

Construction Hazards and Risks Control

Lecture Title: Implementing Effective Control Measures in Construction Safety

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Undergraduate Diploma in
Occupational Health and Safety

Objectives

- Construct and plan effective control measures to mitigate construction-related hazards.
- Proficiency in constructing and planning control measures to minimize or eliminate construction-related risks.



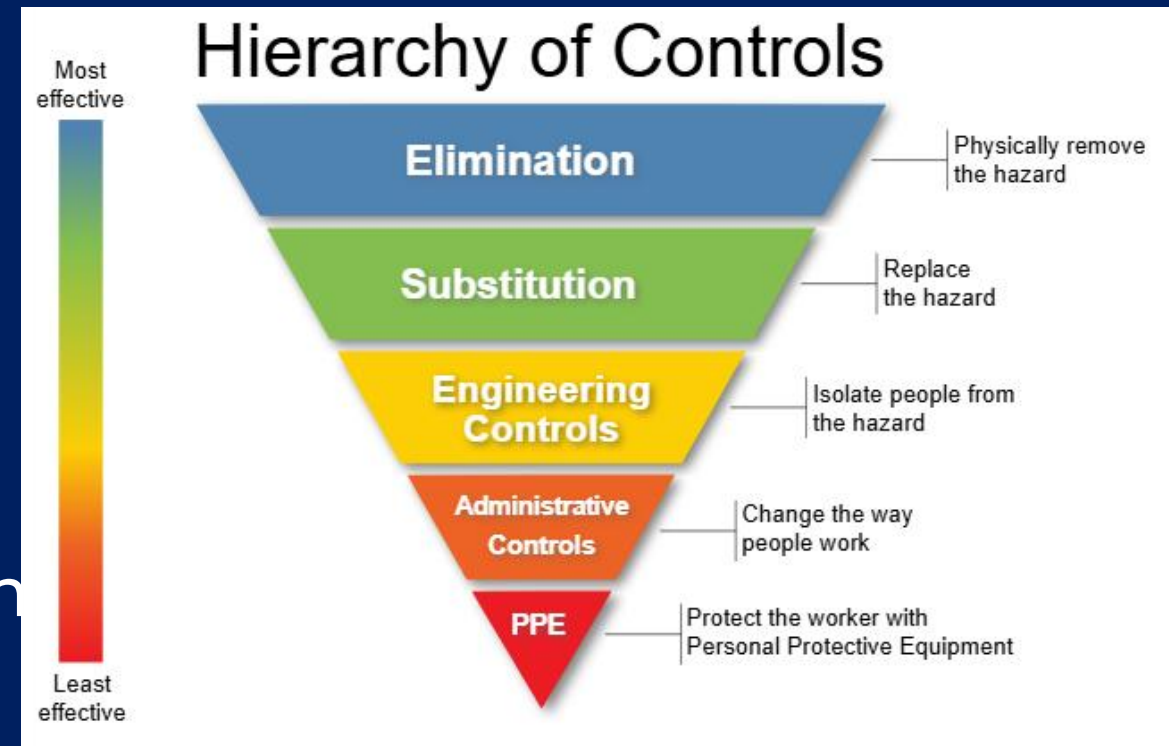
Importance of Control Measures

- Prevent, eliminate, or reduce exposure to hazards
- Promote proactive safety management
- Legal duty under OHSA Cap 646 and LN 52 of 2025



Hierarchy of Controls Overview

- 1. Elimination
- 2. Substitution
- 3. Engineering Controls
- 4. Administrative Controls
- 5. Personal Protective Equipment



Elimination

- Physically remove the hazard
- Example: prefabrication instead of on-site cutting
- Consider feasibility, cost, and design stage decisions

Substitution

- Replace the hazard with a safer option
- Example: using water-based paints instead of solvent-based
- Evaluate new risks introduced by substitution

Engineering Controls

- Isolate people from hazards
- Examples: guardrails, interlocks, fume extraction
- Typically integrated into design or machinery

Administrative Controls

- Modify the way work is performed
- Examples: training, procedures, supervision, work rotation
- Required under LN 52/2025 for contractor coordination

