

Protocols for Recycling Redundant Utility Poles and Bridge Timbers in New South Wales



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1.0 Introduction

Recycling of timber taken from demolished bridges and redundant power poles is now assuming greater importance as timber supplies become more difficult to obtain.

This publication has been produced by the Timber Development Association of NSW in its capacity as project manager for the National Timber Product Stewardship Group. The publication is intended to provide guidance to infrastructure managers and dedicated timber recyclers to improve the recovery of timber from the demolition of timber bridges and renewal of power distribution infrastructure in New South Wales.

1.1 Acknowledgements

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Considerable assistance and advice has been provided by Andrew Brodie, Peter Drinkwater and Duane Lees of Australian Architectural Hardwoods, Chris Swadling of Ironwood, Ric Bell of Integral Energy, Greg Moore of Energy Australia and Wayne Lewis of Koppers Wood Products. Thank you to Michael Kennedy of Kennedy's Aged Timber who provided the inspiration for the development of the protocols while Alex Latham of HLA ENSR and Steve Hoolihan and Con Lambous of the Roads and Traffic Authority of NSW provided guidance on issues that needed to be addressed. We also thank Charlie Herbert, retired Chief Timber Inspector of Forests NSW who has assisted the reviewing of the document.

1.2 Purpose of the Protocol

The Protocol has three main purposes:

- i. Encourage maximum reuse and recycling of timbers by describing best practice for the handling, processing and use of recovered timber by timber recyclers.
- ii. Provide infrastructure managers with confidence to release the timber generated by their operations to timber recyclers.
- iii. Assist in clarifying if the timber should be regarded as waste and subject to waste regulations.
- iv. Underpin confidence in the quality of timber products produced from redundant poles and bridge timbers.

1.3 How to use this document

This Protocol is comprised of three main parts.

The first part is an introduction to the Protocol.

The second part is a step by step process for those managing utility poles and timber bridge replacement programs and for timber recyclers. It covers timber removal, transport, storage, processing and sale of the reclaimed and remanufactured timber.

The third part is a series of appendices which provide a range of supporting information used to develop the protocol as well as supplementary information that may assist in clarifying some aspects of the Protocol.

1.4 Definitions

In this Protocol, the words and phrases have the meanings as defined in Appendix A.

2.0 Protocol

2.1 Removal and assessment

- i. Timber to be removed shall be assessed by the Infrastructure Manager for the presence of preservatives and problematic substances using one or a number of the following methods:
 - a) Visual assessment (see Appendix C)
 - b) Examination of original purchase specifications and past maintenance records
 - c) Assessment of historic in-service preservative treatments and practices
 - d) Targeted sampling and analysis
- ii. The Infrastructure Manager shall remove components that are either confirmed as contaminated with unacceptable levels of problematic substances, or likely to be so, and shall classify and dispose of them in an appropriate landfill.
- iii. The Infrastructure Manager shall stockpile components identified as potentially suitable for recycling. Any timber containing/coated with problematic substances not apparent to visual assessment should be clearly identified as such.
- iv. Note: Due to the high cost of analysis of individual pieces, some Infrastructure Managers may assume that all pole butts and piles in place before 1995 (when organochlorines were banned from use in Australia –except the Northern Territory) have unacceptable levels of organochlorine residues because organochlorines may have been applied to prevent or manage rot and/or termite infestation and hence, require disposal only.

2.2 Storage before pickup

- i. Timber suitable for reuse by the Infrastructure Manager or by a Recycler should be clearly identified and stored separately from unsuitable timber.
- ii. To minimise contact with preservative treatments and problematic substances, gloves should be worn during handling activities (refer to appropriate MSDS – see Appendix D).

2.3 Pickup and transport to Recycler

- i. The Recycler shall ensure the transport vehicle and lifting equipment is fit for purpose, appropriate for the size, weight and condition of the timber being transported and complies with all legislative requirements.
- ii. Recycler personnel picking up the timber shall be appropriately dressed, have personal protection equipment (PPE) appropriate for the site and have undertaken a site Hazard and Risk Assessment prior to pickup on the site.
- iii. Recycler personnel shall follow all directions given by the Infrastructure Manager or their representative in regards to pick-up site safety and environmental risks.
- iv. Unless otherwise agreed, title and risk in the timber passes to the Recycler upon pick-up.

- v. Timber treated with preservative or problematic substances shall only be transported to a Recycler with a current Site Environment Management Plan (SEMP) for reprocessing (see Appendix C for SEMP requirements).

2.4 Delivery and storage onsite

- i. Upon delivery to the Recycler the timber shall be sorted by size, and preservative treatment and then stockpiled. Where practical, the timber shall be sorted by species.
- ii. Timber shall be stacked clear of the ground to avoid an increase in moisture content as a result of ground contact and to lessen any possibility of leaching of substances to the ground.
- iii. To minimise contact with preservative treatments and problematic substances, gloves should be worn during handling activities (refer to appropriate MSDS—see Appendix D).

2.5 Processing by the recycler

- i. To ensure the safety of workers and to prevent damage to equipment, all timbers shall be inspected for nails, bolts and any other form of attachments which must be removed prior to processing.
- ii. Timber shall be processed in batches sorted by preservative treatment or other problematic substance types.
- iii. Timber shall be resized to remove any parts unsuitable for reprocessing.¹
- iv. To provide for improved handling of round timber, a slab should be removed to create a stable flat surface. Where the timber has preservative treatment or coating, the slab removed should be to the depth of the preservative treated sapwood or other problematic substances.
- v. Preservative treated sapwood and problematic surface substances shall be removed during further processing to produce sections of timber free of preservative or other problematic substances.
- vi. Sawdust and offcuts produced during the processing of timber that has been preservative treated or has had problematic substances applied to it shall be collected and cleared separately from sawdust and offcuts produced from non-preserved timbers prior to reuse or disposal.
- vii. Processed timber should be moved into a covered mill area where it can be processed into final products.
- viii. Sawdust extraction systems shall operate over all sawing and sanding work areas. Dust masks and eye protection shall be worn by staff engaged in sawing and sanding.

