



Australian Government

Department of Education, Employment and Workplace Relations

NWP604 Manage the construction of pipeline systems

Release: 1

NWP604 Manage the construction of pipeline systems

Modification History

NWP604 Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to manage construction of pipeline systems.

Application of the Unit

This unit applies to para-professionals who have responsibility for managing the construction of a pipeline system.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

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 tasks you need to be able to perform, to demonstrate that you can achieve 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

- | | |
|---|--|
| 1 Clarify and confirm pipeline construction requirements | <ul style="list-style-type: none">1.1 Interpret design drawings, project documentation and relevant national, Water Services Association Australia (WSAA) and water agency codes, supplements, specifications and product lists to ensure pipeline requirements are understood.1.2 Clarify any areas of design ambiguity with appropriate personnel. |
| 2 Apply quality principles to pipeline construction | <ul style="list-style-type: none">2.1 Ensure construction project management system is in place and meets organisational guidelines and standards.2.2 Ensure the project, environmental and cultural and heritage management plans are in place and meet organisational guidelines and standards.2.3 Confirm inspection and test plans have been submitted and meet organisational standards and guidelines.2.4 Implement quality audits of the constructor's compliance with the project management plan, quality procedures and works instructions.2.5 Ensure all workers have required qualifications or accreditation for allocated tasks. |
| 3 Apply environmental management principles to pipeline construction | <ul style="list-style-type: none">3.1 Ensure construction environmental plan is adhered to.3.2 Control water pollution by complying with EPA requirements.3.3 Ensure contaminated soil is correctly excavated, stored and disposed of.3.4 Ensure asbestos is correctly handled and disposed of. |
| 4 Manage construction of the pipeline | <ul style="list-style-type: none">4.1 Ensure communication with stakeholders is maintained and areas of concern are addressed.4.2 Ensure appropriate products and materials are used correctly.4.3 Ensure the safety of people by implementing OHS procedures in line with current OHS regulations and legislation.4.4 Ensure pipeline system is constructed to plan.4.5 Review all aspects of the pipeline system construction against requirements of project brief, design, budget and legislation.4.6 Report on and make recommendations, where appropriate, to rectify any aspects of the construction process that do not meet requirements. |

Required Skills and Knowledge

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

Required skills:

- interpret and apply legislative requirements, codes, standards, specifications and contract documents
- interpret design drawings, project documentation and relevant national, WSAA and water agency codes, supplements, specifications and product lists
- assess environmental impacts
- apply quality requirements
- analyse complex information
- operate computer software
- conduct consultations with a range of community interests
- data management
- project planning
- application of civil engineering principles, mathematics, computer software

Required knowledge:

- environmental management principles
- codes, standards, specifications and contract documents for the construction of water and wastewater pipeline systems
- application of quality systems
- cost benefit analysis procedures
- risk analysis procedures
- investigation procedures and methodologies
- documentation and information management requirements
- legislative requirements including OH&S and environmental legislation, acts and procedures

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.

Overview of assessment

The candidate should:

- perform each task outlined in the elements consistently and in a representative range of contexts
- meet the performance criteria associated with each element by employing the techniques, procedures, information and resources available in the workplace from those listed in the range statement

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

The candidate should demonstrate the ability to manage pipeline construction including:

- interpreting design drawings, project documentation and relevant national, WSAA and water agency codes, supplements, specifications and product lists
- applying quality principles to pipeline construction
- ensuring the safety of people
- applying environmental management principles to pipeline construction
- installing pipes and service connections
- installing appurtenances and maintenance structures
- installing pipe embedment and support
- installing trench fill
- acceptance testing
- disinfecting water supply pipelines

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
- workplace specific equipment and technology
- supervision and experienced team members to provide observations, feedback and third party reports
- enterprise operating procedures and work allocation
- 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 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 require 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 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 and cultural issues that may affect responses to the questions, and will reflect the requirements of the competency and the work being performed.

Method of assessment

The following methods are suggested:

- assessment in the workplace or in a simulated workplace and under the normal range of workplace conditions
- assessment should also be conducted in conjunction with aspects of technical competencies that are consistent with the work environment

Techniques for gathering evidence of competency may include:

- observation of performance
- written and/or oral questioning to assess knowledge and understanding
- completion of workplace documents and reports produced as part of routine work activities
- third-party reports from experienced practitioners
- completion of performance feedback from supervisors and colleagues

Guidance information for assessment Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate 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.

Organisational guidelines and standards may include:

- federal and state legislation
- codes
- national guidelines
- environmental protection agencies
- OHS agencies

Pipeline system may include:

- potable water pipelines
- recycled water pipelines
- gravity sewer pipelines
- rising sewer pipelines
- pressure sewer pipelines
- vacuum sewer pipelines
- service connections
- appurtenances
- maintenance structures

Unit Sector(s)

Not applicable.

Competency Field

Civil Engineering.