



Australian Government

Department of Education, Employment and Workplace Relations

UEGNSG311B Site control of third party works in the vicinity of a transmission pipeline

Release: 1

UEGNSG311B Site control of third party works in the vicinity of a transmission pipeline

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers the control of all third party works in the vicinity of a transmission pipeline to ensure the integrity of the pipeline is not compromised. The competency standard is applied against the procedures found under the latest version of AS 2885.3 Australian and New Zealand Standard. Third party works would include excavation, seismic activities and the use of explosives, vibrating rollers and the effect of additional loads on the pipeline.

Application of the Unit

Application of the Unit 2)

This competency standard shall apply to any basic and safe work site where gas and petrochemical liquids industry operations occur.

Licensing/Regulatory Information

License to practice 3)

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to 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

License to practice **3)**
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:

Nil

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 4 Writing 4 Numeracy 4

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 undertake site control of third party works in the vicinity of a transmission gas/ petrochemical liquids pipeline	<p>1.1 Site is checked for specific hazards. Work schedule(s), specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined. The extent of preparation for the work is assessed</p> <p>1.2 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 and in accordance with established procedures</p> <p>1.3 Risk control measures are identified, prioritised and evaluated against the work schedule</p> <p>1.4 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites</p> <p>1.5 OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed</p> <p>1.6 Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures</p> <p>1.7 Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order</p> <p>1.8 Clients are provided with possible solutions and options within the scope, acceptable cost and</p>

ELEMENT	PERFORMANCE CRITERIA
	requirements
	1.9 Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10 Persons participating in the work, including plant operators and contractors are fully briefed, inducted and respective responsibilities coordinated and authorised where applicable in accordance with established procedures
2 Carry out site control of third party works in the vicinity of a transmission gas pipeline	2.1 OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2 First Aid and other related work procedures are performed according to requirements and established procedures
	2.3 Lifting, climbing, working in confined spaces and aloft, techniques and practices are safely exercised according to requirements
	2.4 Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.5 Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6 Operating conditions of equipment are monitored
	2.7 Negotiation processes occur with third parties to control the threat to the pipeline
	2.8 Fault finding and troubleshooting techniques are applied to identify any repairs or maintenance that are required according to requirements and established procedures

ELEMENT	PERFORMANCE CRITERIA
	2.9 Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.10 Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.11 Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client to a community and industry standard
3 Complete site control of third party works in the vicinity of a transmission gas/ petrochemical liquids pipeline	3.1 Work undertaken is checked against works schedule 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 in 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

8) This describes the essential 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.

KS01- G311B **Transmission pipeline third party**

- G 2.1.1 Work in the gas sector
Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:
- The Gas Industry in Australia
 - Australian gas resources
 - Types of gas and uses
 - Combustion.
- G 2.1.4 Apply relevant OHS regulations, policies and procedures
Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:
- Employer's responsibilities to relevant OHS legislation
 - Employee's responsibilities to OHS legislation and organisation's policies and procedures
 - OHS policies and procedures at the worksite.
 - Australian Standards, guidelines and codes of practice
- G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE
Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:
- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
 - Correctly interpret gas markers
 - Identify the correct PPE required for work in the Gas Industry
 - Locate and comply with procedures for correctly

- checking, maintaining and storing PPE
 - Apply the process of Hazard identification, Risk assessment and Control
 - Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
 - Report workplace hazards
- G 2.1.6 Work safely with hazardous materials and equipment
Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:
- Identify hazardous materials and equipment
 - Location and purpose of Material Safety Data Sheets (MSDS)
 - Read, interpret and discuss MSDS
 - Knowledge of methods for safe disposal of hazardous waste materials
 - Read, interpret and discuss relevant manufacturer's specifications
 - Use and dispose of hazardous materials and equipment safely
 - Use of spill kits and PPE
- G 2.1.7 Apply safe manual handling techniques in the workplace
Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:
- Principles for managing manual handling
 - Characteristics and types of safe manual handling
 - Safe manual handling techniques
 - Manual handling and risk management
- G 2.1.9 Respond to emergency and accident situations
Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:
- Situations of accidents and emergency
 - Comply with procedures for accidents and incidents
 - Correct use of emergency equipment and procedures for a fire
 - Correct use of breathing apparatus
 - Correct use of gas detectors/oxygen monitoring devices
 - Correct use of emergency equipment and procedures for a gas leak or vapour emission
 - Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
 - Understanding and compliance with enterprise procedures for flora control
 - erosion control
 - fauna control
 - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

