

## Control and remove residual effluent solids from food or related product production waste plants

**Level** 2

**Credits** 5

**Purpose** This unit standard is for people who are currently working, or who intend to work, in jobs which involve the control and removal of effluent solids from food and related product production waste plants.

People credited with this unit standard are able to: use safe working practices; remove residual effluent solids from food or related product production waste plants; and control residual effluent solids and discharge from food or related product production waste plants.

**Subfield** Food and Related Products Processing

**Domain** Food and Related Product Production

**Status** Registered

**Status date** 19 March 2010

**Date version published** 19 March 2010

**Planned review date** 31 December 2015

**Entry information** Open.

**Accreditation** Evaluation of documentation by NZQA and industry.

**Standard setting body (SSB)** Competenz

**Accreditation and Moderation Action Plan (AMAP) reference** 0111

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

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### Special notes

- 1 Legislation relevant to this unit standard may include but is not limited to the: Health and Safety in Employment Act 1992; Health and Safety in Employment Regulations 1995; Resource Management Act 1991; Transport Act 1962; Land Transport Act 1998; Local Body Trade Waste Bylaws; and their associated regulations and subsequent amendments.
- 2 Definitions  
*Discharge* refers to liquid effluent which has had solids removed, and may be further treated to meet specifications.

*Effluent solids* refer to settleable, screenable or suspended fats, oils, vegetable matter, grit or sludge. They are defined as solids which are defined as unacceptable in effluent discharge. Acceptable effluent solids are detailed in the 'Trade Waste Consent', issued by the local body authority under the Resource Management Act. The definition of effluent solids in the Trade Waste Consent is in terms of type, concentration and/or particle size and/or settling rate and/or allowable food grade cleaning chemicals and/or biological oxygen demand.

*Organisational procedures* refer to documents that include worksite rules, codes, and practices; equipment operating instructions; production specifications; documented quality management systems; and health and safety requirements.

*Plants* refer to those used for solids removal using sedimentation, screening, dissolved air flotation, dispersed air flotation, oxidisation, or pH controlled.

*PPE* refers to personal protective equipment and may include but is not limited to protective clothing, gloves, safety glasses/headwear/footwear, hearing protection, safety devices.

*Related products* refer to beverages, household products, or personal care products.

### 3 Range

Competence is to be demonstrated on two occasions of controlling and removing residual effluent solids from food or related product production waste plants.

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## Elements and performance criteria

### Element 1

Use safe working practices.

#### Performance criteria

- 1.1 PPE is used in accordance with organisational procedures.
- 1.2 Work environment is clean and free from hazards in accordance with organisational procedures.  
  
Range hazards to – personnel, product, plant.
- 1.3 Documentation is referred to and/or completed in accordance with organisational procedures.

### Element 2

Remove residual effluent solids from food or related product production waste plants.

#### Performance criteria

- 2.1 Food or related product waste plant is checked to ensure configuration conforms to production and waste specifications in accordance with organisational procedures.  
  
Range configuration may include but is not limited to – screen size, auger speed, number of pumps, pump speed, steam supply, weir height, paddle control.

- 2.2 During use, volume of waste for treatment is checked to ensure it is sufficient for effective pump operation in accordance with organisational procedures.
- 2.3 During use, entry screens are checked to ensure they are free of solids, and permeable to liquid waste in accordance with organisational procedures.
- 2.4 Effluent solids are removed from waste in accordance with organisational procedures.
- 2.5 Storage container for effluent solids is checked to ensure it is in correct location in accordance with downstream specifications and organisational procedures.
- Range specifications – customer and/or disposal.
- 2.6 During use, correct number of screening system pumps are checked for operability for effluent type in accordance with organisational procedures.
- 2.7 During use, liquid waste is discharged, and discharge flow rate is checked to ensure it conforms to liquid waste discharge specifications in accordance with organisational procedures.
- Range flow rates – peak flow, actual flow.
- 2.8 Food or related product waste plants are monitored and effluent solids are removed in accordance with organisational procedures.

### **Element 3**

Control residual effluent solids and discharge from food or related product production waste plants.

#### **Performance criteria**

- 3.1 Effluent solids and discharge is controlled in accordance with organisational procedures.
- 3.2 During use, volume of effluent solids removed is checked to ensure it meets organisational guidelines for volume of waste treated.
- 3.3 Discharge effluent is checked to ensure it conforms to trade waste consent specifications in accordance with organisational procedures.
- 3.4 The correct specification of effluent solids for downstream usage is removed in accordance with organisational procedures.
- Range usage may include but is not limited to – recycling, stock food, sale to public.
- 3.5 Trade waste fees are checked and minimised in accordance with organisational procedures.

3.6 Any constraints to controlling effluent solids and discharge are identified, and reported and/or rectified in accordance with organisational procedures.

Range constraints may include but are not limited to – plant, services, solid-to-liquid ratio.

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**Please note**

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

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**Comments on this unit standard**

Please contact Competenz [qualifications@competenz.org.nz](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.