Australian Government

Department of Education, Employment and Workplace Relations

FDFSUG309A Operate a sugar system

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

FDFSUG309A Operate a sugar system

Modification History

New Unit based on *SUGPOSS3A Operate a system (sugar).*

Unit Descriptor

This unit describes the outcomes required to prepare and operate an integrated group of sugar milling sub-systems or unit operations. Typical systems consist of at least three connected unit operations such as preparation, crushing and power generation.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

The person being assessed in this unit of competence must be competent in the relevant technical units that form the system.

Employability Skills Information

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
1 Prepare the system for operation	1.1 Supply of materials is confirmed to meet production requirements
	1.2 Work area is prepared for operation
	1.3 Services are confirmed as available and ready for operation
	1.4 Equipment is checked to confirm readiness for use
2 Operate and monitor the system	2.1 The system is started up according to company procedures
	2.2 Control points are monitored to confirm performance is maintained within specification
	2.3 System is operated to optimise performance for the current factory conditions
	2.4 Equipment is monitored to confirm operating condition
	2.5 System outputs meet specification
3 Handover the system	3.1 Workplace records are maintained in accordance with workplace procedures
	3.2 Handover is carried out according to workplace procedure
	3.3 System operators are aware of system and related equipment status at completion of handover
4 Shut down the system	4.1 The appropriate shut down procedure is identified
	4.2 Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures
	4.3 The system is shut down according to workplace procedures
	4.4 The system is prepared for storage in shut down mode
	4.5 Maintenance requirements are identified and addressed
5 Contribute to continuous improvement of the system	5.1 Opportunities for improvement are identified and investigated
	5.2 Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures

Required Skills and Knowledge

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

Required skills include:

Ability to:

- liaise with relevant work areas to confirm or secure necessary materials, services, equipment and labour to meet production requirements
- confirm that all equipment within the system meets operating standards, all safety guards are in place and equipment is ready for operation
- confirm that materials have been cleared for use
- monitor implementation of set-up and start-up procedures including monitoring the use of check sheets by others
- monitor observance of work procedures and systems
- monitor materials flow and work-in-progress through the system
- confirm that the system operates within specified parameters and control points are monitored
- determine responses to out-of-specification results or non-conformance within level of responsibility
- coordinate batch/product changeovers
- communicate information effectively
- plan maintenance and cleaning procedures to minimise disruption
- monitor operating efficiencies of the system and investigate, resolve and/or report problems
- review and maintain procedures to support system improvements

Required knowledge includes:

Knowledge of:

- purpose and principles of the system including optimisation
- equipment purpose and operation including an understanding of process control systems where used
- technical knowledge of product characteristics and processing requirements for varying inputs.
- codes and legislation relating to product and packaging requirements
- equipment calibration schedule and responsibilities
- type and purpose of sampling and testing conducted
- related work areas and departments
- relevant procedures, specifications and operating parameters for the system and the individual units
- relevant systems and legislative responsibilities in areas such as human resources, quality, occupational health and safety and environmental management
- industrial awards and agreements relating to system operation
- hazards, risks, controls and methods for monitoring processes within the system
- maintenance and cleaning requirements of equipment in system

- process improvement procedures and related consultative arrangements
- troubleshooting procedures and problem solving techniques
- recording requirements and procedures

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.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: • liaise with relevant work areas • confirm that all equipment within the system meets operating standards • monitor implementation of set-up and start-up procedures • monitor observance of work procedures and systems • monitor materials flow and work-in-progress through the system • confirm that the system operates within specified parameters and control points are monitored • determine responses to out-of-specification results or non-conformance within level of responsibility • coordinate batch/product changeovers • plan maintenance and cleaning procedures to minimise disruption • monitor operating efficiencies of the system • review and maintain procedures to support system improvements
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: • Operating procedures and related advice on equipment operation including advice on safe work practices and environmental requirements • Personal protective clothing and equipment • Company policies and workplace systems including human resources, OHS, quality, food safety and environmental management • Product and process specifications and operating parameters • System processes and related equipment • Materials and services as required • Related work areas and communication system • Planning, resources management and training

	arrangements • Troubleshooting advice where available • Material Safety Data Sheets where appropriate • Housekeeping standards and procedures • Advice on environmental management issues relevant to work responsibilities • Workplace information recording systems, requirements and procedures
Method of assessment	Other units of competency relevant to the work role should be assessed in conjunction with this unit.
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.

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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 in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Sugar system operations	System operation involves: • planning • coordination • troubleshooting and • optimisation within the operator's level of authority.
Unit operations	Unit operations include: • cane receivals • weighing and feeding • preparation • crushing • boilers • ash system • power generation • waste water treatment • water and air services • juice circuit • clarification • mud filters • evaporators • high and low grade pans • crystallisers • sugar driers and storage • high and low grade fugals.
Control points	Control points refer to those key points in a work process which must be monitored and controlled. This includes: • safety, quality and regulatory control points and

	• inspection points.
System equipment	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Workplace systems	Workplace systems are in place to support production processes. These include: • occupational health and safety • product quality • factory throughput • recovery • maintenance and • environmental management.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling