



Australian Government

Department of Education, Employment and Workplace Relations

FDFSUG213A Operate a pans station

Release: 1

FDFSUG213A Operate a pans station

Modification History

New Unit based on *SUGPOPS2A Operate a pans station*.

Unit Descriptor

This unit describes the outcomes required to operate the panning process from the liquor and A/B molasses tanks to the high-grade fugal distributor and low grade pan receiver.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

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 pans station for operation	1.1 Liquor and molasses are available to meet production requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The pans station is set up to meet production requirements
2 Operate and monitor pans station	2.1 The pans station is started up and operated according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 C sugar and C molasses meet specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification process and equipment performance is identified, rectified and/or reported 2.6 The workplace meets housekeeping standards
3 Handover the pans station	3.1 Workplace records are maintained in accordance with workplace procedures 3.2 Handover is carried out according to workplace procedure 3.3 Pans station operators are aware of system and related equipment status at completion of handover
4 Shut down the pans station	4.1 The appropriate shut down procedure is identified 4.2 The pans station is shut down according to workplace procedures 4.3 The pans station is prepared for storage in shut down mode 4.4 Maintenance requirements are identified and reported

Required Skills and Knowledge

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

Required skills include:

Ability to:

- access workplace information to identify production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm equipment status and condition
- start up and operate in both automatic and manual modes
- undertake visual inspection and conduct tests to monitor characteristics such as:
 - stirrer load
 - pan vacuum
 - sugar crystal size and distribution
 - pan station product purities
 - pan station stock levels including receiver stocks
 - high grade fugal times including spin and wash times
 - steam pressure
 - boiling formula
 - pan circulation
 - supersaturation
 - equipment condition
- control station throughput and A B balance to meet factory throughput through pan scheduling
- prepare magma and grain for high/low grade seed production
- shut down and clean pans according to schedule or as indicated by equipment monitoring
- prepare slurry for seed production
- add process additives as required by pan performance
- take corrective action in response to out-of-specification results
- report and/or record corrective action as required
- record workplace information
- demonstrate shift handover procedure
- shut down equipment in response to an emergency situation
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose and basic principles of pans station operation including the basic principles of crystallisation and may relate to operation of batch and continuous pans as required in the workplace

- terminology relating to sugar and molasses quality
- sugar industry quality standards for each brand of sugar
- the circuit flow of this process and relationship to related processes
- factors that affect throughput and recovery including the relationship between sugar pol and throughput; the balance between A, B and C pans and the effect of cane quality and boiling formula
- factors that affect flow of massecuite through the system
- the effect of massecuite quality on fugal operation
- relationship between boiling point and pressure in the pans station
- equipment purpose and basic operating principles of pans station equipment including vacuum pumps and condensers
- operating requirements and parameters
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- shut down sequence including massecuite pumps and stock management
- OHS hazards and controls
- purpose and limitations of protective clothing and equipment
- lock out and tag out procedures
- procedures and responsibility for reporting problems
- requirements of both operational and long term shut down conditions to ensure the equipment is left in a safe state for the period of the shutdown and to minimise any delays in future start up
- environmental issues and controls
- waste handling requirements and procedures
- 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: • confirm equipment status and condition • start up and operate in both automatic and manual modes • monitor the process and equipment operation • control station throughput and A B balance to meet factory throughput through pan scheduling • prepare magma and grain for high/low grade seed production • shut down and clean pans according to schedule or as indicated by equipment monitoring • prepare slurry for seed production • add process additives as required by pan performance.
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 • Product and process specifications and operating parameters • Pans station equipment • Materials including molasses and liquor, and services as required • 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. They may also require • cleaning procedures, sampling schedule and procedures and maintenance procedures and tools

	depending on the work requirements.
Method of assessment	Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include: • SUG202A Collect and prepare samples • SUG213A Perform standard tests on cane samples • FDFOP2030A Operate a process control interface.
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

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, manufacturer's recommendations, 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.
Workplace information	Workplace information can include: • Standard Operating Procedures (SOPs) • specifications • production schedules • manufacturer's specifications.
Pans equipment	Pans equipment may include • pans (batch and/or continuous) • molasses pipes • tanks and pumps • massecuite pump • water and steam system • receivers • vacuum pumps • remelt systems.
Equipment status	Confirming equipment status involves • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational. It may also involve checking operation/calibration of measuring instrumentation.
Equipment operation and monitoring	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Services	Services may include: • power

	• steam • water • compressed and instrumentation air.
Tests	Where tests are conducted as part of operation a typical requirement is observation by microscope and product density. Sugar industry quality standards are determined at state level.
Process monitoring	Monitoring the process may involve the use of production data such as performance control charts.
Control points	Control points refer to those key points in a work process which must be monitored and controlled.
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.