



Australian Government

Department of Education, Employment and Workplace Relations

PMASUP242B Monitor pipeline civil works

Revision Number: 1

PMASUP242B Monitor pipeline civil works

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	In a typical scenario, operators are required to plan and monitor civil works and maintenance activities being carried out on pipeline easements and associated facilities by external contractors.
------------------------	---

Application of the Unit

Application of the unit	Generally the operator would be part of a team, though on occasions would be required to work individually and in isolation and would be expected to be capable of performing all parts of this unit. At all times they would be liaising and cooperating with other members of the team. The operator would: • identify and report on the nature of civil works to be undertaken in relation to pipeline easements • establish the suitability of the equipment and machinery to be used in the work • ensure the site is accessible to equipment and authorised personnel • work with third parties and contractors.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
---------------------------	--	--

Employability Skills Information

Employability skills	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 required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for work.	Identify work requirements Identify and control hazards Coordinate with appropriate personnel
2. Interpret civil drawings and data	2.1. Determine required civil works through the interpretation of reports and investigations 2.2. Access and interpret pipeline alignment drawings to determine area of excavation/civil activity 2.3. Liaise with appropriate authorities, third parties and/or company personnel.
3. Inspect machinery	3.1. Inspect equipment required to undertake civil works to ensure that it conforms to requirements 3.2. Determine most appropriate method of deploying equipment to site 3.3. Monitor equipment deployment to site and take appropriate action.
4. Prepare easement/site for civil activities	4.1. Inspect site for the civil works prior to any work commencing 4.2. Ensure site is prepared 4.3. Apply knowledge of pipeline crossing design prior to excavation/ activity commencing 4.4. Issue permits for work to be carried out if appropriate.
5. Monitor easement/site for civil activities	5.1. Monitor civil works and take appropriate action 5.2. Restore the work affected area on completion of civil works 5.3. Close issued permit

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

Competence includes the ability to isolate the causes of problems in pipeline easements and to distinguish between causes of problems/alarm/fault indications such as:

- inappropriate work practices
- visual evidence of a pipeline rupture
- erosion and subsidence
- equipment breakdowns
- smell or sound of escaping pipeline contents.

Required knowledge

The knowledge referred to in the Evidence Guide for this unit includes:

- pipe locating equipment
- the operation of gas detection equipment
- use of safety signage/barricades and materials
- the use of pipeline alignment drawings
- relevant State and Federal legislation
- legal obligations and standing of parties as it relates to access rights where civil works are conducted on easements that require access to private property
- company procedures and company work instructions
- environmental management programs.

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.

Overview of assessment

Assessment of this unit should include demonstrated competence on actual plant and equipment in a work environment. The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation.

Simulation may be required to allow for assessment of parts of this unit. Simulation should be based on the actual plant and will include walk-throughs of the relevant competency components. Simulations may also include the use of case studies/scenarios, role plays and 3D virtual reality interactive systems. In the case of evacuation training or training for competencies practised in life threatening situations, simulation may be used for the bulk of the training.

This unit of competency requires an application of the knowledge contained in the use of the pipeline and its integral equipment, to the level needed to maintain control and recognise and resolve problems. This can be assessed through questioning and the use of what-if scenarios both on the plant (during demonstration of normal operations and walk-throughs of abnormal operations) and off the plant.

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

Competence must be demonstrated in the ability to recognise and analyse potential situations requiring action and then in implementing appropriate corrective action. The emphasis should be on the ability to stay out of trouble rather than on recovery from a disaster.

Consistent performance should be demonstrated. In particular look to see that:

- company policies and procedures for pipeline maintenance work are understood and followed
- early warning signs of equipment needing attention or with potential problems are recognised
- the range of possible causes can be identified and

EVIDENCE GUIDE	
	analysed and the most likely cause determined • appropriate action is planned and implemented to rectify identified problems. These aspects may be best assessed using a range of scenarios/case studies/what-ifs as the stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations which may have been generated from the past incident history of pipeline maintenance work, incidents on similar pipeline systems around the world, hazard analysis activities and similar sources.
Context of and specific resources for assessment	Assessment will require access to pipeline easements and pipeline maintenance work sites over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations. A bank of scenarios/case studies/what-ifs will be required as will a bank of questions which will be used to probe the reasoning behind the observable actions.
Method of assessment	In all plants it may be appropriate to assess this unit concurrently with relevant teamwork and communication units. Consider co-assessment with: • <i>PMASUP241B Maintain pipeline easements</i> • <i>PMASUP236B Operate vehicles in the field.</i> • <i>MSAPMPER300B Issue work permits</i>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee 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 italicized 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.

Codes of practice/ standards	Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.
Context	This unit of competency includes all such items of equipment and unit operations which form part of the monitoring system. For your enterprise this may include: • pipe locating equipment • gas detection equipment • transport and excavation equipment • hand tools • safety signage/barricades and materials.
Site preparation	Site preparation includes: • site preparation in accordance with outcomes of inspection • conduct hazard analysis complete, adequate and thorough • site layout is appropriate • lay down areas appropriate • site access is suitable
Monitoring of civil works	Monitoring of civil works to include: • ensuring pipeline integrity • adherence to permit to work and procedure requirements • adherence to required health, safety, environmental and legislative requirements for site/works.
Typical problems	Typical problems might include: • isolation and risk of exposure • gas or fluid leaks • accidental or geophysical rupturing of pipelines.
Appropriate action	Appropriate action includes: • determining problems needing action • determining possible fault causes • rectifying problem using appropriate solution within area of

RANGE STATEMENT	
	responsibility • following through items initiated until final resolution has occurred • reporting problems outside area of responsibility to designated person.
Procedures	Procedures may be written, verbal, computer-based or in some other form. They include: • all work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant. For the purposes of this Training Package, 'procedures' also includes good operating practice as may be defined by industry codes of practice (eg Responsible Care) and government regulations.
Health, safety and environment (HSE)	All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence.

Unit Sector(s)

Unit sector	Support/generic
--------------------	-----------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		
---------------------------	--	--