



Australian Government

TLIX0024 Install, modify and commission fuel storage and dispensing systems

Release: 1

TLIX0024 Install, modify and commission fuel storage and dispensing systems

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit relates to the installation, modification and commissioning of fuel storage and dispensing systems, and completion of all required documentation and reporting.

The unit covers above-ground and below-ground fuel storage tanks and applies to work at sites which store and dispense diesel and motor spirit (petrol), including ethanol blends.

This unit excludes tank lining and systems used for aviation fuel; and bulk fuel systems on military bases, major hazard facilities and bulk transfer terminals.

This unit is appropriate for supervisory personnel involved in the installation, modification and commissioning of fuel storage and handling systems.

Licensing, legislative or certification requirements that apply to this unit may vary between jurisdictions and should be checked prior to commencing the unit.

Pre-requisite Unit

Not applicable

Competency Field

Not applicable

Unit Sector

Not applicable

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

1 Plan to install, modify and commission fuel storage and dispensing systems

- 1.1** Fuel system design, drawings and specifications are read and interpreted
- 1.2** Site conditions are determined, evaluated and accommodated in work plan
- 1.3** Existing site services are identified and accommodated in work plan
- 1.4** Tools, equipment and personnel required to complete work are determined
- 1.5** Authorisations, licences or permits required for work are identified and obtained by relevant personnel
- 1.6** Workplace documentation, site-specific requirements, industry standards and regulatory requirements are accessed and interpreted
- 1.7** Workplan is developed to ensure work is completed in correct sequence and in compliance with requirements
- 1.8** Safe work method statements (SWMS) are developed
- 1.9** Tools, equipment and personal protective equipment (PPE) required for work plan are identified and arranged
- 1.10** Human resource requirements are identified, and competency checked against requirements

2 Prepare to install, modify and commission fuel storage and dispensing systems

- 2.1** Site inductions are completed in accordance with workplace requirements
- 2.2** Risk assessments are completed, and controls and monitoring processes implement
- 2.3** Site personnel are briefed, and understanding of Emergency Response Plan (ERP), hazards, protection of existing site services, site works and operational requirements confirmed
- 2.4** Site signage, isolation and lock-out/tag-out requirements are implemented
- 2.5** Materials, tools and equipment required are obtained and checked against requirements for correct operation and

	safety
	2.6 Work is coordinated effectively with others on the worksite
	2.7 SWMS for all work are reviewed with all site personnel and applied
3 Install fuel storage and dispensing systems	3.1 Site is prepared in accordance with design, drawings and specifications, and existing site services are protected
	3.2 Excavations are completed by appropriately skilled personnel in accordance with project specifications and site conditions
	3.3 Tank is positioned and secured/backfilled in accordance with design, drawings and manufacturer requirements and specifications
	3.4 Environmental secondary containment is installed in compliance with requirements
	3.5 Pipework is installed in accordance with design, drawings and manufacturer requirements and specifications
	3.6 Integrity testing pre-bury is arranged and any faults rectified in accordance with the requirements of Australian Standards
	3.7 Backfilling and paving are completed, post-bury integrity testing arranged and any faults rectified in accordance with the requirements of Australian Standards
	3.8 Dispensing gear is installed in accordance with design, drawings and manufacturer requirements and specifications
	3.9 Fuel is circulated independent of site point of sale (POS) controls and correct grade/type confirmed
4 Modify fuel storage and dispensing infrastructure	4.1 Modification of work plan is interpreted and applied including protection of existing site services
	4.2 Modifications are completed in accordance with design, specification and manufacturer instructions
	4.3 Testing is conducted to ensure modifications meet industry standards and regulatory requirements

- | | | |
|---|------------|---|
| | 4.4 | Additional work is undertaken as required in response to test results |
| 5 Commission fuel storage and dispensing systems | 5.1 | Pre-commissioning activities are completed in accordance with workplan and manufacturer requirements and specifications |
| | 5.2 | Commissioning workplan is completed in accordance with work plan and specification |
| | 5.3 | Problems or non-conformance are identified, recorded, rectified and reported |
| | 5.4 | Trials and tests of fuel storage systems are conducted |
| | 5.5 | Fuel system is bought online including operation of the dispensing equipment via the POS |
| | 5.6 | Required adjustments are made and recorded |
| | 5.7 | Testing is conducted in accordance with industry standards and regulatory requirements |
| 6 Complete work and reporting | 6.1 | Work completion is undertaken in accordance with workplan, SWMS and specifications |
| | 6.2 | Site housekeeping is completed |
| | 6.3 | Performance is recorded and reported |
| | 6.4 | Compliance documentation and reporting is completed |
| | 6.5 | Site handover to relevant person/s is completed in accordance with workplace procedures |
| | 6.6 | Authorities are advised of work completion in accordance with regulatory requirements |

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 TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

This unit must be demonstrated related to work at a site:

- with either above-ground or below-ground fuel storage tanks
- which stores and dispenses diesel and motor spirit (petrol), including ethanol blends.

