
Professional Certificate in Health and Safety Compliance

Risk Assessment And Control Measures

Hazard is any source of potential damage, injury or ill-health that may arise from work activities. Hazards can be physical, chemical, biological, ergonomic, psychosocial or organisational. For example a wet floor in a warehouse is a physical hazard that can cause slips, trips and falls. A solvent vapour emitted from a paint-mixing station is a chemical hazard that may lead to respiratory irritation or long-term health effects. Recognising the type of hazard is the first step in any risk assessment because it determines the information needed to evaluate the associated risk.

Risk is the combination of the likelihood that a hazardous event will occur and the severity of the consequence should that event happen. In practical terms risk answers the question "how likely is it that this hazard will cause harm, and how serious would that harm be?" Two identical hazards can present very different risks if one is well-controlled and the other is not. For instance, a high-voltage electrical panel that is locked out and clearly marked presents a low risk, whereas the same panel left unsecured in a busy area presents a high risk.

Likelihood (sometimes called probability) describes the chance that a hazardous event will occur. It is often expressed qualitatively (e.g., rare, unlikely, possible, likely, almost certain) or quantitatively (e.g., a 1 in 10,000 chance per year). Estimating likelihood requires knowledge of past incident data, the frequency of exposure, and any mitigating factors already in place.

Consequence (or severity) refers to the level of harm that could result if the hazardous event occurs. Consequences are typically categorised as minor injury, major injury, fatality, or property damage. The same likelihood can lead to very different risk levels depending on whether the potential consequence is a small bruise or a loss of life.

Exposure is the extent to which a person comes into contact with a hazard. Exposure depends on factors such as the number of people affected, the duration of contact, and the frequency of the activity. A single worker who briefly handles a hazardous chemical may have low exposure, while a production line crew who work with the same chemical daily for eight hours experiences high exposure.

Risk Assessment is the systematic process of identifying hazards, evaluating the associated risks, and deciding on appropriate control measures. The assessment typically follows a structured methodology: identify hazards, determine who might be harmed and how, evaluate the risk, record findings, and review the assessment regularly. Risk assessment is a legal requirement in many jurisdictions and forms the basis for developing safe systems of work.

Hazard Identification is the first stage of risk assessment and involves a thorough examination of the

workplace, processes, equipment, substances and activities to uncover any potential sources of harm. Techniques for hazard identification include walk-through inspections, review of accident records, consultation with employees, analysis of safety data sheets (SDS), and use of checklists specific to the industry. For example, a chemical plant might use a checklist that prompts inspectors to look for unlabelled drums, leaking valves, inadequate ventilation and emergency shut-off provisions.

Risk Matrix is a visual tool that combines likelihood and consequence to produce a risk rating, often colour-coded as low (green), medium (amber) or high (red). The matrix helps prioritise which risks need immediate action and which can be monitored. A common 5×5 matrix uses five levels of likelihood and five levels of consequence, creating 25 possible risk scores. For instance, a risk rated “high likelihood” and “catastrophic consequence” would fall into the red zone, signalling an urgent need for control.

Residual Risk is the risk that remains after control measures have been implemented. No control can ever eliminate risk entirely, so the goal is to reduce residual risk to a level that is as low as reasonably practicable (ALARP). Residual risk is reassessed after each control is applied to ensure that the reduction is sufficient and that new hazards have not been introduced.

Control Measures are actions taken to eliminate or reduce the likelihood or severity of a hazard. They are selected based on the hierarchy of controls, which ranks options from most to least effective. The hierarchy is a fundamental concept that guides safety professionals in choosing the most robust solutions.

Hierarchy of Controls consists of five levels: elimination, substitution, engineering controls, administrative controls, and personal protective equipment (PPE). The hierarchy reflects the principle that it is more effective to remove a hazard at its source than to rely on human behaviour or protective gear.

