



Australian Government

Department of Education, Employment and Workplace Relations

SUGPLGF2A Operate a low grade fugal station

Revision Number: 1

SUGPLGF2A Operate a low 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 low grade fugal process from the reheater to the magma pump and molasses cooler.

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 low grade fugal station for operation	<ul style="list-style-type: none">1.1 Masecuite is conditioned 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 low grade fugal station is set up to meet production requirements
2. Operate and monitor low grade fugal station	<ul style="list-style-type: none">2.1 The low 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 C sugar and C molasses meet 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 low 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 Low grade fugal station operators are aware of system and related equipment status at completion of handover
4. Shut down the low grade fugal station	<ul style="list-style-type: none">4.1 The appropriate shut down procedure is identified4.2 The low grade fugal station is shut down according to workplace procedures4.3 The low 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 monitoring:
 - fugal load
 - magma and molasses quality
 - crystal formation in C molasses
 - massecuite feed temperatures
 - equipment condition including screen condition and vibration
 - magma and molasses purity
 - molasses temperature and brix
 - magma tank stock level and remelt rates
8. Control station throughput to meet factory throughput
9. Take corrective action in response to out-of-specification results
10. Shut down and clean fugals according to schedule or as indicated by equipment monitoring
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. Demonstrate an operational shut down procedure
16. Prepare equipment for cleaning/maintenance
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
21. Perform pressure filter on C massecuite

Knowledge of:

22. Purpose and basic principles of low grade fugal operation. This includes C molasses cooling and storage and operating efficiencies for low grade fugals
23. Terminology such as brix and purity
24. The effect of C molasses dilution and temperature on C massecuite viscosity
25. The effect of C massecuite conditioning on low grade fugal performance
26. The circuit flow of this process and relationship to related processes
27. Factors that affect throughput and recovery. This includes the relationship between crystalliser throughput, magma stock and remelt rate

28. Equipment purpose and basic operating principles of low grade fugal equipment
29. Services used
30. Operating requirements and parameters
31. Significance and method of monitoring control points within the process
32. Common causes of variation and corrective action required
33. Hazards and controls
34. Purpose and limitations of protective clothing and equipment
35. Lock out and tag out procedures
36. 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
37. Procedures and responsibility for reporting problems
38. Environmental issues and controls
39. Waste handling requirements and procedures
40. Recording requirements and procedures

May include knowledge of:

41. Basic operating principles of process control where relevant. This includes the relationship between control panels and systems and the physical equipment
42. Cleaning and sanitation procedures
43. 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
- Low grade fugal station equipment
- Materials including masscuite 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
- Low grade fugal equipment may include low grade fugals, massecuite feed pump, distributor, fugal water and steam system, magma screw and pump, molasses pump and cooler, magma remelt system and molasses tank
- 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
- Services may include power, water, steam, compressed and instrumentation air
- Where tests are conducted as part of operation typical requirements are observation using a microscope and product density
- Monitoring the process may involve the use of production data such as performance control charts
- Operation and monitoring of equipment and processes typically requires the use of control panels and systems
- 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.