



Australian Government

Department of Education, Employment and Workplace Relations

FDFOP2050A Operate a separation process

Revision Number: 1

FDFOP2050A Operate a separation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a separation process.
------------------------	---

Application of the Unit

Application of the unit	<p>When applied to the dairy sector, this unit covers the skills and knowledge required to set up, operate, adjust and shut down a separation process to wash and concentrate fat and sediment from milk and dairy products.</p> <p>In other applications it is used to separate liquids using centrifugal separation methods.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the separation process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the separation process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The separation process is monitored to confirm that specifications are met</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted according to environmental standards</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the separation process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify separation processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, confirming that the correct bowl is fitted, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust separation process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - separation speed
 - solids in in-feed and out-feed streams (this is typically done by in-line refractometers, Baume tests and spin tests)
 - flow rates
 - time/temperatures
 - pressures
 - air/water/oil levels
 - condition of seals and valves
 - discharge/desludging
- monitor supply and flow of materials to and from the separation process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- shut down separation process equipment in response to emergency situation
- follow isolation and lock out/tag out procedures as required to take separation process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- clean and sanitise equipment
- demonstrate product/process changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the separation process, including stages and changes that occur during the separation process
- basic operating principles of equipment, including safety hazards associated with separation equipment and the implications of interchanging parts/incorrect bowl balance
- main equipment components, status and purpose of guards, equipment operating capacities and applications, the purpose and location of sensors and related feedback instrumentation, and services required for operation of separation equipment used in the workplace
- the flow of the separation process and the effect of product output on downstream processes
- impact of in-feed quality and concentration levels on the separation process
- quality characteristics and uses of separation process outputs
- methods used to monitor the separation process, such as inspecting, measuring and testing in-feed and out-feed solids, and other tests as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- common causes of variation and corrective action required, including how variation in temperature and solids affects the process
- spoilage and other food safety risks associated with separation, and related control measures
- operational health and safety (OHS) hazards and controls, including limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- cleaning and sanitation procedures
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance

REQUIRED SKILLS AND KNOWLEDGE

information

- environmental issues and controls relevant to the operation, including handling of effluent
- basic operating principles of process control where relevant, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for separation • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules, batch/recipe instructions • information on equipment capacity and operating parameters • production schedule and batch instructions • separation process and related equipment and services • specifications, control points and processing parameters • materials required for the separation process • sampling schedules and test procedures and equipment as required • routine preventative maintenance schedule as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Separation equipment used in the dairy industry	<p>Separation equipment used in the dairy industry typically includes:</p> <ul style="list-style-type: none"> • hermetic separators • semi-open (hermetic) separators <p>Variations to the semi-open separators include:</p> <ul style="list-style-type: none"> • soft stream inlet • cold milk separators • cream cheese or quarg separators

RANGE STATEMENT	
Separation equipment used in general foods, egg processing and bio-products	Separation equipment used in general foods, egg processing and bio-products typically includes: <ul style="list-style-type: none"> • fully enclosed • high speed • centrifugal separators
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services are appropriate to the process to be operated. Typical examples include: <ul style="list-style-type: none"> • power • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

