

# UEGNSG970Y Fault find and repair hydrogen storage equipment

## 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 fault find and repair equipment in hydrogen storage facility in accordance with industry standards and regulatory requirements.

It includes preparing to find and repair faults, completing and reporting on repair activities and communicating with the appropriate person/s.

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.

#### **1 Prepare to find and repair hydrogen storage equipment fault**

### 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) requirements and workplace procedures for relevant work area are identified, obtained and applied

- 1.2** Instructions for the work are obtained and confirmed with relevant person/s in accordance with workplace procedures and manufacturer instructions
  - 1.3** Nature of the fault is obtained from documentation and/or from relevant person/s to determine scope of work
  - 1.4** Relevant work permit/authorisations is obtained and confirmed with relevant person/s in accordance with job requirements and workplace procedures
  - 1.5** Location and access to equipment is organised and confirmed
  - 1.6** Appropriate equipment, tools, materials and personal protective equipment (PPE) required for the job are identified, obtained and checked for correct operation and safety in accordance with workplace procedures
  - 1.7** Site is prepared to minimise risk and damage to property, commerce and individuals in accordance with the job requirements and workplace procedures
  - 1.8** Appropriate person/s are communicated with and consulted to ensure work activity is coordinated effectively with person/s involved
- 2 Find and repair hydrogen storage equipment fault**
  - 2.1** WHS/OHS risk control measures and policies and procedures are followed in accordance with workplace procedures
  - 2.2** Components are isolated, depressurised, purged, decommissioned, as necessary, in accordance with requirements and workplace procedures
  - 2.3** Service, fault finding, replacement or repairs of components are undertaken correctly and safely in accordance with level of responsibility, manufacturer instructions and workplace procedures
  - 2.4** Components are recommissioned, repressurised, purged as necessary, in accordance with requirements and workplace procedures
  - 2.5** Non-routine/unplanned events are referred to authorised person/s for directions in accordance with workplace procedures

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|   | <b>2.6</b> | Quality and safety checks of the work are conducted in accordance with job requirements, workplace procedures and community and industry standards  |
| <b>3 Complete work and relevant documentation</b> | <b>3.1</b> | Work undertaken is checked for conformance and anomalies and proposed solutions reported to relevant person/s in accordance with workplace procedures   |
|   | <b>3.2</b> | Relevant records, reports and documentation are completed, processed and provided to appropriate person/s in accordance with workplace procedures   |
|   | <b>3.3</b> | Tools, equipment, components and any surplus resources/materials are cleaned, checked and securely stored and disposed of and returned, if necessary, in accordance with workplace procedures and manufacturer's instructions |
|   | <b>3.4</b> | Work site is rehabilitated/cleaned up and confirmed safe and secure in accordance with workplace procedures   |
|   | <b>3.5</b> | Notification of completion of work and tasks is communicated to relevant stakeholders 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.

## Unit Mapping Information

This is a new unit.

## Links

Companion Volume Implementation Guides are found in VETNet - LINK POPULATED ON PUBLICATION

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# Assessment Requirements for UEGNSG970Y Fault find and repair hydrogen storage equipment

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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 fault finding and repair techniques
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
  - applying emergency response procedures
  - applying sustainable energy and environmental principles and practices
  - hazard identification and reporting
  - hydrogen specific electrical hazard control measures and earth protection
  - implementing risk control measures
  - selecting and using correct personal protective equipment (PPE)
  - working safely with hazardous materials and equipment
- calibrating instruments used in performing tests and checks
- communicating with relevant stakeholders, including:
  - authorised persons
  - authorities
  - qualified persons for the type of repair
- completing relevant reports and documentation
- dealing with unplanned events
- following workplace procedures, including:
  - decommissioning and recommissioning procedures
  - emergency shutdown procedures
  - standard operating procedures
- interpreting relevant drawings, plans and material lists
- isolating systems
- obtaining and complying with relevant work permits

- performing tests and checks, including:
  - corrosion inspections
  - electrical checks
  - filter checks, including differential pressure
  - gas leak test
  - meter checks
  - pressure and temperature checks
  - status and condition checks on ancillary equipment
  - visual inspections of relief vents
- recording relevant information
- shutting down operations and equipment
- using relevant equipment, including:
  - electronic gas detection
  - hand tools
  - measuring equipment
  - personal protective equipment (PPE)
- working safely in a hydrogen environment.

## 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
- correct use of plant and equipment in a hydrogen environment, including:
  - how to select appropriate equipment for tasks associated with hydrogen
  - manufacturer specifications to make adjustments to parts where appropriate
  - measuring equipment
  - operating alarm and communication equipment
  - operating hydrogen analysis equipment
  - storage equipment, fitting, piping, and controls
  - test equipment and its uses
- gas industry drawings, plans and material lists
- hydrogen physical and chemical characteristics
- hydrogen storage container pressure and capacity recommendations and limitations
- permit to work systems in a hydrogen environment
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant stakeholders, including:
  - authorised persons

- authorities
- producers and users
- qualified persons for the type of repair
- relevant WHS/OHS legislated requirements, including:
  - applicable emergency equipment and procedures
  - hazards, risk assessment and control measures
  - environmental and sustainable energy principles and practices, including:
    - blue hydrogen
    - brown hydrogen
    - green hydrogen
    - grey hydrogen
- relevant workplace documentation
- relevant workplace policies and procedures, including:
  - decommissioning and recommissioning procedures
  - emergency shutdown procedures
  - standard operating procedures
- techniques for fault finding and repairing equipment in a hydrogen storage facility
- technical drawings for the hydrogen environment.

## 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 other 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]

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