



Australian Government

Department of Education, Employment and Workplace Relations

NWP305B Monitor and conduct minor maintenance on complex flow control and metering devices

Release: 1

NWP305B Monitor and conduct minor maintenance on complex flow control and metering devices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit of competency describes the outcomes required to monitor the operation of complex flow control, measuring and regulating devices controlling water supply in ground and/or surface water source systems, or water supply and/or distribution systems, wastewater collection and transfer systems. This competency also covers minor maintenance responsibilities.

Application of the Unit

Application of the unit This unit supports the attainment of skills and knowledge required for field staff with a specific responsibility for monitoring the operation of complex flow control, measuring and regulating devices, conducting minor maintenance and ensuring that problems and anomalies are rectified by specialist technicians in a timely manner.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability Skills This unit of competency contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1Plan and prepare for work.	<p>1.1 Interpret work requirements for <i>monitoring complex flow control and metering devices</i> from plans, drawing specifications and instructions.</p> <p>1.2 Select and check <i>equipment and tools</i> to meet the safety requirements of the task and site.</p> <p>1.3 Correctly select, fit and use required safety equipment, including personal protective equipment.</p>
2Monitor device and equipment performance.	<p>2.1 Identify devices and equipment and interpret specifications for operation.</p> <p>2.2 Check information on devices and equipment performance and report according to <i>organisational and statutory requirements</i>.</p>
3Conduct minor maintenance on devices and equipment.	<p>3.1 Undertake routine maintenance tasks for complex devices according to manufacturer's specifications and organisational requirements.</p> <p>3.2 Secure devices and equipment according to organisational requirements.</p> <p>3.3 Identify and report <i>problems and anomalies</i> immediately to appropriate personnel for correction.</p>
4Monitor system performance.	<p>4.1 Schedule and monitor <i>routine inspections</i> of system and networks according to organisational procedures.</p> <p>4.2 Collect, analyse and report data on system performance and usage according to organisational requirements.</p> <p>4.3 Take samples according to organisational requirements.</p>
5Compile process records and reports.	<p>5.1 Report information relating to system demand adjustment requirements according to organisational requirements.</p> <p>5.2 Identify process faults and the operational condition of the system and network and report according to organisational requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

- identify and report operational problems
- collect and report system performance information
- inspect flow regulation, measuring and regulating devices
- produce reports and logs
- use communication systems
- give and receive instructions
- interpret plans, charts and instructions
- interpret policies, procedures and standards
- communicate with customers and other employees
- use personal protective equipment.

Required knowledge:

- monitoring flow control, measuring and regulating devices' performance
- system hydraulics
- system layout
- relevant utilities and service bodies
- communication systems
- materials handling
- environmental, landscape and ground structure of water distribution and/or wastewater collection systems
- system and network risk factors and potential hazards
- equipment operation, capacity and limitations
- effects of weather and conditions on operation of system and site
- flow measurement procedures
- data collection and recording
- system flow control mechanisms and control systems
- where relevant, lock out procedures for mechanical and electrical installations.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The candidate should demonstrate the ability to monitor the operation of complex flow control, measuring and regulating devices including:

- interpreting work requirements and selecting appropriate equipment and tools, including personal protective equipment
- identifying devices and equipment to be monitored and relevant operational specifications
- collecting and recording information on device performance
- conducting minor routine maintenance tasks and secure devices
- identifying and reporting problems and anomalies
- inspecting system and networks
- collecting and recording data on system performance
- taking samples
- reporting monitoring and inspecting findings
- identifying and reporting on system performance.

Context of and specific resources for assessment

Access to the workplace and resources including:

- documentation that should normally be available in a water industry organisation
- relevant codes, standards, and government regulations.

Where applicable, physical resources should include equipment modified for people with disabilities.

Access must be provided to appropriate learning and/or assessment support when required.

Assessment processes and techniques must be culturally appropriate, and appropriate to the language and literacy capacity of the candidate and the work being performed.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and

EVIDENCE GUIDE

separated by further learning and practice

- a decision of competence only taken at the point when the assessor has complete confidence in the person's competence over time and in various contexts
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence
- where assessment is for the purpose of recognition (RCC/RPL), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time
- assessment can be through simulated project-based activity and must include evidence relating to each of the elements in this unit.

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge. Questioning will be undertaken in a manner appropriate to the skill levels of the operator, any cultural issues that may affect responses to the questions, and reflecting the requirements of the competency and the work being performed.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

- Monitoring complex flow control and metering devices*** may include:
- SCADA
 - checking pressures at PSVs
 - checking the status of valves and sensors.
- Equipment and tools*** may include:
- electronic digital monitoring and metering systems (telemetry) and system adjustments
 - basic hand and power tools
 - manual chart recording systems
 - communication equipment
 - lifting and winching equipment
 - on- and off-road vehicles
 - atmosphere monitor
 - safety and rescue equipment.
- Organisational and statutory requirements*** may include:
- by-laws and organisational policies
 - standard operating procedures
 - environment protection
 - occupational health and safety
 - marine
 - Water Acts
 - flood operation procedures
 - emergency and incident management plans
 - World Health Organisation standards
 - Australian Drinking Water Guidelines
 - Mines Act.
- Routine inspections*** may include:
- interaction and communication with other employees, other authorities and the general public
 - visual observation
 - implementation of reporting procedures that may also include procedures for the implementation of by-laws, organisational policies, standard operating procedures and statutory requirements.
- Reporting of problems and anomalies*** may include:
- location of faults, such as:
 - sensor
 - signal
 - power supply

RANGE STATEMENT

- actuator
- valve
- sensor
- contacting designated specialist.

Unit Sector(s)

Not applicable.

Competency field

Competency field Collection and distribution