Australian Government

Department of Education, Employment and Workplace Relations

SUGPOSS3A Operate a system (Sugar)

Revision Number: 1

SUGPOSS3A Operate a system (Sugar)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This is a Specialist unit. It covers the preparation and operation of a production system.

A system describes the operation of an integrated group of sub-systems or unit operations. Examples of typical unit operations for a sugar mill are: cane receivals, weighing and feeding, preparation, crushing, boilers, ash system, power generation, waste water treatment, services (water and air), juice circuit, clarification, mud filters, evaporators, high grade pans, low grade pans, crystallisers, sugar driers and storage, high grade fugals, low grade fugals.

Typical systems consist of at least three connected unit operations. Examples of systems are preparation, crushing and power generation.

System operation requires higher level planning and problem solving skills than are necessary when operating an individual unit operation or multiple pieces of the same equipment. Skills are applied across the whole system. It can also involve facilitating the work of others.

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 system for operation	1.1 Supply of materials is confirmed to meet production requirements 1.2 Work area is prepared for operation 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use
2. Operate and monitor the system	2.1 The system is started up according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 System is operated to optimise performance for the current factory conditions 2.4 Equipment is monitored to confirm operating condition 2.5 System outputs meet specification
3. Handover the system	3.1 Workplace records are maintained in accordance with workplace procedures 3.2 Handover is carried out according to workplace procedure 3.3 System operators are aware of system and related equipment status at completion of handover
4. Shut down the system	4.1 The appropriate shut down procedure is identified 4.2 Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures 4.3 The system is shut down according to workplace procedures 4.4 The system is prepared for storage in shut down mode 4.5 Maintenance requirements are identified and addressed
5. Contribute to continuous improvement of the system	5.1 Opportunities for improvement are identified and investigated 5.2 Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures

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. Liaise with relevant work areas to confirm or secure necessary materials, services, equipment and labour to meet production requirements
2. Confirm that all equipment within the system meets operating standards, all safety guards are in place and equipment is ready for operation
3. Confirm that materials have been cleared for use
4. Monitor implementation of set-up and start up procedures. This may involve monitoring the use of checksheets by others
5. Monitor observance of work procedures and systems
6. Monitor materials flow and work-in-progress through the system
7. Confirm that the system operates within specified parameters and control points are monitored
8. Determine responses to out-of-specification results or non-conformance within level of responsibility
9. Co-ordinate batch/product changeovers
10. Communicate information effectively
11. Plan maintenance and cleaning procedures to minimise disruption
12. Monitor operating efficiencies of the system and investigate, resolve and/or report problems
13. Review and maintain procedures to support system improvements

Knowledge of:

14. Purpose and principles of the system including optimisation
15. Equipment purpose and operation including an understanding of process control systems where used
16. Technical knowledge of product characteristics and processing requirements for varying inputs.
17. Codes and legislation relating to product and packaging requirements
18. Equipment calibration schedule and responsibilities
19. Type and purpose of sampling and testing conducted
20. Related work areas and departments
21. Relevant procedures, specifications and operating parameters for the system and the individual units
22. Relevant systems and legislative responsibilities in areas such as human resources, quality, occupational health and safety and environmental management
23. Industrial awards and agreements relating to system operation
24. Hazards, risks, controls and methods for monitoring processes within the system
25. Maintenance and cleaning requirements of equipment in system
26. Process improvement procedures and related consultative arrangements
27. Troubleshooting procedures and problem solving techniques
28. Recording requirements and procedures

Relationship with other standards
Pre-requisite units

The person being assessed in this unit of competence must be competent in the relevant technical units that form the system.

Co-assessment of related units

Other units of competency relevant to the work role should be assessed in conjunction with this unit.

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
- Company policies and workplace systems including human resources, OHS, quality, food safety and environmental management
- Product and process specifications and operating parameters
- System processes and related equipment
- Materials and services as required
- Related work areas and communication system
- Planning, resources management and training arrangements
- Troubleshooting advice where available
- 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

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 may include the Sugar Milling Operations Industry Code of Practice
- System operation involves planning, co-ordination, troubleshooting and optimisation within the operator's level of authority
- Control points refer to those key points in a work process, which must be monitored and controlled. This includes safety, quality and regulatory control points as well as inspection points
- Operation and monitoring of equipment and processes typically requires the use of control panels and systems
- Co-ordination, planning and troubleshooting is undertaken with assistance from others

- Workplace systems are in place to support production processes. These include occupational health and safety, product quality, factory throughput, recovery, maintenance and environmental management
- 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.