This unit excludes:

- tank lining
- systems used for aviation fuel
- bulk fuel systems on military bases
- major hazard facilities
- bulk transfer terminals.

Unit Mapping Information

This is a new unit. No equivalent unit.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIX0024 Install, modify and commission fuel storage and dispensing systems

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics 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:

- planning and coordinating work on a site that has variable hazardous areas
- managing work involving multiple specialist contractors
- identifying and protecting any existing site services
- communicating with relevant person/s to obtain and confirm work requirements
- reviewing and applying safe work method statements (SWMS) for all work
- working with relevant engineering consultants to develop/confirm proposed excavation plan and required structural support
- following tank manufacturer's procedures/requirements for tank receipt and installation
- following fuel piping manufacturer's procedures/requirements for pipe receipt and installation
- following fuel system electrical conduit manufacturer's procedures/requirements for receipt, installation and backfilling
- engaging independent third-party specialist contractor for equipment integrity test (EIT) works
- following fuel dispensing and pumping equipment manufacturer's procedures/requirements for receipt and installation
- conducting trials and tests of:
 - the fuel storage and delivery system
 - the fuel delivery system into the storage tanks
 - automatic tank gauge (ATG)
 - leak detection system
 - stage 1 and 2 vapour recovery systems, as required, for petrol fuel systems
 - EIT of fuel system required pre-bury and after backfilling and any paving works have been completed
 - electrical continuity, earthing and equipotential bonding
 - cathodic protection for steel tanks
- coordinating work activities with others
- monitoring work and adapting as required

- completing workplace documentation and reporting.

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:

- organisational communication protocols
- relevant permit types
- classification of hazardous zones
- hazardous area electrical work
- safety requirements and emergency procedures
- site-specific hazardous areas/zones and determining minimum distances
- requirements for:
 - working in different weather conditions
 - working in confined spaces
 - working at heights
 - traffic management
 - lock-out/tag-out procedures
 - isolations
 - site signage
 - atmosphere testing
 - spill management
 - 'in-date' inspection tags
 - dealing with local emergency services
 - tool and equipment checks
 - approved contractor certification/licencing
- process for determining excavation depth for different systems
- engineering input required for excavations greater than 1.0 m (tank installation)
- manufacturer's current approved contractor requirements for the installation of:
 - fuel tanks
 - fuel piping
 - fuel system electrical conduit system
 - fuel system dispensing and pumping equipment
 - cathodic protection and leak monitoring equipment
 - diesel exhaust fluid (DEF) storage and dispensing systems
- purpose of EIT before fuel system components are buried, after all backfilling and paving works are completed but before commissioning the fuel system and the need for integrity monitoring while backfilling and paving proceeds
- job safety analysis (JSA), safe work procedures (SWP) and SWMS
- implications of changes to site conditions and work activity during fuel delivery on a site

- spill management
- different types of fuels and their associated hazards
- different materials and equipment required for the work and their associated hazards in a fuel storage and dispensing environment
- work health and safety (WHS)/occupational health and safety (OHS) requirements for potential lead contaminated materials and equipment
- compliance requirements for main components of fuel systems, including:
 - tank types
 - gauges
 - pumps
 - fuel dispensers (to customers)
 - pipes
 - filters
 - vapour recovery systems; stage 1 and stage 2, as applicable
 - primary and secondary containment systems
 - surface water management
 - bunding
 - product labelling
 - safety signage
- safe techniques for concrete paving cutting, breaking and removal over fuel tanks/pipes and reinstatement to accommodate maximum axle load vehicles
- fuel testing and sampling techniques
- spill management
- tank inspection techniques
- solid and liquid waste certificates
- Environment Protection Authority (EPA) reporting requirements
- local Development Approval (DA) reporting
- Australian Standards related to certification and reporting for new and modified fuel systems
- solid and liquid waste certificates
- underground petroleum storage systems (UPSS) ‘as-constructed’ documentation requirements
- certification of reporting to local EPA regulations
- certification of reporting to local DA conditions
- jurisdictional obligations of designer and installer plus documentation required
- jurisdictional EPA licenses for removal, transport and disposal of fill and/or potentially contaminated fill from site
- jurisdictional Service Station Licensing requirements.

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:

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

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>