



Australian Government

Department of Education, Employment and Workplace Relations

SUGPHGF2A Operate a high grade fugal station

Revision Number: 1

SUGPHGF2A Operate a high grade fugal station

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This is a Specialist unit. It covers the skills and knowledge required to operate the high grade fugal process from the high-grade fugal distributor to the sugar bin and the A and B molasses storage tanks.

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 high grade fugal station for operation	<ul style="list-style-type: none">1.1 Masecuite is available to meet production requirements1.2 Services are confirmed as available and ready for operation1.3 Equipment is checked to confirm readiness for use1.4 The high grade fugal station is set up to meet production requirements
2. Operate and monitor high grade fugal station	<ul style="list-style-type: none">2.1 The high grade fugal station is started up and operated according to company procedures2.2 Control points are monitored to confirm performance is maintained within specification2.3 Output meets specification2.4 Equipment is monitored to confirm operating condition2.5 Out-of-specification process and equipment performance is identified, rectified and/or reported according to workplace reporting procedure2.6 The workplace meets housekeeping standards
3. Handover the high grade fugal station	<ul style="list-style-type: none">3.1 Workplace records are maintained in accordance with workplace procedures3.2 Handover is carried out according to workplace procedure3.3 High grade fugal station operators are aware of system and related equipment status at completion of handover
4. Shut down the high grade fugal station	<ul style="list-style-type: none">4.1 The appropriate shut down procedure is identified4.2 The high grade fugal station is shut down according to workplace procedures4.3 The high grade fugal station is prepared for storage in shut down mode4.4 Maintenance requirements are identified and reported according to workplace reporting procedure

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. Follow start up procedure
6. Start up and operate in both automatic and manual modes
7. Monitor the process and equipment operation to maintain the process within the required parameters. This typically involves visual inspections and conducting tests to monitor characteristics such as:
 - fugal load
 - sugar and molasses quality
 - crystal in A B molasses
 - A B molasses purity
 - A B molasses density
 - molasses stock level
 - sugar temperature, pol and moisture
 - fugal speed
 - atmospheric conditions
 - cycle times including spin and wash times
 - wash water temperature
 - basket charge
 - dry air and sugar flows
 - sugar dust levels
 - equipment condition including drip gate operation
8. Control station throughput and A B balance to meet pan stage throughput. Take corrective action in response to out-of-specification results
9. Shut down and clean fugals according to schedule or as indicated by equipment monitoring
10. Control drier airflows to achieve target sugar temperature and moisture
11. Report and/or record corrective action as required
12. Record workplace information
13. Demonstrate shift handover procedure
14. Shut down equipment in response to an emergency situation
15. Prepare equipment for cleaning/maintenance
16. Maintain work area to meet housekeeping standards

May include the ability to:

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

Knowledge of:

20. Purpose and basic principles of high grade fugal station operation. This includes sugar drying and operation of batch and continuous fugals as required in the workplace
21. Terminology relating to sugar and molasses quality
22. Sugar industry quality standards for each brand of sugar
23. The circuit flow of this process and relationship to related processes
24. Factors that affect throughput and recovery. This includes the relationship between sugar pol and throughput and the balance between A and B fugals
25. The effect of massecuite quality on fugal operation and the effect of variation in operating parameters on the fugal output
26. Equipment purpose and basic operating principles of high grade fugal equipment
27. Services used
28. Operating requirements and parameters
29. Significance and method of monitoring control points within the process
30. Common causes of variation and corrective action required
31. Hazards and controls
32. Purpose and limitations of protective clothing and equipment
33. Lock out and tag out procedures
34. Shut down sequence including massecuite feed pumps and reheaters
35. 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
36. Procedures and responsibility for reporting problems
37. Environmental issues and controls
38. Waste handling requirements and procedures
39. Recording requirements and procedures

May include knowledge of:

40. Basic operating principles of process control where relevant. This includes the relationship between control panels and systems and the physical equipment
41. Cleaning and sanitation procedures
42. 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
- High grade fugal station equipment

- Materials including massecuite 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 access to:

- 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
- High grade fugal equipment may include high grade fugals (batch and/or continuous), molasses pipes, tanks and pumps, massecuite feed pump, distributor, fugal water and steam system, sugar screw or belt, sugar conveyor system, drier and fans and air conditioners, sugar scrubber and sugar bin
- 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 instrumentation
- Operation and monitoring of equipment and processes typically requires the use of control panels and systems
- Services may include power, water, compressed and instrumentation air
- Where tests are conducted as part of operation a typical requirement is pol and moisture by near infra-red. Molasses density may also be required.
- 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.