Elimination involves removing the hazard entirely from the workplace. This is the most effective control because it eradicates the risk. For example, if a noisy machine can be replaced with a quieter model, the noise hazard is eliminated. In practice, elimination may be limited by technical, financial or operational constraints, but it should always be considered first.

Substitution replaces a hazardous material, process or piece of equipment with a less hazardous alternative. An example is substituting a solvent with a low-toxicity water-based cleaning agent. Substitution requires a careful assessment of the new material to ensure that it does not introduce other, unforeseen hazards.

Engineering Controls isolate people from hazards through physical changes to the workplace or equipment. Common engineering controls include guards, ventilation systems, interlocks, safety curtains, and noise dampening enclosures. For instance, installing a local exhaust ventilation (LEV) hood above a welding station captures metal fumes before they disperse into the breathing zone, reducing inhalation risk.

Administrative Controls modify how work is organised and performed to reduce exposure. These controls rely on policies, procedures, training and supervision. Examples include rotating staff to limit exposure time, implementing safe work procedures, scheduling high-risk tasks during low-traffic periods, and enforcing a

lock-out/tag-out (LOTO) system for machinery maintenance.

Personal Protective Equipment (PPE) is the last line of defence and includes items such as helmets, safety glasses, gloves, hearing protectors and respiratory masks. PPE must be selected based on the identified hazards, fit correctly, be maintained, and used only when higher-level controls are insufficient or impractical. For example, when workers must handle abrasive grinding wheels, safety glasses and face shields provide essential protection against flying particles.

Risk Register is a documented record of identified risks, their assessments, control measures, responsible persons, and review dates. The register serves as a central reference for tracking risk management activities and demonstrating compliance to regulators. Each entry typically includes the hazard description, risk rating, control actions, residual risk, and status (e.g., pending, implemented, reviewed).

Safe System of Work (SSoW) is a documented set of procedures that describe how a task should be performed safely, incorporating the selected control measures. An SSoW may include step-by-step instructions, required PPE, emergency procedures, and verification steps. For example, a confined-space entry SSoW will detail atmospheric testing, rescue arrangements, communication protocols, and permit requirements.

Permit-to-Work (PTW) is a formal written authorization that controls high-risk activities such as hot work, electrical isolation, or work at height. The PTW process ensures that all necessary precautions have been taken before the work begins and that the work is completed under controlled conditions. A PTW typically requires signatures from the supervisor, the person responsible for the hazard, and the person performing the work.

Lock-out/Tag-out (LOTO) is a safety procedure used to ensure that machinery is de-energised and cannot be started unintentionally while maintenance or repair work is carried out. LOTO devices physically lock the energy source and a tag provides information about who applied the lock and why. Proper LOTO procedures include verifying zero energy, applying locks, testing, and documenting the process.

Competent Person is an individual who has the necessary knowledge, training, experience and authority to carry out a specific task safely. In many regulations, a competent person must conduct certain inspections, such as checking fall protection equipment or verifying the integrity of fire extinguishers. The definition of competence varies by jurisdiction, but it always implies a level of expertise beyond that of an average worker.

Duty of Care is a legal and moral obligation to ensure the health, safety and welfare of others who may be affected by one's actions. Employers, contractors, and even individuals have a duty of care to take reasonable steps to prevent foreseeable harm. Breaching this duty can result in legal liability, fines, and reputational damage.

Occupational Health focuses on protecting workers from health hazards that arise from the work

environment, such as exposure to chemicals, noise, vibration, and ergonomic stressors. Occupational health programmes may include health surveillance, medical examinations, and wellness initiatives. For example, regular hearing tests for employees exposed to high noise levels help detect early signs of hearing loss and guide corrective actions.

Health Surveillance is the systematic monitoring of workers' health to identify early signs of work-related illness. It is particularly important for hazards that have latent effects, such as exposure to asbestos or lead. Health surveillance may involve baseline medical examinations, periodic testing, and record-keeping of results. The data collected informs risk assessments and control measure effectiveness.

