



Australian Government

MSFGG4006 Operate complex glass processing plant control systems

Release: 1

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Modification History

Release 1 - New unit of competency

Application

This unit of competency covers operating a complex glass processing plant control panel utilising control loops and a broad range of control algorithms to control plant areas and multiple products/process streams. It will typically be located in a control room and require managing multiple complex tasks.

The technician/central control room operator takes overall responsibility for the operation of all equipment and processes within the plant area and may include optimisation of the area using the control system.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Competency Field

Unit Sector

Glass and Glazing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| 1 | Use operator interface | 1.1 | Keyboards, track ball and monitor and/or stand-alone controllers are used to access control system/panel |
| | | 1.2 | Glass processing task is monitored using the operator interfaces selecting appropriate controller modes |
| | | 1.3 | Historical data and information are accessed as required |
| | | 1.4 | Messages and alarms are monitored and acknowledged |

		with appropriate action taken
	1.5	Advanced control features are accessed and managed as appropriate
2	Access control information	
	2.1	Relevant data and information are accessed from the control system by applying systems knowledge
	2.2	Status of individual pieces of equipment is determine from the control panel readings and the information used to identify potential faults
	2.3	Fluctuations and variations in process through the interpretation of existing trends and control schematics are minimised
	2.4	Overall operating effectiveness of the plant area is determine and related to the required targets for the area
	2.5	Process variations/irregularities to procedures are recoded as necessary
3	Control process variations and monitor operations	
	3.1	Historical data on plant operations are used to assist the identification of problems and all available information processed to identify potential faults
	3.2	Required set point/output changes are undertaken to meet plant area and process requirements
	3.3	Production is adjusted in response to test results and control panel information
	3.4	Key process and environmental variables are monitored and appropriate action taken
	3.5	Controller settings are adjusted in accordance with procedures with advanced control features utilised as appropriate
	3.6	Plant area is optimised in accordance with guidelines
	3.7	Calibration operations are made as appropriate
	3.8	Coordination with stakeholders external to the plant area is undertaken as required
	3.9	Adjustments and variations to specifications/schedules are recorded and communicated to appropriate personnel

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| 4 | Facilitate planned and unplanned process start-ups and shutdowns | 4.1 | Procedures to planned startup and shutdown processes are selected and applied |
| | | 4.2 | Procedures to unplanned shutdown processes are selected and applied where required |
| | | 4.3 | Required emergency responses are implemented |
| | | 4.4 | Necessary information is communicated to all personnel affected by events |
| | | 4.5 | Required information is logged regularly |
| 5 | Respond to alarms or out of specification conditions and control hazards | 5.1 | System(s) affected by the alarm or condition are identified, prioritised and appropriate action taken |
| | | 5.2 | Alarm or incidents are responded to promptly by following procedures |
| | | 5.3 | Any out of specification material is dealt with in accordance with procedures and the problem/solution communicated to appropriate personnel |
| | | 5.4 | Incident information is recorded as required and details of the alarm and action taken communicated to the next shift at change over |
| | | 5.5 | Incidents are followed up to confirm that appropriate action has been taken |
| | | 5.6 | Hazards in the production/processing work area are identified and the risks arising from those hazards assessed |
| | | 5.7 | Measures to control risks are implemented in line with procedures and duty of care |
| 6 | Resolve other problems within scope of responsibility | 6.1 | Possible problems in equipment, control systems or process are identified to determine problems needing action |
| | | 6.2 | Possible fault causes are established and problems rectified using appropriate solution within area of responsibility |
| | | 6.3 | Initiated control actions are followed through until final resolution has occurred with problems outside area of responsibility reported to designated person |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit scope includes:

- equipment and unit operations which form part of the glass processing control system, such as:
 - process control systems (e.g. distributed control systems)
 - use of multiple control systems
 - personal computers
 - printers
 - fire and gas detection/protection systems
 - emergency shutdown systems
 - communication systems

Typical problems for glass processing plant include:

- operating without advanced control features
- loss of power/utilities
- analysing failure modes
- variation/loss of feed
- unstable control of pressure, temperature level and flows
- control equipment failure
- process plant trips
- change in atmospheric conditions (rain, temperature, wind and lightning)
- emergency situations

Work health and safety (WHS) requirements include:

- Commonwealth, state or territory legislation and regulations
- organisational safety policies and procedures
- the use of personal protective equipment and clothing
- firefighting equipment
- first aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling, including lifting and carrying

Alarms or abnormal conditions include:

- emergencies, including emergency shutdown
- partial or complete controller failure

Appropriate action includes:

- determining problems needing action
- determining possible fault causes
- rectifying problem using appropriate solution within area of responsibility
- following through items initiated until final resolution has

	occurred
	• reporting problems outside area of responsibility to designated person
Procedures include:	• work instructions • standard operating procedures • processing data and requirements • batch sheets • temporary instructions • any instructions provided for the smooth running of the plant • verbal, written or computer-based procedures
Organisational requirements include:	• legal, organisational and site guidelines, policies and procedures relating to own role and responsibility • quality assurance • procedural manuals • quality and continuous improvement processes and standards • WHS procedures • emergency and evacuation • ethical standards • recording and reporting • access and equity principles and practices • equipment use, maintenance and storage • environmental management (waste disposal, recycling and re-use guidelines)

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>