



Australian Government

UEGNSG354A Control excavations in the vicinity of gas transmission pipelines

Release 1

UEGNSG354A Control excavations in the vicinity of gas transmission pipelines

Modification History

This unit replaces UEG11 unit UEGNSG316B Site control of excavations in the vicinity of a transmission pipeline

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This unit covers the control of all excavations in the vicinity of gas transmission pipelines to ensure the integrity of the pipeline is not compromised.

It encompasses relevant legislation, code, regulations and established procedures in particular the procedures found under the latest version of Australian and New Zealand Standard.AS 2885.3.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to gas transmission facilities, subject to all Workplace Health and Safety (WHS) /Occupational Health and Safety (OHS) and duty of care requirements being met for the workplace.

This unit is intended as an AQF 3 competency for new and existing workers in the gas industry. It is suitable for employment-based programs under an approved contract of training.

Licensing/Regulatory Information

License to practice 3)

During Training:

Competency development activities are subject to regulations directly related to licensing, workplace health and safety/occupational health and safety and where applicable contracts of training such as apprenticeships.

In the workplace:

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Workplace/Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti-discrimination and training.

Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) 4)

Competencies 4.1)

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

UEGNSG004A	Locate, prove and protect utility assets
UEGNSG005A	Prepare to work in the gas industry
UEGNSG132A	Carry out basic work activities in a gas industry work environment
UEGNSG140A	Apply environmental policies and procedures in the utilities industry
UEGNSG134A	Establish a utilities infrastructure work site

Prerequisite Unit(s) 4)

UEGNSG141A Apply Workplace Health and Safety regulations, codes and practices in the gas industry

Literacy and numeracy skills 4.2)

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information**Employability Skills 5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) *Elements describe the essential outcomes of a competency standard unit* *Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.*

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan to control excavations in the vicinity of gas transmission pipelines	1.1 WHS/OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed 1.2
	Works schedule(s), specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined and the extent of preparation for the work is assessed
	1.3 Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard in accordance with established procedures
	1.4 Other utility assets are identified by Dial Before You Dig or other means
	1.5 WHS/OHS and environmental risk control measures are identified, prioritised and evaluated against the work schedule
	1.6 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.7 Relevant work permits/authorisations are secured to coordinate the performance of work according to requirements and established procedures
	1.8 Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe working order
	1.9 Clients are provided with possible solutions and options within the scope, acceptable cost and requirements
	1.10 Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to

ELEMENT	PERFORMANCE CRITERIA
	carry out work
	1.11 Persons participating in the work are fully briefed, inducted and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
	1.12 Site preparation, safety plan and the work schedule are confirmed in accordance with established procedures.
2 Control of excavations in the vicinity of transmission gas transmission pipelines	2.1 WHS/OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2 Analysis of information to identify key issues is undertaken as required and information is evaluated for relevance and validity to the requirements
	2.3 First Aid and other related work procedures are performed according to requirements and established procedures
	2.4 Lifting, climbing, working in confined spaces and aloft, techniques and practices are safely exercised according to requirements
	2.5 Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.6 Hazard warnings and safety signs are recognised and hazards are assessed and WHS/OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.7 Operating conditions of equipment are monitored.
	2.8 Excavation is benched or shoring is used in accordance with relevant legislation

ELEMENT	PERFORMANCE CRITERIA
	2.9 Other utility assets are located and confirmed
	2.10 Fault finding and troubleshooting techniques are applied to identify any repairs or maintenance that are required according to requirements and established procedures
	2.11 Solutions to non-routine problems are identified and actioned according to requirements
	2.12 Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved to a community and industry standard
3 Complete the work and relevant documentation	3.1 Work undertaken is checked against work schedules for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
	3.2 Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3 Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
	3.4 Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5 Relevant work permit(s) are signed off accordance with requirements
	3.6 Work completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) *This describes the skills and knowledge and their level, required for this unit.*

Evidence shall show that knowledge has been acquired of safe working practices for site control of third party works in the vicinity of a transmission pipeline.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies. The extent of the required skills and knowledge is provided below. It forms an integral part of this unit.

KS01-G354A Gas transmission pipeline proximity excavation

Evidence shall show an understanding of controlling excavations in the vicinity of a transmission pipelines in accordance with relevant legislation, code, regulations and procedures. to an extent indicated by the following aspects:

T1. Requirements for preparing, conducting and completing an excavation including WHS/OHS and environmental.