2.6 Clearance of processing residue

- i. Processing residue designated as suitable for reuse by another party (e.g., larger offcuts) may be sold or given away provided, if it is sold in NSW, the sale of timber sold as preservative treated meets the requirement of the NSW Timber Marketing Act.

¹ Some Infrastructure Managers may require that any part of a piece of timber that was embedded in the ground pre 1995 be removed for separate disposal. The part removed usually includes that which was below ground and that which was within a set distance above the ground.

- ii. Processing residues treated with CCA or pentachlorophenol shall not be burnt in the open or in facilities without the appropriate licenses.² Creosote treated residue may be burnt in the open onsite with untreated timber residue – subject to local council and/or DECC approval.
- iii. Processing residues to be applied to land or used as fuel in New South Wales must comply with an exemption from DECC.³
- iv. Processing residue designated for disposal shall be assessed and classified by the Recycler as being one of the following types⁴:
 - hazardous waste
 - restricted solid waste.
 - general solid waste (putrescible)
 - general solid waste (non-putrescible)

Note: Solid processing residues of timber treated with creosote and /or CCA preservative which has been in service (in construction or municipal applications) have been granted an immobilisation approval and are usually classified as general solid waste (non-putrescible). Lead based paint residue is pre-classified as hazardous waste.

- v. Waste residue must be handled and transported as per its waste classification and disposed of to a facility that can lawfully receive that particular waste. For CCA and /or creosote preservative treated offcuts, the disposal facility is a lined landfill with an appropriate leachate management system that has license conditions to receive waste subject to immobilisation approvals.

2.7 Sale of recycled timber products

- i. Claims regarding stress grade, species and state of seasoning (moisture levels) should be able to be verified.
- ii. Sale of certain timber products in New South Wales whether they are derived from recycled timber or from new timber, are subject to applicable product legislation and regulations, particularly the Timber Marketing Act 1997.
- iii. The Infrastructure Manager and Recycler shall abide by the voluntary timber industry policy that any timber treated with CCA preservative should not be sold for:
 - Children’s play equipment
 - Garden furniture
 - Picnic tables
 - External seating
 - Domestic decking boards
 - Handrails

² NSW Protection of the Environment Operations (Control of Burning) Regulation 2002

³ To allow these materials to be applied to land or thermally treated where they are assessed as being fit for purpose and posing minimal risk of harm to the environment and human health. Refer DECC <http://www.environment.nsw.gov.au/waste/RRecoveryExemptions.htm>

⁴ DECC (2008) *Waste Classification Guidelines Part 1: Classifying Waste*. Available at www.environment.nsw.gov.au/resources/waste/08202classifyingwaste.pdf

2.8 Reports and record keeping

The Infrastructure Manager may require an annual report to be provided by the Recycler showing total quantities of timber collected, percentage of timber recycled and of timber disposed to landfill.

Appendix A **Definitions**

APVMA means the Australian Pesticides and Veterinary Medicines Authority

Batch means a quantity of similar timber. For example a batch of timber treated with preservative CCA.

CCA means the wood preservative copper chrome arsenate.

DECC means the NSW Department of Environment and Climate Change which incorporates the Environment Protection Agency (EPA).

Energy Recovery means utilising timber or timber processing residue to generate heat.

Infrastructure Manager means an organisation with responsibility for renewal of timber utility poles and/or bridge timbers, or their nominated representative.

MSDS means a Materials Safety Data Sheet.

Problematic Substances means elements and compounds that the Infrastructure Manager has assessed using legislation, regulations and/or company policy and procedures as presenting particular management requirements for the timber. For example, red lead coatings, organochlorines, polycyclic aromatic hydrocarbons.

Recycler means a company salvaging and processing into value added products, timber that has had a previous use.

Recycling means the process of converting timber from one previous use to another. For example, processing used power poles by cutting, planing etc into floorboards.

Reuse means the use of timber without further processing or with minimal processing. For example, the reuse of a power pole 'as is' for fencing.

Slab means the piece of timber cut lengthways off the side of a round pole or pile cut. A slab has one flat face and a curved "back."

Substance means a chemical compound, compounds or element.

User means an individual or company that obtains recycled timber from a Recycler with the intention of using that timber.

Appendix B Legislation

The following principle acts and their companion regulations may regulate some of the operations of parties engaged in the recycling of timber, the selling of recycled timber and in particular the reprocessing operations with respect to environmental matters:

- Contaminated Land Management Act 1997
- Environmental Planning and Assessment Act 1979
- Environmentally Hazardous Chemicals Act 1985
- Occupational Health and Safety Act 2000
- Protection of the Environment Operations Act 1997
- Soil Conservation Act 1938
- Timber Marketing Act 1977
- Trade Practices Act 1974
- Waste Avoidance and Resource Recovery Act 2001

Appendix C Identifying naturally durable and preservative treated timbers

Most timber poles and bridge timbers are of naturally durable timber. Some will have had the sapwood removed; some will have had the sapwood left on and that sapwood will have decayed during service (see Figure 1); and some will have had the sapwood preservative treated to prevent that sapwood decaying. Preservative treated sapwood on timber poles and bridge timbers usually has a green or black colour. Poles that have been desapped by machining may have an 8 and/or a 16 sided shape (see Figure 2).

Pressure impregnation of hardwoods with preservative cannot penetrate the heartwood. Only the sapwood of hardwoods can be penetrated.



Figure 1: Sapwood which had not been preservative treated, decaying after a few years in service



Figure 2: Desapped power pole - Sydney

The presence of timber preservatives and other chemicals can be deduced through visual identification, maintenance records, by smell (for evidence of creosote), identification sprays or chemical sampling and analysis.

