



Australian Government

Department of Education, Employment and Workplace Relations

FDFSUG209A Operate an extraction station

Release: 1

FDFSUG209A Operate an extraction station

Modification History

New Unit based on *SUGPOES2A Operate an extraction station*.

Unit Descriptor

This unit describes the outcomes required to prepare and operate an extraction station. In order to demonstrate competence in this unit the operator must also be competent to operate turbines and reciprocating engines where required.

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 extraction process for operation	1.1 Cane is confirmed and available to meet production requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The extraction process is set to meet production requirements
2 Operate and monitor the extraction process	2.1 The extraction process is started up and operated according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Bagasse meets specifications 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification bagasse, process and equipment performance is identified, rectified and/or reported according to workplace reporting procedure 2.6 The workplace meets housekeeping standards
3 Handover the extraction station	3.1 Workplace records are maintained in accordance with workplace procedures 3.2 Handover is carried out according to workplace procedure 3.3 Extraction station operators are aware of system and related equipment status at completion of handover
4 Shut down the extraction system	4.1 The appropriate shut down procedure is identified 4.2 The extraction system is shut down according to workplace procedures 4.3 The extraction system is prepared for storage in shut down mode 4.4 Maintenance requirements are identified and reported according to workplace reporting procedure

Required Skills and Knowledge

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

Required skills include:

Ability to:

- access workplace information to identify production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm equipment status and condition
- liaise with other work areas - specifically boilers and evaporator station
- demonstrate start up procedures after an extended stop and after a short stop
- start up and operate in both automatic and manual modes
- monitor the process and equipment operation to maintain the process within the required parameters including monitoring:
 - temperatures
 - steam pressure
 - throughput
 - chute height
 - torques/mill loads
 - added water flows
 - feeding characteristics of cane
 - equipment condition including lubrication systems and vibration levels
- monitor supply and flow of cane to the process and bagasse and juice from the process
- take corrective action in response to out-of-specification results
- report and/or record corrective action as required
- record workplace information
- demonstrate shift handover procedure
- shut down equipment in response to an emergency situation
- demonstrate an operational shut down procedure
- prepare equipment for cleaning/maintenance
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose and basic principles of extraction including shredder operation, mills and diffusers as required in the workplace
- the circuit flow of this process and relationship between extraction, boilers and evaporation
- effect on extraction of:
 - cane quality
 - added water

- mill operation
- consequences of poor lubrication
- the role of cooling water for equipment operation
- quality characteristics of bagasse and their effect on boiler operation
- equipment purpose and basic operating principles of extraction equipment
- services used
- operating requirements and parameters
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- hazards and controls
- purpose and limitations of protective clothing and equipment
- lock out and tag out procedures
- 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
- procedures and responsibility for reporting problems
- environmental issues and controls
- waste handling requirements and procedures
- recording requirements and procedures

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 equipment status and condition • Demonstrate start up procedures • Start up and operate in both automatic and manual modes • Monitor the process and equipment operation • Monitor supply and flow of cane to the process and bagasse and juice from the process • Take corrective action in response to out-of-specification results • Report and/or record corrective action • Demonstrate shift handover procedure • Shut down equipment in response to an emergency situation • Demonstrate an operational shut down procedure.
Context of and specific resources 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 • Extraction station equipment • Materials 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.
Method of assessment	Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include: SUG202A Collect and prepare samples SUG213A Perform standard tests on a cane sample 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) • specifications • production schedules • manufacturer's specifications.
Extraction equipment	Extraction equipment may include: • shredder • cane carrier • mills • diffuser • juice pumps • juice screen • lubrication systems • cooling water system • maceration system • steam turbines • hydraulic drives.
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.
Services	Services may include: • power • steam • water

	• compressed and instrumentation air.
Equipment operation and monitoring	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Process monitoring	Monitoring the process may involve the use of production data such as performance control charts.
Control points	Control points refer to those key points in a work process which must be monitored and controlled.
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.