Title	**Describe clean-in-place processes in a primary products food processing operation**		
Level	**3**	**Credits**	**5**

Purpose	People credited with this unit standard are able to describe: the principles of clean-in-place (CIP) systems; the monitoring and checking of CIP cleaning; and a CIP process used in the workplace, in a primary products food processing operation.

Classification	Primary Products Food Processing > Primary Products Food Processing - Core Skills

Available grade	Achieved

Guidance Information

1 Legislation and regulations relevant to this unit standard includes but is not limited to:
- Animal Products Act 1999;
- Health and Safety at Work Act 2015;
- Animal Products (Dairy) Regulations 2005;

and any subsequent amendments.

2 Definitions
Clean-in-place – systems where cleaning solutions are circulated through plant and pipework for cleaning and sanitising purposes.
Organisational requirements – instructions to staff on policies and procedures which are documented in memo, electronic or manual format and are available in the workplace. These requirements include but are not limited to – site specific requirements, company quality management requirements, hygiene, health and safety, regulatory and legislative requirements.
Primary products food processing operation – covers a meat processing, dairy processing, seafood or baking yeasts manufacturing operation.
Soil – the residue left behind on processing equipment at the end of production. Soil can be residues from the primary product process, and/or water residues.

Outcomes and performance criteria

Outcome 1

Describe the principles of clean-in-place (CIP) systems in a primary products food processing operation.

Performance criteria

1.1 Describe CIP systems in terms of types of use and recovery of cleaning chemicals and their typical applications.

Range types of use include but are not limited to – single use, re-use, single-use recovery.

1.2 Describe CIP methods in terms of types of recovery after cleaning and/or sanitising.

Range methods may include but are not limited to – decanting, filtration, separation, reuse;
evidence of two methods is required.

1.3 Describe basic soil composition in terms of types of residues.

1.4 Describe CIP sequences in terms of their purposes for removal of product and chemical residues.

Range sequences include but are not limited to – pre-rinsing, alkali and acid circulation, sanitising, post-rinsing.

1.5 Describe types of chemicals used in the CIP process in terms of factors that affect their efficiency.

Range factors may include but are not limited to – time, temperature, chemical strength, mechanical energy or flow rate;
evidence of two factors is required.

Outcome 2

Describe the monitoring and checking of CIP cleaning in a primary products food processing operation.

Performance criteria

2.1 Describe monitoring during CIP cleaning in terms of efficient and effective cleaning.

Range monitoring may include but is not limited to – programme sequencing, chemical solution strength, flow rate, temperature, leaks and spills, tank or silo swirl, return pumping, spray ball or nozzle blockage, air-locking;
evidence of two monitoring methods is required.

2.2 Describe checking of CIP cleaning and equipment in terms of effective plant cleaning and hygiene.

Range checking may include but is not limited to – visual checks, sediment pads, microbiological checks of plant surfaces and product, in-line filters;
evidence of two checks is required.

Outcome 3

Describe CIP process used in the workplace in a primary products food processing operation.

Performance criteria

3.1 Describe a CIP programme sequence in terms of organisational requirements.

Range programme sequence includes but is not limited to – pre-rinsing, cleaning, post-rinsing, sanitising.

3.2 Describe a CIP process in terms of organisational requirements.

Range process includes but is not limited to – set-up, cleaning programme selection, CIP monitoring checks, manual cleaning, post-cleaning visual inspection, microbiological control checks.

3.3 Describe the process for reuse management in terms of organisational requirements.

Range reuse management includes but is not limited to – chemical, water recovery.

3.4 Describe the process used to report CIP issues in terms of organisational requirements.

Range evidence of one process is required.

Replacement information	This unit standard replaced unit standard 4836.

Planned review date	31 December 2025

Last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 June 2015	31 December 2024
Review	2	25 March 2021	N/A
Revision	3	26 January 2023	N/A

Consent and Moderation Requirements (CMR) reference	0022

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

Comments on this unit standard

Please contact the Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.