Preservatives can be identified visually by looking at the surface of the timber. Poles pressure treated with a preservative have a natural round shape and are a green (CCA) or a black (creosote) colour. When the timber is cut, it is readily apparent if the sapwood of the timber has been pressure treated with preservative (see Figure 3).

Other visual identifiers are a very dark colour, particularly around the base of piles and poles, and the presence of injection devises for diffusion preservatives (see Figure 4).

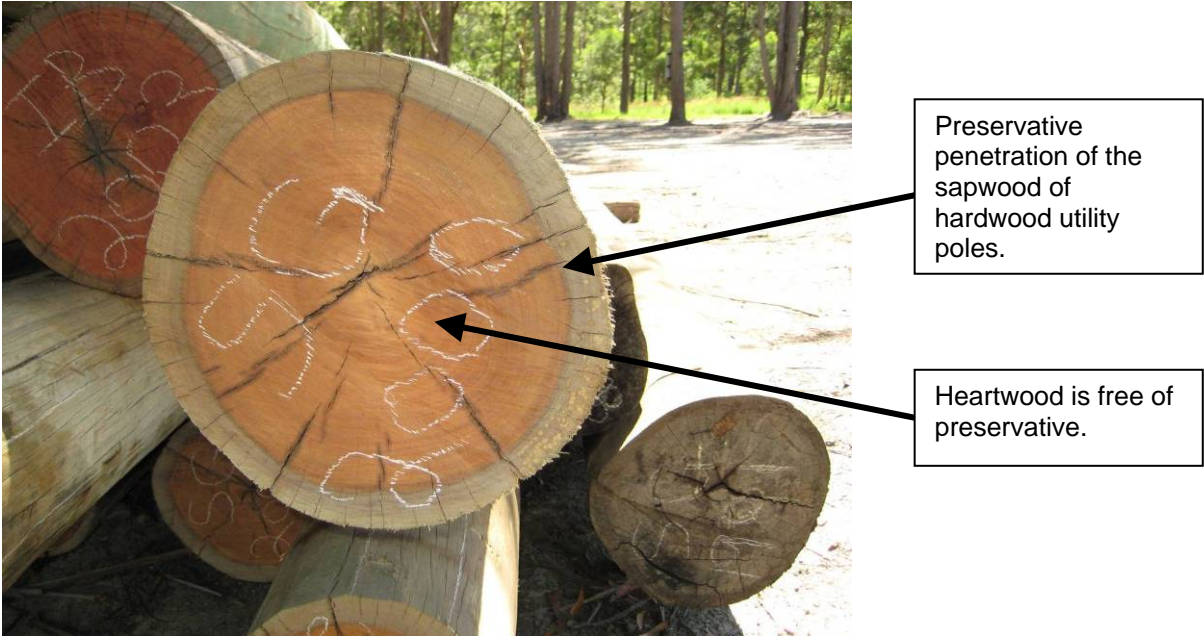


Figure 3 : Preservative treated sapwood- apparent in cross-section

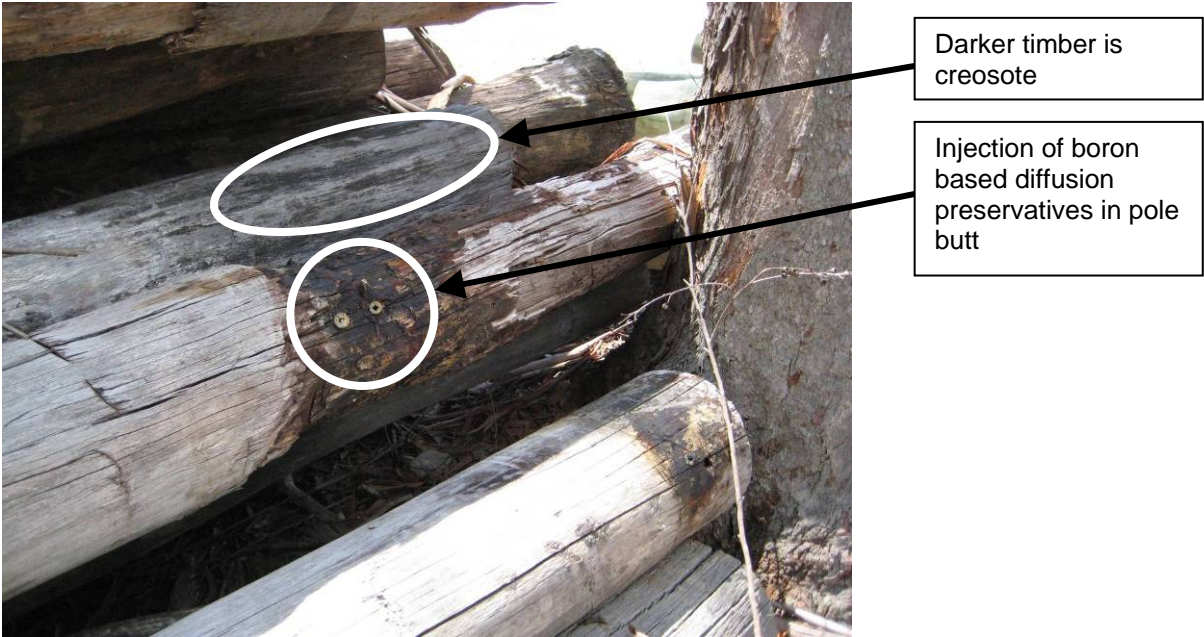


Figure 4 : Evidence of creosote preservative and boron diffusion preservatives - power poles

Identification discs have been required for to be stamped into utility poles for many years. Poles without a disc are over 20 years old. The discs include a code number for the preservative treatment plant, the type of preservative used and the hazard level of preservative treatment.⁵ A full list of the preservative codes and hazard levels is available in AS1604, however, 01 – Copper Chrome Arsenate (CCA oxide) is currently the most commonly used while 32 – Copper Chrome Arsenate (CCA salt) has been used in the past (see Figures 5 and 6). Each preservative treatment plant is supplied with a code number – the numbers of plants in NSW are available from Forests NSW.

