



Australian Government

CPCPPS5001 Design industrial gas systems

Release: 1

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Modification History

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is equivalent to CPCPPS5001B Design industrial gas systems. Updated to meet the Standards for Training Packages 2012.

Application

This unit specifies the skills and knowledge required to design industrial gas fuel systems including the design of valve trains, interlocks, pipework and equipment in compliance with regulatory requirements.

The unit covers determining installation requirements, preparing plans and system specifications, producing testing and commissioning schedules and creating operation and maintenance manuals.

The role may involve interaction with architects, builders, suppliers, clients and relevant planning authorities and requires a sound understanding of applicable legislation including work health and safety (WHS).

This unit is suitable for experienced tradespeople such as hydraulic design consultants or persons in a supervisory capacity in relation to gas and plumbing services.

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Pre-requisite Unit

Nil.

Unit Sector

Plumbing and Fire Services

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

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| 1 Evaluate design parameters. | 1.1 Establish scope of work for industrial gas systems. |
| | 1.2 Establish system performance requirements. |

- 1.3 Determine design requirements from plans, specifications and client brief.
 - 1.4 Review and analyse statutory and regulatory requirements and Australian and New Zealand Standards for the design of industrial gas systems.
 - 1.5 Conduct research including a desktop study to identify a range of system options.
 - 1.6 Interpret manufacturer requirements and trade and technical manuals for industrial gas systems.
 - 1.7 Determine factors that contribute to quality, safety and time efficiency.
 - 1.8 Conduct a cost-benefit analysis to compare a range materials and system designs.
- 2 Plan and design system components.
 - 2.1 Plan layout of pipework systems including type and location of fittings and valves.
 - 2.2 Plan and specify valve trains for a range of industrial gas installations.
 - 2.3 Plan and detail interlocks and accessories and analyse, select and locate components.
 - 2.4 Select methods of protection from combustion air systems, harsh environments, heat and vibration.
 - 2.5 Specify and design air systems, burner systems and controls, appliances and closed loop systems.
 - 2.6 Detail remote filling systems and pipework and design.
 - 2.7 Perform system calculations for a range of industrial gas installations.
 - 2.8 Specify approved materials, jointing methods, pipe fixings and installation requirements.
 - 2.9 Design and size industrial gas systems for a range of applications.
- 3 Prepare
 - 3.1 Prepare system plans.

documentation.

- 3.2 Prepare system specifications.
- 3.3 Prepare system testing and commissioning schedule.
- 3.4 Produce operation and maintenance manual including information on how to correctly and safely maintain the system.

Foundation Skills

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

Unit Mapping Information

Supersedes and is equivalent to CPCPPS5001B Design industrial gas systems.

Links

Companion volumes to this training package are available at the VETNet website -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>