



Australian Government

Assessment Requirements for FBPGRA4001 Control power and automation for milling processes

Release: 1

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Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- interpreted schematics and identified range of utilities used by mill
- determined importance of services to mill operations
- identified key features and requirements of installed electrical safety systems
- matched milling requirements to available services and equipment, including electricity, gas and other fuels, steam generation, hydraulics and pneumatics
- used computerised and other control equipment to achieve desired milling outcomes
- determined fuel sources and power demand patterns for mill operations
- assessed fuel supply capacity
- determined control equipment and control options for mill
- established risk management and contingency strategies for mill power and automation
- integrated equipment maintenance and lubrication strategies with production requirements
- interpreted manuals, other technical information, diagrams and drawings
- applied safe work practices and identified work health and safety hazards and controls.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of electric motors and their advantages and disadvantages
- function and operational requirements of power system components, including:
 - mains supply terminal
 - mill transformers
 - back-up generation and supply system
 - electrical safety systems

- motor control and motor protection strategies
- demand and diversity factors
- fuel sources for mill uses, including:
 - on-site boilers
 - emergency generators
 - fuel powered equipment
- mechanical power transmission types and principles, including:
 - direct drives
 - belt drives
 - chain drives
 - gears
- factors influencing the velocity of particles in free air and in positive and negative air streams
- strategy for the prevention of dust explosions
- design principles used in exhaust systems for fans, ductwork and dust collectors
- advantages and disadvantages of axial flow, propeller and centrifugal fans
- advantages and disadvantages of forward, backward and radial bladed rotors
- types of mill controls and back-up strategies
- purpose and function of instrumentation, including:
 - proximity switches
 - position sensors
 - transducers
 - tachometers
 - flow meters
 - weighers
 - load cells
 - bin level indicators
 - pressure switches
 - programmable logic controllers (PLCs), system control and data acquisition (SCADA) systems, and other programmable instrumentation and systems
- mill equipment and its location and function
- maximum power demand for mill
- typical range of power demand for mill, taking into account scope of equipment and average production requirements.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:

- personal protective equipment relevant to flour milling operations
- sampling schedules and test procedures and equipment
- specifications:
 - work procedures, including advice on safe work practices, food safety, quality and environmental requirements
 - equipment manuals including operating parameters
 - specifications, control points and processing parameters
 - documentation and recording requirements and procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>