Some power pole infrastructure managers require other information on the discs such as the year of felling, year of treatment, pole length and even species but this is not consistent from utility to utility.

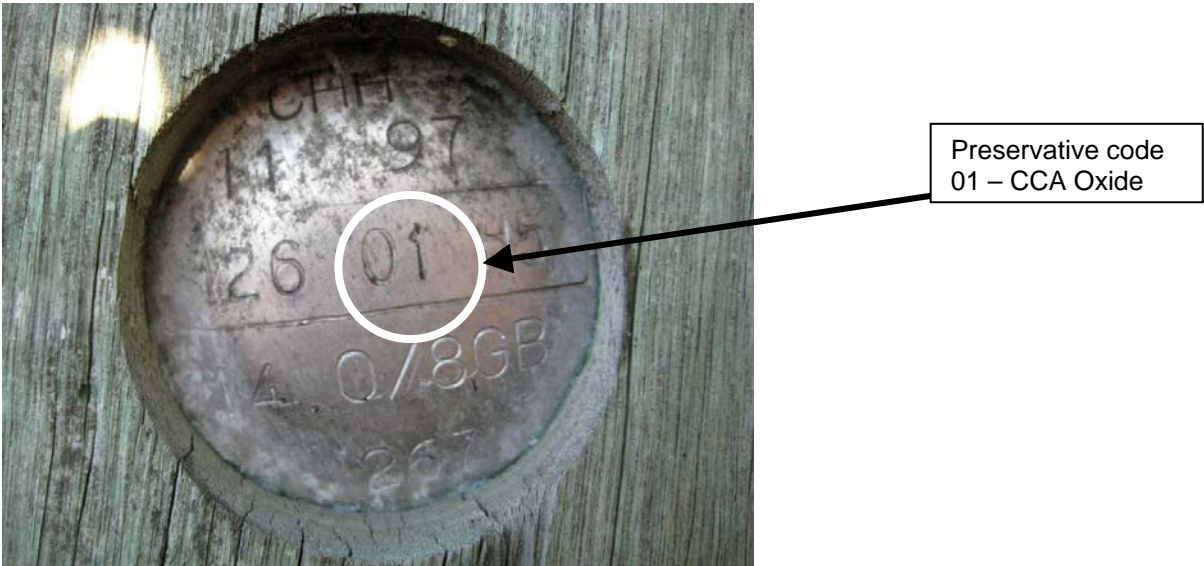


Figure 5: Power pole ID disc 1

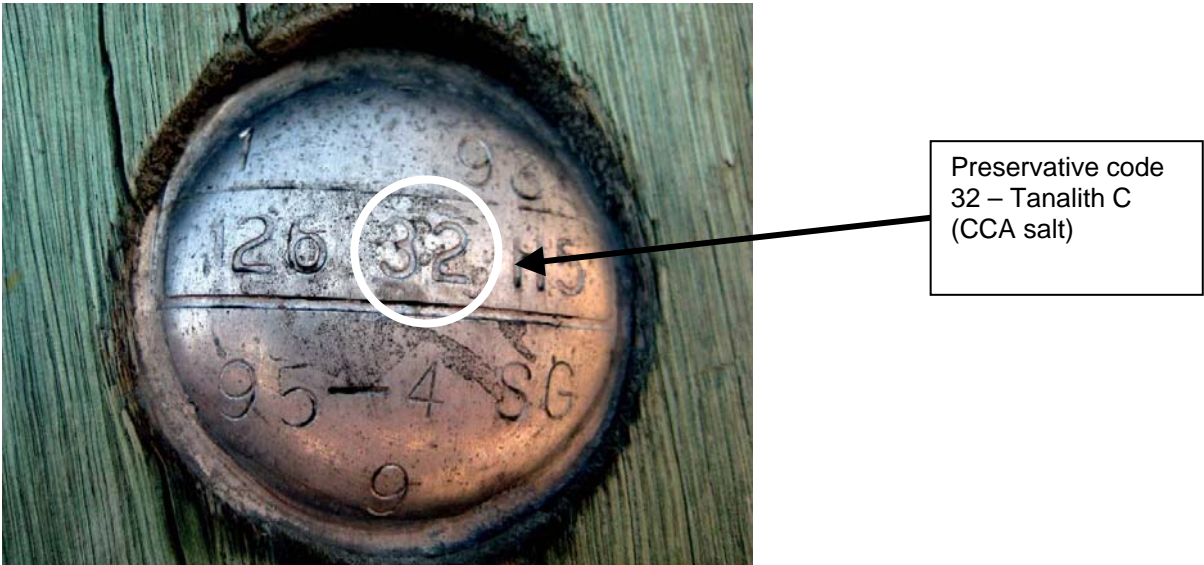


Figure 6: Power pole ID disc 2

⁵ Energy Australia advise that there are a small number of poles (approximately 59 poles with a 2003 year disc – which were only installed in the Oatley district area) that have been desapped by machining to an 8 or 16 sided shape but have been through the CCA treatment process. These poles must be treated as non CCA impregnated desapped durable poles because without the sapwood to retain the chemical there can be no effective protection for the pole.

Evidence of lead based paint primers is fairly obvious (see Figure 7). Confirmation of the presence of lead can be made with simple and cheap swab test. These tests may be confirmed at an analytical lab.

Residual termite treatment chemicals do not travel far from the application site. Residual chemicals may be present in and around the immediate surrounds of recent termite inspection and chemical application holes, particularly if the application was recent (see Figure 8).

