



Australian Government

Department of Education, Employment and Workplace Relations

PRMWM16B Operate waste processing plant

Release: 1

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Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit of competency describes the operation of a waste processing plant to prepare waste for disposal. It requires the ability to organise and implement activity.

Application of the Unit

Not Applicable

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Not Applicable

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Organise for plant operation	1.1 Review job specification requirements (<i>job sheet</i>) to identify all <i>plant</i> operating requirements 1.2 Identify and handle <i>potential risks and hazards</i> to work according to job requirements, in accordance with company requirements, occupational health and safety and other relevant legislation 1.3 Identify and organise <i>equipment, materials</i> and personnel requirements for <i>safe, effective and efficient plant operation</i> 1.4 Select and fit <i>emergency and personal protective equipment</i> in accordance with work requirements, <i>manufacturers' specifications, company requirements</i> and <i>relevant legislation</i>
2 Conduct pre-operational checks	2.1 Conduct <i>pre-start visual</i> and <i>basic maintenance checks</i> to confirm correct plant operation in accordance with manufacturers' specifications, company requirements and relevant legislation 2.2 Test equipment systems for correct functioning in accordance with manufacturers' specifications and company requirements 2.3 Report equipment <i>non-conformances</i> promptly to <i>appropriate personnel</i> when detected 2.4 Clean equipment to ensure safe and tidy operation in accordance with company requirements and relevant legislation 2.5 Check all <i>safety structures and controls</i> to ensure their operational capacity is in accordance with company requirements and relevant legislation
3 Start and operate plant	3.1 Advise appropriate personnel of impending plant operation to ensure safety and readiness for operation 3.2 Start plant in accordance with manufacturers' specifications and company requirements 3.3 Screen plant inputs, and identify and handle non-conformances in accordance with company requirements, manufacturers' specifications and relevant legislation

ELEMENT	PERFORMANCE CRITERIA
	3.4 Operate plant efficiently and safely in accordance with company requirements, manufacturers' specifications and relevant legislation 3.5 Monitor plant operation using gauges, warning devices and observation of performance to identify potential faults and hazards and to ensure continuous operation 3.6 Maintain communication with other personnel in accordance with company requirements to ensure safe usage of equipment 3.7 Monitor plant inputs, processing and outputs and make adjustments where necessary in accordance with company specifications 3.8 Identify and report on faults that create hazardous operations and suspend operations in accordance with company requirements, manufacturers' specifications and relevant legislation
4 Shut down plant	4.1 Shut down plant in accordance with manufacturers' specifications and company requirements 4.2 Clean plant and associated equipment to remove debris and contamination and ensure safe and efficient operation 4.3 Shut down plant in accordance with manufacturers' specifications and company requirements
5 Carry out basic housekeeping	5.1 Clean plant and associated equipment to remove debris and contamination and ensure safe and efficient operation 5.2 <i>Document all details of plant operations</i> promptly and in accordance with company requirements

Required Skills and Knowledge

Refer to Evidence Guide

Evidence Guide

EVIDENCE GUIDE

Critical aspects of competency

- Correct interpretation of job sheet.
- Identification and organisation of plant, equipment, materials and personnel requirements.
- Selection of appropriate emergency and personal protective equipment requirements.
- Correct identification of potential risks and hazards to plant operation.
- Correct identification and handling of equipment non-conformances.

Knowledge needed to achieve the performance criteria

Knowledge and understanding are essential to apply this unit in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements for this unit are listed below.

- Waste types, streams and characteristics.
- Waste contaminants.
- Potential risks and hazards.
- Waste non-conformance procedures.
- Processing techniques.
- Basic biology and chemistry.
- Computer operation.
- Plant operation.
- Emergency response procedures.
- Company requirements.
- Plant shut-down, lock-out and isolation procedures.
- Occupational health and safety requirements.
- Duty of care in provision of services.
- Relevant industry standards.
- Relevant legislation.
- Relevant environmental regulations.
- OHS hierarchy of control.