Personal Protective Equipment (PPE)

- Final line of defence
- Examples: helmets, gloves, harnesses, respiratory protection
- Must comply with SL 424.21 and EN standards

Integrating Hierarchy into Risk Assessment

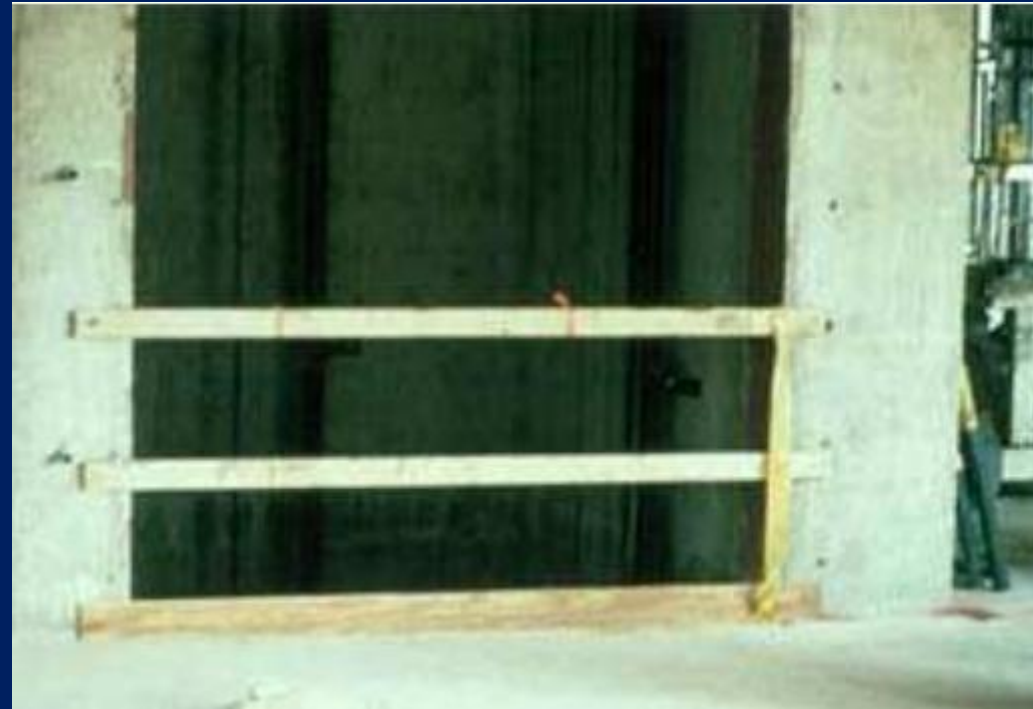
- Apply controls based on hazard severity and likelihood
- Evaluate residual risk
- Apply hierarchy systematically, not selectively



Common Construction Hazards & Controls (1/3)

- Working at height → scaffolds, guardrails, harness systems
- Manual handling → lifting aids, team lifting, training





Common Construction Hazards & Controls (2/3)

- Excavations → trench boxes, shoring, exclusion zones
- Electrical hazards → RCDs, lockout/tagout, inspections



Common Construction Hazards & Controls (3/3)

- Noise & vibration → quieter tools, hearing protection
- Dust & fumes → LEV, wet cutting, respiratory PPE

The Role of Design and Procurement

- Early H&S practitioner involvement
- Design for Safety (DfS)
- Competence-based procurement
- Aligns with LN 52 duties for PSCS and designers



Implementation Strategy

- Conduct site-specific risk assessments
- Prepare method statements
- Ensure communication and supervision
- Carry out toolbox talks and reviews



Monitoring and Review

- Continuous evaluation of controls by:
- Inspections, audits, and feedback
- Worker participation in review process (Workers' Health and Safety Representative)

Behavioural and Cultural Aspects

- We need to push on Positive safety culture which will drive the project towards success
- Leadership commitment and visibility – practice what you preach
- Worker empowerment to report unsafe acts and ensure whistle blower policy



Summary

- Hierarchy of controls: from elimination to PPE
- Integration into risk management
- Continuous improvement





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