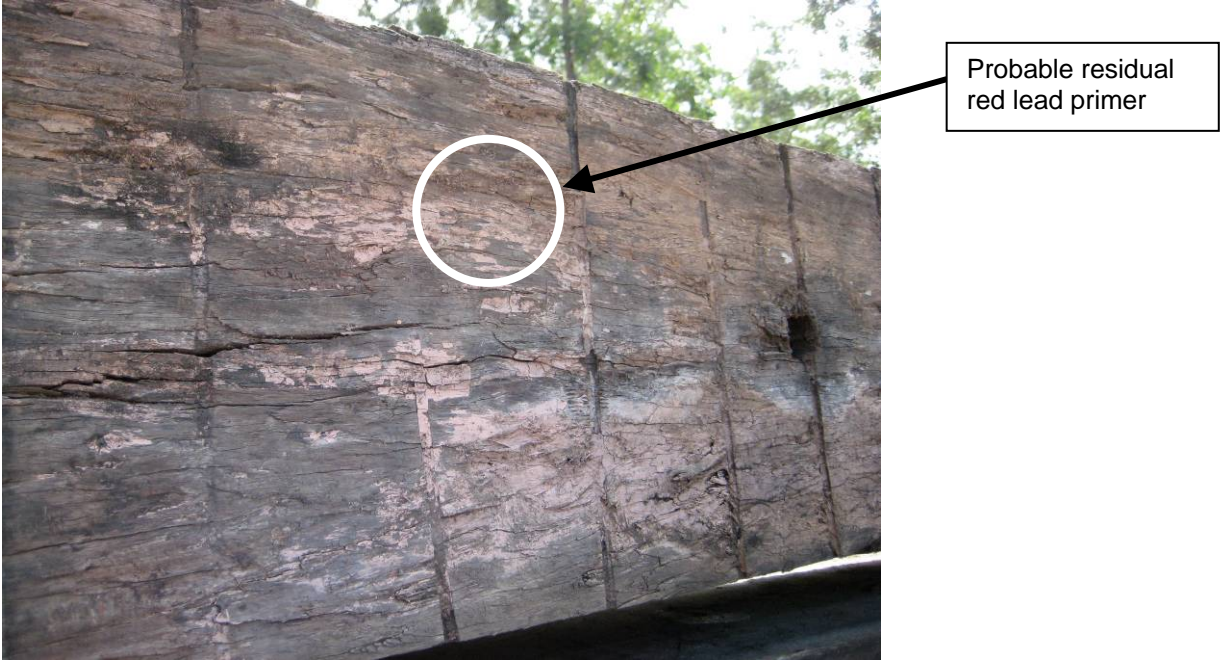


Figure 7: Bridge timbers with residual red lead primer

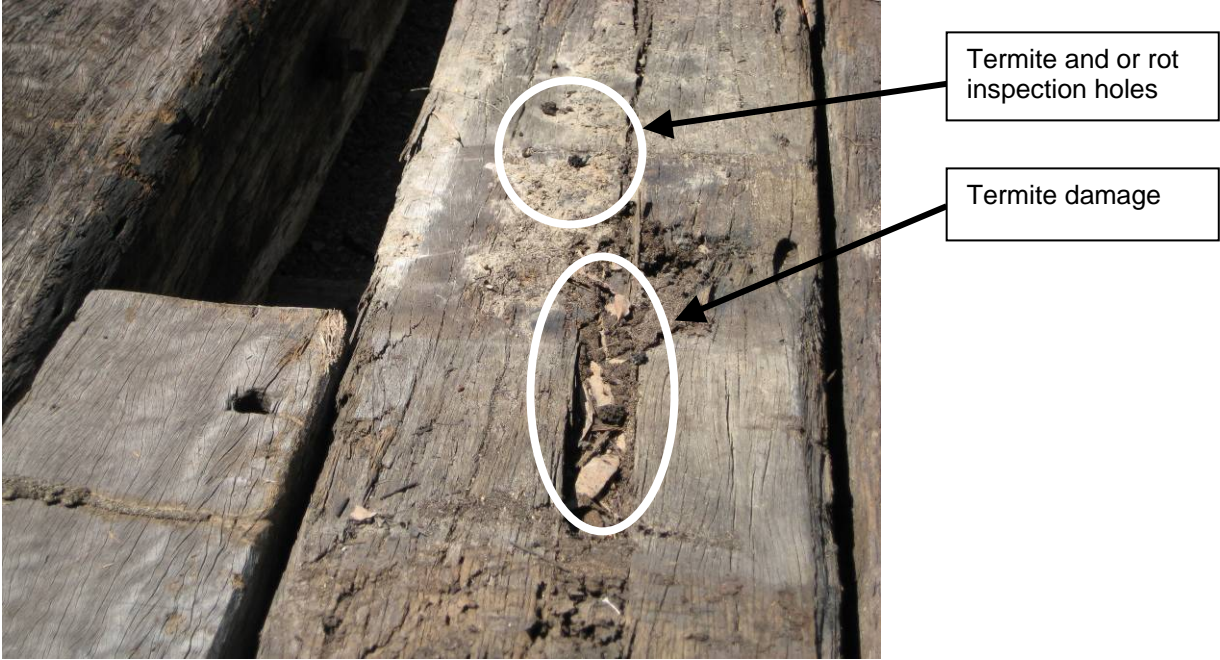


Figure 8: Bridge timber with evidence of inspection holes and termite damage where residual chemicals may be found if applied recently.

Appendix D Safe handling, processing and disposal of timber

Regardless of whether timber has or has not been preservative treated, handling and processing of all timber, particularly where there can be an exposure to wood dust, requires attention to occupational health and safety. Wood dust may irritate the nose, respiratory system, eyes and skin. It is also flammable and it can be an explosion hazard. All wood dust is classified by the World Health Organisation as being able to cause cancer in humans.

Wood dust from some wood species may cause dermatitis and allergic respiratory effects, e.g. asthma, because of naturally occurring chemicals in them.