Ergonomics is the science of designing workstations, tools and tasks to fit the capabilities and limitations of the human body. Poor ergonomics can lead to musculoskeletal disorders (MSDs), which are a leading cause of workplace injury. An ergonomic assessment might recommend adjustable workstations, tools with reduced grip force, and job rotation to minimise repetitive strain.

Psychosocial Hazard refers to factors that can cause psychological or social harm, such as excessive workload, bullying, harassment, or lack of control over work. Managing psychosocial hazards often involves organizational changes, clear communication channels, and support services. For instance, implementing a stress-management programme and providing access to counseling can mitigate the impact of high-pressure environments.

Incident is any unplanned event that results in or could have resulted in injury, ill-health, damage to property, or environmental harm. Incidents are classified as accidents (when injury occurs) or near-misses (when no injury occurs but a loss was narrowly avoided). Recording incidents provides valuable data for trend analysis and preventive action.

Near-Miss (or close call) is an event where a potential incident was avoided by chance or timely intervention. Near-miss reporting is essential because it highlights hidden hazards that may not yet have caused injury. Encouraging a culture of reporting near-misses helps organisations identify and rectify systemic weaknesses before they lead to actual harm.

Root Cause Analysis (RCA) is a method used to investigate incidents and uncover the underlying factors that contributed to the event. RCA goes beyond superficial causes to explore systemic issues such as inadequate training, poor maintenance, or flawed procedures. Techniques for RCA include the "5 Whys," fishbone diagrams, and fault tree analysis.

Fault Tree Analysis (FTA) is a top-down, deductive risk assessment technique that models the logical relationships between system failures and their causes. An FTA diagram starts with an undesirable event (the top event) and branches down to basic events that could lead to that outcome. Engineers use FTA to identify critical components and develop preventive measures.

Job Hazard Analysis (JHA) (or Task Hazard Analysis) examines a specific job or task step by step to identify

hazards and recommend controls for each step. A JHA is typically presented in a table format with columns for task description, hazards, controls, and responsible persons. For example, a JHA for operating a forklift would list hazards such as tip-over, collision, and load instability, and recommend controls like speed limits, seat belts, and load-center-of-gravity calculations.

Safety Culture describes the shared values, attitudes and behaviours that determine the commitment to safety within an organisation. A strong safety culture encourages open communication, proactive hazard reporting, and continuous improvement. Conversely, a poor safety culture may manifest as complacency, resistance to change, or a “blame” environment that discourages reporting.

Safety Management System (SMS) is a structured framework that integrates policies, procedures, and practices to manage safety risks systematically. An SMS typically includes elements such as safety policy, planning, implementation, performance monitoring, and management review. ISO 45001 is an international standard that specifies requirements for an effective SMS.

Performance Monitoring involves measuring and tracking safety performance indicators (SPIs) to evaluate the effectiveness of control measures. Common SPIs include the number of lost-time injuries, frequency rate, severity rate, and compliance audit findings. Monitoring provides feedback that drives corrective actions and continuous improvement.

Management Review is a periodic evaluation by senior management of the SMS performance, policy effectiveness, and resource adequacy. Management reviews ensure that the safety system remains appropriate, that objectives are being met, and that necessary changes are identified. The outcome of a review may include updating the risk assessment, allocating additional resources, or revising training programmes.

Training equips employees with the knowledge, skills and attitudes required to perform their work safely. Training can be generic (e.g., induction, awareness) or specific (e.g., confined-space entry, fire-fighter training). Effective training incorporates adult-learning principles, practical demonstrations, competency assessments, and refresher sessions.

Competency Assessment verifies that an individual possesses the required skills and knowledge to perform a task safely. Assessment methods may include written tests, practical demonstrations, observation, and review of work records. A competency register tracks which workers are qualified for specific high-risk tasks.

Audit is an independent, systematic examination of an organisation’s safety processes, documentation and performance against defined criteria. Audits can be internal or external and may focus on compliance, effectiveness, or both. Findings from an audit are documented in a report that includes corrective actions and timelines.