Specific skills needed to achieve the performance criteria

To achieve the performance criteria, some complementary skills are required. These are:

- following instructions, giving information, signalling, writing
- plant and equipment operation
- materials handling skills
- identification of waste types
- materials and handling of waste non-conformances
- reading and interpreting gauges and indicators
- mete out doses of chemicals and additives
- computer and software skills
- methodical organisation of work
- hazard identification
- time management
- safe and efficient work practices
- use of emergency and personal protective equipment
- working in confined spaces

- following MSDS.

Other units of competency that could be assessed with this unit

This unit could be assessed on its own or in combination with other competencies relevant to the job function, for example:

- PRMWM14B Manually sort waste
- PRMWM38B Process waste
- PRMCMN201A Participate in workplace safety arrangements
- PRMCMN301A Contribute to workplace safety arrangements.

Resources required to assess this unit

The following resources should be available:

- waste processing plant
- pre-operational checklist
- appropriate waste for processing
- personal protective equipment
- communications equipment
- OHS requirements
- MSDS
- site safety plan.

Gaining evidence to assess this unit

For valid and reliable assessment of this unit, the competency should be demonstrated over a period of time and be observed by the assessor (or assessment team working together to conduct the assessment). The competency is to be demonstrated in a range of situations, which may include customer/workplace interruptions and involvement in related activities normally experienced in the workplace.

Evidence of competency is best obtained by observing activities in this field and reviewing the operation of a waste processing plant under normal industry operating conditions. If this is not practicable, observations in realistic simulated environments may be substituted.

Consistency in performance

Assessment requires that the plan meets the objectives of the client and that it complies with industry expectations in the particular client environment. If the environment is narrowly defined or is not representative of industry needs, it may be necessary to refer to portfolio case studies of a variety of waste requirements to assess competency in the operation of a waste processing plant.

Oral questioning or written assessment and hypothetical situations (scenarios) may be used to assess underpinning knowledge. (In assessment situations where the candidate is offered a preference between oral questioning and written audit, questions are to be identical.)

Supplementary evidence may be obtained from relevant authenticated correspondence from existing supervisors, team leaders or specialist training staff.

Note: All practical demonstrations must adhere to the safety and environmental regulations relevant to each state or territory.

Key competency levels

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.

Information below highlights how these processes are applied in this competency standard.

- | | | |
|-----------------------|--------------------------------------|--|
| 1 Perform the process | 2 Perform and administer the process | 3 Perform, administer and design the process |
|-----------------------|--------------------------------------|--|

How can communication of ideas and information be applied?	1	Communicate effectively with personnel in waste processing plant.
How can information be collected, analysed and organised ?	1	Gather information from a number of sources (including job sheet, manufacturers' specifications and company requirements) about the operation of a waste processing plant.
How are activities planned and organised ?	1	Plan detailed activities for plant operations.
How can teamwork be applied?	1	Work effectively with relevant personnel to facilitate effective plant operational processes.
How can the use of mathematical ideas and techniques be applied?	1	Conduct mathematical calculations required in the documentation of plant operations.
How can problem-solving skills be applied?	1	Discuss possible problems and solutions that may arise throughout the operational process especially when non-conformances are detected.
How can the use of technology be applied?	2	Apply technological principles and demonstrate physical skills to use appropriate equipment.

Range Statement

RANGE STATEMENT

The range statement links the required knowledge and organisational and technical requirements to the workplace context. It describes any contextual variables that will be used or encountered when applying the competency in work situations. It allows for different work practices and work and knowledge requirements as well as for differences between organisations and workplaces. The following variables may be present for this particular unit.

Appropriate person includes client, supervisor and team member.

Basic maintenance checks may include checks of fuel, hoses, lubrication, oil, seals, tyres and water.

Client/company includes all forms of business enterprises in this context including government agencies, local governments/councils, private and public companies, and residents/ratepayers.

Company requirements are found in briefing papers, letters, quality assurance documentation, tender/contract documentation and verbal or written instructions.

Documentation of details of plant operations may include:

- downtime
- equipment non-conformances
- faults and breakdowns
- hours of operation
- incidents
- stoppages
- type, volume/amount of waste processed
- waste non-conformances.

Emergency and personal protective equipment must include:

- communications equipment
- eye protection
- eyewash kit
- fire extinguishers
- First Aid kit
- gloves
- overalls and protective clothing
- safety boots.

