



Australian Government

PPMEPG330 Coordinate power generation system shutdown

Release: 2

PPMEPG330 Coordinate power generation system shutdown

Modification History

Release	Comments
Release 2	This version released with PPM Pulp and Paper Manufacturing Training Package Version 2.0.
Release 1	This version released with PPM Pulp and Paper Manufacturing Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to shut down power generation systems in both planned and unplanned situations and to communicate shutdown information and data to internal and external personnel.

The unit applies to production operators and technicians who coordinate power generation system shutdowns, in a pulp or paper manufacturing facility. This typically involves working in a facility with complex integrated equipment and continuous operations.

No licensing, legislative or certification requirements apply to this unit at the time of publication. Where the turbine equipment falls under the category for which a High Risk Work Licence is required, this unit should not be used and the appropriate unit should be sought.

Pre-requisite Unit

Nil

Unit Sector

Electrical power generation (EPG)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Coordinate planned shutdown	1.1 Use maintenance schedules to plan and coordinate shutdown of power generation system

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.2 Follow procedures to shut down process supplies 1.3 Follow work health and safety and standard operating procedures (SOP) to initiate appropriate isolations and shut down systems 1.4 Inspect system and record and report further maintenance requirements 1.5 Select, fit, use and maintain personal protective equipment according to job requirements and task to be undertaken
2. Respond to unplanned shutdown	2.1 Respond to unplanned shutdown immediately 2.2 Initiate appropriate isolations, identify and locate cause of unplanned shutdown 2.3 Rectify, isolate and or contain faulty plant according to manufacturer's specifications/SOPs to allow continued production 2.4 Follow procedures to shut down process supplies where fault cannot be rectified 2.5 Assess effects of unplanned shutdown to determine impact on operations 2.6 Communicate unplanned shutdown to appropriate personnel and power authorities, according to organisational procedures/SOPs
3. Record and report shutdown data	3.1 Record shutdown and corrective action processes 3.2 Report shutdown information to relevant personnel and power authorities according to organisational procedures/SOPs

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	Interpret workplace health and safety and SOP
Writing	Complete accurate basic records for shutdown processes and maintenance requirements
Numeracy	Interpret basic numerical settings on instruments and gauges

Skill	Description
	involving pressures, flows and temperatures
Get the work done	Use and assess sensory information (sight, sound, touch, smell, vibration, temperature) to respond to system faults

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
PPMEPG330 Coordinate power generation system shutdown Release 2	PPMEPG330 Co-ordinate power generation system shutdown Release 1	Performance criteria added, minor changes to knowledge evidence, minor change to licensing statement, grammatical adjustment to title	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=12998f8d-d0ac-40bc-a69e-72a600d4fd93>

Assessment Requirements for PPMEPG330 Coordinate power generation system shutdown

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria of this unit. There must be evidence that the individual has:

- coordinated planned shutdown of a power generation system at least twice in line within required enterprise intervals, and completed the following tasks after shut down:
 - inspected the system for maintenance requirements
 - completed routine maintenance when shutting down the power generation system
 - completed basic records for shutdown processes and maintenance requirements
- followed safe working practices when shutting down the power generation system
- used electronic and other control systems to control equipment during operations
- communicated effectively, through written and verbal means, with others, in the work area when co-ordinating the planned shutdown of a power generation system
- responded to one unplanned or emergency shutdown, which can be a real time event or by scenario, implemented responses appropriate to the cause and completed a basic report on corrective action processes.

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:
- organisational procedures relevant to workplace health and safety with particular emphasis on:
 - use of personal protective equipment (PPE)
 - equipment lock out and isolation procedures
 - handling chemicals and hazardous substances, including spill and disposal guidelines
 - plant clearance requirements
 - emergency procedures and responses

- job safety analysis documentation and processes
- plant permit systems and processes
- high risk load shifting licensing requirements where relevant
- major hazard facility requirements where relevant
- local power authority regulations and reporting requirements for shutting down power generation systems
- power generation plant layout
- purpose, features and operation of power generation and distribution systems, operating parameters and allowable variations
- operation and application of electronic and other control systems
- electrical isolation procedures
- principles of operation of transformers and circuit protection systems
- AC/DC generation principles
- electrical output control and regulation principles
- power factor characteristics and effects
- effect of steam quality on turbine operation
- operational tolerances of the turbine system and effects of operating outside these tolerances
- key features and purpose of the full range of processes involved in shutting down power generation systems
- types, causes and effects of, and required emergency and other responses to, unplanned power generations system shutdowns:
 - power outage
 - mechanical breakdown
 - blockages
 - jamming
 - air supply
 - control system failure
- methods used to test power systems and diagnose faults
- organisational procedures:
 - standard operating procedures (SOP) specific to power generation system shutdown
 - communication reporting lines
 - recording and reporting shutdown processes and maintenance requirements.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace or a productive environment that accurately reflects performance in a workplace
- resources, equipment and materials:

- access to the full range of equipment involved in integrated continuous manufacturing for power generation systems in a pulp or paper manufacturing facility, including chemical products and systems:
- high and low voltage transformers
- steam or gas turbine driven alternators
- switchboards
- water systems and auxiliary plant
- circuit breakers
- AC/DC generation and distribution systems
- analogue and digital instrumentation
- PPE suitable for shutting down power generation systems
- specifications:
 - local power authority regulations for shutting down power generation systems
 - maintenance schedules for power generation system
 - template documents for recording shutdown processes and maintenance requirements
 - organisational workplace health and safety and SOP for power generation system shutdown.

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

Links

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