Australian Government

Department of Education, Employment and Workplace Relations

UEGNSG325A Coordinate the operation of relevant plant and equipment for transmission pipeline construction

Release: 1

UEGNSG325A Coordinate the operation of relevant plant and equipment for transmission pipeline construction

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

Coordination of the operation of relevant plant and equipment necessary for the construction of transmission pipelines. This competency refers to: Excavator and vacuum lift; Bending machine and mandrels; Internal line up clamp; Tack Rig; Side Boom; Roller Cradles; Rock Saw; Bucket Wheel trencher; Sand Blasting Unit; Thermal Coil; Over ditch wrapping machine; Padding machines; Mitsu Bucket

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

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,

License to practice **3)**

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 limit the age at which a person 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:

UEGNSG328A	Supervise the operation of plant and equipment for the construction of transmission pipelines

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 Prepare plant and equipment for transmission pipeline construction	1.1	Work instructions are received and confirmed
	1.2	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.3	Easement is inspected and assessed using appropriate mediums and civil activities to determine in accordance with standard operating procedures relevant requirements
	1.4	Discussion occurs with all persons to establish and confirm work schedule
	1.5	Suggestions to assist with constructing pipeline easements are made to others involved in the work
	1.6	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored according to established procedures
	1.7	Scope of responsibility under the relevant work permit isreceived and confirmed according to requirements and established procedures with relevant persons
	1.8	Resources including equipment such as tools and

ELEMENT		PERFORMANCE CRITERIA	
			personal protective equipment required for the job are obtained and in working order according to established procedures
		1.9	Relevant responsibilities associated with first aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident
		1.10	Third party issues are referred to appropriate persons in accordance with industry and community standards
2	Maintain relevant plant and equipment for transmission pipeline construction	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
		2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
		2.3	Work area is isolated and made safe and civil activities and construction of pipeline easements is carried out in accordance with given instructions and established procedures
		2.4	Easement is constructed and confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
		2.5	Operational knowledge as applied to potential hazards and safety risks are reported to the immediate authorised persons for directions according to established procedures
		2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.7	Remedial action associated with constructing pipeline easements are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Complete procedures for operation of relevant plant and equipment for the construction of transmission pipelines	3.1	Pipeline easement work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and 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	Appropriate persons are notified of work completion according to established procedures
	3.6	Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

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 using of equipment and tools to perform work in a transmission pipeline construction industry work environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G325A (Coordinate)	**Plant and equipment for transmission pipeline construction**

G 2.3.16 Transmission pipeline construction OHS, environmental and cultural legislative and regulatory requirements
Evidence shall show an understanding of the practical work requirements embedded in the OHS, Environmental and Cultural Legislation and Regulations.
For OHS:

- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc Hazard Identification
- Manual handling
- Basic First Aid
- MSDS
- Understanding how to apply control measures
- Emergency Response
- Signage
- Licenses and tickets
- Working at heights
- Awareness of confined spaces

For Environmental:

- Weed mitigation
- Erosion control
- Emission laws
- Quarantine laws
- Licenses
- Permits

For Cultural and Heritage Awareness:

- Cultural and heritage awareness tagging
- Understanding the role of the cultural monitor
- Uncovering of cultural/heritage artefacts
- Understanding heritage and cultural issues
- Understanding legislative and regulatory requirement applicable in working situations

G 2.3.22 Effective communication on a gas transmission pipeline construction site (between operators and ground crew)
Evidence shall show an Knowledge of on-site pipeline construction communication strategies including:

- hand signals,
- satellite phones
- radios

G 2.3.24 Operation of transmission pipeline construction plant and equipment

Evidence shall show an understanding the general operating parameters of the following gas industry transmission pipeline plant and equipment:

- Compressors
- Grader
- Dozer
- Excavator
- Vacuum lift
- Bending machine
- Bending machine & mandrel
- Internal line up clamp
- Tack Rig
- Side Boom
- Roller Cradles
- Trenching Equipment
- Bucket Wheel trencher
- Grit Blasting Unit
- Thermal Coil
- Padding machines
- Mitsu Bucket
- Crane (Rough Terrain)
- Crane Truck
- Flood pump
- Squeeze pump
- Drying Plant

G 4.1.22 Knowledge of the capability and capacity of gas industry transmission pipeline construction plant and equipment across variable terrain and environment
Evidence shall show an understanding of how plant and equipment reacts in a variety of terrain and climates including:

- dry weather versus humid weather, and in different geographical environment eg sand versus mixture of sand and rock and purely rock.
- Application of engineering requirements for use of construction plant and equipment across variable terrain and environment

G 4.1.23 Dealing with contingencies in a remote area
Evidence shall show an understanding of survival techniques in remote areas including:

- survival techniques in remote areas eg running out of fuel/communications equipment, minor maintenance

requirements.

- Planning for contingencies in remote areas

G 4.1.24 Loading capacity and scheduling requirements for the delivery of plant and equipment on vehicles across state roads and tracks
Evidence shall show an understanding of loading capacity including:

- Understanding of loading capacity and scheduling requirements for the delivery of plant & equipment on vehicles across state roads and tracks.
- Planning for contingencies eg rain, floods, breakdowns etc

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this 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 and 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 practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included 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
  - 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 No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Monitor the effective use of plant and equipment. Ability to deal with conflict. Ability to supervise staff. Organise equipment according the needs of the project incorporating environmental/geological constraints (logistical organisation). Dealing with and reacting to a variety of contingencies eg rain and transport of plant and equipment.

B	At least one occasion	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

Context of and specific resources for assessment

9.3)

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 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 maintaining pipeline easements.

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 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 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.

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 Unit shall be demonstrated in relation to maintaining pipeline easements.

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:

Transmission Pipeline Plant and Equipment

Transmission Pipeline Construction Tools and Equipment

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission discipline.