



**Australian Government**

# **NWP410C Coordinate and monitor asset construction and maintenance**

**Revision Number: 2**

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## **Modification History**

NWP410C Release 2: Layout adjusted. No changes to content.

NWP410C Release 1: Primary release.

## **Unit Descriptor**

This unit of competency describes the outcomes required to coordinate and monitor asset construction and maintenance, including site management and associated commissioning and post-commissioning activities.

## **Application of the Unit**

This unit is required by operators with responsibility for ensuring that asset construction and maintenance activities are performed and completed in compliance with all relevant organisational and statutory requirements. The level of responsibility may vary according to the size, scope, location, and technical complexity of individual projects.

## **Licensing/Regulatory Information**

Not applicable.

## **Pre-Requisites**

Not applicable.

## **Employability Skills Information**

This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

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

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<b>1 Plan and prepare for asset construction and maintenance.</b>	<ul style="list-style-type: none"><li>1.1 Determine <i>work requirements</i> according to asset purpose, maintenance history, components, maintenance schedules and known logistics.</li><li>1.2 Confirm maintenance plan and prioritise and schedule work.</li><li>1.3 Confirm <i>authorisations</i> and communication with stakeholders.</li><li>1.4 Identify and address <i>stakeholders</i> issues that impact on construction or maintenance.</li><li>1.5 Conduct <i>site inspections</i> according to organisational procedures and risk management guidelines.</li></ul>
<b>2 Undertake work site maintenance.</b>	<ul style="list-style-type: none"><li>2.1 Monitor material handling procedures according to organisational requirements.</li><li>2.2 Monitor construction activities to ensure compliance with <i>occupational health and safety and environmental regulations</i>.</li><li>2.3 Confirm maintenance requirements by detailed diagnosis of problems and conditions at the site.</li><li>2.4 Carry out <i>maintenance tasks</i> according to the condition of the equipment and organisational requirements.</li><li>2.5 Use equipment, tools and technology safely, effectively and productively.</li></ul>
<b>3 Test and commission work.</b>	<ul style="list-style-type: none"><li>3.1 Conduct tests and apply defined commissioning programs according to <i>organisational and manufacturers' requirements</i>.</li><li>3.2 Monitor test results to ensure that the assets function within agreed specifications.</li><li>3.3 Conduct and record inspections according to commissioning and stakeholders requirements.</li></ul>
<b>4 Conduct post-maintenance activities.</b>	<ul style="list-style-type: none"><li>4.1 Coordinate and monitor work site inspections and rehabilitation.</li><li>4.2 Undertake a review of the construction or installation and monitor asset performance.</li><li>4.3 Identify defects and make arrangements to rectify them.</li><li>4.4 Complete reports and documentation required by the organisation.</li><li>4.5 Store and secure reports according to information and data management system.</li></ul>

## Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

### Required skills:

- interpret and make adjustments to asset maintenance plan
- monitor work progress against a plan
- apply relevant organisational procedures based on legislation, risk management, manufacturers guidelines, site conditions and quality standards
- conduct site inspections and investigations
- communicate with supervisors, team members, contractors and the public using clear and direct communication
- prepare reports for management on asset monitoring and maintenance in organisation proformas
- interpret and apply a range of organisation documents
- liaise and negotiate with local and internal stakeholders
- detect and solve operational problems within area of authority and delegation
- work within safety requirements, identify hazards and use equipment and processes safely
- use safety and personal protective equipment
- interpret policies, standard operating procedures and standards related to monitoring and maintenance of water services assets
- control system operations, processes, failure and rectification
- use required forms of transport including marine craft, 4 wheel drive vehicles, aircraft, snow mobiles based on site location and conditions and safety and equipment management procedures
- use organisation equipment, tools and technology

### Required knowledge:

- enterprise contract conditions and compliance
- site inspection and investigation procedures
- organisational policies, procedures, guidelines and requirements for asset monitoring and maintenance
- system layout, integrity, design and performance
- evaluation and investigation requirements
- enterprise auditing and recording procedures and reporting requirements
- characteristics, technical capabilities and limitations of materials and equipment according to manufacturers' specifications
- occupational health and safety policies and procedures including material handling procedures, use of protective equipment, safe driving in hazardous conditions, bush and water survival, working in the location of power supplies, working in confined spaces
- relevant environmental and natural resource management legislation
- risk factors and potential hazards involved with water pressures and flows



## Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, 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 plan, coordinate and monitor the construction or maintenance of water industry assets, including:

- analysing work requirements
- prioritising and scheduling work
- liaising and negotiating with all relevant stakeholders and work teams
- planning construction or maintenance activities
- monitoring work performance for compliance with OHS and other organisational and statutory requirements
- providing technical advice on maintenance methods
- conducting risk and hazard assessments
- reporting recommendations for risk and hazard prevention
- conducting or supervising asset tests
- implementing commissioning programs and post commissioning inspections
- coordinating and monitoring the rehabilitation of the worksite
- reviewing the construction or installation and monitoring performance
- identifying and reporting defects

### **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 separated by further learning and practice

- a decision of competence should only be made 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

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. 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) may also be included.

- Work requirements*** will include the organisation and site specific requirements including:
- purpose and history of site and its assets
  - maintenance plans and specifications
  - site location and conditions
  - risk and hazard management procedures
  - communication methods and equipment
  - authorisations, permits and restrictions
  - environmental and heritage conditions
  - recording and reporting asset condition and maintenance
  - preparing and coordinating the availability and transporting of:
    - maintenance and construction support
    - equipment and tools
    - replacement assets
    - safety and protective equipment
    - communication equipment
  - technical expertise
  - surveying equipment
  - camping and survival resources
  - rescue and retrieval resources
- Authorisations*** may include:
- federal, state and local government
  - quarantine controls
  - legal access
  - traffic management
  - Blue Card
- Stakeholders*** may include:
- contractors
  - government and regulatory authorities
  - property owners
  - utility organisations
  - specialised work teams
  - general public
  - asset users
- Site inspections*** may include:
- confirmation of:
    - plans
    - contracts

- purpose
- asset history
- fault reports
- components
- risk factors
- inspection of preparation work
- assessment of compliance with specifications and manufacturers' guidelines
- assessment of compliance with procedures and legislation including:
  - occupational health and safety requirements
  - environmental
  - natural resource management
  - water quality
- working with, near and in:
  - confined spaces
  - heights
  - water
  - forests
- equipment operation
- plant operation
- contamination issues
- weather exposure
- herbicides
- pesticides
- solvents
- fuels
- PPE requirements
- onsite communication and procedures for working remotely.
- equipment:
  - ladders
  - harness
  - trailer
- personnel safety:
  - medical constraints and conditions
  - CPR
  - First Aid
  - water survival
  - bush survival
  - self rescue

***Occupational health and safety and environmental requirements*** will include:

***Maintenance tasks*** will be influenced by consideration of:

- traffic management authority
- performance benchmarks
- reference marks
- CTF
- relevant section:
  - control
  - approach
  - inlet
  - tailwater
  - DM
- long survey
- staff gauges
- peak level indicators
- power supplies
- instrument circuits
- lightning protection
- banks
- site access
- transducer exposure
- general and special conditions of contract and site specifications
- plans, maps and drawings
- authorisations and permits
- operational manuals
- manufacturers' manuals and specifications
- maintenance manuals
- plans of other authorities, services and utilities
- hazard and response reports
- project plans
- maintenance checklists

***Organisational and manufacturers' requirements*** may include:

## Unit Sector(s)

Not applicable.

## Competency field

Asset management.