Corrective Action is a step taken to eliminate the cause of a non-conformity or undesirable event. Corrective actions differ from remedial actions, which address the immediate symptom. For example, if an audit reveals

that fire extinguishers are not inspected annually, a corrective action would be to revise the inspection schedule, assign responsibility, and provide training on inspection procedures.

Preventive Action anticipates potential non-conformities and implements measures to avoid them. Preventive actions are proactive and often stem from trend analysis, risk assessments, or lessons learned from other organisations. Introducing a new safety briefing for all shift changes after noticing an increase in communication-related incidents is a preventive action.

Legislation comprises the statutory requirements that govern health and safety in the workplace. In many countries, legislation sets out duties for employers, employees, manufacturers, and other stakeholders. Examples include the Occupational Safety and Health Act, the Control of Substances Hazardous to Health Regulations, and the Construction (Design and Management) Regulations. Compliance with legislation is mandatory and non-compliance can result in enforcement action.

Regulatory Body is the authority responsible for enforcing health and safety legislation. Regulatory bodies may conduct inspections, issue improvement notices, and prosecute breaches. In the United Kingdom, the Health and Safety Executive (HSE) fulfills this role; in the United States, the Occupational Safety and Health Administration (OSHA) does.

Standard is a documented set of rules, guidelines or specifications that provide a basis for consistent practice. Standards can be voluntary (e.g., ISO 45001) or referenced by legislation. Using recognised standards helps ensure that control measures meet accepted levels of safety and performance.

Best Practice refers to methods or techniques that have been demonstrated, through experience and research, to achieve superior results. Best practice guidelines are often published by professional bodies, industry groups, or regulatory agencies. For instance, the British Safety Council's guidance on manual handling is considered best practice for reducing musculoskeletal injuries.

Risk Communication is the process of exchanging information about hazards, risks and control measures among stakeholders. Effective risk communication is clear, transparent and tailored to the audience. It may involve safety signage, toolbox talks, newsletters, and digital alerts. Communicating risk helps build awareness and encourages responsible behaviour.

Signage provides visual cues that warn of hazards, indicate required actions, or direct traffic flow. Signage must comply with recognised standards for colour, shape, and wording to ensure quick comprehension. For example, a red triangular sign with a black exclamation point signals a general danger, while a green rectangular sign with a white arrow indicates an emergency exit route.

Emergency Preparedness involves planning and training for potential emergencies such as fires, chemical spills, explosions, or natural disasters. An emergency plan outlines roles, evacuation routes, assembly points, communication protocols and resource requirements. Conducting regular drills validates the plan's effectiveness and identifies gaps.

Fire Safety encompasses measures to prevent fire, detect it early, and control its spread. Control measures include fire-resistant construction, sprinkler systems, fire extinguishers, and fire-walls. A fire risk assessment identifies ignition sources, fuel loads and means of escape, leading to appropriate fire safety controls.

Spill Control refers to procedures and equipment used to contain, collect and dispose of hazardous liquids that escape from containers or pipelines. Spill kits typically contain absorbent materials, containment booms, personal protective equipment and disposal bags. Training staff on spill response ensures rapid containment and reduces environmental impact.

Confined Space is a space that is not designed for continuous occupancy, has limited means of entry or exit, and may contain hazardous atmospheres. Confined-space entry requires a permit, atmospheric testing, rescue provisions, and trained personnel. An example is a storage tank that must be entered for inspection; the risk of oxygen deficiency or toxic vapour necessitates strict controls.

Noise Control aims to reduce occupational exposure to harmful sound levels. Controls include engineering solutions such as acoustic enclosures, administrative measures like rotating workers, and PPE such as hearing protectors. Monitoring noise levels with dosimeters helps verify compliance with exposure limits.

Vibration Control addresses risks from hand-arm vibration (HAV) and whole-body vibration (WBV). Controls may involve selecting low-vibration tools, maintaining equipment, providing anti-vibration gloves, and limiting exposure time. Health surveillance for HAV includes regular assessments of vascular and neurological function.

