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OSH Awareness Series

Examples of Risk Controls for Common Workplace Hazards

Your Reference for Applying the Hierarchy of Controls

By: Khalid Ahmed, CMIOSH, MCIWEM

About This guide

Introduction

Workplace hazards are everywhere, and each one carries the potential to cause harm if left uncontrolled. While the principles of hazard control can be explained in theory, it is often easier to understand them through practical, real-world examples. This guide has been prepared to give you clear illustrations of how different types of hazards can be managed using effective risk control measures.

The examples included here are designed to connect directly with the hierarchy of controls, showing how risks can be eliminated, reduced, or managed through engineering, administrative measures, or the use of personal protective equipment.

How to Use This Guide

- Browse the examples provided for each common workplace hazard.
- Compare the controls shown with those in your own workplace.
- Use the guide as a reference to reinforce your understanding of how risk controls are applied in practice.

Why This Matters

Knowing the hierarchy of controls in theory is valuable, but being able to recognize how it looks in real situations is what builds real confidence. These examples will help you bridge the gap between learning and practice—so you can better identify hazards, choose the right controls, and contribute to a safer workplace.

1. Extreme temperature

High temperature

Elimination	• Automate tasks so no human entry into high-temperature areas is required			
Substitution	• Replace high-heat processes with lower-temperature alternatives where feasible • Use materials that require less heating during production			
Engineering Controls	 Local exhaust, cooling fans, or air conditioning	 Heat Shield Cover for High Temperature Equipment, Machine		
Administrative Controls	• Rotate workers to limit time in hot areas • Enforce rest breaks in shaded or cooled recovery areas • Provide training on heat stress signs, symptoms, and first aid • Establish Permit to Work systems for hot work (welding, cutting, grinding) • Monitor workplace temperature and worker health regularly			
Personal Protective Equipment (PPE)	 Heat-resistant gloves, aprons, and protective clothing	 Face shields	 Cooling vests in extreme heat environments	 Safety footwear resistant to hot surfaces

1. Extreme temperature

Cold temperature

Elimination	• Automate tasks so workers do not need to enter cold storage or freezing areas		
Substitution	• Use equipment or processes that reduce time spent in cold areas • Use pre-warmed materials or insulated packaging to reduce handling in extreme cold		
Engineering Controls	 Provide heated shelters, cabins, or rest areas near work zones		
Administrative Controls	• Rotate tasks to limit duration of cold exposure • Schedule work during the warmest part of the day • Train workers to recognize symptoms of cold stress, hypothermia, and frostbite • Establish work–rest cycles and enforce regular warm-up breaks • Provide emergency procedures for extreme weather events		
Personal Protective Equipment (PPE)	 Insulated gloves, thermal clothing, and cold-weather boots	 Balaclavas, hats, or helmet liners	 Portable heating packs in extreme environments

2. Poor ventilation

Elimination	• Eliminate processes that generate dust, fumes, or vapors • Replace solid fuel heaters with electric heating		
Substitution	• Use water-based paints or adhesives instead of solvent-based products • Use low-emission equipment or materials		
Engineering Controls	 Install local exhaust ventilation (LEV) to remove contaminants from the air	 Provide general mechanical ventilation systems (supply and exhaust fans)	 Use air filtration, purification, or scrubbing systems to remove contaminants
Administrative Controls	• Implement a Permit to Work (PTW) system for tasks in poorly ventilated areas (e.g., confined space entry) • Limit the duration of worker exposure through job rotation • Schedule work during times when natural ventilation is stronger (e.g., daytime vs. night) • Train workers to recognize symptoms of poor ventilation (drowsiness, headaches, dizziness) • Conduct regular air quality testing		
Personal Protective Equipment (PPE)	 Respirators or masks appropriate to the hazard	 Supplied-air respirators or self-contained breathing apparatus (SCBA) in confined spaces or high-risk atmospheres	

3. Inadequate lighting

Elimination	• Eliminate the need to enter or work in the poorly lit basement entirely by installing remote monitoring systems.		
Substitution	• Relocate activities to areas with better natural or artificial lighting		
Engineering Controls	 Install additional overhead lights, task lighting, or floodlights	 Use emergency lighting, or backup power to prevent dark conditions	 Ensure reflective surfaces, contrast markings, or luminous signage for better visibility
Administrative Controls	• Carry out regular lighting inspections and maintenance • Establish cleaning routines for lamps, windows, and skylights to maintain light output • Train workers to recognize hazards linked to poor lighting (e.g., trips, eye strain, fatigue)		
Personal Protective Equipment (PPE)	 Headlamps or helmet-mounted lights for workers in dark areas	 High-visibility clothing to improve low light recognition	 Anti-glare or tinted protective eyewear in areas with excessive glare

4. Slips

Elimination	• Eliminate liquid spills by redesigning processes (e.g., closed mixing/transfer systems)	
Substitution	• Replace liquid cleaning agents with quick-drying or less slippery alternatives • Relocate tasks to less slippery areas	
Engineering Controls	 Install proper drainage to prevent water pooling	 Fit anti-slip mats, treads, or coatings on floors, stairs, and ladders
Administrative Controls	• Implement spill response procedures with immediate cleanup • Schedule floor cleaning during low-traffic times • Use clear warning signs and barriers for wet or slippery areas • Train workers to recognize slip hazards and report them promptly • Carry out regular floor condition inspections	
Personal Protective Equipment (PPE)	 Slip-resistant footwear appropriate for the work environment	 Knee pads or protective gear

5. Trips and falls

Elimination	• Eliminate cables, hoses, or clutter from walkways • Redesign layouts so that storage and equipment do not obstruct paths • Use wireless tools or equipment	
Substitution	• Replace wide storage bins (that obstruct walkways) with narrower rolling bins	
Engineering Controls	 Install handrails, guardrails, and adequate stair edging	
Administrative Controls	• Implement regular housekeeping routines to keep floors and paths clear • Establish reporting procedures for damaged flooring or obstacles • Train workers to keep personal items, tools, and materials out of walkways • Schedule inspections of flooring, stairs, and access routes	
Personal Protective Equipment (PPE)	 Safety footwear with good grip and support	 Knee pads or protective clothing

About the Author

Khalid Ahmed is a Chartered Member of IOSH (CMIOSH) and a Member of the Chartered Institution of Water and Environmental Management (MCIWEM), with over 10 years of professional experience in Health, Safety, and Environment (HSE) practice and 7+ years in HSE training. Holding multiple industry-recognized qualifications—including M.Sc. in Safety, B.Sc. (Hons.) in Chemical Engineering, NEBOSH Environmental Diploma, NEBOSH International General Certificate, Level 3 Award in Education and Training, and ICDL—Khalid has delivered safety training to diverse industries in the Middle East. His mission is to make safety knowledge clear, practical, and accessible for all workers and supervisors.