



Australian Government

Department of Education, Employment and Workplace Relations

SUGPOPS2A Operate a pans station

Revision Number: 1

SUGPOPS2A Operate a pans station

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This is a Specialist unit. It covers the skills and knowledge 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

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

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

Not applicable.

Evidence Guide

Evidence guide

The assessment process must address all of the following items of evidence.

Ability to:

1. Access workplace information to identify production requirements
2. Select, fit and use personal protective clothing and/or equipment
3. Confirm supply of necessary materials and services
4. Confirm equipment status and condition
5. Start up and operate in both automatic and manual modes
6. Monitor the process and equipment operation to maintain the process within the required parameters. This typically involves visual inspection and conducting 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
7. Control station throughput and A B balance to meet factory throughput through pan scheduling
8. Prepare magma and grain for high/low grade seed production
9. Shut down and clean pans according to schedule or as indicated by equipment monitoring
10. Prepare slurry for seed production
11. Add process additives as required by pan performance
12. Take corrective action in response to out-of-specification results
13. Report and/or record corrective action as required
14. Record workplace information
15. Demonstrate shift handover procedure
16. Shut down equipment in response to an emergency situation
17. Maintain work area to meet housekeeping standards

May include the ability to:

18. Use process control systems
19. Clean and sanitise equipment
20. Take samples and conduct tests

Knowledge of:

21. Purpose and basic principles of pans station operation. This includes the basic principles of crystallisation and may relate to operation of batch and continuous pans as required in the workplace
22. Terminology relating to sugar and molasses quality
23. Sugar industry quality standards for each brand of sugar

24. The circuit flow of this process and relationship to related processes
25. Factors that affect throughput and recovery. This includes the relationship between sugar pol and throughput; the balance between A B and C pans and the effect of cane quality and boiling formula
26. Factors that affect flow of massecuite through the system
27. The effect of massecuite quality on fugal operation
28. Relationship between boiling point and pressure in the pans station
29. Equipment purpose and basic operating principles of pans station equipment including vacuum pumps and condensers
30. Operating requirements and parameters
31. Services used
32. Significance and method of monitoring control points within the process
33. Common causes of variation and corrective action required
34. Shut down sequence including massecuite pumps and stock management
35. OHS hazards and controls
36. Purpose and limitations of protective clothing and equipment
37. Lock out and tag out procedures
38. Procedures and responsibility for reporting problems
39. 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
40. Environmental issues and controls
41. Waste handling requirements and procedures
42. Recording requirements and procedures

May include knowledge of:

43. Basic operating principles of process control where relevant. This includes the relationship between control panels and systems and the physical equipment
44. Cleaning and sanitation procedures
45. Sampling and testing procedures

Relationship with other standards

Pre-requisite units

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

Co-assessment of related units

Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:

- SUGPCPS2A Collect and prepare samples
- SUGPPST2A Conduct standard tests
- SUGZPCI2A Operate a process control interface

Resources required 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.

Assessment requirements

For information on how to assess this competency standard and who can assess, refer to the Assessment Guidelines for this Training Package.

Range Statement

Range statement

The range statement indicates the context for demonstrating competence. This statement is a guide and unless otherwise indicated, items may or may not apply as required by the work context.

- Work is carried out in accordance with company policies and procedures, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements. Codes of practice include the Sugar Milling Operations Industry Code of Practice
- Workplace information can include Standard Operating Procedures (SOPs), specifications, production schedules and manufacturer's specifications
- Pans equipment may include pans (batch and/or continuous), molasses pipes, tanks and pumps, massecuite pump, water and steam system, receivers, vacuum pumps and remelt systems
- Confirming equipment status involves conducting relevant pre-start checks, confirming that cleaning standards are met, all safety guards are in place and equipment is operational. It may also involve checking operation/calibration of measuring
- Operation and monitoring of equipment and processes typically requires the use of control panels and systems
- Services may include power, water, steam, compressed and instrumentation air
- 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
- Monitoring the process may involve the use of production data such as performance control charts
- Control points refer to those key points in a work process which must be monitored and controlled
- Work may require the ability to work within a team environment
- Information systems may be print or screen based
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Unit Sector(s)

Not applicable.