Health problems can be avoided by taking a few simple precautions when exposed to airborne wood dust, particularly when using power tools.

Preservative Treated Timber

Major producers of power poles and bridge timbers treated with CCA and creosote preservatives in New South Wales are Koppers Wood Products and Coffs Harbour Hardwoods. More detailed occupational information is available from a Materials Safety Data Sheet (MSDS) which can be provided by product suppliers.⁶

General Consumer & Safety Information

Preservative treated wood products made in Australia are protected against decay and termites by impregnation with Australian Pesticides & Veterinary Medicines Authority approved wood preservatives. Treated wood is safe to use providing that common sense precautions and handling guidelines are followed. This information is provided in the interest of consumer safety and for appropriate use of the product.

- Only use treated wood that is clean, dry and free of surface residues.
- Avoid inhaling wood dust and wear a filter mask while power sawing, machining, sanding or any operation where wood dust is generated.
- Protect the eyes while using power tools or any work where small particles may be ejected.
- Wear gloves when handling the material, and wash hands after work and before eating, drinking or smoking.
- Brush or wash sawdust off skin or clothes.
- Keep the work area clean. Do not allow wood dust to accumulate. Where ever possible, recover sawdust, shavings and off-cuts for proper disposal.
- Wash wood dust contaminated work clothing and safety equipment before reuse.

Safe Use and Disposal

AS 5605–2007: *Guide to the safe use of preservative-treated timber* contains a wealth of information on all preservative types. For example, AS 5605-2007 states that “CCA-treated timber offcuts and waste shall not be burned in open fires, stoves, fireplaces or any confined spaces. They may be burned in plants specifically approved for that purpose.”

⁶ The MSDS for Koppers preservative treated products are available on request from <http://www.koppers.com.au/KW-Material-Safety-Data-Sheets2/default.aspx> while Coffs Harbour Hardwoods can be contacted on 02 6649 2006.

Appendix E Site Environment Management Plan

A Recyclers Site Environmental Management Plan (SEMP) should cover the following:

- Legislative requirements
- Identification and ranking of key environmental risks
- Procedures for managing and mitigating risks
- Identification of roles and responsibilities
- Monitoring, audit and reporting requirements
- A contingency plan for dealing with emergency events
- Procedures for handling complaints
- Provides a summary of environmental commitments

The following environmental issues are considered most relevant to the SEM and will need to be addressed:

Air

Public nuisance and occupational health impacts from treated timber off-cuts, sawdust and treated timber dust from unsealed work areas.

Waste

Disposal of treated timber off-cuts and sawdust.

Noise

Annoying and intrusive noise including that from loading and unloading of timber on site.

Water

Leaching of problematic substances from the timber processing operations.

Other issues

Fire risk from storage of timber.

Other elements of a SEM

Other elements to be included in the SEM include:

- Treated timber operation area cleaning procedures
- Treated timber batch process records
- Process and staff training auditing program
- Soil and stormwater monitoring program

Appendix F Other potential substances

Lead

'Red lead', a red to orange red pigment was the major component (up to >60%) of lead primers in Australia and elsewhere for over a century (DECC 2003). It was used alone or mixed with white lead and other components to form 'pink primer' common on timber work in domestic construction in Australia until approximately 1972. Red lead was widely used in certain industrial applications through the 1980s.

Organochlorines

Organochlorine pesticides such as dieldrin, aldrin, chlordane and pentachlorophenol were used to protect or preserve timber. They were applied to prevent fungus attacking timber and/or prevent or manage termite infestation.

In 1995, the use of organochlorine pesticides such as dieldrin, aldrin and chlordane were no longer permitted.

Pentachlorophenol was not used in any great quantity to preserve power poles or bridge timber in New South Wales. It is no longer used in any application in Australia and there are no longer any pesticides utilising pentachlorophenol registered for use by the Australian Pesticides and Veterinary Medicines Authority (APVMA)⁷.

⁷ APVMA (2006) Removal of Chemicals from the Priority Candidate Review List. APVMA Gazette 7 February 2006 page 26. Available at <http://www.apvma.gov.au/gazette/gazette0602p26.shtml>

Appendix G Ash from burnt CCA-treated timber – cleanup and disposal

When timber containing CCA is burnt, the remaining ash/char may contain up to 10% (by weight) arsenic, copper and chromium and swallowing only a few grams could be harmful.⁸ Animals may be poisoned after licking or swallowing salty CCA ash residue. Children, pets and other animals must be kept away from these ash areas until clean up is completed.

Appropriate Personal Protection Equipment (PPE) must be worn by staff cleaning up. Ash must be double-bagged, sealed and directly disposed of.

Burnt CCA timber must be wrapped and sealed in plastic prior to handling to minimise potential exposure to personnel. Any clothing contaminated with CCA ash should be removed and appropriately disposed of.

All waste must be disposed of in accordance with legislation and Department of Environment and Climate Change (Environment Protection Authority) of New South Wales Waste guidelines.

⁸ http://www.health.vic.gov.au/environment/emergency_mgmnt/ash.htm

Appendix H Sale of recycled timber

The sale of certain timber in New South Wales is subject to the Timber Marketing Act 1997. A few relevant excerpts from the Act are included below:

No Sale of lyctid susceptible sapwood

A person shall not sell any milled timber, laminated wood, veneer or plywood having lyctid susceptible sapwood.

Describing timber as dried or seasoned

A person shall not sell any timber:

(a) described by the person, the person's servants or agents as being kiln dried, air dried, dry or seasoned, or

(b) described by the person, the person's servants or agents in such manner as to convey or be likely to convey to any person the impression that that timber is kiln dried, air dried, dry or seasoned,

unless:

(c) where the moisture content of that timber is clearly shown on the invoice or docket of sale the moisture content of that timber, when determined in the prescribed manner, complies, as at the date of sale, with the moisture content so shown, or

(d) where no moisture content as referred to in paragraph (c) is so shown:

(i) where a standard has been prescribed which specifies the moisture content for that timber or for a class or description of timber to which class or description that timber belongs and the manner of determining that moisture content, the moisture content of that timber when determined in that manner complies, as at the date of sale, with that standard, or

(ii) where no such standard has been prescribed, the moisture content of any piece of that timber when determined in the prescribed manner is not, as at the date of sale, less than 10 per cent or more than 15 per cent by mass.

