

RTC4306A**Supervise maintenance of machinery and equipment****Unit Descriptor**

Supervise maintenance of machinery and equipment

Unit Sector

No sector assigned

ELEMENT**PERFORMANCE CRITERIA**

- | | |
|-------------------------------|---|
| 1. Prepare maintenance plan | <p>1.1 Maintenance requirements for property, machinery and equipment are identified from relevant information sources</p> <p>1.2 Maintenance costs are identified and quantified</p> <p>1.3 Maintenance requirements are checked against warranty, insurance agreements and indemnity provisions</p> <p>1.4 Maintenance plan is developed to promote and sustain performance and production systems in line with enterprise requirements</p> <p>1.5 Effective workplace communication strategies are established with regard to maintenance plan, environmental and Occupational Health and Safety policies, and enterprise requirements</p> |
| 2. Implement maintenance plan | <p>2.1 Resource and supply requirements are identified, secured and included in enterprise budgets and operational considerations</p> <p>2.2 Prepared maintenance schedules and procedures are effectively communicated to staff, contractors and suppliers to minimise negative impacts on production and costs</p> <p>2.3 Maintenance plan is implemented and scheduled to minimise disruption to enterprise operations</p> <p>2.4 Potential risks are assessed with regard to staff and supply problems, and contingency plans prepared accordingly</p> <p>2.5 Machinery and equipment are operated to manufacturers specifications, Occupational Health and Safety and enterprise requirements</p> |
| 3. Monitor maintenance plan | <p>3.1 Maintenance activities and performance are monitored against maintenance plan for efficiency and effectiveness</p> <p>3.2 Workplace hazards and environmental implications associated with maintenance procedures are monitored and controlled in line with Occupational Health and Safety and enterprise requirements</p> <p>3.3 Costs are monitored and controlled within enterprise budget requirements</p> <p>3.4 Relevant information with regard to the maintenance plan is documented in accordance with enterprise requirements</p> <p>3.5 Property, machinery and equipment are maintained in clean and safe operational conditions</p> |

KEY COMPETENCIES

What processes should be applied to this competency standard? There are a number of processes that are learnt throughout work and life, which are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these are covered by the key competencies, although others may be added. The questions below highlight how these processes are applied in this competency standard. Following each question a number in brackets indicates the level to which the key competency needs to be demonstrated where 0 = not required, 1 = perform the process, 2 = perform and administer the process and 3 = perform, administer and design the process.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	With regard to maintenance requirements and costings may be discussed with staff, contractors and suppliers	1
Collecting analysing and organising information	With regard to the performance and outcomes of maintenance activities may be documented and organised by records	1
Planning and organising activities	Maintenance activities may be planned and coordinated with staff around enterprise operations	2
Working with others and in teams	Team work may be applied in the coordination of methods and procedures to monitor and conduct maintenance activities to achieve maintenance plan	1
Using mathematical ideas and techniques	May be applied to estimate and calculate maintenance and repair costings within budgetary guidelines	2
Solving problems	Problems of staff, resources or supply may be planned for and prepared in a contingency plan to minimise disruption to work schedules	2
Using technology	To access information, communicate, monitor, measure and record information with regard to maintenance activities and performance	1

RANGE STATEMENT

Factors necessitating the requirement for maintenance procedures

include

- wear
- corrosion
- design problems
- equipment modifications
- incorrect use and accidents
- acts of nature

Information sources

may include

- operational diaries
- staff comment and/or personal testing
- observation of structures
- machinery and equipment
- manufacturers in-service updates
- operator's manuals
- property improvement groups
- relevant government departments
- other enterprise operators, contractors and service representatives

Maintenance plans

may include

- maintenance activities and schedules
- maintenance costs and budget details
- staff
- resource and supply requirements
- staff roles and responsibilities
- contingency plan for staff and supply problems
- reporting requirements
- environmental impact control measures

Enterprise requirements

may include

- Standard Operating Procedures (SOP)
- industry standards
- production schedules
- Material Safety Data Sheets (MSDS)
- legislative and licensing requirements
- work notes
- product labels
- manufacturers specifications
- operator's manuals
- enterprise policies and procedures including
 - waste disposal
 - recycling
 - re-use guidelines
- Occupational Health and Safety procedures

Environmental impacts

resulting from

- excessive noise and exhaust emissions
- damage to native vegetation and animals
- the unsafe use and disposal of maintenance debris, eg, oil containers, chemical residues
- hazardous substances, eg, fuels, oils
- it may also include
 - dust problems
 - soil disturbances and increased run-off flows from machinery use and unsafe cleaning and servicing activities

Occupational Health and Safety requirements

may include

- systems and procedures for the safe maintenance of property, machinery and equipment including hydraulics and exposed moving parts
- hazard and risk assessment of workplace and maintenance activities and control measures
- safe lifting, carrying and handling techniques including
 - manual handling
 - the handling and storage of hazardous substances
- the appropriate use, maintenance and storage of personal protective clothing and equipment which may include
 - overalls
 - gloves
 - eye and hearing protection
 - respirator or face mask and boots
- safe systems and procedures for outdoor work including
 - protection from solar radiation
 - fall protection
 - confined space entry
 - the protection of people in the workplace
 - the appropriate workplace provision of first aid kits and fire extinguishers

