material that, by its very nature, is harmful and causes injury.
- Contact-with: A person comes in contact with a harmful substance or material. The person initiate the contact.

Accident Type

- Caught-on: A person or part of his/her clothing or equipment is caught on an object that is either moving or stationary. This may cause the person to lose his/her balance and fall, be pulled into a machine, or suffer some other harm.
- Caught-in: A person or part of him/her is trapped, or otherwise caught in an opening or enclosure
- Caught-between: A person is crushed, pinched or otherwise caught between a moving and a stationary object, or between two moving objects.

Accident Type

- Fall-to-surface: A person slips or trips and falls to the surface he/she is standing or walking on.
- Fall-to-below: A person slips or trips and falls to a level below the one he/she was walking or standing on.
- Over-exertion: A person over-extends or strains himself/herself while performing work.
- Bodily reaction: Caused solely from stress imposed by free movement of the body or assumption of a strained or unnatural body position. A leading source of injury.
- Over-exposure: Over a period of time, a person is exposed to harmful energy (noise, heat), lack of energy (cold), or substances (toxic chemicals/atmosphere)

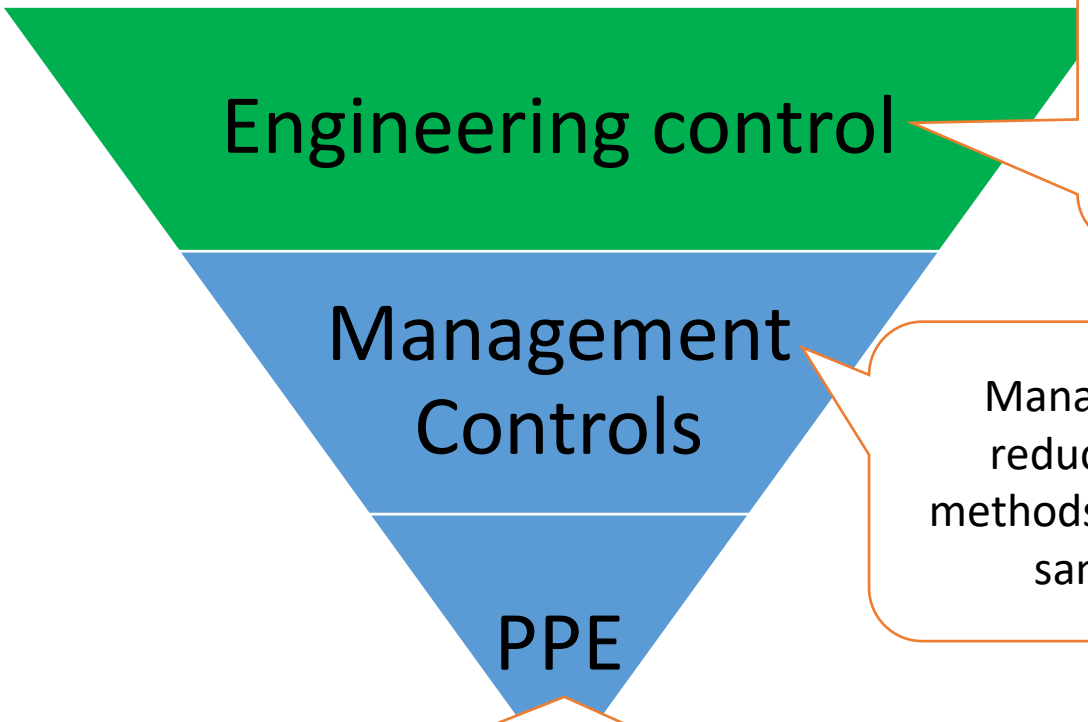
Job Safety Analysis – Step 4

- Step four – Control Measures

It is now time to identify the desired control measure for each hazard

SEQUENCE OF TASK	POTENTIAL HAZARDS	ACTION OR PROCEDURE

Hierarchy of Controls



Consist of substitution, isolation, ventilation, and equipment modification. These controls focus on the source of hazard

Management control may result in a reduction of exposure through such methods changing work habits, improving sanitation and hygiene practice

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, PPE (Personal Protective Equipment) may be required

Safety Signs

- Across the campus look out for H&S information signs

Blue = Compulsory

Failure to comply not only puts you at risk, but means that you have broken the law

Yellow = Warning

Green = Safe Guidance

First Aid / Emergency Exits /etc

Red = Prohibitive or Fire

Emergency Evacuation Procedures

What would you do in an emergency situation?

