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NATIONAL CERTIFICATE: OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENT

ID 74269 LEVEL 2 – CREDITS 120

LEARNER GUIDE

SAQA - 120330

CONDUCT A CONTINUOUS RISK ASSESSMENT IN A WORKPLACE

Learner Information:

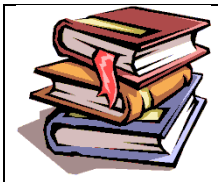
Details	Please Complete this Section
Name & Surname:	
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Unit/Dept:	
Facilitator Name:	
Date Started:	
Date of Completion:	

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Key to Icons

The following icons may be used in this Learner Guide to indicate specific functions:

 **Books**	**This icon means that other books are available for further information on a particular topic/subject.**
 **References**	**This icon refers to any examples, handouts, checklists, etc…**
 **Important**	**This icon represents important information related to a specific topic or section of the guide.**
 **Activities**	**This icon helps you to be prepared for the learning to follow or assist you to demonstrate understanding of module content. Shows transference of knowledge and skill.**
 **Exercises**	**This icon represents any exercise to be completed on a specific topic at home by you or in a group.**
 **Tasks/Projects**	**An important aspect of the assessment process is proof of competence. This can be achieved by observation or a portfolio of evidence should be submitted in this regard.**

 **Workplace Activities**	**An important aspect of learning is through workplace experience. Activities with this icon can only be completed once a learner is in the workplace**
 **Tips**	**This icon indicates practical tips you can adopt in the future.**
 **Notes**	**This icon represents important notes you must remember as part of the learning process.**

Learner Guide Introduction

About the Learner Guide…	This Learner Guide provides a comprehensive overview of the **CONDUCT A CONTINUOUS RISK ASSESSMENT IN A WORKPLACE,** and forms part of a series of Learner Guides that have been developed for **NATIONAL CERTIFICATE: OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENT ID 74269 LEVEL 2 – CREDITS 120.** The series of Learner Guides are conceptualized in modular's format and developed for **NATIONAL CERTIFICATE: OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENT.** They are designed to improve the skills and knowledge of learners, and thus enabling them to effectively and efficiently complete specific tasks. Learners are required to attend training workshops as a group or as specified by their organization. These workshops are presented in modules, and conducted by a qualified facilitator.
Purpose	The purpose of this Learner Guide is to provide learners with the necessary knowledge related to **CONDUCT A CONTINUOUS RISK ASSESSMENT IN A WORKPLACE.**
Assessment Criteria	The only way to establish whether a learner is competent and has accomplished the specific outcomes is through an assessment process. Assessment involves collecting and interpreting evidence about the learner's ability to perform a task. This guide may include assessments in the form of activities, assignments, tasks or projects, as well as workplace practical tasks. Learners are required to perform tasks on the job to collect enough and appropriate evidence for their portfolio of evidence, proof signed by their supervisor that the tasks were performed successfully.
To qualify	To qualify and receive credits towards the learning program, a registered assessor will conduct an evaluation and assessment of the learner's portfolio of evidence and competency
Range of Learning	This describes the situation and circumstance in which competence must be demonstrated and the parameters in which learners operate

Responsibility	The responsibility of learning rest with the learner, so: • Be proactive and ask questions, • Seek assistance and help from your facilitators, if required.

Learning Unit 1 Conduct a continuous risk assessment in a workplace

UNIT STANDARD NUMBER	:	120330
LEVEL ON THE NQF	:	3
CREDITS	:	4
FIELD	:	Health Sciences and Social Services
SUB FIELD	:	Preventive Health

PURPOSE:	Persons credited with this unit standard will be able to: • Explain the legal and specified requirements for conducting continuous risk assessments. • Prepare to conduct a continuous risk assessment. • Conduct a continuous risk assessment. • Initiate remedial action and follow up on Continuous Risk Assessment.
LEARNING ASSUMED TO BE IN PLACE:	
• Communications at NQF Level 2 • Mathematical Literacy at NQF Level 2	

Session 1

Explain the legal and specified requirements for conducting continuous risk assessments.

Learning Outcomes

- The continuous risk assessment process is explained.
- The relevant documentation required for conducting a continuous risk assessment is named.
- The relevant hazards and risks likely to be encountered during a specific continuous risk assessment are named.
- The importance of conducting continuous risk assessment in a manner that fosters teamwork and avoids conflict is explained.

The continuous risk assessment process is explained.

