

<b>Title</b>	<b>Operate and monitor rendering equipment and associated processes</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>20</b>

<b>Purpose</b>	People credited with this unit standard are able to: start up a rendering operation; operate monitoring equipment and implement corrective procedures for process variations associated with a rendering operation; and shut down a rendering operation.
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<b>Classification</b>	Meat Processing > Meat Industry - Rendering
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Legislation relevant to this unit standard may include but is not limited to:
  - Health and Safety at Work Act 2015;
  - Animal Products Act 1999;
  - Resource Management Act 1991;
  - and any subsequent amendments.
- 2 Resource documents include but are not limited to – *Code of Practice: Rendering* (NZFSA, 2009), available from Ministry for Primary Industries at <https://www.mpi.govt.nz/dmsdocument/1366-rendering-code-of-practice>.
- 3 Consistent organisational production output targets apply to the performance of this activity. These may include but are not limited to – hourly output, shift output, daily output.
- 4 Definitions
 

*FFA levels* – free fatty acid levels.

*Manufacturer's specifications* – instructions from the manufacturer which outlines the specifications, parts, maintenance, service schedule, repair and running of specific equipment.

*Organisational requirements* – instructions to staff on policies and procedures that are documented in memo, electronic, or manual format and available in the workplace, and are consistent with manufacturer's requirements.
- 5 Range
 

Rendering operation may be either a low or high temperature rendering operation.

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## Outcomes and performance criteria

### Outcome 1

Start up a rendering operation.

#### Performance criteria

- 1.1 Receive, prepare, blend and load raw product into holding receptacles ready for size reduction and rendering in accordance with legislative and operational requirements.
- 1.2 Conduct preoperational safety checks and fit safety guarding to machinery before start-up in accordance with manufacturer's specifications and organisational requirements.  
  
Range lock out tags, bungs, lids, covers, safety guards, alarm sensors.
- 1.3 Prepare start-up operation in accordance with organisational requirements.  
  
Range may include but is not limited to – driers, blood processing and size reduction equipment, re-cycle tallow tanks, liquid phase tanks, separators, decanters, conveyors and render vessels; evidence of five is required.
- 1.4 Check metal detectors before start-up is commenced in accordance with organisational requirements.
- 1.5 Follow machine isolation procedures during start-up operations in accordance with legislation and organisational requirements.
- 1.6 Monitor control panel meters, gauges, and mimic lights during start-up and make adjustments to machine operations in accordance with manufacturer's specifications and organisational requirements.
- 1.7 Complete visual and auditory checks to ensure machines and processes are operational in accordance with organisational requirements.
- 1.8 Switch automatic systems, where used, from manual to automatic when machinery is fully operational and control panel readings reach specified levels in accordance with manufacturer's specifications and organisational requirements.
- 1.9 Identify and rectify any malfunctions that occur during start-up in accordance with manufacturer's specifications and organisational requirements.
- 1.10 Separate all stages in the handling, storage, and processing of edible and inedible rendered products.

## Outcome 2

Operate monitoring equipment and implement corrective procedures for process variations associated with a rendering operation.

### Performance criteria

- 2.1 Monitor control panel during rendering operations in accordance with manufacturer's specifications and organisational requirements.
- Range monitoring includes but is not limited to – fault lights, temperature gauges, pH readings, amp meter readings, flow rates.
- 2.2 Take and record control panel readings in accordance with organisational requirements.
- 2.3 Adjust operations to keep the rendering process within tolerance levels.
- Range may include but not limited to – temperatures, pH readings, amp meter readings, particle size, FFA levels and flow rates; evidence of four is required.
- 2.4 Take, test and record product sample levels in accordance with legislative and organisational requirements.
- 2.5 Complete visual and auditory checks to ensure machines, processes, and products are in accordance with organisational requirements.
- 2.6 Identify, rectify and record any malfunctions during operations in accordance with organisational requirements.
- 2.7 Handle spills and rejected products and blockages to process operations in accordance with organisational requirements.
- 2.8 Dispose of effluent from rendering operations within tolerance levels in accordance with legislative and organisational requirements.
- 2.9 Monitor non condensed emissions and vapours levels in accordance with legislative and organisational requirements.

## Outcome 3

Shut down a rendering operation.

### Performance criteria

- 3.1 Switch automatic systems, where used, to manual operation in accordance with manufacturer's specifications and organisational requirements.
- 3.2 Shut down sections of rendering systems as product throughput is completed in accordance with organisational requirements.

- 3.3 Turn off the electrical switches, valves, and taps in sequence in accordance with organisational requirements.
- 3.4 Blow and clean tallow lines before system shut down in accordance with organisational requirements.
- 3.5 Maintain power, steam, and water supplies for system maintenance and clean-in-place operations in accordance with manufacturer's specifications and organisational requirements.
- 3.6 Carry out isolation and lock out procedures for hygienic cleaning and servicing in accordance with organisational requirements.

<b>Replacement information</b>	This unit standard replaced unit standard 3108 and unit standard 3109.
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<b>Planned review date</b>	31 December 2024
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	24 October 2019	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0033
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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](mailto:standards@primaryito.ac.nz) if you wish to suggest changes to the content of this unit standard.