Environmental Guidelines for Wood Processing

November 2018

EPA TASMANIA
ENVIRONMENT PROTECTION AUTHORITY

Citation:

Environment Protection Authority (2018) *Environmental Guidelines for Wood Processing*, Environment Protection Authority, EPA Tasmania, Hobart, Tasmania

Date:

November 2018

Enquiries:

Industrial Operations Section
EPA Tasmania
Department of Primary Industries, Parks, Water and Environment
GPO Box 1751
Hobart, Tasmania 7001
Telephone: (03) 6165 4599
Email: enquiries@epa.tas.gov.au
Web: www.epa.tas.gov.au

Authorisation:

Issued by the Director, EPA to assist operators to meet relevant environmental management requirements.

Contents

1 Introduction

1.1 Purpose and scope of the guidelines

The State's wood processing operations are widely distributed and range in size from the small older style bush sawmills to large integrated mills and includes wood chipping, veneer production, particle board manufacturing, timber preservation and paper and pulp works.

The community expects such operations to be managed carefully with consideration of the needs of the environment, neighbours and employees.

The purpose of these guidelines is to assist industry to manage the environmental risks associated with its operations. The guidelines provide information about acceptable environmental standards to assist and inform:

- The industry in meeting their compliance obligations under the *Environmental Management and Pollution Control Act 1994* (EMPCA) and other relevant legislation
- Industry in achieving acceptable environmental outcomes
- Both industry and the wider community of environmental standards expected to be met by the industry, and
- The assessment of new operations and the expansion of existing operations.

Use of the guidelines will assist in reducing environmental risks associated with wood processing operations in order to improve the quality of the Tasmanian environment.

The guidelines describe the major characteristics related to wood processing operations. Recommended management actions listed under each characteristic are based on methods used interstate and overseas, and reflect current best practice environmental management.

The guidelines do not override a site-specific assessment undertaken by the Regulatory Authority or conditions imposed following such an assessment.

1.2 Who should use the guidelines?

While the guidelines are primarily directed towards sawmills, some of the information is equally relevant to other wood processing operations, such as woodchip mills.

The guidelines are designed for use by:

- Mill owners and operators
- Environmental consultants, and
- State Government and Council Officers involved in planning and regulation.

1.3 How to use the guidelines

Section 2 of the guidelines explains the legislative and regulatory framework that operators must work within. Section 3 provides a summary of the environmental management issues which typically arise from the wood processing industry. Section 4 outlines and recommends that the industry adopt a set of environment management principles to deal with these issues.

Section 5 of the guidelines recommends specific actions to consider for each of the major environmental issues outlined in Section 3. These actions are designed to improve work practices and assist operators to achieve the environmental management goals at their site.

Users of the guidelines should refer to Sections 3 to 5 to identify the activities and practices that are relevant to their work. In particular, operators can check their current practices against each list of management actions and improve their activities where necessary.

1.4 List of Acronyms

Table 1 provides a list of acronyms commonly used in this Guidelines document.

Table 1. List of Acronyms

Acronym	Meaning
ABN	Australian Business Number
ACN	Australian Company Number
DPIPWE	Department of Primary Industries, Parks, Water and Environment
DRP	Decommissioning and Rehabilitation Plan
EMP	Environmental Management Plan
EMPCA	*Environmental Management and Pollution Control Act 1994*
EPA Board	Board of the Environmental Protection Authority
EPA	Environment Protection Authority
EPN	Environment Protection Notice
LUPAA	*Land Use Planning and Approvals Act 1993*
RMPS	Resource Management and Planning System
UPSS	Underground Petroleum Storage Systems
VOC	Volatile Organic Compounds
WH&S	Workplace Health and Safety

1.5 Glossary of Terms

A detailed Glossary of Terms used in this Guidelines document is provided in Table 2.