The continuous risk assessment process is a vital tool in managing occupational health and safety as well as ensuring the protection of the environment. Many different risk assessment methodologies exist and although the legislation does no stipulate which methodology to use it is advisable that the risk assessment documentation addresses as a minimum the following criteria:

- Activity description
- Identification of individual hazards (not grouped)
- Mathematical calculation of the risks attached to those hazards (5 point scales give more accurate representations than 3 point scales)
- Evaluation of the effectiveness of the control measures in place
- Monitoring and Review Plan which stipulates how the continuous risk assessment process is going to be maintained.

Any company should strive towards continual improvement, not only in terms of productivity, quality and profit but also in terms of its safety, health and environmental standards. This dedication to continual improvement should be clearly stated in the company policy which must be signed by the CEO.

In order to achieve the continual improvement of standards in the workplace, a cycle of **Planning > Implementation > Evaluation > Review**needs to be in place.

This cycle is best demonstrated by the **"Plan-Do-Check-Act"** Management System Model. This model shows the different requirements needed at each stage of the cycle to effectively manage and continually improve the safety, health and environmental standards in the workplace.

The relevant documentation required for conducting a continuous risk assessment is named.

At the evaluation stage, all procedures introduced at the implementation stage must be monitored, assessed or measured to collect information on their effectiveness. The monitoring of the risk assessment will also take place at this stage.

Reports of all incidents (including near misses) must be kept. These reports will be generated by several key members of staff and include:

- SHE Representative monthly inspections
- SHE Committee reports and recommendations
- Incident investigations
- First aid records, etc.

Auditing reports, whether from an Internal or External Auditor, will give the company valuable information on the effectiveness of its procedures as audits are unbiased inspections conducted by persons who are generally not directly engaged in the operations of the workplace they are auditing.

Other types of documentation include the following:

- Pre use checklists
- Planned task observations forms
- Critical parts inspection form
- Structured inspection checklists
- Mine Standards
- Procedures
- Task directives
- Analyses

The importance of conducting continuous risk assessment in a manner that fosters teamwork and avoids conflict is explained.

The purpose of risk management is to identify potential problems before they occur so that risk-handling activities may be planned and invoked as needed across the life of the product or project to mitigate adverse impacts on achieving objectives.

Risk management is a continuous, forward-looking process that is an important part of business and technical management processes. Risk management should address issues that could endanger achievement of critical objectives. A continuous risk management approach is applied to effectively anticipate and mitigate the risks that have critical impact on the project.

Effective risk management includes early and aggressive risk identification through the collaboration and involvement of relevant stakeholders. Strong leadership across all relevant stakeholders is needed to establish an environment for the free and open disclosure and discussion of risk.

Although technical issues are a primary concern both early on and throughout all project phases, risk management must consider both internal and external sources for cost, schedule, and technical risk. Early and aggressive detection of risk is important because it is typically easier, less costly, and less disruptive to make changes and correct work efforts during the earlier, rather than the later, phases of the project.

Risk management can be divided into three parts: defining a risk management strategy; identifying and analyzing risks; and handling identified risks, including the implementation of risk mitigation plans when needed.

Session 2

Prepare to conduct a continuous risk assessment.

Learning Outcomes

- Appropriate documentation appropriate is selected.
- Various physical and environmental conditions which could exist are evaluated.
- The persons, tools and the materials required to conduct the continuous risk assessment are verified as fit for purpose and available.

- Consequences for not conforming to legal and specified requirements in preparing for risk assessment are explained.

Prepare to conduct a continuous risk assessment

A risk assessment consists of the following parts:

1) A table of contents and a list of persons who prepared the risk assessment;
2) An analytical part;
3) The necessary tables and diagrams prepared for performing the assessment;
4) A risk matrix;
5) A summary of the risk assessment.

The preparation of a risk assessment is divided into the following stages:

1) Description of vital services;
2) Identification of the critical activities in the provision of vital services;
3) Determination of resources for critical activities;
4) Assessment of the consequences of interruptions in critical activities;
5) Description of the dangers causing interruptions in critical activities;
6) Assessment of the probability of the occurrence of interruptions in critical activities;
7) Preparation of a risk matrix.

A provider of vital services may, with the approval of the organiser of vital services and depending on the specific character of the provision of the services, complete the stages of preparing a risk assessment, using internationally applied guidelines for preparing risk assessments instead of these guidelines.

Plan:

At the planning stage, all the components of the SHE Management System must be identified.

