

# UEGNSG982Y Apply safety practices, procedures, and compliance standards for handling hydrogen gas

## 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 apply safety practices, procedures, and compliance standards for handling hydrogen.

It includes the skills and knowledge required to apply work health and safety (WHS)/occupational health and safety (OHS) regulations, codes and practices in the workplace industry standards, and follow workplace procedures for hazard identification and risk control for working with hydrogen.

The application of the skills and knowledge described in this unit may require a licence/registration to practice in the workplace.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

## Pre-requisite Unit

Not applicable

## Competency Field

Hydrogen

## Unit Sector

Gas Industry

## Elements and Performance Criteria

### ELEMENTS

Elements describe the essential outcomes.

### PERFORMANCE CRITERIA

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

- |   |  |
|---|--|
| <b>1 Prepare to handle hydrogen gas</b>   | <ul style="list-style-type: none"><li><b>1.1</b> WHS/OHS requirements, legislative requirements and workplace procedures for a given work area are identified, obtained and applied</li><li><b>1.2</b> Work area access permits, clearances and isolation permissions are obtained as required from relevant person/s in accordance with workplace procedures</li><li><b>1.3</b> Appropriate tools, materials and equipment required, including personal protective equipment (PPE), for work are checked for safety and correct functionality in accordance with workplace procedures and relevant industry standards</li><li><b>1.4</b> Preparations for the isolation of plant/machinery and equipment are carried out to prevent creation of hazards from loss of machine, system or process control in accordance with workplace procedures</li><li><b>1.5</b> Personal protective equipment (PPE) is worn appropriate to the work area and in accordance with workplace procedures</li></ul> |
| <b>2 Apply safe working practices to handling hydrogen gas</b>                              | <ul style="list-style-type: none"><li><b>2.1</b> WHS/OHS risk control measures are implemented, and legislative requirements and workplace procedures for carrying out the work followed</li><li><b>2.2</b> Workplace procedures for dealing with unplanned events and emergencies are followed in accordance with WHS/OHS, legislative requirements and workplace procedures</li></ul>  |
| <b>3 Follow workplace procedures for hazard identification and risk control of hydrogen</b> | <ul style="list-style-type: none"><li><b>3.1</b> Hazards are identified and risk control measures implemented and monitored in consultation with relevant person/s</li><li><b>3.2</b> WHS/OHS documentation, including incident and maintenance records, are completed in accordance with regulatory requirements and workplace procedures</li><li><b>3.3</b> WHS/OHS training and directives are followed in accordance with regulatory requirements and workplace procedures</li></ul>   |

## 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.

Handling hydrogen must include at least the following environments:

- hydrogen production
- hydrogen storage
- hydrogen injection into gas networks

## Unit Mapping Information

This is a new unit.

## Links

Companion Volume Implementation Guides are found in VETNet - [LINK POPULATED ON PUBLICATION](#)

# **Assessment Requirements for UEGNSG982Y Apply safety practices, procedures, and compliance standards for handling hydrogen gas**

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## **Performance Evidence**

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

- complying with regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
  - applying safe working practices
  - applying relevant regulations and codes of practices in the workplace
  - checking tools, materials and equipment for safety and correct operation
  - isolating plant/machinery/equipment, including:
    - demonstrating Lock Out Tag Out procedures
- applying effective atmospheric testing techniques
- completing relevant workplace documentation
- communicating with relevant stakeholders, including:
  - authorised persons
  - authorities
  - clients
- dealing with unplanned events/situations in accordance with scope of responsibility and workplace procedures, in a manner that minimises risk to personnel and equipment
- following and applying work procedures and instructions as they apply to risk control measures
- identifying hazards and implementing and monitoring control measures, including:
  - identifying potential sources of ignition
- obtaining applicable work permits, clearances and isolation permissions prior to entering the work area
- participating regularly in consultation processes
- preparing to enter a gas work area in accordance with workplace procedures

- reporting hazards to relevant person/s in accordance with workplace procedures
- selecting and using appropriate tools and equipment, including:
  - gas detection equipment
  - personal protective equipment (PPE)

## Knowledge Evidence

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

- regulations, industry standards, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- common causes of hydrogen accidents and ignition
- emergency procedures and incident management requirements and procedures
- hazardous areas, including:
  - hazards associated with working in a hazardous area
  - requirements for working in a designated hazardous area
  - workplace situations that could be classified as a hazardous area
- hazards associated with gas supply work environments
- hydrogen characteristics, including:
  - combustion terminology
  - hydrogen compatibility
  - hydrogen's chemical properties
  - hydrogen's physical properties
  - reaction terminology
  - safe storage procedures and purpose and interpretation of safety data sheet (SDS)
- hydrogen sources
- hydrogen usages
- relevant stakeholders, including:
  - authorised persons
  - authorities
  - clients
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant WHS/OHS policies and procedures, including:
  - hazard identification
  - risk assessment and control
- relevant work area access, clearances and isolation permissions/permits
- relevant workplace documentation, policies and procedures
- techniques to check tools, materials and equipment for safety and correct functionality

- techniques to monitor implemented control measures
- working safely with electricity
- working safely with gases.

## Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

## Links

UEG - Gas Industry Training Package Companion Volume Implementation Guide at: [sector webpage link here]