Table 2. Glossary of commonly used terms in this Guidelines document

Term	Meaning
Chainsaw	For the purposes of these Guidelines this refers to a chainsaw powered by an internal combustion engine.
Council	The Council established under the *Local Government Act 1993* for the municipal area in which the premises is located.
Decommission	To remove something from use.
Director	Director, Environment Protection Authority as defined in section 18 of EMPCA.
Environmental Harm	Any adverse effect on the environment of whatever degree or duration.
Environmental Nuisance	The emission of a pollutant that unreasonably interferes with, or is likely to unreasonably interfere with, a person's enjoyment of the environment.
Environmentally Hazardous Substance	A substance, or a mixture of substances, of a certain nature or held in amounts that present a possible risk of causing environmental harm if released into the environment. Includes fuels, oils, waste and chemicals.
EPA Board	The Board of the Environment Protection Authority as defined in section 12 of the EMPCA.
Level 1 Activity	An activity which may cause environmental harm and requires a permit under a Council Planning scheme, but which is not a Level 2 or Level 3 Activity.
Level 2 Activity	An activity listed in Schedule 2 of EMPCA. For wood processing operations, such as sawmills, it is an operation producing 1,000 cubic metres or more a year; for chip mills, it is an operation that has the capacity to produce 1,000 tonnes a year. Wood preservation plants are Level 2 Activities regardless scale of production.

Term	Meaning
Level 3 Activity	Are "Projects of State Significance" which are assessed by the Tasmanian Planning Commission in accordance with provisions of the *State Policies and Projects Act 1993*.
Noise Sensitive Premises	Residences and residential zones (whether occupied or not), schools, hospitals, caravan parks and similar land uses involving the presence of individuals for extended periods, except in the course of employment or for recreation.
Operator	Is the person or company who is responsible for the wood processing operation.
Permit	Unless otherwise stated, in these Guidelines Permit refers to a Land Use Permit issued under LUPAA.
Pollutant	Includes: gases, liquids, solids, odour, noise, or a combination, which may cause environmental harm.
Regulatory Authority	Means the Council in respect of a Level 1 Activity, or the EPA in the case of a Level 2 Activity.
Rehabilitate	To restore to a stable and non-polluting condition.
Stormwater	Water that crosses the ground of premises as a result of rainfall.
Wastewater	Spent or used water (whether from industrial or domestic sources) containing a pollutant and includes stormwater which becomes mixed with wastewater.
Wood Processing Operations	Includes wood processing works, woodchip mills, wood preservation works, and paper and pulp works as defined in Schedule 2 of EMPCA.

1.6 List of Legislation

List of Acts and Regulations referred to in this document, include:

- *Dangerous Goods (Road and Rail Transport) Act 2010*
- *Dangerous Goods (Road and Rail Transport) Regulations 2010*
- *Environmental Management and Pollution Control Act 1994.*
- *Environmental Management and Pollution Control (Noise) Regulations 2016*
- *Environmental Management and Pollution Control (Underground Petroleum Storage Systems) Regulations 2010*
- *Environmental Management and Pollution Control (Waste Management) Regulations 2010*
- *Land Use Planning and Approvals Act 1993*
- *Workplace Health and Safety Act 2012*

2 Legislation

The Tasmanian environment and planning legislation is administered under the Resource Management and Planning System (RMPS). This is an integrated legislative and policy framework that aims to promote sustainable development.

The objectives of the RMPS that impact the wood processing industry are delivered through the *Land Use Planning and Approvals Act 1993* (LUPAA) and *Environmental Management and Pollution Control Act 1994* (EMPCA) and their regulations.

2.1 Environmental Management and Pollution Control Act

The objectives of the *Environmental Management and Pollution Control Act 1994* (EMPCA) include the protection and enhancement of the quality of the Tasmanian environment. This is achieved by assessing and regulating operations that have the potential to cause environmental harm.

EMPCA categorises activities based on their size, and potential for causing environmental harm. Level 3 activities are large scale Projects of State Significance, and Level 2 activities are those specified in Schedule 2 of EMPCA where both the type of activity and the magnitude are specified. Level 1 activities are those that require a permit but are not a Level 2 or level 3 activity.

2.2 Land Use Planning and Approvals Act

The *Land Use Planning and Approvals Act 1993* (LUPAA) provides the legal framework for the development and subsequent use of planning schemes in Tasmania. It also sets out the development approval process.

2.3 Environmental Assessment Process

Under EMPCA and LUPAA, the assessment process typically involves the following steps.

