



Australian Government

AMPREN302 Operate and monitor a continuous dry rendering process

Release: 1

AMPREN302 Operate and monitor a continuous dry rendering process

Modification History

Release	Comments
Release 1	This version released with AMP Australian Meat Processing Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to operate and monitor a continuous dry rendering process including loading raw material, operation, monitoring and shut down.

This unit applies to individuals who work under broad direction in an industrial meat rendering plant and who are responsible for operating and monitoring a continuous dry rendering process. They provide and communicate solutions to a range of predictable problems.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety, environmental and meat rendering regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Rendering (REN)

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Prepare to feed cooker	1.1 Confirm product specifications and set cooker parameters 1.2 Identify hazards, assess and control risks according to workplace

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	health and safety procedures 1.3 Identify food safety hazards, assess and control risks according to Hazard Analysis and Critical Control Point principles 1.4 Select and fit personal protective equipment and contamination control clothing 1.5 Undertake preoperational checks of machinery and equipment according to workplace procedures and/or manufacturer requirements 1.6 Clean and sanitise tools and equipment according to contamination control 1.7 Load raw materials into cooker according to safety and contamination control requirements
2. Operate and monitor cooker	2.1 Start up cooker according to workplace procedures 2.2 Monitor flow into cooker and check levels 2.3 Adjust temperature according to product requirements 2.4 Monitor and adjust outflow according to workplace requirements 2.5 Separate solid material from tallow according to workplace procedures 2.6 Operate meat meal size reduction equipment according to manufacturer instructions 2.7 Take samples and test batch to ensure it is rendered to specification
3. Monitor environmental controls	3.1 Monitor vapours to ensure they are condensed according to regulatory requirements 3.2 Monitor non-condensed emissions to scrubber, bio-filter and/or after burner according to regulatory requirements 3.3 Monitor waste water discharge according to workplace procedures
4. Shut down continuous rendering process	4.1 Clean rendering equipment and report maintenance requirements 4.2 Identify the appropriate shutdown procedure 4.3 Shut the process down safely according to operating procedures 4.4 Identify and report maintenance requirements in line with workplace procedures 4.5 Maintain workplace records in appropriate format

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	- Interpret operating manuals for continuous dry rendering equipment - Interpret symbols and gauges
Writing	Complete records using industry terminology
Oral Communication	Use open and closed questions to clarify information
Numeracy	Estimate and measure volume (mls, L) , time (Hrs, mins), temperature (degrees Celsius) and pressure (psi)

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AMPREN302 Operate and monitor a continuous dry rendering process	AMPA3083 Operate continuous cooker	Unit merged with AMPA3084 Operate press New unit sector, code and title to better match work task Updated Elements and Performance Criteria Added Foundation Skills Revised Performance Evidence and Knowledge Evidence Clarified Assessment Conditions	Not equivalent
AMPREN302 Operate and monitor a continuous dry rendering process	AMPA3084 Operate press	Unit merged with AMP3083 Operate continuous cooker New unit sector, code and	Not equivalent

		title to better match work task	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5e2e56b7-698f-4822-84bb-25adbb8443a7>

Assessment Requirements for AMPREN302 Operate and monitor a continuous dry rendering process

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has operated and monitored a continuous dry rendering process on two separate occasions and has:

- identified at least three food safety hazards and controlled risk using Hazard Analysis and Critical Control Point (HACCP) principles
- identified at least three safety hazards, assessed and controlled risk using workplace health and safety procedures
- selected and correctly fitted appropriate personal protective equipment (PPE) required for worker safety and contamination control
- checked raw materials, including correct labels, temperature, condensate, particle size and colour
- loaded and unloaded cooker according to workplace procedures
- operated cooker and monitored temperature and made adjustments according to product specifications
- tested product samples to ensure materials are rendered to specifications
- monitored cooker including:
 - settings of variable speed drive screws
 - slow increase of temperature
 - cooker shaft amps
 - sight glass levels
 - surges in raw material feed
- monitored environmental emissions according to workplace and Environmental Protection Agency (EPA) requirements, including odour control and one of the following:
 - waste water
 - heat recovery
 - noise
- completed production records according to workplace requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic operating principles of a continuous dry rendering process
- key features of HACCP principles related to continuous dry rendering processes
- workplace health and safety requirements of continuous dry rendering process
- features, benefits, limitations, and correct fit of PPE for continuous dry rendering processes
- key features of quality assurance aspects of rendered product, including:
 - colour and density of rendered products
 - end-point temperature
 - correct level of moisture content
- quality requirements of finished products including:
 - tallow moisture, insolubles and Free Fatty Acids (FFA)
 - meat meal moisture, fat content, protein, microbiological and physical contamination
 - implications on product quality and productivity of incorrect load in cooker
- effects of incorrect start up, including:
 - over shot end point temperature
 - foaming
- AS5008 Hygienic Rendering of Animal Products
- Australian Renderers Association's Code of Practice for Hygienic Rendering of Animal Products
- state and territory EPA requirements for control of non-condensable gases
- implications on product quality and productivity of incorrect load in cooker
- production problems and out-of-specification product and take corrective action
- features and functions of continuous dry rendering machinery and equipment, including:
 - manufacturer and workplace instructions for safe operation
 - control panels and ancillary controls
 - operating capacities, efficiencies and applications
 - location and purpose of guards, rails and sensors
 - feedback instrumentation
 - services required, including compressed air, electricity and water
- workplace cleaning and maintenance requirements for continuous dry rendering machinery and equipment.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a meat rendering plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - industrial meat rendering machinery and equipment required for the tasks specified in the performance evidence
 - raw materials specified in the performance evidence
 - PPE and contamination control equipment clothing required for the tasks specified in the performance evidence
 - reporting and recording formats
- specifications:
 - two dry rendering work orders stipulated in the performance evidence
 - workplace procedures for a continuous dry rendering process and operation of machinery and equipment stipulated in the performance evidence
 - workplace procedures for worker safety and contamination control
- relationships:
 - supervisor and others stipulated in the performance evidence
- timeframes:
 - competency must be demonstrated at the normal rate of production for the rendering plant.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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