



Australian Government

Assessment Requirements for MSF GG4021 Operate complex glass processing plant control systems

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSFGG4014 Operate complex glass processing plant control systems. Changes to application, elements, performance criteria and assessment requirements.

Performance Evidence

There must be evidence the candidate has completed the tasks in the elements and performance criteria of this unit of competency and has demonstrated the ability to:

- identify, analyse and respond to each of the following at least once:
 - instrument failure or malfunction
 - electrical failure or malfunction
 - mechanical failure or malfunction
 - equipment design deficiencies
 - product parameters (temperature, flows, pressure or levels) outside optimal range
 - process control system malfunction
 - power or utility failures
 - application problems.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- basic science of upstream and downstream glass processes
- glass product specifications and tolerances
- general operating principles and features of glass processing plants, including:
 - process control philosophies, strategies and systems, including multiple control systems
 - systems operating parameters and integrity limits
 - architecture and location of the glass process and/or production equipment
 - interactions between glass plant items and/or processes and between plant units within entire plant
 - communication systems and techniques for effective communication
 - fire and gas detection and protection systems
 - emergency shutdown procedures
- organisational procedures for the operation of a specific plant control system
- features and functions of control loops, including:
 - interactions between multiple control loops

- cascade control
- piping and instrumentation diagram (P&ID) control
- set points
- controlled variable and indicated variable
- features and functions of instrumentation and control systems and components, including:
 - feed forward, feedback and open control
 - sensing devices
 - final control elements
 - transducers and/or transmitters
- impacts of changing controller settings and the limits within which changes can be made
- features of typical problems encountered in a glass processing plant, and the process of how to respond, including for:
 - operating without advanced control features
 - loss of power or utilities
 - analysing failure modes
 - variation and/or 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
 - how to interpret complex process drawings, including P&IDs, probability of failure on demand (PFD) and cause and effect.

Assessment Conditions

Skills must have been demonstrated in a glass processing workplace or in a simulated environment that reflects workplace conditions and contingencies.

- use of suitable facilities, equipment and resources, including:
 - a complex glass processing plant control panel using control loops and a broad range of control algorithms to control plant areas and multiple products and process streams
 - workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are found in VETNet – -

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