



Australian Government

Department of Education, Employment and Workplace Relations

FDFBV2003A Operate an ice manufacturing process

Revision Number: 1

FDFBV2003A Operate an ice manufacturing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, monitor, and adjust a process to manufacture ice.
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Application of the Unit

Application of the unit	This unit has application in a production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of an ice manufacturing process and equipment. This unit is appropriate where the process requires operator monitoring and adjustment. Where the process is highly or fully automated, this unit may not apply.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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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.
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Elements and Performance Criteria

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

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 ice production 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, checking refrigerant levels, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs 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 process equipment to achieve required outcomes, such as:
 - temperature range
 - ice thickness
 - cycle time
 - head pressures
- monitor ambient temperature and adjust the process as required
- 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
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- clean and sanitise equipment 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:

- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and

REQUIRED SKILLS AND KNOWLEDGE

- the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the stages in the ice making cycle (depending on process, this includes a make and defrost stage)
- water treatment prior to use
- operating requirements, 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
- adjustments required to take account of ambient temperature
- contamination/food safety risks and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- storage requirements for packed ice
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- 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
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
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.	
Overview of assessment	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.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: • conduct pre-start checks on machinery used for ice manufacture • 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 to work practices.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • process and related equipment and services • water to be used for ice manufacture • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	This unit should be assessed together with core units and

EVIDENCE GUIDE	
	other units of competency relevant to the function or work role. Examples could be: • FDFOP2003A Clean equipment in place • 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	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.

Range Statement

RANGE STATEMENT

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.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: - the Food Standards Code, including labelling, weights and measures legislation - legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: - standard operating procedures (SOPs) - specifications - production schedules and instructions - manufacturers' advice - standard forms and reports
Ice production	Ice production includes: - tube - block - plate - shell - flake ice Ice is bagged or filled into insulated bins
Equipment	Equipment may include: tube, plate and scraped surface heat exchangers
Related processes	Related processes may include:

RANGE STATEMENT	
	• water purification • crushing • pressing and/or bagging
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: • power • refrigerant • water • compressed and instrumentation air

Unit Sector(s)

Unit sector	Beverages
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		