1. New operations, or changes to an existing operation, such as those listed in Section 4.4 of these Guidelines, usually require a Permit under LUPAA. Applications for a Permit are made to Council and are assessed against the provisions of the Planning Scheme.
2. If the application is for a new Level 1 Activity, or for a change that is ancillary to an existing Level 2 operation, the environmental assessment of the application is done by the Council.
3. If the application is for a new Level 2 Activity, or involves a change to an existing Level 2 operation such as those listed in Section 4.4, the application will be referred by Council to the EPA Board for environmental impact assessment.
4. For example, if it were proposed to install a new boiler with a fuel load of 1 tonne or more per hour at an existing operation, this would be referred to the EPA Board by the Council.
5. The assessment process determines the environmental conditions to be included in a Permit, to reduce or eliminate the discharge/emission of pollutants and/or risk of environmental harm occurring due to the nature of the operation, should a Permit be granted.
6. The proposed operation, location and the significance of the change, will guide the documentation required to be submitted for assessment, and the class of assessment. Therefore, before making an application to Council, the operator should contact the Regulatory Authority to find out information requirements.
7. Permit applications are advertised to allow for public comment.
8. The applicant and any person who submitted comment during the advertising of the application have the right to appeal the refusal or granting of a Permit to the Resource Management and Planning Appeal Tribunal.

2.4 Permits

A development application for a Level 2 Activity as described in Schedule 2 of EMPCA will be referred by the relevant Council, to the EPA Board for environmental impact assessment. If the application is not

refused by the EPA Board, a set of environmental conditions may be required to be imposed in the Permit. These conditions are included as part of the Land Use Permit, if granted by Council.

It is an offence to fail to comply with the conditions in a Permit. Failure to comply can result in a Formal Written Warning, a fine (*i.e.* Environmental Infringement Notice), or court prosecution.

The Permit should specify the scale of production. This production limit determines the whether the operation is a Level 2 activity and also governs the annual permit fee, if any, imposed by the Regulatory Authority.

Level 1 Activities are regulated by the Council for the municipal area in which the operation is located. Level 2 and Level 3 Activities are regulated by the EPA.

2.5 Environment Protection Notices

Environment Protection Notices (EPNs) set environmental requirements which the recipient must comply with. EPNs are issued under Section 44 of EMPCA.

EPNs can be issued by a Council officer in respect of a Level 1 Activity or the Director, EPA for a Level 2 Activity.

Failure to comply with the requirements of an EPN is an offence. Failure to comply can result in the issuing of a Formal Written Warning, a fine (*i.e.* Environmental Infringement Notice), or prosecution.

3 Environmental Management Issues

The environmental management issues that typically can arise from wood processing include:

- Air emissions
- Solid waste generation
- Stormwater and wastewater
- Noise, and
- Management of hazardous substances.

There are also a range of issues associated with the suspension of operations, and the closure and decommissioning of sites, such as decontamination and rehabilitation.

3.1 Air Emissions

Wood processing operations can generate air emissions from a range of sources.

Sanding, sawing and machining of timber produces wood dust and larger particulates. Log yards and trafficked areas can also generate dust emissions.

Boilers emit combustion products such as carbon monoxide (CO), oxides of sulphur (SO_x), oxides of nitrogen (NO_x), particulate matter (PM) and volatile organic compounds (VOCs) from wood and bark. The type and volume of combustion products will vary according to the type of fuel selected.

Kiln drying of wood and the use of solvents, coatings and lacquers also contribute to the emission of VOCs.

3.2 Solid Waste Generation

Solid wastes resulting from the wood processing include the bark, sawdust, solid pieces such as offcuts/dockings from the milling processes and wood shavings. Other potential sources of solid waste include yard waste, solids from log washings, ash from boilers, and general rubbish.

3.3 Wastewater and Stormwater

Wastewater is generated from runoff from log sprays in log yards, condensate from kilns and boiler blow down.

Stormwater can be contaminated with pollutants such as sawdust, litter, petroleum products, solvents, coolants, degreasing agents, rubber particles, detergents and sediment.