- plans, codes, standards and drawings relevant to specific worksites
- regulatory requirements and procedures for excavating trenches and reinstating sites
- shoring or benching requirements
- notification of appropriate authorities and requirements for temporary or permanent restorations
- hazardous materials, MSDS/SDS and spill kits
- PPE
- environmental and safety hazards, assess risks and implement control measures

T2. Locating utilities and services

- relevant authorities or enterprises to contact regarding the location of other utilities services (gas, water, electricity, telecommunication, sewerage and stormwater) including Dial Before You Dig services
- relevant plans and drawings to identify the location of utilities and services
- utilities and services conduits and cables
- electronic and manual service locators
- hand and mechanical excavation for locating utilities and services
- gas markers

T3. Preparing an excavation site

- work permits and authorisations
- traffic management plans
- spotter/competent observer requirements

REQUIRED SKILLS AND KNOWLEDGE

- environmental and safety hazards, assess risks and implement control measure
- communication with third parties, colleagues and customers regarding the excavation site
- job specifications and standard operating procedures
- grades and depth required for excavation of trenches for gas pipelines
- techniques for marking out trench location

T4. Excavating of gas industry workplace trenches

- safety requirements and procedures for excavating and shoring trenches in a variety of conditions surface types, soil types, weather, traffic, time of day, location
- regulations and requirements for working in confined spaces and shoring
- purpose and techniques of excavating trenches, shoring, battering and exposing other services
- variety of excavation and shoring techniques to suit varying conditions (surface types, soil types, weather, traffic, time of day, location)
- manually excavation and mechanical excavation applications
- appropriate tools, materials and equipment
- safe manual handling techniques and risk management
- problem solving methods, techniques and solutions
- workplace forms and reports

T5. Security breach procedures

- identification of different types of security incidents including but not limited to:
 - physical security breaches at gas infrastructure
 - threat assessment and management
 - confidential information security
- communication with applicable emergency service and regulatory organisations
- compliance with applicable enterprise security policies and procedures

T6. Emergency/incident control procedures

- enterprise emergency/incident control policies and procedures
- communication with relevant stakeholders
- application of relevant procedures

T7. Emergency, accident and incident situations

- procedures
- emergency equipment and procedures for a fire

REQUIRED SKILLS AND KNOWLEDGE

- breathing apparatus
- gas detectors/oxygen monitoring devices\emergency equipment and procedures for a gas leak or vapour emission
- reports

Evidence Guide

EVIDENCE GUIDE

8) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment 8.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered

will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit 8.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
 - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
 - Demonstrate an understanding of the required knowledge and skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
 - Demonstrate an appropriate level of employability skills
 - Conduct work observing the relevant anti-discrimination legislation, regulations, policies and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.
 - Control excavations in the vicinity of gas transmission pipelines in accordance with relevant legislation, code, regulations and procedures as described in 9.) Range Statement and including:

Range of tools/equipment/procedures/workplace		
Group No	The minimum number of items on which skill is to be demonstrated	Item List
A	All	<ul style="list-style-type: none"> • Identify threats to the integrity of transmission pipelines • Evaluate threats to the integrity of transmission pipelines • Initiate control of threats to the integrity of transmission

		<p>pipelines</p> <ul style="list-style-type: none"> • Working knowledge of relevant sections of the latest version of AS2885 • Working knowledge of requirements and techniques for safe excavations • Working knowledge of construction machinery • Working knowledge of external interference physical and procedural protection measures • Perform effective on site induction • Perform effective risk assessment and hazard analysis
B	All	<ul style="list-style-type: none"> • Interpret technical drawings and symbols • Operation of gas detector • Emergency response procedures • Operate pipe locater • Use of and interpret Dial Before You Dig report or its equivalent • Locate other assets in a safe manner • Work utilising relevant WHS/OHS legislation, regulations, codes of practice, policies and procedures • Maintain a safe and clean workplace • Work safely with hazardous materials and equipment • Contractor supervision • Traffic management • Use of safety signage/barricades and materials • Issue, monitor and control work permits • Apply safe manual handling techniques

		<ul style="list-style-type: none"> • Communicate effectively in the workplace • Negotiation skills • Apply basic planning skills
C	At least one occasion	Deal with an unplanned event by drawing on required knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment 8.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in site control of excavations in the vicinity of a transmission pipeline.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

**Method of
assessment 8.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified required Knowledge and Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the required knowledge and skills described in this unit.

**Concurrent
assessment and
relationship
with other units 8.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG342A Maintain pipeline easements

UEGNSG353A Carry out surveillance of gas transmission pipelines

UEGNSG221A First on site response to a gas pipeline emergency

Range Statement

RANGE STATEMENT

9) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to control of excavation in the vicinity of gas transmission pipelines.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

- Tools and equipment
- Maps and drawings
- Established procedures
- PPE and First Aid equipment
- Traffic control
- Facility
- Event

Unit Sector(s)

Gas supply industry.

Competency Field

Competency Field 10)

Transmission.