Radiation Protection covers protection from ionising (e.g., X-ray, gamma) and non-ionising (e.g., ultraviolet, laser) radiation. Controls include shielding, distance, time reduction, and PPE such as lead aprons or goggles. A radiation risk assessment quantifies exposure, compares it to dose limits and determines necessary protective measures.

Electrical Safety focuses on preventing electric shock, arc flash and burns. Controls include proper grounding, residual-current devices (RCDs), lock-out/tag-out for isolation, and regular inspection of cords and equipment. An arc-flash risk assessment calculates incident energy and prescribes appropriate PPE and safe work distances.

Machine Guarding protects workers from moving parts, pinch points and flying debris. Guard types include fixed guards, interlocked guards, and adjustable guards. A risk assessment for a cutting saw would identify the blade as a hazard and recommend a fixed guard with a safety interlock that stops the machine if the guard is removed.

Fall Protection includes measures to prevent falls from height, such as guardrails, safety nets, personal fall arrest systems (PFAS), and safe work procedures. Selecting the correct fall-arrest system involves calculating the fall distance, selecting a harness with adequate load capacity, and ensuring anchor points meet strength requirements.

Lock-out/Tag-out Procedure is a critical administrative control for ensuring that equipment cannot be inadvertently re-energised. An effective LOTO system requires a written procedure, training for all personnel, regular audits, and clear identification of energy sources. The procedure must also address verification steps to confirm that the equipment is truly isolated.

Permit-to-Work System coordinates high-risk activities by requiring formal approval before work commences. PTW systems typically involve multiple sign-offs, such as from the supervisor, the person responsible for the hazard, and the safety officer. The system ensures that all necessary precautions, such as isolation and monitoring, are in place.

Safety Data Sheet (SDS) provides detailed information about a hazardous chemical, including its properties, hazards, handling instructions, personal protective equipment, first-aid measures and disposal requirements. SDSs are essential resources for risk assessment, especially when evaluating chemical exposure and selecting controls.

Control Banding is a risk management approach that groups hazards into bands based on their severity and likelihood, then assigns standard control measures to each band. Control banding is useful when detailed exposure data are unavailable, as it provides a pragmatic way to implement adequate protection.

Risk Acceptance is the decision to tolerate a certain level of risk after considering the cost, feasibility and benefit of additional controls. Acceptance must be documented, justified and reviewed periodically. In practice, a residual risk that is deemed "low" may be accepted without further action, provided that monitoring continues.

Risk Transfer involves shifting the financial consequences of a risk to another party, typically through insurance or contractual arrangements. While risk transfer does not reduce the likelihood of an incident, it can mitigate the financial impact on the organisation. Insurance policies for public liability, workers' compensation and property damage are common examples.

Cost-Benefit Analysis compares the monetary costs of implementing a control measure against the expected benefits, such as reduced injury costs, increased productivity or regulatory compliance. A thorough analysis includes direct costs (equipment, installation) and indirect costs (downtime, training) and quantifies benefits using incident cost data.

Human Factors studies how people interact with equipment, environment and procedures. Understanding human factors helps design controls that accommodate human capabilities and limitations, reducing the likelihood of error. Examples include ergonomic tool design, clear labeling, and user-friendly interfaces for safety systems.

Behavioural Safety focuses on influencing worker behaviours to promote safe practices. Techniques include observation, feedback, incentive programmes and positive reinforcement. A behavioural safety program may track safe-vs-unsafe actions and provide recognition for consistent safe performance.

Incident Investigation is the systematic inquiry into the causes of an incident, with the aim of preventing recurrence. The investigation follows a structured process: secure the scene, collect evidence, interview witnesses, analyse data, identify root causes and develop corrective actions. Timely investigation is essential to capture accurate information.

Trend Analysis examines incident data over time to identify patterns, emerging hazards or areas of improvement. Statistical techniques such as moving averages, Pareto charts and regression analysis help highlight significant trends. For example, a rising trend in hand-tool injuries may indicate inadequate training or poor tool maintenance.