Emergency Evacuation Procedures

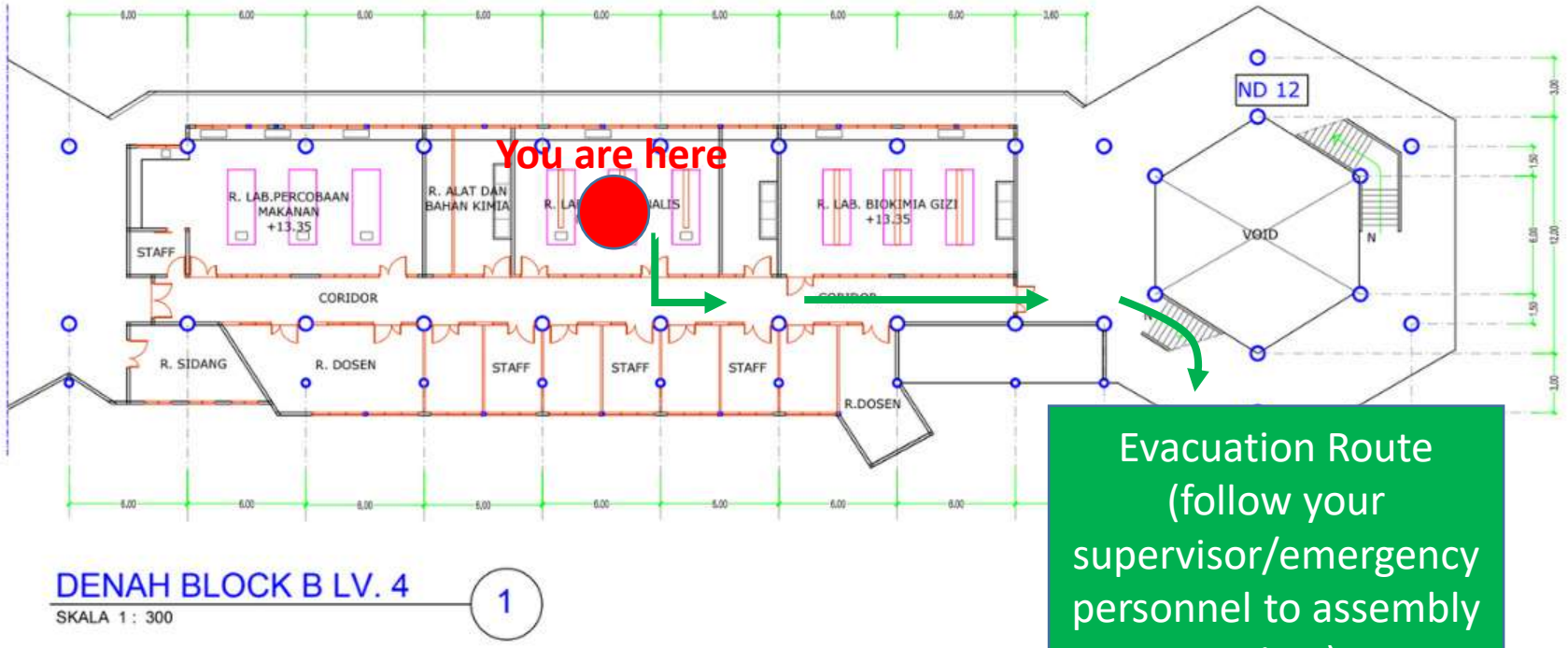
- Make sure you know the quickest way out of the building.
- Quickly exit the building using the nearest/safest building exit. Don't delay to pick up personal belongings. **Do not use elevators**. Protect your head from falling objects.
- When there is an earthquake and you in the elevator, try to **stay calm**. Elevator may lose power, stop and lights may go out, but it will not fall down the shaft. Use emergency alarm and await emergency personnel.
- Follow the directions of Safety/Building Coordinator (or emergency personnel).
- Proceed to the pre-designated building assembly point.

Emergency Evacuation Procedures

- Inform the Safety/Building coordinator (or emergency personnel) of:
  - any student or occupant in need of rescue
  - extent of injuries received by anyone in your group
  - any hazardous condition such as fire or hazardous materials
- Do not leave the assembly point until:
  A) the safety/building coordinator or emergency responder is aware that you have safely exited the building
  AND
  B) it is safe to do so
- Be prepared for campus-wide evacuation, emergency personnel may advise you that a campus-wide evacuation is necessary.

Emergency Assembly Points

- Assemble in an orderly fashion near the parking lot



Emergency Evacuation Procedures

When should you attempt to put out a fire?

If you discover a fire:

- **DO NOT** use fire extinguishers unless you are very confident that you're not going to hurt yourself in the process. Report the fire to your supervisors
- Use caution when operating the carbon dioxide extinguishers - you're hand could freeze to the nozzle.
- Always point at the base of the fire.

Types of Fire Extinguishers

- Three types available;
  - Carbon dioxide to be used on flammable liquids and electrical fires
  - Water to be used on paper, wood, textile and fabric fires - not involving electricity!!!
  - Dry chemical powder to be used on flammable liquids - flammable gases and electrical hazards

Fire Extinguisher Use

The use of the wrong type of extinguisher can be VERY dangerous. Please do not use them unless you are VERY sure of what to do.

STRETCHING EXERCISES

Hand & Wrist Exercises

Sitting hands joined and extended above head, relax the head and gently bend to the left and right, keeping the body straight

Both hands behind back, one over the shoulder, the other from behind the back, try to link hands. Change sides.

Welcome to IPB University and please contact me if you have any questions.

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