3.4 Noise

The emission of noise is considered to interfere with a person's enjoyment of the environment if it is unreasonable with respect to its volume, intensity or duration; and the time, place and other circumstances in which it is emitted.

Excessive and/or unreasonable noise emissions from activities such as cutting, sawing, moulding and chipping can create an environmental nuisance. Noise impacts are greatly reduced where there is adequate separation distance between the noise generating machinery and any sensitive receptors, such as residences.

3.5 Management of Environmentally Hazardous Substances

Hazardous substances released to the environment can cause significant short and long term environmental damage. All hazardous substances should be appropriately stored and handled to reduce the risk of release to the environment.

Hazardous substances include chemicals, fuels, oils and wastes. Substances usually considered harmless can also cause environmental harm or nuisance if they are spilled in large amounts, or in the wrong place. It is

important to manage not only the risk of a large spill, but also smaller spills or leaks that may accumulate over time.

3.6 Other Operational Issues

Periodic monitoring and reporting of emissions to air and water as well as noise emissions may be required by the Regulatory Authority.

Visual management, lighting, and Work, Health and Safety (WHS) requirements may also have a bearing on environmental outcomes.

4 Environmental Management Principles

It is recommended that the industry and individual operators adopt the following environmental management principles to deal with issues described in Section 3.

1. Ensure that staff, contractors and others remain aware of their role in reducing the environmental impact of wood processing operations.
2. Prevent contaminated wastewater runoff and other liquid and solid pollutants from entering surface water, groundwater and soil.
3. Minimise the release of vapours and other fumes.
4. Minimise noise and odours generated on site.
5. Prevent existing contaminants in soil and sediment from being remobilised into the environment during construction or development works (for example excavation or associated activities).
6. Minimise the production of solid and liquid waste.
7. Maximise the recycling of solid and liquid waste, in particular treated wastewater and non-hazardous general waste.
8. Dispose of non-recyclable wastes and general wastes offsite in accordance with State and local government requirements.
9. Maintain sufficient documentation and records to define the site's environmental management program, monitor progress towards sustainability and demonstrate compliance with State and local government requirements.
10. Be prepared to respond effectively to emergency situations which threaten human or environmental health.

4.1 General Requirements

All wood processing operators must comply with general conditions contained in a Permit or EPN, and also with legal requirements under EMPCA and its regulations. The following can be used as a guide to assist in meeting those requirements.

4.2 Awareness

The wood processing operator is ultimately responsible for the environmental performance of the operation. The operator must ensure that anyone working on the premises, including contractors and sub-contractors, are aware of any environmental conditions contained in a Permit or EPN that relate to the work they are doing.

4.3 Incidents

In the event of an incident, including an emergency, accident or malfunction that causes a pollutant to be released, section 32 of EMPCA requires that notifications be made:

> The Director, EPA must be notified of any incident that may or does cause *serious* or *material environmental harm*.
>
> The Director, EPA must also be notified if the incident is associated with a level 2 activity and may or does cause *environmental nuisance*.
>
> The Council must be notified of any incident not associated with a level 2 activity that may or does cause *environmental nuisance*.

These notifications must occur as soon as possible, but no later than 24 hours after becoming aware of the incident.

The Director, EPA can be notified by telephoning 1800 005 171, a 24-hour emergency telephone number.

Where safe to do so, actions should be taken to minimise environmental effects from the incident.

4.4 Changes to operation

Before any changes are undertaken to a wood processing operation that may result in an increase in emissions of pollutants, approval should be sought from the Regulatory Authority. Such approval may be in the form of a new Permit, or written approval from the Regulatory Authority.

New permit applications may need assessment by the EPA Board. Details on the assessment process are provided in Section 2.3 of these Guidelines.

Increased emissions can result from changes in:

- the quantity of materials used
- production processes
- equipment (addition, alteration or removal)
- the type of materials used
- the quantity of product produced, or
- the type of product produced.

4.5 Change in ownership or operator

The Regulatory Authority must be notified of any change in ownership of the land on which the operation takes place.

Where an EPN applies to an operation, section 45 of EMPCA requires the person on whom the EPN was served to notify the Regulatory Authority of any intention to cease to be responsible for the operation. This includes providing details of any person or company that will take over responsibility for the operation in future.

