



Australian Government

Department of Education, Employment and Workplace Relations

FDFSUG219A Operate a bagasse fuel supply system

Release: 1

FDFSUG219A Operate a bagasse fuel supply system

Modification History

New Unit based on *SUGPFSB2A Operate a fuel supply system - bagasse*.

Unit Descriptor

This unit describes the outcomes required to operate a bagasse fuel system and related auxiliary fuel system to supply a boiler. The auxiliary fuel supply system is typically an oil system.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

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

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

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 5.4 Fuel is stored to meet fuel requirements and workplace standards

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information fuel supply requirements
- select, fit and use personal protective clothing and/or equipment
- confirm status of fuel supply system and related services including confirming availability of auxiliary fuel
- conduct pre-start checks
- demonstrate set up and start up procedures in both manual and automatic modes and starting for normal operation and after emergency stops
- monitor fuel supply system operation including monitoring:
 - fuel levels
 - bagasse belt height
 - temperature
 - fuel oil pressure (on auxiliary system)
 - speed
 - vibration
 - smell
 - noise
- take corrective action in response to abnormal or unacceptable performance
- demonstrate procedure for test firing burners
- demonstrate procedure for removing, inspecting, cleaning and replacing oil burners including use of go/no go gauges on atomising tips
- demonstrate procedure for clearing fuel blockages or chokes throughout the system
- report and/or record corrective action as required
- demonstrate shift handover procedure and confirm that replacement operators are aware of equipment status and operating requirements prior to completing handover
- demonstrate procedure to take fuel supply system off-line
- demonstrate emergency procedures including operation of auxiliary/emergency fuel supply system
- demonstrate fuel storage and/or reclamation procedures as required in the workplace
- record operating information
- maintain work area to meet housekeeping standards

Required knowledge includes

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to operation

of fuel supply system and associated control measures

- hierarchy of hazard control measures
- purpose and limitations of protective clothing and equipment
- properties of bagasse and bagacillo and impact of variation on combustion
- impact of bagasse belt levels on system capacity to supply
- principles of flame management systems including understanding of when and how to purge boiler before relighting in a flame out situation
- purpose and operation of auxiliary fuel supply
- functions and basic operating principles of fuel supply system, components and auxiliary equipment
- operating requirements and parameters
- supply system layout
- the effect of fuel quality and supply on boiler operation
- relationship between viscosity and temperature for burner operation
- purpose of atomising steam and/or air
- purpose of purge cycle for the burner
- relationship between fuel supply system and other processes
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- procedures for responding to emergency situations including emergency shutdown procedure
- handover and long term shut down and storage procedures
- fuel storage requirements
- fuel reclamation options and procedures as appropriate for the workplace and fuel type
- environmental issues and controls
- requirements to liaise/advise related work areas
- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: • confirm status of fuel supply system • demonstrate set up and start up procedures in both manual and automatic modes • monitor fuel supply system operation • take corrective action in response to abnormal or unacceptable performance • demonstrate procedure for test firing burners • demonstrate procedure for removing, inspecting, cleaning and replacing oil burners • demonstrate procedure for clearing fuel blockages or chokes throughout the system • demonstrate shift handover procedure • demonstrate procedure to take fuel supply system off-line • demonstrate emergency procedures • demonstrate fuel storage and/or reclamation procedures.
Context of and specific resources 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.
Method of assessment	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: FDFOP2030A Operate a process control interface.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	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	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	Workplace information can include: • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Hazards	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.
Supply system equipment	Equipment components and auxiliary equipment may include: • fuel supply storage • conveyor systems • fines separation.
Services	Services may include: • instrumentation • mill air and power.
Reclamation procedures	Reclamation procedures refer to reclamation of bagasse stockpiles.
Equipment operation and monitoring	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Equipment status	Confirming equipment status involves • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational.

Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.