Emergency and personal protective equipment could also include:

- breathing apparatus
- emergency procedure guides
- face shield/mask
- hard hat
- hearing protection
- material safety data sheets (MSDS)
- spill kit.

Emergency response action/procedures include but are not limited to:

- clean up
- contain emergency
- equipment/plant isolation and shut-down
- evacuation
- First Aid
- make safe
- notification of authorities
- use of appropriate personal protective equipment.

Equipment includes but is not limited to:

- communications equipment
- compactor
- computer software and hardware
- generators
- hoses
- lifting equipment

- load shifting equipment
- measurement and sampling instruments
- pumps
- sorting table
- vacuums
- waste containers.

Housekeeping may include cleaning products/fluids, high pressure water or air-hosing, shovelling, sweeping out, use of decontamination products, vacuuming and water-hosing.

Job sheet typically includes:

- emergency and personal protective equipment requirements
- equipment requirements
- personnel requirements
- plant operation requirements
- potential risks and hazards
- reporting requirements
- site requirements
- waste types to be processed
- work schedule.

Manufacturers' specifications are found in equipment specifications and operator manuals.

Materials include baling and packaging materials, cleaning agents, grease and oil, stabilising and treatment chemicals and water.

Non-conformances are conditions that are not acceptable by manufacturers' standards, regulatory bodies or company requirements. Non-conformances include damaged equipment or equipment not operating in required condition.

Performance of this unit is carried out in accordance with relevant requirements of the following:

- Australian Standards
- environmental regulations
- legislative requirements
- manufacturers' specifications
- OHS procedures
- organisational procedures
- relevant state/territory regulations.

Personal protective equipment required will be stored, cleaned, worn/fitted in accordance with company requirements, and occupational health and safety and other legislation.

Plant may include:

- autoclave
- balers
- boilers
- bunded areas
- centrifuge
- chippers
- compactors
- computer hardware and software
- conveyors
- crushers

- hammer mills
- incinerator
- microwave
- pipes
- safety structures and controls
- separators
- shredders
- sorters
- storage tanks
- treatment tanks
- tub grinders.

Plant for waste processing may include:

- autoclaving treatment plant
- biological treatment plant
- chemical treatment plant
- combustion
- composter
- liquid waste treatment plant
- materials recovery facility
- microwave treatment plant
- physical treatment plant
- size reduction processing plant
- transfer station.

Potential risks and hazards are those risks and hazards identified by the organisation that could lead to injury or illness of employees, contractors, visitors or the public; damage to plant, vehicles or property; or that could cause harm to the environment.

This relates to on-site and off-site activities (whether company owned or occupied premises, customer/client premises or public property) over which it could be expected the organisation had control. Risks and hazards may include:

- broken glass/metal
- compaction equipment
- contamination
- conveyor belt
- dust
- fire
- gases and fumes
- hazardous waste (e.g. sharps)
- injuries resulting from manual handling and repetitive work
- narrow driveways
- other vehicles and equipment
- overhanging signs
- projectiles
- spark-producing equipment
- weather.

Pre-start visual checks may include:

- blockages

- checks to pinpoint any damage
- component wear
- leaks
- obstructions
- potential hazards to plant operation and personnel.

Relevant legislation and codes cover state and federal:

- duty of care
- industrial
- industry codes of conduct
- occupational health and safety
- environmental protection legislation.

Safe operating procedures include any activity or operation conducted on site to ensure health and safety of personnel/equipment in the area.

Safety structures and controls may include:

- alarms
- automatic plant shut-down buttons and cords/lanyards
- barriers
- earth leakage devices
- guards
- isolation, lock-out tag-out procedures.

Waste categories may include:

- solid (non-hazardous) e.g. construction and demolition
- liquid (non-hazardous) e.g. chemical and aqueous
- hazardous - regulated, prescribed, quarantined, medical and clinical
- recoverable resources e.g. recyclable and green waste.

Waste non-conformances may include contamination, hazardous or dangerous waste, inferior quality, unacceptable waste streams and waste not acceptable for plant processing.

Unit Sector(s)

Not Applicable