The legal and technical requirements which need to be adhered to must be identified. To facilitate this process, consultation with experts may need to be held in both the legal and technical aspects of the work being performed by the company.

Risk assessments of all activities being undertaken in the workplace need to be conducted. All hazards and their related risks must be identified and the projected effectiveness of the existing control measures evaluated.

Based on the legal and technical requirements identified and on the results of the risk assessments, any potential risks in regard to the safety and health of the persons executing the company's operations must be determined. Once determined, the mitigation of these potential risks must become company objectives and must be prioritised in order of importance or urgency. The implementation of these objectives must be detailed in an action plan with specified time frames.

Risk Categorization

Before choosing risk-specific steps, each risk-event should be grouped into general areas for the type of possible actions. These include avoidance or elimination, reduction of possibility, transfer of risk, such as outsourcing or leasing of equipment or facilities, and risk retention which is the least effective risk management approach because you must either accept the loss or insure against the loss to include process and business interruption loss recovery.

Avoiding or Elimination of Risk

All business operations will carry some risk, however specific industrial processed can be engineered to prevent specific risk-events. Prior to establishing a new process or installing new equipment, a team consisting of management, maintenance and purchasing professionals should evaluate the risk-impact of the equipment and process to ensure all steps will be taken to select equipment and materials that are no or low risk by design. Also consider how the new systems and equipment will fit in the current facility design in regards to ease of maintenance, flow of materials and people through the proposed location and placement of system equipment. Evaluation of support systems, such as lighting, ventilation and drainage must also be evaluated as part of the risk management process.

Reducing Risks

Risk reduction in the risk management process can reduce the overall effect of a risk-event. These steps include such things as install of fire suppression systems, guard rails, reduction of the amount of hazardous materials and specific procedures and policies that prohibit risky activities. In conjunction with administrative risk management controls, personal protective equipment, when properly selected and maintained can significantly reduce employee exposure to workplace hazards. Personal protective equipment (PPE) controls include the necessary employee training on the use, limitations and maintenance of PPE as well as the management of the PPE program.

Session 3

Conduct a continuous risk assessment.

Learning Outcomes

- Hazard identification is conducted correctly.
- Significant hazards are systematically identified, utilising the elected hazard identification technique.
- Relevant documentation is completed.

Hazard identification is conducted correctly.

Hazard identification is the process used to identify all the possible situations in the workplace where people may be exposed to injury, illness or disease.

Hazard identification

Hazards in a workplace can arise from a number of sources including:

- poor workplace design;
- hazardous tasks being performed in the workplace;
- poorly designed plant being introduced into the workplace;
- incorrect installation, commissioning, use, inspection, maintenance, service, repair or alteration of plant in the workplace; and
- people being exposed to hazardous substances, processes or environment.

The hazard identification process is designed to identify all the possible situations where people may possibly be exposed to injury, illness and disease arising from all sources including the above.

Prior to the introduction of any plant, substances, processes or work practices in the workplace, it is essential for the hazard identification process to be carried out to identify whether there is any potential for injury, illness or disease associated with such introduction. This will assist you to take the necessary actions for what may otherwise be extremely costly further down the track if no action is taken at this early stage.

Carrying out hazard identification for all existing plant, substances, processes and work practices in your workplace may require some effort. If you have a

large workplace, it is a good idea to split it into several discrete areas for the hazard identification process, and to tackle one area at a time. Priority should be given to areas with hazardous plant, substances, processes or environment.

In order to minimise the time involved, it is better to perform hazard identification on all sources of hazards in a particular area of the workplace instead of doing each hazard source (eg plant, hazardous substances etc) at a time.

The relevant health and safety representatives need to be consulted during the hazard identification process.

Employees working in the area have day to day experience of any hazards and should be involved in the hazard identification process. Advice should also be sought from people who are associated with the activities and processes in the area because they may provide valuable input.

People undertaking hazard identification should have the necessary training to look for:

• **Mechanical hazards including:** • "drawing in" points • shearing points • impact and crushing areas • cutting areas • entanglement areas • stabbing points • abrasion areas • flying particles • any protrusions which could cause injury	• **Non-mechanical hazards including:** • ergonomic hazards including manual handling • electrical shocks and burns • chemical burns, toxicity, flammability • noise • vibration • radiation • mist, dust, fumes • suffocation • engulfment • biological hazards, viral • slipping, tripping and falling hazards • falling objects • high pressure fluid • high temperature objects • working in very hot or cold conditions

Checklists should be developed to assist people who are involved in the hazard identification process in the systematic identification of hazards. WorkSafe Victoria has a publication called "Plant Hazard Checklist" which can assist in the

development of hazard identification checklists for plant for use in your workplace. WorkSafe Victoria also produced a number of approved Codes of Practice which would assist in the development of hazard identification checklists for other hazards in your workplace. Those Codes of Practice are listed in the "Further information" section of this document. Some of these codes eg Manual Handling have checklists for use in workplaces.