Performance Indicator (SPI) is a measurable value that demonstrates how effectively an organisation is achieving safety objectives. Common SPIs include the total recordable injury rate, the number of safety observations, and the percentage of completed corrective actions. Selecting appropriate SPIs aligns measurement with strategic goals.

Continuous Improvement is an ongoing effort to enhance safety performance by regularly reviewing processes, learning from experience and implementing incremental changes. The Plan-Do-Check-Act (PDCA) cycle is a widely used framework for continuous improvement, encouraging systematic evaluation and adaptation.

Audit Trail provides a chronological record of actions taken, decisions made and documents generated throughout a risk management process. Maintaining an audit trail supports accountability, facilitates regulatory inspections, and enables traceability of changes. Electronic document management systems often automatically capture audit trail information.

Legal Liability arises when an organisation or individual fails to meet legal duties and a resulting injury or damage occurs. Liability can lead to civil penalties, criminal prosecution, compensation claims and reputational harm. Understanding the legal implications of risk management underscores the importance of compliance.

Insurance Claim is a request for compensation following an incident covered by an insurance policy. Effective risk management can reduce the frequency and severity of claims, potentially lowering insurance premiums. Documentation from incident investigations, risk assessments and control measures supports claim substantiation.

Stakeholder refers to any person or group that has an interest in the health and safety performance of an organisation. Stakeholders may include employees, contractors, customers, regulators, shareholders, and the wider community. Engaging stakeholders in risk assessment ensures that diverse perspectives are considered and that control measures are practical and acceptable.

Consultation is the process of seeking input from employees and other stakeholders on safety matters. Consultation can be formal, such as safety committees and joint occupational health and safety (JOH&S)

groups, or informal, such as regular toolbox talks. Effective consultation builds ownership and improves the relevance of control measures.

Safety Committee is a group of representatives from management and the workforce that meets regularly to discuss safety performance, review incidents, and recommend improvements. Committees often have the authority to influence policy, approve corrective actions and monitor implementation.

Safety Officer is a professional responsible for developing, implementing and monitoring safety policies and programmes. The safety officer may conduct inspections, deliver training, coordinate emergency response and liaise with regulatory bodies. In many organisations, the safety officer reports directly to senior management to ensure independence.

Document Control ensures that all safety-related documents, such as policies, procedures, risk assessments and training records, are current, accessible and reviewed regularly. Effective document control prevents the use of outdated information and supports consistency across the organisation.

Standard Operating Procedure (SOP) is a detailed, written instruction that describes how to perform a specific task safely and consistently. SOPs include step-by-step actions, required PPE, safety checks and emergency steps. For instance, an SOP for operating a forklift would specify pre-use inspection, load limits, speed restrictions and parking procedures.

Safety Observation involves watching work activities to identify safe and unsafe behaviours. Observations can be formal (structured safety walk-about) or informal (spot checks). Recording observations provides data for feedback, training needs and trend analysis.

Safety Training Matrix maps required training against job roles, ensuring that each employee receives the appropriate instruction for their responsibilities. The matrix tracks completion dates, expiry and competency levels, facilitating compliance with legal training requirements.

Job Rotation is an administrative control that reduces exposure to a specific hazard by alternating workers among different tasks. Rotating employees between manual handling duties and office work can mitigate the risk of repetitive-strain injuries.

Maintenance of equipment is a critical control measure that prevents failures, reduces hazardous emissions and extends service life. Preventive maintenance schedules, inspections and corrective repairs are documented in maintenance logs, supporting compliance and risk reduction.

Inspection is a systematic examination of workplaces, equipment and practices to verify that controls are in place and functioning. Inspections may be routine (e.g., daily checks of fire extinguishers) or targeted (e.g., after a near-miss involving scaffolding). Findings are recorded and tracked for corrective action.