The details to be included are:

- name of incoming person or company
- contact person
- ACN (in the case of a company) or ABN
- postal address, and
- telephone number.

5 Recommended site management system

5.1 Record keeping

It is recommended that wood processing operators keep up to date information and records relating to the environmental management of their site. This material should be stored in an easily accessible location such as the site office, and should include information on the points listed below.

The record keeping should include:

- **A map of the site** showing the locations of significant features such as work areas, storage areas for hazardous substances and wastes, the wastewater collection and treatment system, and any emergency equipment such as fire extinguishers and equipment to clean-up hazardous substance spills.
- **A description of the type of work undertaken in each work area**, such as timber cutting and shaping, debarking, chipping, log sorting and storage and drying either naturally or in kilns.
- **A list of all hazardous substances** kept on the premises.
- **Copies of Safety Data Sheets (SDSs)** for chemical products kept on the premises.
- **An Emergency Response Plan** describing environmental and personnel protection procedures in the event of fire, hazardous substances spills or other pollution incident.
- **Procedures for carrying out wood processing and maintenance work** according to the best practice recommendations given in these guidelines.
- A **Waste Management Plan** that describes how waste will be minimised, reused or recycled, where residual waste will be disposed, and measures to be used to ensure that discharges from the operation meet relevant statutory and regulatory requirements. The plan should also cover management of wastewater.
- **Copies of approvals granted by the Regulatory Authority** such as approved waste management plans or environmental approvals under Regulation 12 of the *Environmental Management and Pollution Control (Waste Management) Regulations 2010*.
- **Copies of other permits and approvals** relating to construction and operations. The relevant documentation may include land use planning permits and Crown Land lease or licence agreements.
- **A copy of Trade Waste Agreement**, where relevant (liquid wastes should be discharged to a sewer system in accordance with a Trade Waste Agreement).
- **Other written records,** including monitoring results, for example water, air or noise sampling.
- **Records of proper disposal of controlled (hazardous) wastes**, such as used oils.

5.2 Management of Environmental Issues

5.2.1 Air emissions

Air emissions from a variety of sources associated with wood processing must be managed. Below is a list of the major sources of emissions and recommended control measures.

5.2.1.1 Smoke emissions

- Premises that operate wood fired boilers or incinerators must comply with the emission limits set out in Permit or EPNs. If no limits are set, boilers or incinerators should comply with the emission limits as set out in *Environment Protection Policy (Air Quality) 2004*.

- It is important to ensure that boilers have appropriate controls for stack emissions; such as cyclones, baghouse filters and/or electrostatic precipitators and/or scrubbers to control particulate emissions to the site specific requirements.
- The ratio of wet to dry fuel being fed to the boiler or incinerator should be kept to a constant proportion. Operators should ensure that fuel stockpiles are protected from exposure to the weather. Maintain an optimal air:fuel ratio for different fuel mixtures and install the capacity to adjust the levels of wood waste supply and combustion air to the boiler or incinerator.

5.2.1.2 Burning

- Open burning is not recommended due to the problems of minimising smoke generation because of difficulties controlling temperature and air flow.
- Burning should be carried out in a boiler or incinerator which has systems that allow control over air flow and temperature.
- Timber treated with preservative, particularly chromium, copper and arsenic (CCA) must not be burnt. Combustion releases arsenic to the atmosphere and residue ash containing soluble chromium, copper and arsenic can contaminate soil or water thereby presenting environmental and public health hazards.

5.2.1.3 Dust emissions

Dust emissions can occur from the use of machinery to process logs, from the storage of saw dust and wood chips, as well as traffic movements on internal roadways, log yards or any open, unsealed spaces. Dust from these sources should be controlled to prevent dust emissions from crossing the boundary of the premises.

Dust emission from machinery and stockpiles can be managed by:

- Installing extraction systems at sawdust sources such as saws, moulding and sanding machines.
- Cyclone or bag filters should be considered to remove particulates from the air stream before release. Filtered air can be returned to the work space.
- Sawdust and wood chips should be collected and stored by use of ducts, contained storage areas and/or hoppers to minimise dust emissions.

