



Australian Government

UEGNSG346 Launch and recover PIGs in gas transmission pipelines

Release: 1

UEGNSG346 Launch and recover PIGs in gas transmission pipelines

Modification History

Release 1. This is the first release of this unit of competency in the UEG Gas Industry Training Package.

Application

This unit involves the skills and knowledge required to prepare, launch and recover pipeline inspection gauges (PIGs) in gas transmission pipelines, to inspect and ensure the pipeline is clean and dry with no obstructions.

It includes liaising with stakeholders, analysing and interpreting the pigging data, and testing and inspecting pigging equipment in accordance with manufacturer instructions and workplace procedures.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Transmission

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare and plan for pigging gas transmission pipelines

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) workplace procedures and environmental measures for the site are identified, obtained and applied

- 1.2** Work schedule, drawings, plans, job requirements and workplace procedures for the work are obtained and communicated to relevant person/s in accordance with workplace procedures
- 1.3** WHS/OHS, environmental and sustainable energy policies and procedures are obtained, applied and communicated to relevant person/s
- 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with others in accordance with workplace procedures
- 1.5** Hazards are identified, WHS/OHS risks are assessed and control measures prioritised, implemented and monitored in accordance with workplace procedures
- 1.6** Responsibilities under the relevant work permit/notification are obtained and confirmed with relevant person/s to access, isolate/de-energise systems and perform the work in accordance with regulatory requirements and workplace procedures
- 1.7** Person/s, equipment, tools and personal protective equipment (PPE) required for the job are identified, scheduled, obtained and checked for correct operation and safety in accordance with workplace procedures
- 1.8** Responsibilities for first aid and other emergency incidents at the work site are checked and confirmed with relevant person/s in accordance with workplace procedures
- 1.9** Communication issues with relevant stakeholders are resolved and work coordinated in accordance with work schedule and workplace procedures
- 1.10** Site preparation, safety plan and work schedule are confirmed in accordance with workplace procedures
- 1.11** Site, PIG, PIG trap, station and pipeline are prepared to minimise risk and damage to property, commerce and individuals in accordance with workplace procedures
- 1.12** Person/s participating in the work, including plant operators and contractors, are briefed and responsibilities confirmed in accordance with workplace procedures

- 1.13** Signage, barriers and warning devices are positioned in accordance with job requirements, workplace procedures and traffic management plan
- 2 Launch and recover gas transmission pipeline PIGs**
- 2.1** WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out the work are followed
- 2.2** Materials, tools, equipment and measuring devices required for the work are selected and used correctly and safely in accordance with manufacturer instructions
- 2.3** Hazardous activities are performed safely in accordance with workplace procedures, codes and regulatory requirements
- 2.4** Gas transmission pipeline PIG is launched, tracked and recovered in accordance with work schedule and workplace procedures
- 2.5** Work is carried out to industry standards without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles
- 2.6** Hazards and WHS/OHS risks are assessed and incidents reported to the authorised person/s for directions in accordance with workplace procedures
- 2.7** Data/results from transmission pipeline pigging operations is gathered/retrieved and analysed to determine internal pipeline conditions in accordance with workplace procedures
- 2.8** Testing and inspecting of the pipeline and pigging equipment is conducted in accordance with job requirements and workplace procedures
- 2.9** Unplanned events and non-routine problems are referred to authorised person/s for direction in accordance with workplace procedures
- 2.10** Fault-finding and troubleshooting techniques are applied to problems encountered with the PIG launch and recovery in accordance with requirements and workplace procedures
- 2.11** Quality and safety checks of the work are undertaken in accordance with industry standards and workplace

procedures

3 Re-establish transmission pipeline to operational condition, complete work and relevant documentation

- 3.1** WHS/OHS risk control measures and workplace procedures for completing the work are followed
- 3.2** Retrieved PIG is inspected to determine the wear sustained to the PIG material and anomalies reported in accordance with workplace procedures
- 3.3** Accidents and injuries are reported in accordance with requirements and workplace procedures
- 3.4** Waste materials are safely disposed of and work site is rehabilitated, cleaned up and made safe in accordance with workplace procedures
- 3.5** Tools, equipment and any surplus resources and materials are cleaned, checked and securely stored in accordance with workplace procedures
- 3.6** Appropriate person/s are notified of work completion in accordance with workplace procedures
- 3.7** Relevant work permit/s are signed off and pipeline returned to service in accordance with regulatory requirements and workplace procedures
- 3.8** Data is recorded and work completion records, reports, as modified drawings and documentation are completed, processed and appropriate person/s notified in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

pigging gas transmission pipelines must be demonstrated on at least three (3) of the following procedures:

- cleaning PIGs
- gauging PIGs
- drying PIGs
- intelligent PIGs
- PIG travel time calculations

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG346A Launch and recover PIGs in gas transmission pipelines.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG346 Launch and recover PIGs in gas transmission pipelines

Modification History

Release 1. This is the first release of this unit of competency in the UEG Gas Industry Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- analysing data/results from pigging to determine pipeline condition
- applying decision-making and conflict resolution techniques
- applying fault-finding and troubleshooting techniques
- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - ensuring emergency response procedures are in place
 - conducting job safety analysis (JSA)
 - working safely with hazardous materials and equipment
 - hazard identification and reporting
 - implementing risk control measures
 - selecting and using correct personal protective equipment (PPE)
- applying sustainable energy and environmental principles and practices
- communicating with relevant stakeholders
- completing work and relevant documentation, reports, records and drawings
- conducting quality and safety checks
- coordinating and briefing work party
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- following traffic management plans
- following workplace procedures
- interpreting technical drawings and plans
- inspecting pipeline inspection gauges (PIGs) to determine wear
- isolating and de-energising systems
- launching, tracking, receiving and recovering gas transmission PIG
- obtaining, monitoring and complying with relevant work permits
- obtaining and using relevant tools, equipment and measuring devices, including:
 - gas detector

- service locator
- preparing and planning for pigging gas transmission pipelines
- preparing station and PIG trap for launch
- recording data
- re-establishing transmission pipeline to operational condition
- testing and inspecting pipeline and pigging equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- fault-finding and troubleshooting techniques
- hazardous activities, including lifting, climbing, working in confined spaces, excavations, trenches or aloft, and use of power tools
- pigging a pipeline, including:
 - required set up
 - insertion/launching
 - monitoring and communication
 - capture/recovery
 - analysis and interpretation of data captured through the pigging process
 - traps
 - anomalies, such as ‘stuck pig’
 - dangers
 - waste disposal
- pipeline preparation, including:
 - relevant authorities and persons to be notified and approval requirements
 - types of pipeline materials
 - new and existing pipelines and stations
 - safety requirements and procedures
 - manufacturer operating instructions and workplace procedures
 - trap launchers and receivers installed
 - water and waste disposal requirements
 - pipeline pigging sequence
- quality and safety checks
- relevant documentation, reporting and communication for pigging
- relevant industry plant, equipment, tools and materials
- relevant industry standards, guidelines, codes of practice and regulations
- relevant work permits
- relevant WHS/OHS legislated requirements, including:
 - hazard identification and reporting

- implementing risk control measures
- risk assessment
- hazardous and flammable materials
- environmental and sustainable energy principles and practices
- traffic management plans
- types of PIGs and applications.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

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Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

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