Sale as preservative treated timber

16 (1) A person shall not sell any timber:

(a) described by the person or the person's servants or agents as being preservative treated, or

(b) described or presented by the person or the person's servants or agents in such manner as to convey or be likely to convey to any person the impression that that timber is preservative treated,

Unless that timber is treated by means of an approved preservative treatment and is branded with the registered brand in accordance with the conditions of the approval.

Restrictions on sale of CCA preservative treated timber for some uses

Under an agreement that the timber industry has with the Australian Pesticides and Veterinary Chemical Authority (APVMA) timber treated with CCA before 7th June 2006 can continue to be sold for all applications. The APVMA requires that after June 2006, timber *may not be treated* with CCA preservative if it is to be used for the uses cited.

The Infrastructure Manager or the Recycler may choose to restrict the sale of all recycled timber treated with CCA in line with the current voluntary restrictions for timber treated with CCA after 7th June 2006.

These restrictions are - Timber treated with CCA can no longer be used for:

- Children's play equipment
- Garden furniture
- Picnic tables
- External seating
- Domestic decking boards or
- Handrails

In addition to these restrictions, CCA treated products must be individually and legibly marked with the words "Treated with copper chrome arsenate" to first point of use. Small CCA treated products don't have to be individually marked however the pack must be legibly marked with the words "Treated with copper chrome arsenate" to first point of use. Small CCA products are

- Fence palings, battens and droppers
- Veneers
- Timber with a cross section of 1500mm² and less (except light decking)
- Timber less than 15mm thick (except light decking)
- Timber less than 500mm long

Appendix I Waste disposal classification and resource recovery exemptions

Under the Protection of the Environment Operations Amendment (Scheduled Activities and Waste) Regulation 2007 “wood waste” and “building and demolition waste” are pre-classified as general solid waste (non-putrescible). The definitions of these terms are provided below:

***wood waste** means sawdust, timber offcuts, wooden crates, wooden packaging, wooden pallets, wood shavings and similar materials, and includes any mixture of those materials, but does not include wood treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote (PEC) and light organic solvent preservative (LOSP).*

***building and demolition waste** means unsegregated material (other than material containing asbestos waste) that results from:*

(a) the demolition, erection, construction, refurbishment or alteration of buildings other than:

- (i) chemical works, or*
- (ii) mineral processing works, or*
- (iii) container reconditioning works, or*
- (iv) waste treatment facilities, or*

(b) the construction, repair or alteration of infrastructure development such as roads, tunnels, sewage, water, electricity, telecommunications and airports, and includes materials such as:

(c) bricks, concrete, paper, plastics, glass, metal, and

(d) timber, including unsegregated timber, that may contain timber treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote.

Other wood wastes will have to be classified according to the Department of Environment and Climate Change *Waste Classification Guidelines Part 1: Classifying Wastes* which are available at <http://www.environment.nsw.gov.au/resources/waste/08202classifyingwaste.pdf>

CCA, creosote and Tanalith E treated timber

The DECC has gazetted *General Approvals of Immobilisation* confirming the solid waste classification for waste timber treated with the preservatives CCA, creosote and ‘Tanalith E’ (a copper azole-based preservative).

Additionally, some wastes may be scheduled wastes as they contain greater than 2mg/kg of organochlorines. Table A7 lists the chemicals controlled by the Scheduled Chemical Wastes Chemical Control Order 1994, under the Environmentally Hazardous Chemicals Act 1985. Wastes are considered to be scheduled chemical wastes if they contain one or more of the constituents in the following list, where the total concentration of those constituents is more than one milligram per kilogram.

Organochlorines

Scheduled chemical wastes are wastes containing chemicals defined by the schedule attached to the order. The schedule lists 24 chemicals including a number of organochlorine pesticides which are no longer registered for use (e.g. aldrin, dieldrin, chlordane and pentachlorophenol).

The NSW Department of Environment and Climate Change has a Chemical Control Order which establishes requirements for the management and control of the wastes that contain

scheduled chemicals. It covers certain activities such as generating, processing, storing, distributing, conveying and disposing of scheduled chemical wastes.

Processing of scheduled chemical waste may require a technology assessment and approval by the DECC.⁹

Resource Recovery exemptions

The Department of Environment and Climate Change (DECC) is now able to exempt waste or waste-derived materials, to allow these materials to be applied to land or thermally treated where they are assessed as being fit for purpose and posing minimal risk of harm to the environment and human health. This mechanism will provide certainty for those who market or use waste-derived materials.

Exemptions may be either 'general' or 'specific'.

General exemptions apply to common materials used in land or thermal applications. Individual companies do not need to apply to DECC for a general exemption provided they meet the conditions of the exemption for that material.

