Modification history

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| Release | Comments |
| Release 1 | This version released with PPM Training Package Version 1.0. |

| PPMEPG320 | Manage a power generation system startup |
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| Application | This unit of competency describes the outcomes required to conduct pre-operational checks and bring a power generation system online.  The unit applies to production operators and technicians who manage power generation system startups, in a pulp or paper manufacturing facility. This typically involves working in a facility with complex integrated equipment and continuous operations.  Licensing, legislative, regulatory, or certification requirements apply to this unit in some states and territories at the time of publication and may differ according to jurisdiction. |
| Prerequisite Unit | Nil |
| Unit Sector | Pulp and Paper Manufacturing (PPM) |

| Elements | Performance Criteria |
| --- | --- |
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Prepare system for operation | 1.1. Identify production requirements to plan power generation levels.  1.2. Determine power generation requirements in conjunction with power authorities.  1.3. Determine sequencing for plant startup to suit current circumstances.  1.4. Conduct system inspections and pre-start up safety checks in line with regulatory requirements, organisational safety and standard operating procedures.  1.5. Confirm plant status by observation and inspection.  1.6. Complete routine maintenance to ensure optimum system performance. |
| 2. Initiate system startup | 2.1. Commence sequence for plant startup in line with standard operating procedures.  2.2. Coordinate generation system start with distribution and ancillary systems and bring on-line.  2.3. Observe system or plant for correct operational response.  2.4. Detect deviations from operational specifications and rectify or report.  2.5. Record system startup and power generation data in operating log. |

| 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. | |
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| Skill | Description |
| Numeracy skills to: | * interpret basic numerical settings on instruments and gauges involving pressures, flows and temperatures * monitor, assess and interpret system startup data * record basic numerical data for system startup and power generation performance. |
| Reading skills to: | * interpret workplace health and safety and standard operating procedures. |
| Writing skills to: | * complete accurate basic records for system startup processes and power generation performance. |
| Problem solving skills to: | * use and assess sensory information (sight, sound, touch, smell, vibration, temperature) to adjust system operational parameters. |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| PPMEPG320 Manage a power generation system startup | FPPEPG320A Manage a power generation system startup |  | Equivalent unit |

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

| TITLE | Assessment requirements for PPMEPG320 Manage a power generation system startup |
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| Performance Evidence | |
| A person demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit, and must be able to provide evidence that they can:   * identify production requirements and manage power generation startup within a pulp and paper manufacturing facility, at least twice in line with required enterprise intervals, to suit power generation levels over different operating periods * complete pre-startup safety checks * complete routine maintenance when preparing for system startup * follow safe working practices when starting up a power generation system * use electronic and other control systems to control equipment during operations * communicate effectively, through written and verbal means, with others, in the work area when starting up a power generation system * on completion of each of the above system startups, record system startup processes and power generation performance data in the operating log. | |

| Knowledge Evidence |
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| A person competent in this unit must be able to demonstrate 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 starting up 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 starting up power generation systems, including pre-startup safety checks * pre-start limitations and run-up limitations * methods used to test power systems and diagnose deviations from operational specifications * organisational procedures: * standard operating procedures specific to power generation system startup * communication reporting lines * recording and reporting startup processes and power generation performance |

| Assessment Conditions |
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| The following resources must be made available:   * access to the full range of equipment involved in managing a power generation system startup 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 * maintenance tools and equipment and consumables for power generation systems * personal protective equipment suitable for starting up and operating power generation systems * local power authority regulations for starting up power generation systems * details of production requirements to plan power generation levels * relevant personnel for the purposes of communicating information * template operating log for recording startup processes and power generation performance * organisational workplace health and safety and standard operating procedures for power generation system startup   Competency is to be assessed in the workplace or in a productive environment that accurately reflects performance in a workplace.  Assessor requirements  Assessors must:   * hold the appropriate assessor competency standards as outlined in regulations; and * be able to demonstrate vocational competencies at least to the level being assessed; and * be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence. |

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