Title	Demonstrate knowledge of unfired pressure equipment used in the energy and chemical industry and plant		
Level	3	Credits	5

Purpose	This unit standard is intended for people working as boiler operators and energy and chemical process operators in an energy and chemical plant. People credited with this unit standard are able to demonstrate knowledge of: unfired pressure equipment used in the energy and chemical industry and plant.

Classification	Energy and Chemical Plant > Operation of Energy and Chemical Plant

Available grade	Achieved

Guidance Information

1 Legislation relevant to this unit standard include but is not limited to:
- Health and Safety at Work Act 2015;
- Hazardous Substances and New Organisms Act 1996;
- Resource Management Act 1991;
  and any subsequent amendments.

2 Definitions
Energy and chemical plant may be in – petrochemical, agri-nutrient, power generation, dairy processing, meat processing, and wood fibre manufacturing, or other plants that operate with a combination of high temperatures, pressures, steam and/or chemicals in gas, liquid or solid form.
Organisational requirements – documented policies and procedures. These may include: equipment manufacturers' procedures; plant procedures; suppliers' instructions; site signage; codes of practice; company health and safety plans; on site briefings; and supervisor's instructions. This includes all regulatory and legislative obligations that apply to the plant.
Plant – the operational unit, equipment and/or workplace at which the person is working.
Unfired pressure equipment – equipment that is operated under pressure but is not directly fired.

3 For the purposes of assessment:
- evidence for the practical components of this unit standard must be supplied from the workplace.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of unfired pressure equipment used in the energy and chemical industry.

Performance criteria

1.1 Identify and describe types of unfired pressure equipment in terms of their use.

Range evidence of four types is required.

1.2 Describe the use of carbon steel and alloy steel in the construction of unfired pressure vessels in terms of its purpose.

1.3 Describe internal features of unfired pressure vessels in terms of their purpose.

Range internal features include but are not limited to – impingement plates, deflectors, standpipes, boots, trays, packing, demister pads, weirs, distributors.

1.4 Describe external features of unfired pressure vessels in terms of their purpose.

Range external features include but are not limited to – gauge glass, safety valves, compensation plates, instrumentation, vents, drains.

Outcome 2

Demonstrate knowledge of unfired pressure equipment used in an energy and chemical plant.

Range evidence of three types of equipment is required.

Performance criteria

2.1 Identify and describe unfired pressure equipment used at a plant in terms of their types and in accordance with organisational requirements.

2.2 Identify and describe types of unfired pressure equipment in terms of the plant identification coding system and their purpose and in accordance with organisational requirements.

2.3 Describe the components of the unfired pressure equipment in terms of the process flows and normal operating parameters of the equipment and in accordance with organisational requirements.

Replacement information	This unit standard was replaced by skill standard 40382.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	24 October 2014	31 December 2022
Review	2	27 February 2020	31 December 2026
Review	3	27 March 2025	31 December 2026

Consent and Moderation Requirements (CMR) reference	0079

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.