

Hazard Identification Guidance

ISO 45001:2018

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1 Hazard Identification & Assessment

1.1 Expectations

Hazard identification methods and risk assessment processes form the core of any health and safety management system and its drive for risk reduction and improvement. ISO 45001:2018 defines hazards as things that have the potential to cause harm and risks as those that relate to the potential for harm to actually arise.

When undergoing certification, external auditors will likely review the hazard identification methods and risk assessment process and its outputs for content, repeatability, accuracy, and documentation. Later on, the auditor will also review how the outputs of the hazard identification and risk assessment process helps to focus the direction and the scope of any organization's health and safety management system.

1.2 Terminology

What is essential at this stage is to understand the terms hazard, risk, and control measure; these are the common terms that are used interchangeably in everyday conversation.

A simple example might be to consider the electrical supply in your office building. Electricity represents a significant hazard, and while the supply is live, the risk of electric shock exists when working on or near live equipment. One **control** measure might ensure the electricity supply is isolated while work is undertaken, and another might be used to prevent unauthorized access to live equipment.

1.2.1 Hazard

A health and safety hazard is something that can cause harm to people or property damage. There can be many hazards that can cause harm in the workplace. Unless organizations use a comprehensive approach to identify their hazards, it will not be possible to manage or control them.

1.2.2 Hazard Identification

Hazard identification is the process by which health and safety risks are identified, captured, and evaluated to determine the most suitable control measure. Anything, including conditions, situations, practices, or behaviors with the potential to introduce harm, such as injury, disease, death, environmental damage, property and equipment damage.

1.2.3 Hazard Register

Set out in a table format; the hazard register can present a great deal of information in just a few pages or on a single computer screen; you can list the potential hazards or incidents that could happen while doing a task or job. The hazard register can capture and consider the operational environment and the various organizational capabilities (people, processes, technologies) that could degrade safety performance.

When used to track the implementation of mitigation actions and the resultant impact on risk ratings, the hazard register becomes a valuable communication tool by informing Top management of the progress or lack thereof and any additional resources required.

1.2.4 Initial Risk

The initial risk rating is the combination of the likelihood of harm multiplied by the severity of that harm or the damage occurring from the exposure to a hazard and the likely consequences of that harm or damage. It is

the most important rating, as it directly impacts decisions on what other controls may be required and is the baseline against which you can measure the success of hazard controls.

1.2.5 Residual Risk

The residual risk rating is the remaining level of risk that still exists after implementing control measures. In the case of effective controls, the residual risk must always be lower than the pre-controlled initial risk score. Controls should be introduced or improved in workplaces until the residual risk is minor.

1.2.6 Risk Assessment

The risk assessment is defined as the process of assessing the risks associated with each of the health and safety hazards you identified so that the nature of the risk can be understood quantitatively. This includes the type of harm that could arise from the hazard, the severity of that harm, and the probability or likelihood of the harm actually occurring. Ensure the likelihood of a hazard causing harm and the severity of that harm is assessed to calculate a risk rating for each hazard.

1.2.7 Risk Control

Risk control measures are the actions organizations take, so far as is reasonably practicable, to mitigate perceived health and safety risks. When a risk cannot be entirely eliminated, implementing control measures is required to minimize risks to ALARP. A hierarchy of controls has been developed and is described to assist in selecting the most appropriate risk control measures.

The corrective action process should be used as a way to implement the additional control measures necessary to manage the hazards that are not yet in place.

1.3 When is Hazard Identification Needed?

Workplace hazard identification, assessment, and risk control is an on-going process. It should be undertaken at various times, including:

1. If the work has not been done before;
2. When a hazard has been identified;
3. When a change to the workplace may introduce or change a hazard. Such as when changes occur to the work equipment, practices, procedures, or environment;
4. As part of responding to a workplace incident, even where an injury has not occurred;
5. Where new information about a risk becomes available;
6. Workers or stakeholders raise concerns about risk;
7. At regular times appropriate to the task and the workplace.

It is often more effective and easier to eliminate hazards if risk management approaches are used at the planning and design stages for products, processes, and places for work.

1.4 Who is Involved in Hazard Identification?

Workers should be involved in hazard identification, risk assessment, and control processes. When a Health & Safety Representative represents workers, they must be involved in the consultation process. Ensure your organization's hazard identification process considers the following:

1. Results of the context analyses (see 4.1 and 4.2);
2. Overview of documented information;

The hazard management process must be regularly reviewed, particularly after changes to processes, products, materials, and people or after an accident, to ensure that the process continues to be effective and results in continual improvement within the health and safety management system.