- G 2.2.34 The selection, the use and application of materials
Evidence shall show an understanding and ability to use correct tools, materials and equipment to undertake work on a gas industry workplace, indicated by the following:
- Appropriate tools, materials and equipment are identified for preparing the site, excavating trenches and reinstating the site
 - Safety requirements for using tools, materials and equipment
 - Correct use of appropriate PPE
 - Procedures for using, cleaning and storing tools, materials and equipment
 - Procedures for checking tools, materials and equipment
 - Reporting faulty tools, materials and equipment
- G 3.1.2 Work independently in a Gas Industry environment
Evidence shall show an understanding of working independently in a Gas Industry environment, indicated by the following:
- understanding of how to work autonomously or under limited/remote supervision.
- G 3.4.5 Interpreting topographical maps and information
Evidence shall show an understanding of the requirements to interpret topographical and geographical information and maps for cathodic protection, indicated by the following:
- interpreting topographical and geographical maps and information.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
 - workplace colleagues
 - workplace managers
 - relevant customers and suppliers
 - regulatory bodies
 - property/land owners (including traditional land owners) and tenants
 - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
 - principles of applicable gas laws
 - gas pressure
 - gas temperature
 - compressibility
 - relative density – specific gravity
 - hydrocarbon and water dew points
 - components of applicable natural gases including LPG
 - standard gas conditions
 - combustion
 - venting and purging principles
 - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
 - Process and Instrumentation Diagrams (PID)
 - Facility and pipeline construction and as-built drawings
 - Geographical Information System (GIS) drawings and data
 - Electrical drawings
 - Survey maps
 - Pipeline route maps and alignment sheets

G 4.1.6 Understand OHS and First Aid requirements for Gas Industry supervisors

Evidence shall show an understanding of OHS and First Aid requirements for gas industry supervisors and autonomous working staff, indicated by the following:

- understanding of applicable enterprise Occupational Health and Safety systems and procedures
- understanding of requirements and reasons for providing First Aid equipment and training for employees in the

gas industry

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.15 Drive Gas Industry vehicles

Evidence shall show an understanding of requirements and capability of driving applicable Gas Industry vehicles including but not limited to:

- Driving vehicles appropriate to the organisation.
Vehicles may include any of the following (dependent on the needs of the organisation):
 - sedan
 - four wheel drive vehicles
 - trucks
 - buses
 - excavation and construction equipment such as backhoes and excavators.

Note: All vehicles included in this clause have licence or ticket requirements. The licence or ticket will need to be issued to the learner for completion of relevant sections of the EKAS Clause.

Evidence Guide

EVIDENCE GUIDE

9) 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 9.1)

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 9.2)

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 essential knowledge and associated 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, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	The minimum number of items on which skill	Item List

No	is to be demonstrated	
A	All	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 pipelines Working knowledge of coatings for corrosion protection Working knowledge of relevant sections of the latest version of AS2885.3 Working knowledge of requirements and techniques for safe excavations Working knowledge of construction machinery Working knowledge of requirements for safe use of explosives near a pipeline Working knowledge of requirements for safe use vibrating rollers in the vicinity of a pipeline Working knowledge of requirements for safe loading on a pipeline Working knowledge of external interference physical and procedural protection measures
B	All	Interpret technical drawings and symbols Operation of gas detector Emergency response procedures Operate pipe locator Use of and interpret Dial Before You Dig report or

		<p>its equivalent Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Work safely with hazardous materials and equipment Apply safe manual handling techniques Communicate effectively in the workplace Negotiation skills Apply basic planning skills First Aid certificate level 1</p>
C	At least one occasion	<p>Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items</p>

Context of and specific resources for assessment 9.3)

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 of site control of third party works 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

9.4)

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 Essential Knowledge and Associated 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 essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

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.

UEGNSG302B Maintain pipeline easements

UEGNSG329 Gas transmission pipeline surveillance
A

UEGNSG308B Identify, evaluate and control threats to
transmission pipelines

UEGNSG309B First on site emergency response on a
transmission pipeline

UEGNSG310B Supervise and monitor contract work

Range Statement

RANGE STATEMENT

10) 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 site control of third party works in the vicinity of a transmission pipeline.

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 (4)

Maps and drawings

Established procedures

PPE and First Aid equipment

Traffic control

Facility

Event

Unit Sector(s)

Not applicable.

Competency Field

Competency Field 11)

Transmission.