

Title	Describe and punch list, commission, and optimise new equipment in a system in an energy and chemical plant		
Level	4	Credits	7

Purpose	People credited with this unit standard are able to: describe and punch list new equipment in a system; commission a system with new equipment, and describe emergency procedures and contingency plans; and optimise new equipment in a system, in an energy and chemical plant.
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Classification	Energy and Chemical Plant > Safety and Legislation for Energy and Chemical Plant
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Available grade	Achieved
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Guidance Information

- Legislation relevant to this unit standard includes but is not limited to:
 - Health and Safety at Work Act 2015;
 - Health and Safety at Work (Hazardous Substances) Regulations 2017 (HSWA);
 - Resource Management Act 1991;
 - and any subsequent amendments.
- 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.

Punch listing – checking new or modified equipment and processes prior to commissioning.
- For the purposes of assessment:
 - evidence for the practical components of this unit standard must be supplied from the workplace.
 - evidence for all outcomes must be presented in accordance with organisational requirements.
 - evidence may be given of commissioning equipment that has been modified.

Outcomes and performance criteria

Outcome 1

Describe and punch list new equipment in a system in an energy and chemical plant.

Performance criteria

- 1.1 Describe punch listing in terms of the purpose and principles.
- 1.2 Identify the equipment to be punch listed in terms of the plant identification and numbering system.
- 1.3 Locate drawings against which the equipment is to be punch listed.
- 1.4 Punch list new equipment to be commissioned to identify any defects or omissions.
- 1.5 Record and report any equipment defects or omissions to relevant personnel.

Outcome 2

Commission a system with new equipment and describe emergency procedures and contingency plans in an energy and chemical plant.

Performance criteria

- 2.1 Locate documentation required for commissioning a system.

Range vendor manuals, training manuals, procedures, drawings, certification.
- 2.2 Describe emergency procedures and contingency plans associated with the commissioning.

Range emergency shutdown, trip tests, emergency response equipment, personnel responsibilities, audits.
- 2.3 Confirm the equipment status as ready for commissioning.
- 2.4 Carry out commissioning of equipment and system.
- 2.5 Monitor equipment operation during commissioning to identify problems.
- 2.6 Log and report any problems to identify remedial actions required.

Outcome 3

Optimise new equipment in a system in an energy and chemical plant.

Performance criteria

- 3.1 Identify plant operating parameters to determine the baseline.
- 3.2 Optimise the plant to maximise design specifications.
- 3.3 Trend and record trial actions to provide evidence of results.

Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	6 February 1997	31 December 2018
Revision	2	3 August 2000	31 December 2018
Review	3	24 January 2002	31 December 2018
Review	4	20 February 2009	31 December 2018
Rollover and Revision	5	20 April 2017	31 December 2022
Review	6	27 February 2020	N/A

Consent and Moderation Requirements (CMR) reference	0079
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact the Primary Industry Training Organisation standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.