



Australian Government

Department of Education, Employment and Workplace Relations

SUGPFSB2A Operate a fuel supply system - bagasse

Revision Number: 1

SUGPFSB2A Operate a fuel supply system - bagasse

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This is a Specialist unit. It covers the skills and knowledge to operate a bagasse fuel system and related auxillary fuel system to supply a boiler.

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 fuel supply system for operation	1.1 Pre-operational checks are conducted 1.2 Health and safety hazards are identified and controlled 1.3 Maintenance requirements are identified and reported according to workplace reporting procedure 1.4 Primary and auxiliary fuel is available to meet combustion requirements 1.5 Services are confirmed as available and ready for operation
2. Start and monitor operation of the fuel supply system	2.1 The fuel supply system is operated within limits of manufacturer's specifications to meet workplace requirements 2.2 The fuel supply system is monitored to confirm performance is maintained within manufacturer's specifications to meet workplace requirements 2.3 The workplace meets housekeeping standards
3. Analyse and respond to abnormal performance	3.1 System operating conditions are monitored to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to Hazards and abnormal plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4. Handover fuel system operations	4.1 Workplace records are maintained in accordance with workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Fuel system operators are aware of system and related equipment status at completion of handover
5. Shutdown the fuel supply system	5.1 The fuel supply system is shut down according to workplace procedures and manufacturer's recommendations 5.2 The fuel supply system is prepared for storage in shut down mode 5.3 Maintenance requirements are identified and reported according to workplace reporting procedure

Element**Performance criteria**

5.4 Fuel is stored to meet fuel requirements and workplace standards

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 fuel supply requirements
2. Select, fit and use personal protective clothing and/or equipment
3. Confirm status of fuel supply system and related services. This may include confirming availability of auxiliary fuel
4. Conduct pre-start checks
5. Demonstrate set up and start up procedures in both manual and automatic modes and starting for normal operation and after emergency stops
6. Monitor fuel supply system operation. This typically includes monitoring:
 - fuel levels
 - bagasse belt height
 - temperature
 - fuel oil pressure (on auxiliary system)
 - speed
 - vibration
 - smell
 - noise
7. Take corrective action in response to abnormal or unacceptable performance
8. Demonstrate procedure for test firing burners
9. Demonstrate procedure for removing, inspecting, cleaning and replacing oil burners. This involves use of go/no go gauges on atomising tips
10. Demonstrate procedure for clearing fuel blockages or chokes throughout the system
11. Report and/or record corrective action as required
12. Demonstrate shift handover procedure and confirm that replacement operators are aware of equipment status and operating requirements prior to completing handover
13. Demonstrate procedure to take fuel supply system off-line
14. Demonstrate emergency procedures including operation of auxiliary/emergency fuel supply system
15. Demonstrate fuel storage and/or reclamation procedures as required in the workplace
16. Record operating information
17. Maintain work area to meet housekeeping standards

May include ability to:

18. Use process control systems

Knowledge of:

19. Relevant state OHS legislation, standards and codes of practice relating to work responsibilities
20. Safe work procedures including awareness of health and safety hazards related to operation of fuel supply system and associated control measures. Hazards typically include working with moving equipment, working on platforms, risk of bagasse forming an explosive dust and related risks of fire associated with hot work and spontaneous combustion
21. Hierarchy of hazard control measures

22. Purpose and limitations of protective clothing and equipment
23. Properties of bagasse and bagacillo and impact of variation on combustion
24. Impact of bagasse belt levels on system capacity to supply
25. Principles of flame management systems. This includes understanding of when and how to purge boiler before relighting in a flame out situation
26. Purpose and operation of auxiliary fuel supply
27. Functions and basic operating principles of fuel supply system, components and auxiliary equipment
28. Operating requirements and parameters
29. Supply system layout
30. The effect of fuel quality and supply on boiler operation
31. Relationship between viscosity and temperature for burner operation
32. Purpose of atomising steam and/or air
33. Purpose of purge cycle for the burner
34. Relationship between fuel supply system and other processes
35. Methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
36. Procedures for responding to emergency situations. This includes emergency shutdown procedure
37. Handover and long term shut down and storage procedures
38. Fuel storage requirements
39. Fuel reclamation options and procedures as appropriate for the workplace and fuel type
40. Environmental issues and controls
41. Requirements to liaise/advise related work areas
42. Housekeeping standards for the work area
43. Reporting and recording systems

May include knowledge of:

44. Basic operating principles of process control where relevant. This includes the relationship between control panels and systems and the physical equipment

Relationship with other standards

Pre-requisite units

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

Co-assessment of related units

Where the operator is required to operate a boiler, select the appropriate boiler operation unit. Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:

- 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:

- Bagasse fuel supply system and related equipment
- Relevant codes and standards
- Operating procedures and related advice on equipment operation
- Personal protective clothing and equipment
- Communication systems and equipment
- Housekeeping standards and procedures
- Workplace information recording systems, requirements and procedures

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, licensing requirements, 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) and manufacturer's specifications
- Auxiliary fuel supply system is typically an oil system
- Equipment components and auxiliary equipment may include fuel supply storage, conveyor systems, fines separation
- This unit applies to both continuous and short term operation and requires demonstration of start up and shut down procedures after a prolonged break
- Services may include instrumentation and mill air and power
- Reclamation procedures refer to reclamation of bagasse stockpiles
- Operation and monitoring of equipment and processes typically requires the use of control panels and systems
- Confirming equipment status involves conducting relevant pre-start checks, confirming that housekeeping standards are met, all safety guards are in place and equipment is operational
- 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.