General exemptions are published on the following web page as they become available:

<http://www.environment.nsw.gov.au/waste/RRecoveryExemptions.htm>

⁹Environment Protection Authority NSW (2004) CHEMICAL CONTROL ORDER IN RELATION TO SCHEDULED CHEMICAL WASTES. Available at <https://www.dec.nsw.gov.au/resources/scwcco2004.pdf>

Appendix J References

The following references have either been referred to or been utilised to develop this Protocol:

AS 1604.1-2005 Specification for preservative treatment. Part 1: Sawn and round timber

AS 2209 Timber power poles for overhead lines

AS 2843.2:2006 Timber preservation plants - Treatment area operation

AS 4361.1-1995 Guide to lead paint management - Industrial applications

AS 5605-2007 Guide to the safe use of preservative-treated timber

AWPA and CFMEU (undated) *Working Safely with Wood and Wood Products*, a joint publication of the Australian Wood Panels Association and the CFMEU Construction Division. Available at <http://www.woodpanels.org.au/healthsafety.asp>

Boyd et al (2002) *Termiticides*, National Centre of Environmental Toxicology. Available at www.build.qld.gov.au/research/BrDocs/termiticides/termiticides_report.PDF

Commonwealth of Australia (1974) *Trade Practices Act 1974*. Available at http://www.austlii.edu.au/au/legis/cth/consol_act/tpa1974149/

Commonwealth of Australia (1997) *Some previous uses of organochlorine pesticides in Australia*, Scheduled Wastes Fact Sheet Number 4 February 1997. Available at <http://www.environment.gov.au/settlements/publications/chemicals/scheduled-waste/ocpfactsheet4.html>

Commonwealth of Australia (2005) Stockholm Convention on Persistent Organic Pollutants AUSTRALIA'S NATIONAL IMPLEMENTATION PLAN Draft 13 September 2005 Department of Environment and Heritage. Available at <http://www.environment.gov.au/settlements/publications/chemicals/pubs/stockholm.pdf>

DECC (2003) *Sources of lead in the environment*, Department of Environment and Climate Change. Available at <https://www.environment.nsw.gov.au/leadsafe/leadinf6.htm>

DECC (2008) *List of general immobilization approvals*. Available at <http://www.environment.nsw.gov.au/waste/ListGenApprovals.htm>

DECC (2008) *Resource recovery exemptions*, Department of Environment and Climate Change. Available at <http://www.environment.nsw.gov.au/waste/RRecoveryExemptions.htm>

DECC (2008) *Waste Classification Guidelines Part 1: Classifying Wastes*, Department of Environment and Climate Change. Available at <http://www.environment.nsw.gov.au/resources/waste/08202classifyingwaste.pdf>

Energy Australia (2007) *Request for Quotation: Purchase, removal and disposal of scrap wood poles*.

Energy Australia (2003) *Network Standard Advice No. 1404 05/03/2007 Doc. Ref. Network Standard NUS 0146 Amendments to Energy Australia's Network Standard NUS 146, Safety Inspection Procedure for Working on Poles November 2003*. Available at <http://www.energy.com.au/internet/pdfs/NSA1404.pdf>

EPA NSW (2004) *Environmentally Hazardous Chemicals Act 1985: Chemical Control Order in Relation to Scheduled Chemical Wastes*, Environment Protection Authority NSW. Available at <https://www.dec.nsw.gov.au/resources/scwcco2004.pdf>

Koppers Wood Products (2007) *Safe Handling of Treated Timber*, Available at <http://www.koppers.com.au/KW-Handling-Timber/default.aspx>

National Occupational Health and Safety Commission (1989) *Guidance Note for the Safe Handling of Timber Preservatives and Treated Timber [NOHSC:3007(1989)]*. Available from

http://www.ascc.gov.au/NR/rdonlyres/9D60286F-D4C1-4806-8617-2B6A77485518/0/TimberPreservativesGN_NOHSC3007_1989.pdf

National Occupational Health and Safety Commission (1989) *National Code of Practice for the Safe Handling of Timber Preservatives and Treated Timber* [NOHSC:2003(1989)]. Available from http://www.ascc.gov.au/NR/rdonlyres/D1C03EC6-1F21-4723-88D5-31E5F75ECB3B/0/TimberPreservativesCOP_NOHSC2003_1989.pdf

National Occupational Health and Safety Commission (1994) *National Standard for the Control of Inorganic Lead at Work* [NOHSC:1012(1994)]. Available at http://www.ascc.gov.au/NR/rdonlyres/31042763-B7ED-4F51-B95D-191E3CA7D378/0/leadstandard_NOHSC1012_1994.pdf

National Occupational Health and Safety Commission (1994) *National Code of Practice for the Control and Safe Use of Inorganic Lead at Work* [NOHSC:2015(1994)]. Available at http://www.ascc.gov.au/NR/rdonlyres/1CE63D01-C21F-4F2B-84EB-8B7924FC224A/0/LeadCOP_NOHSC2015_1994.pdf

NSW Government (2007) Protection of the Environment Operations Act and Regulations. Available at http://www.austlii.edu.au/au/legis/nsw/consol_act/poteoa1997455/

NSW Government (2007) *Timber Marketing Act 2007*. Available at http://www.austlii.edu.au/au/legis/nsw/consol_act/tma1977171/

Queensland Department of Health (2001) *Health based Soil Investigation Levels*, written for enHealth Council, published by AusInfo for Commonwealth Department of Health and Aged Care.

Queensland Department of Main Roads (2005) *Timber Bridge Maintenance Manual*. Available at [http://www.mainroads.qld.gov.au/web/AttachStore.nsf/allobjects/Timber%20Bridge%20Maintenance%20Manual%20-%20Part%201/\\$file/TBMM_Part1.pdf](http://www.mainroads.qld.gov.au/web/AttachStore.nsf/allobjects/Timber%20Bridge%20Maintenance%20Manual%20-%20Part%201/$file/TBMM_Part1.pdf)

RSA Technical Services Group (1998) *Technical Report TR.036 - Strategic Study Timber Underbridge - Stage 1 Condition Survey (Feb 1998)*. Available at http://www.railcorp.nsw.gov.au/_data/assets/file/0011/740/TR036.pdf

WorkCover NSW (1991) *Code of Practice for the Safe Handling of Timber Preservatives and Treated Timber*.

WorkCover NSW (2007) *Lead Risk Work: Guidelines for notification*, Available at http://www.workcover.nsw.gov.au/NR/rdonlyres/CE3A2BEE-3228-48C6-83BC-CFE40C5BBFD5/0/lead_risk_work_guidelines_for_notification_4211.pdf