Audit Findings are the observations and non-conformities identified during an audit. Findings are classified by severity (e.g., major, minor) and require corrective action plans with assigned responsibilities and

deadlines.

Corrective Action Plan outlines the steps needed to address audit findings, including who will act, what resources are required, and the target completion date. The plan is monitored until all actions are closed and verified.

Safety Performance Review is a periodic evaluation of safety metrics, incidents, audit results and improvement initiatives. The review informs strategic decisions, resource allocation and policy updates.

Management Commitment is demonstrated through visible leadership, allocation of resources, setting of safety objectives and personal involvement in safety activities. A commitment that is merely verbal, without corresponding actions, undermines the safety culture.

Behavioural Observation (also known as safety observation) is a proactive approach where trained observers watch work practices, provide immediate feedback, and record both safe and unsafe behaviours. The data collected can be analysed to identify training gaps and to reinforce positive behaviours.

Safety Incentive Programme rewards individuals or teams for achieving safety targets, such as zero lost-time injuries or completion of safety training. Incentives can be monetary, recognition awards or additional leave, but they must be designed carefully to avoid unintended consequences, such as under-reporting of incidents.

Safety Incident Reporting System is a platform—often digital—through which employees can log incidents, near-misses and hazards. An effective system is user-friendly, confidential, and provides timely feedback. Data from the system feed into trend analysis and risk assessment updates.

Risk Register Review occurs at defined intervals (e.g., quarterly) to ensure that all identified risks remain current, that control measures are still effective, and that any new hazards are added. The review is documented and signed off by responsible persons.

Control Effectiveness Evaluation assesses whether a control measure is achieving its intended risk reduction. Evaluation methods include performance monitoring, incident rates, compliance checks and worker feedback. If a control is found ineffective, additional or alternative measures must be implemented.

Emergency Evacuation Drill tests the organisation's ability to evacuate personnel safely and efficiently during an emergency. Drills should be realistic, involve all occupants, and be debriefed to capture lessons learned and improve the emergency plan.

Personal Protective Equipment (PPE) Selection follows a hierarchy: first eliminate the hazard, then substitute, then apply engineering controls, and only then select PPE. PPE selection must consider the specific hazard, the level of protection required, comfort, fit, and maintenance.

Fit Testing is a process used to ensure that respiratory protective equipment forms an adequate seal on the

wearer's face. Qualitative and quantitative fit testing methods verify that the respirator provides the intended level of protection.

Respiratory Protection Program includes hazard assessment, selection of appropriate respirators, fit testing, training, medical surveillance and maintenance. The program is mandatory when engineering controls cannot reduce airborne contaminant levels below occupational exposure limits.

Occupational Exposure Limit (OEL) is a regulatory limit on the amount or concentration of a substance in workplace air. OELs are expressed as time-weighted averages (TWA), short-term exposure limits (STEL) or ceiling values. Compliance with OELs is verified through air monitoring and sampling.

Air Monitoring involves measuring the concentration of hazardous substances in the breathing zone of workers. Continuous monitoring provides real-time data, while periodic sampling offers snapshot information for compliance verification.

Noise Dosimetry measures a worker's cumulative exposure to noise over a shift, providing a dose percentage that can be compared to occupational limits. Dosimetry helps identify workers at risk of hearing loss and supports the selection of hearing protection.

Vibration Measurement uses accelerometers to quantify hand-arm or whole-body vibration exposure. Results are compared to exposure action and limit values, guiding the implementation of engineering or administrative controls.

Heat Stress Assessment evaluates the risk of heat-related illness by considering ambient temperature, humidity, radiant heat, air movement, clothing and metabolic rate. Tools such as the Wet-Bulb Globe Temperature (WBGT) index help determine safe work-rest cycles and the need for cooling measures.

Cold Stress Assessment examines factors such as air temperature, wind speed, humidity, clothing insulation and activity level. Controls include providing insulated clothing, heating shelters, warm-up breaks and monitoring for signs of hypothermia or frostbite.