Resource and supply provisions

may include

- machinery, equipment and materials including welders, eg, arc, gas and MIG
- lathes
- bench presses
- multimeters and ohm meters
- inspection pits
- lifting and support equipment, eg, jacks, overhead gantry, blocks
- power tools, eg, grinders, drills
- hand tools, eg, spanners, hammers, screw drivers
- workshop storage requirements may include
 - racks for commonly used steel angle
 - rods
 - tube metal
 - wire
 - racks or boards for orderly placement of tools

Hazards

that may be encountered in the workplace may include

- exposure to loud noise and fumes
- solar radiation
- dust
- mechanical vibration, and hazardous substances, eg, fuels, oils
- hazardous atmosphere
- oil and grease spills
- the presence of bystanders
- livestock and wildlife in the workplace
- adverse weather conditions
- electricity
- powerlines
- mechanical malfunctions and other machinery including hydraulics and exposed moving parts

Relevant information

may include

- maintenance performance
- costs
- problems
- priorities
- solutions
- schedules and completed work

The sport and recreation industry

covers

- industry sectors of community recreation, fitness, outdoor recreation and sport
- significant roles played by activity organisations, industry peak bodies, professional organisations
- large volunteer base
- high turnover of volunteers
- high levels of part time and casual employment
- irregular working hours
- relatively few professional positions
- workforce employed mostly in operational positions
- mainly small business or self-employed personnel
- slow to take up technology
- over 2/3 of the sport and recreation industry have no formal/recognised qualifications
- significant reliance upon industry credentials and involvement in the activity itself

EVIDENCE GUIDE

Critical aspects of evidence to be considered

- Assessment must confirm sufficient knowledge required to develop and implement a maintenance plan which is cost effective, and causes minimal disruption to enterprise operations
- Assessment of performance should be over a period of time covering all categories from the Range Statements applicable to the learner's work environment
- In particular, assessment must confirm the ability to
 - to supervise maintenance covering all components of planning, costing and scheduling
 - determine planning priorities and maintain schedules
 - overseeing costs within budgets
 - determine staff roles and supervise a maintenance team
 - apply estimations and calculations with regard to time and cost of repairs
 - replacement and servicing procedures
 - recommend alternative strategies in the event of staff or supply problems

Interdependent assessment of units

- This unit must be assessed after attainment of competency in the following unit(s)
 - Nil
- This unit must be assessed in conjunction with the following unit(s)
 - Nil
- For the purpose of integrated assessment, this unit may be assessed in conjunction with the following unit(s)
 - Nil

Required knowledge and skills

- Required knowledge
 - Types of maintenance requirements with regard to property, machinery and equipment
 - Maintenance and servicing cycles for property, machinery and equipment
 - Relevant State/Territory legislation, regulations and Codes of Practice with regard to workplace Occupational Health and Safety and environmental protection requirements, and the use and control of hazardous substances
 - Hazards and risks and respective control measures
 - Training and instruction techniques for directing the learning of staff
- Required skills
 - Plan, cost and schedule maintenance requirements
 - Establish and monitor performance targets for maintenance team
 - Maintain accurate record and report keeping procedures
 - Monitor and access performance of maintenance activities
 - Interpret maintenance requirements from information sources
 - Observe the emergence and supervise the removal of workplace hazards and risks
 - Document plans and write reports
 - Estimate and calculate resource requirements, machinery and servicing costing

Resource implications

- Physical resources - assessment of this competency requires access to
 - appropriate documentation and resources normally used in the workplace
- Human resources - assessment of this competency will require human resources consistent with those outlined in the Assessment Guidelines. That is, assessors (or persons within the assessment team) should
 - be competent in this unit
 - be current in their knowledge and understanding of the industry through provision of evidence of professional activity in the relevant area
 - have attained the National Competency Standards for Assessment: BSZ401A, BSZ402A and BSZ403A

Consistency in performance

- Competence in this unit must be assessed over a period of time in order to ensure consistency of performance over the Range Statements and contexts applicable in the work environment

Context for assessment

- This unit of competency must be assessed in the context of a sport or recreation activity. For valid and reliable assessment the sport or recreation activity should closely replicate the work environment. The environment should be safe with the hazards, circumstances and equipment likely to be encountered in a real workplace
- Assessment of this unit of competence will usually include observation of processes and procedures, oral and/or written questioning on required knowledge and skills and consideration of required attitudes
- Where performance is not directly observed and/or is required to be demonstrated over a "period of time" and/or in a "number of locations", any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons

Essential Assessment Information

There is **essential information about assessing this competency standard for consistent performance and where and how it may be assessed** , in the Assessment Guidelines for this Training Package. All users of these competency standards must have **access** to the **Assessment Guidelines** . Further advice may also be sought from the relevant **sector booklet** .