



Australian Government

Department of Education, Employment and Workplace Relations

SUGPMFP2A Operate a mud filtration process

Revision Number: 1

SUGPMFP2A Operate a mud filtration process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This is a Specialist unit. It covers the skills and knowledge required to operate the mud filtration process from the clarifiers to mud disposal.

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 mud filtration process for operation	<ul style="list-style-type: none">1.1 Mud is assessed and conditioned to meet filtration requirements1.2 Services are confirmed as available and ready for operation1.3 Equipment is checked to confirm readiness for use1.4 The mud filtration process is set to meet production requirements
2. Operate and monitor the mud filtration process	<ul style="list-style-type: none">2.1 The mud filtration process is started up and operated according to company procedures2.2 Control points are monitored to confirm performance is maintained within specification2.3 Mud meets specification for pol and moisture2.4 Equipment is monitored to confirm operating condition2.5 Out-of-specification mud, process and equipment performance is identified, rectified and/or reported according to workplace reporting procedure2.6 The workplace meets housekeeping standards
3. Handover the mud filtration process	<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 Mud filtration operators are aware of system and related equipment status at completion of handover
4. Shut down the mud filtration process	<ul style="list-style-type: none">4.1 The appropriate shut down procedure is identified4.2 The mud filtration system is shut down according to workplace procedures4.3 The mud filtration system 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. Draw mud from the clarifier and assess mud quality
5. Confirm equipment status and condition
6. Set up filters and start up the process
7. Assess requirement for mud conditioning and add materials as required
8. 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:
 - throughput
 - clarifier mud levels and quality
 - filter speed and cake thickness
 - filtrate clarity and pH
 - mud pol and moisture
 - equipment condition including filter vacuum and scraper and screen condition
 - wash water flow and temperature
9. Take corrective action in response to out-of-specification results
10. Report and/or record corrective action as required
11. Record workplace information
12. Demonstrate shift handover procedure
13. Shut down equipment in response to an emergency situation
14. Demonstrate an operational shut down procedure
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 mud filtration
21. The purpose and role of materials added and their effect on filter operation
22. The effect of recycle streams on the mud filtration process
23. The effect of addition rates on the process
24. The effect of variation in process parameters
25. The effect of mud age on filter performance
26. The circuit flow of this process and relationship to related processes including mud output, filter speed, water addition and cake permeability
27. Equipment purpose and basic operating principles of mud filtration equipment including vacuum pumps and condensers
28. Services used

29. Operating requirements and parameters
30. Significance and method of monitoring control points within the process
31. Common causes of variation and corrective action required
32. Hazards and controls
33. Purpose and limitations of protective clothing and equipment
34. Lock out and tag out procedures
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
- Mud filtration equipment
- Mud to be filtered
- 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
- Mud filtration equipment may include clarifier mud removal, mud tank/mud mixer, bagacillo system, filtrate receivers and pump, vacuum pumps, mud filter, mud conveying system and storage, filter wash water supply, lime, flocculant and filtrate recycle to mud system
- 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
- Materials can include lime, flocculants, saccharate and preservatives
- Where tests are conducted as part of operation, typical requirements are for pH and thymol testing
- 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.