Ergonomic Assessment analyses workstations, tools and tasks to identify risk factors for musculoskeletal disorders. Methods include posture analysis, force measurement, repetition frequency and job-task analysis. Recommendations may involve workstation redesign, tool modification, or job rotation.

Manual Handling Risk Assessment evaluates the forces, postures and frequencies involved in lifting, carrying, pushing or pulling loads. The assessment uses criteria such as load weight, lift height, distance and frequency to determine if controls are needed.

Control Implementation Planning outlines the steps needed to put selected controls into practice. The plan includes resource allocation, scheduling, training, communication and verification procedures. Effective planning ensures that controls are installed correctly and on time.

Verification and Validation confirm that a control measure has been installed correctly (verification) and that it performs as intended (validation). For example, after installing a ventilation system, verification would involve checking that the ducts are correctly connected, while validation would involve measuring airflow rates to ensure they meet design specifications.

Change Management addresses the impact of modifications to processes, equipment or organisational structure on health and safety. A formal change-management process includes risk assessment of the proposed change, stakeholder consultation, documentation and training.

Contractor Management ensures that subcontractors adhere to the same health and safety standards as the principal organisation. Key elements include pre-qualification, review of contractor safety records, induction, monitoring performance and auditing compliance.

Supply Chain Risk Management extends health and safety considerations to suppliers and manufacturers. It involves evaluating supplier safety performance, requiring compliance with safety standards, and conducting audits of supplier facilities.

Incident Reporting Threshold defines the criteria for which events must be reported, such as any injury requiring medical treatment, loss of time, or any near-miss that could have resulted in injury. Clear thresholds help ensure consistent reporting across the organisation.

Statutory Reporting requires organisations to submit certain incident data to regulatory authorities within prescribed timeframes. Examples include reporting fatalities, major injuries, dangerous occurrences and occupational disease diagnoses.

Safety Culture Survey gathers employee perceptions of safety policies, leadership, communication and practices. Survey results identify strengths and weaknesses, guiding targeted improvements and benchmarking progress over time.

Safety Leadership embodies the behaviours, attitudes and actions of managers that influence the safety performance of their teams. Effective leaders model safe behaviour, provide resources, encourage reporting, and recognise safe practices.

Behavioural Safety Observation (BSO) programmes systematically record safe and unsafe acts, providing data for feedback, coaching and reinforcement. BSOs are usually performed by trained observers who use a structured checklist to ensure consistency.

Safety Risk Register is a living document that captures all identified risks, their assessment scores, control measures, responsible parties and review dates. The register is used by managers to prioritize resource allocation and track progress.

Key Performance Indicator (KPI) in safety may include metrics such as days without a lost-time injury, percentage of corrective actions closed on time, or number of safety training hours delivered per employee.

KPIs should be SMART (Specific, Measurable, Achievable, Relevant, Time-bound).

Benchmarking compares an organisation's safety performance against industry standards or peer organisations. Benchmarking helps identify best practices, set realistic targets and drive continuous improvement.

Regulatory Compliance Audit examines whether the organisation meets all applicable legal requirements. The audit checklist includes legislation references, permit checks, training records, inspection logs and incident reports.

Safety Management Review Board is a senior-level committee that reviews safety performance, strategic objectives, resource needs and policy effectiveness. The board ensures alignment of safety initiatives with organisational goals.

Risk Communication Plan outlines how risk information will be shared with internal and external audiences, specifying the message, medium, frequency and responsible person. The plan ensures that critical risk information reaches the right people at the right time.

Information Security for Safety Data protects confidential health and safety information from unauthorised access, loss or tampering. Measures include access controls, encryption, regular backups and secure disposal of records.

Legal Review involves periodic assessment of changes in legislation, case law and regulatory guidance to ensure that the organisation's policies and procedures remain compliant. Legal counsel may be consulted for interpretation of complex regulatory requirements.

Insurance Risk Assessment evaluates the potential financial impact of workplace hazards on insurance