



Australian Government

FWPCOT4222 Plan for and supervise timber treatment plant operations

Release: 1

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Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to plan, supervise and optimise performance of timber treatment plant operations.

The unit applies to those individuals who supervise the chemical treatment of timber in a preservation facility.

State and territory regulations, standards and environmental protection licences apply in some jurisdictions to the timber preservation facilities and the use of chemicals used in timber treatment.

Copper chrome arsenate (CCA) is a restricted chemical product, regulated by the Australian Pesticides and Veterinary Medicines Authority (APVMA). This means CCA-treated timber can only be supplied to, and used by, suitably trained persons authorised under a relevant state or territory law.

In Victoria, to comply with licence/permit requirements, organisations must ensure that employees working with CCA demonstrate competence in FWPSAW3242 Treat timber (or the previous equivalent) or are under the direct supervision of a trained and authorised person.

For regulatory information and details in other states and territories, refer to the state or territory licensing body.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan for implementing treatment plant operations	1.1 Confirm workplace health and safety, environmental protection, containment, quality and operational practices and/or procedures for chemical treatment of timber 1.2 Identify hazards, assess potential risks and confirm risk mitigation measures, including use of personal protective equipment, associated with timber treatment operations 1.3 Confirm legislation, standards and codes of practice relevant to timber treatment plant operations 1.4 Confirm type, components, operating parameters, capability and capacity of treatment plant 1.5 Inspect raw materials, identify possible production and quality implications and communicate variations to production methods to team members 1.6 Assess preservative type and formulation, treatment process, treatment suitability of wood and estimate solution absorption 1.7 Apply timber treatment schedules according to workplace procedures and environmental protection practices and/or procedures 1.8 Plan and prescribe waste minimisation and control measures 1.9 Check serviceability of plant control and product testing equipment 1.10 Establish and maintain communication with others according to workplace procedures and workplace health and safety requirements
2. Supervise treatment plant operations	2.1 Check and interpret charge sheets and reconciliation statements to ensure accuracy 2.2 Check and analyse process trends for optimum performance 2.3 Monitor treatment operations and output to record possible process improvements and to ensure maximum cost effectiveness 2.4 Control non-conforming treated timber according to workplace procedures and environmental protection practices and/or procedures 2.5 Investigate causes of solution imbalance and implement appropriate possible corrective actions 2.6 Investigate, record and report treatment operations, operational problems and equipment faults according to workplace requirements 2.7 Analyse treatment documents and reconciliations to identify potential productivity improvements
3. Oversee treatment	3.1 Monitor implementation of routine and preventative maintenance

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
plant maintenance and inventory management requirements	and cleaning requirements 3.2 Maintain product and material inventory levels to meet production and contingency requirements
4. Modify operations to optimise performance	4.1 Initiate approved modifications to schedules to ensure optimum performance according to workplace procedures 4.2 Document and communicate treatment improvement modifications according to workplace procedures 4.3 Diagnose developments in treatment processes and related technology for possible implementation 4.4 Analyse and assess technical developments for potential incorporation into existing plant operations and procedures 4.5 Authorise, trial, document and introduce proposed developments into site operations 4.6 Dispose of timber from unsuccessful trials according to workplace procedures and environmental protection practices and/or 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.

Skill	Description
Reading	Extract routine information from industry guides and standard references on timber treatment operations
Writing	Complete workplace reports legibly and accurately with correct details of timber treatment
Oral communication	Ask open and closed questions and use active listening techniques to clarify contents of work orders and to convey information
Numeracy	Interpret numerical data and trends relevant to timber treatment operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4222 Plan for and supervise timber treatment plant operations	FWPSAW4201 Plan and monitor timber treatment plant operations	Revised unit title Minor revisions to Application Added new Elements and Performance Criteria Revised Foundation Skills Revised Performance Evidence Added new Knowledge Evidence Revised Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4222 Plan for and supervise timber treatment plant operations

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Performance Evidence

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

There must be evidence that the individual has planned and supervised a timber treatment operation for two production cycles.

In performing this work, the individual has:

- followed workplace policies and procedures relevant to planning and monitoring timber treatment plant operations
- complied with legislation, standards and codes of practice relevant to timber treatment plant operations
- assessed, scheduled and applied treatment plant procedures for timber samples
- monitored treatment plant performance and modified operations as required
- analysed and assessed technical developments for incorporation into existing operations and procedures
- mapped processing conditions to establish trends and use this information for modifications
- modified timber treatment plant operations for the workplace, as required
- followed planning, communications and scheduling requirements for timber treatment plant operations
- completed charge sheets to complete records of:
 - treatment plant charge
 - amount of power and energy developed and used
- completed reconciliation statements detailing:
 - chemical usage and cost
 - treatment times for cycles
 - breakdown losses
 - energy costs
 - modification expenses.

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:

- workplace standards, requirements, policies and procedures for planning and monitoring timber treatment plant operations
- legislation, standards and codes of practice relevant to timber treatment operations
- environmental protection requirements and practices, including:
 - safe disposal of waste material
 - water management
 - safe use and storage of chemicals
 - minimisation of carbon emissions
 - water management
- hazards and potential risks associated with timber treatment operations, including chemical hazards and actions to mitigate risks associated with chemical use
- principles and purpose of treatment processes and their effect on wood impregnation
- advantages and limitations of different treatment processes
- types of biological attack and their impact in terms of visual appearance and degrading effect on wood, including:
 - decay
 - mould
 - fungi
- effect of surface mould and sapstain fungi on treatment uptake
- influence of moisture content and moisture gradient on treatment effectiveness
- operating parameters, capability and capacity of the treatment plant
- operating components of treatment plant
- plant control and product testing equipment
- factors for consideration when scheduling charges to optimise production throughputs
- preservative types and formulations
- causes of solution imbalance and possible corrective actions
- typical workflow processes and techniques for chemically treating timber, including:
 - full cell
 - modified cell
 - empty cell
 - double vacuum
 - immersion
 - rueping
 - dip diffusion
 - vat and sprays
- moisture content of timber for treatment
- effective and efficient use of energy and materials
- timber treatment plant operation procedures

- water management methodologies
- waste minimisation control measures
- treatment plant modification strategies
- technical development diagnosis and solution methodologies
- types of tools and equipment and procedures for their safe use, operation and maintenance
- procedures for recording and reporting workplace information
- maintenance requirements for treatment plants.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber treatment plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - timber treatment plant and associated equipment and materials
 - a suitably licensed person to monitor and supervise handling of copper chrome arsenate (CCA) during assessment, where CCA is used
 - personal protective equipment required for chemically treating timber
- specifications:
 - workplace health and safety and environmental protection policies and/or procedures applicable to chemically treating timber
 - templates or formats for records including charge sheets and reconciliation statements
 - workplace procedures for chemically treating timber
 - manufacturer safety data sheets for chemicals and preservative solutions.

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=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>