Hazards in the workplace can change from day to day. In order to effectively manage workplace health and safety you need to introduce proper systems and procedures to ensure hazard identification is carried out on a regular basis. The OHS legislation requires you to repeat the hazard identification process:

- before any alteration to plant or any change in the way plant is used or a system of work associated with plant, including a change in the location of plant;
- before any alteration is made to objects used in the workplace or to systems of work which include a task involving manual handling, including a change in the place where a task is carried out;
- before plant is used for any other purpose than for which it was designed;
- before an object is used for another purpose than for which it was designed if that other purpose may result in the person carrying out hazardous manual handling;
- if new or additional information about hazards becomes available to you; and
- if an occurrence of a musculoskeletal disorder in your workplace is reported by or on behalf of an employee.

Record keeping

Maintenance of appropriate records will assist you to:

- know what has been done and what more needs to be done; and
- demonstrate compliance with your obligations under the OHS legislation.

You should keep documents which provide information on:

- When and where hazard identification was carried out
- A summary of identified hazards

- Whether there is any risk associated with each hazard identified?
- The risk assessment method used
- What new measures have been identified to control any risk?
- What measures are regarded as not reasonably practicable and the reason for such?
- What are the reasonably practicable risk control measures for implementation?
- Timeline and responsible person for the implementation of the practicable risk control measures
- Who was involved in the hazard identification, risk assessment and risk control processes?
- Who was consulted in the hazard identification, risk assessment and risk control processes?

Hazardous Substances

A hazardous substance is any substance, which can potentially harm the health and safety of workers. Labels and material safety data sheets (MSDS) provide OHS information about the substance.

You can identify hazards by:

- Checking records of injuries and illnesses that have occurred in the workplace.
- Talking to people.
- Reading publications such as the OHSW Regulations and Codes of Practice which identify potential hazards.
- Walking through and inspecting the workplace for situations that could cause harm.

When To Assess Risk

A risk assessment builds knowledge and understanding about hazards and risks that have been identified so that informed decisions can be taken about controlling them.

It does not always have be a long, complex process involving lots of paperwork. Risk assessment is a means to an end, not an end in itself. As such, it should be **straightforward**, **purposeful** and **actionable**.

While risk assessment is an important part of the process for controlling unknown risks, you may not need to conduct a formal assessment if a risk is well known and the solution is obvious.

As a general guide, a risk assessment should be done if:

- there is only **limited knowledge** about a hazard or risk or how the risk may result in injury or illness
- there is **uncertainty** about whether all of the things that can go wrong have been found
- the situation involves a number of **different hazards** that are part of the same work process or piece of plant and there is a **lack of understanding** about how the hazards may impact on each other to produce new or greater risks.

Risk assessment involves:

- determining what **levels of harm** can occur.
- determining **how** harm can occur.
- determining the **likelihood** that harm will occur.

Session 4

Initiate remedial action and follow up on Continuous Risk Assessment.

Learning Outcomes

- Remedial action for hazards is implemented accordingly.
- Follow-up action on continuous risk assessments is implemented accordingly.
- The consequences of non-compliance to the procedures for initiating remedial action and follow-up on continuous risk assessment are explained.

Initiate remedial action and follow up on Continuous Risk Assessment

Remedial Investigation

The Remedial Investigation phase of the process begins with a scoping workshop(sometimes referred to as a data quality objectives workshop). The scoping workshop is attendedby the DOE EM Managing and Integrating (M&I) contractor project team, the DOE Program Manager,TDEC, and EPA Region IV team members. The purposes of this workshop are to:

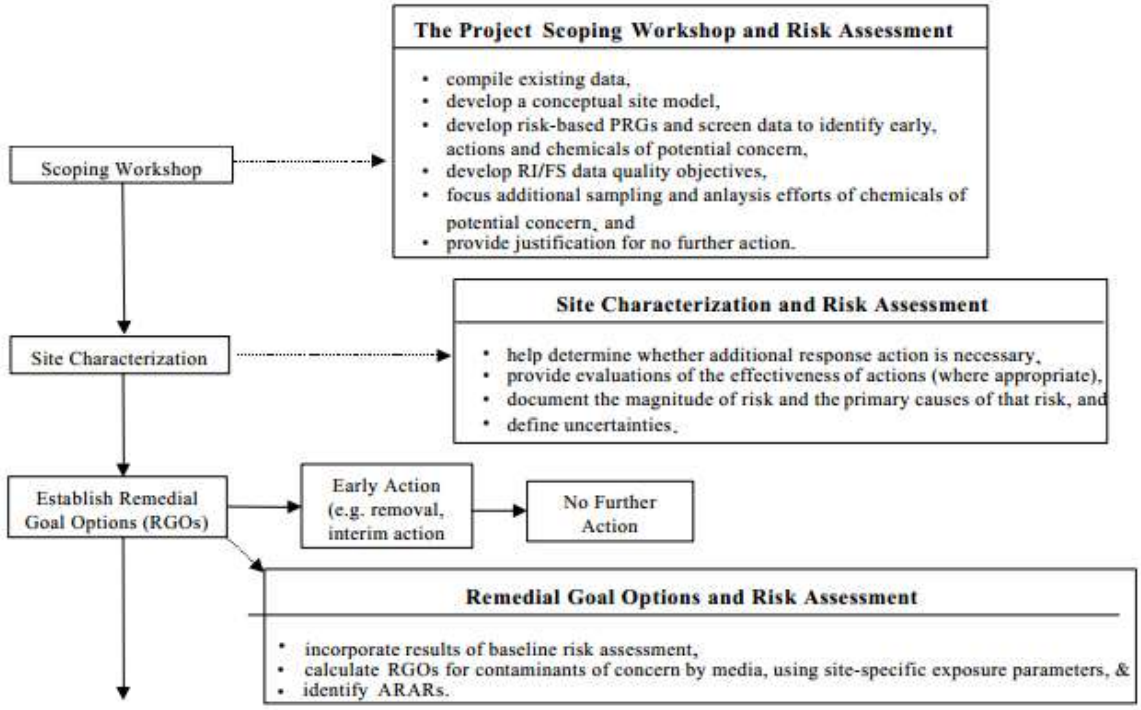
- Develop conceptual site models (for the movement of chemicals in the geology and hydrology and for the human health and ecological risk assessments);
- Identify preliminary remedial action objectives and likely response actions;
- Identify applicable or relevant and appropriate requirements (ARARS) and risk-based PRGS;
- Determine the type of decisions to be made, and the type, quantity, and quality of data needed to support those decisions (i.e., define data quality objectives);
- Identify the need and schedule for treatability studies (as necessary);
- Design the data collection program (e.g., sampling approach, analytical methods, and detection limit requirements); and
- Define the RI and FS tasks (i.e., the scope of work to be performed).

Based on the results of the scoping workshop, a RI work plan is developed and submitted forapproval. Once approved, the workplan is implemented. The

results of the site characterization activitiesare documented in the RI Report, which includes the baseline human health risk assessment. Theconclusions of the baseline human health risk assessment are used to:

- Help determine whether additional response actions are necessary,
- Provide evaluations of the effectiveness of prior actions (i.e., comparison of current and historical data) (if appropriate),
- Document the magnitude of risk and the primary causes of that risk, and
- Define remedial goal options (RGOS).

Note: During the preparation of the baseline human health risk assessment, newly acquired data will beincorporated in the watershed database and the modified data set will again be compared to risk-basedPRGs. This comparison may result in the identification of early actions (including removals and interimactions) in order to reduce risks and/or accelerate the clean-up process.



Site characterization and risk assessment

Assessing the risk

Once the hazard has been identified the next step in hazard management is to assess the risk created by the hazard.

The following should be considered:

- The nature of the hazard and how it may affect the health and safety of workers.
- How many people are exposed to the hazard and how they are exposed.
- To what extent, how often and over what period of time a person is exposed.

Risk assessments should also look at how the job is done, where it is done, what training and skills are needed to do the job and what control measures are available.

A risk assessment includes:

- Inspecting the workplace.
- Testing (i.e. noise levels).
- Looking at statistics and data.
- Talking with people.

Controlling workplace hazards

Once a hazard has been identified and the risk assessed, control measures should be put into place - ideally hazards should be controlled at their source.

A simple list of control measures can be utilised - the hierarchy of control.

