Modification history

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

| PPMSTM210 | Monitor and control boiler operation |
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| Application | This unit of competency describes the outcomes required to operate, monitor and maintain boilers, record and report operating data and handover to incoming operators.  The unit applies to production support operators who monitor and control boiler operation 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. |
| Prerequisite Unit | Nil |
| Unit Sector | Pulp and Paper Manufacturing (PPM) |

| Elements | Performance Criteria |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Confirm operational status | 1.1. Check production requirements at start of shift and plan daily work activities in line with organisational safety and standard operating procedures.  1.2. Confirm combustion processes are within operational specifications by observation and inspection.  1.3. Maintain process supplies to meet production requirements.  1.4. Record boiler performance in operational log.  1.5. Communicate operational status to relevant personnel. |
| 2. Monitor and control boiler plant operation | 2.1. Confirm operational status by inspection and routine observation.  2.2. Test water quality and adjust chemical addition as required.  2.3. Complete and record fuel efficiency calculations.  2.4. Adjust boiler controls to maintain operation within specifications.  2.5. Monitor and test pre-treatment systems for water.  2.6. Monitor and maintain steam pressure and steam distribution systems to meet production requirements.  2.7. Complete routine preventative maintenance in line with maintenance schedules. |
| 3. Record boiler performance and handover boiler operations | 3.1. Record steam generation processes and data in operating log.  3.2. Record and report maintenance requirements.  3.3. Maintain operational boiler records in line with organisational procedures and statutory requirements.  3.4. Brief incoming boiler operators on status of boiler operations and equipment in line with organisational procedures. |

| 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 * complete routine calculations to measure ratios of boiler house chemicals and fuel efficiency * monitor, assess and interpret steam generation data * record basic numerical data for fuel efficiency and steam generation. |
| Oral communication skills to: | * provide clear basic information about operational status of boiler. |
| Reading skills to: | * interpret workplace health and safety and standard operating procedures. |
| Writing skills to: | * complete accurate basic records for steam generation processes and maintenance requirements. |
| Problem solving skills to: | * use and assess sensory information (sight, sound, touch, smell, vibration, temperature) to adjust process to maximise safety and productivity. |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| PPMSTM210 Monitor and control boiler operation | FPPSTM210A Monitor and control boiler operation |  | 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 PPMSTM210 Monitor and control boiler operation |
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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:   * operate a boiler within a pulp and paper manufacturing facility at least twice in line with required enterprise intervals * complete the following types of tests during required operational periods: * low water level alarm * high water level alarm * low water level alarm lockout * hydrostatic * burner management system * safety valve * complete routine maintenance on boiler plant * complete records for boiler operation: * operating log * fuel efficiency records * records of steam generation processes and maintenance requirements. | |

| 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 * characteristics and dangers of steam * boiler plant layout * purpose, features and operation of these types of boilers and associated fuel types and delivery systems: * fire tube * water tube * operating parameters and allowable variations for those boiler types * operation and application of electronic and other control systems * key features of equipment required to monitor and control boiler operations * purpose of, and processes for sampling and testing plant and system operations * methods used to maintain steam distribution systems * boiler water treatment system and reasons for treatment * data used to evaluate boiler performance including: * steam levels * pressure levels * generation levels * heat build-up * system overload information * test outcomes for water quality and chemicals * past performance records * organisational procedures including: * standard operating procedures specific to boiler operations * communication reporting lines * recording and reporting steam generation processes and maintenance requirements |

| Assessment Conditions |
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| The following resources must be made available:   * a boiler which can be fire or water tube type * fully automated, semi-automated, manually operated plant and equipment required for boiler operation in a pulp or paper manufacturing facility * maintenance tools and equipment and consumables for boiler maintenance * personal protective equipment suitable for operating a boiler * relevant personnel for the purposes of communicating information * maintenance schedules for boiler * template documents: * operating log * fuel efficiency records * documents for recording steam generation processes and maintenance requirements * organisational workplace health and safety and standard operating procedures.   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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