1.6 How to Document Hazards

1.6.1 About the Hazard Register

While not mandated by the ISO 45001 standard, using the hazard register will help staff capture, initially assess, and record the risks, ensuring that hazards are considered consistently and comprehensively.

Formulae in the hazard register will automatically rate the hazards according to the severity and likelihood scores. Resulting hazards and risks rated as 'Moderate' and 'Major' must be considered significant and prioritized for detailed risk assessment to determine and implement appropriate control measures.

Ref.	Date Raised	Process or Activity	Parties Affected	Hazard Description	Consequences	Current Controls	Pre-control Score			Suggested Control Measure
							Severity	Likelihood	Initial Risk Rating	
H1	02-Feb-24	Process 1					Minor	Unlikely	Minor	Continue to review and reduce the risks wherever it is reasonably practicable
H2		Process 2					Minor	Almost Certain	Moderate	Use administrative controls to reduce the risk, develop a SSoW, formal risk assessment is required
H3		Process 3					Major	Almost Certain	Major	Eliminate or reduce the risk by introducing engineering controls, formal risk assessment is required
H4		Process 6					Minor	Remote	Minor	Continue to review and reduce the risks wherever it is reasonably practicable
H5		Process 5					Minor	Almost Certain	Moderate	Use administrative controls to reduce the risk, develop a SSoW, formal risk assessment is required
H6		Process 3					Minor	Highly Likely	Moderate	Use administrative controls to reduce the risk, develop a SSoW, formal risk assessment is required
H7		Process 7					Minor	Likely	Moderate	Use administrative controls to reduce the risk, develop a SSoW, formal risk assessment is required
H8		Process 8					Catastrophic	Unlikely	Major	Eliminate or reduce the risk by introducing engineering controls, formal risk assessment is required
H9		Process 3					Minor	Unlikely	Minor	Continue to review and reduce the risks wherever it is reasonably practicable
H10		Process 2					Serious	Remote	Minor	Continue to review and reduce the risks wherever it is reasonably practicable
H11		Process 9					Minor	Unlikely	Minor	Continue to review and reduce the risks wherever it is reasonably practicable
H12		Process 10					Minor	Likely	Moderate	Use administrative controls to reduce the risk, develop a SSoW, formal risk assessment is required
H13		Process 11					Catastrophic	Unlikely	Major	Eliminate or reduce the risk by introducing engineering controls, formal risk assessment is required
H14		Process 12					Minor	Unlikely	Minor	Continue to review and reduce the risks wherever it is reasonably practicable
H15		Process 13					Serious	Remote	Minor	Continue to review and reduce the risks wherever it is reasonably practicable
H16		Process 14					Minor	Unlikely	Minor	Continue to review and reduce the risks wherever it is reasonably practicable
H17		Process 15					Minor	Likely	Moderate	Use administrative controls to reduce the risk, develop a SSoW, formal risk assessment is required
H18		Process 1					Catastrophic	Unlikely	Major	Eliminate or reduce the risk by introducing engineering controls, formal risk assessment is required
H19		Process 4					Minor	Unlikely	Minor	Continue to review and reduce the risks wherever it is reasonably practicable

1.6.2 Entering Data in the Hazard Register

As the hazard register is an evolving document, it is essential to record the date when issues are identified or when they changed. Use the drop-down menu to input each hazard's likelihood and severity value.

1.6.2.1 Date Raised

- Enter the date the hazard was discovered and/or recorded in the register.

1.6.2.2 Process or Activity

- In which process or activity does the risk or opportunity occur?
- You can edit the list of processes to match your organization in Cells C157 to C171.

1.6.2.3 Parties Affected

- Describe who is exposed to the health and safety hazard.

1.6.2.4 Hazard Description

- Describe the condition, practice, or substance with the potential for causing loss, injury, or harm to life, health, or property.
- Hazards can be health hazards, which can cause sickness, or safety hazards, which can cause injury.

1.6.2.5 Consequences

- Describe the end result or maximum reasonable outcome if an unwanted accident/event happens based on experience, perceptions, and standards.
- How severe would the injury be if it happened?