Dust emission from roadways and log yards and other open areas can be managed by watering unsealed areas and by regularly sweeping sealed areas.

Truckloads of sawdust, woodchips and other materials that may blow or spill should be covered and controls, such as shields, should be used while loading vehicles to control dust emissions.

5.2.2 Solid waste management

5.2.2.1 General principles

- Maximising sawn timber production assists in minimising the generation of wood wastes.
- Reuse and recycle waste material by incorporating waste into other processes such as using the waste material as an input for products in other industries or by using it as a source of fuel for power generation. For example, timber off cuts can be converted to wood chips, firewood or furnace fuel while sawdust can be used for furnace fuel, animal litter, pellet production or in composting.
- Avoid accumulating processing residues, disused plant and equipment, and general rubbish. This has many benefits, such as: improved safety and appearance, reduced risk of contamination and lower decommissioning costs.
- Wastes that are unsuitable for reuse should be removed to an approved waste disposal site at regular intervals.
- Ensure all wastes, including general domestic wastes, are managed while waiting disposal, in a way that reduces the risk of creating a hazard or nuisance.

5.2.2.2 Waste oil

- Waste oil not utilised for lubrication purposes on site should be taken to an approved recycling depot or collected by an approved waste oil collection service for recycling.
- Information regarding companies that are registered to collect and transport waste oil can be found on the Controlled Waste Tracking Registered Waste Handlers list[1].

5.2.3 Stormwater and wastewater

5.2.3.1 Stormwater management

Stormwater discharged from a premises should not carry pollutants, such as sediment, oil or grease which will degrade the quality of any receiving waters. This can be achieved by preventing stormwater from mixing with wastewater and by directing stormwater away from areas that could be a source of pollutants through the use of a suitably designed stormwater drainage system.

Stormwater that becomes contaminated should be treated prior to discharge. Measures for the treatment and disposal of contaminated stormwater will vary according to the types of contaminants and the location of the premises in relation to receptors, such as waterways.

Treatment measures include:

- first flush diverters
- gross pollutant traps
- oil/water separators, hydrocarbon absorbers (booms), infiltration basins (may be grassed or vegetated swales, garden strips or stone-filled trenches), and
- sediment traps or soluble pollutant removers.

5.2.3.2 Wastewater

Wastewater from the operation, such as log wash and log yard sprinkler runoff, and liquid from reconditioners should be treated prior to discharge from the premises.

The type of treatment needed depends on the type of wastewater. Log wash and log yard sprinkler runoff could be treated to a suitable standard using a settling pond system. While, reconditioner liquid and boiler blow down may need treatment to adjust the pH before discharge.

5.2.3.3 Settling ponds

Settling ponds are commonly used to manage stormwater and remove solids from wastewater. They should have the following design features:

- should be designed and constructed to a size sufficient to hold water long enough to allow sediments to settle out;
- should have installed filtration devices such as booms to capture oil and grease that may be on the surface of the water in the pond;
- should be regularly cleared of accumulated sediment to ensure that capacity is maintained and working effectively;
- drainage lines to the pond should be regularly cleared and maintained; and
- sediment removed during maintenance should be deposited in a location and manner that prevents it being washed away by stormwater.

Water from a settling pond can be re-used on premises for purposes where low quality water is suitable, such as for log yard sprinklers.

[1] https://epa.tas.gov.au/Documents/CWT Registered Transporters and Agents.pdf

Vegetated swales, irrigation and wetland systems can also be used to manage stormwater runoff.

5.2.3.4 Discharge to sewer

Premises that have access to sewer can only discharge to sewer with the approval of the relevant water authority responsible for the sewer. This approval is usually in the form of a Trade Waste Agreement.

5.2.4 Noise

5.2.4.1 General principle

Noise from activities should not dominate or be intrusive, and should not be 5dB(A) or more above the normal ambient noise, for longer than 10 minutes, at any noise sensitive premises (e.g. a residence).

5.2.4.2 Management strategies

General:

- Mill buildings should be enclosed as far as practicable and openings should face away from sensitive premises where possible.
- Solid barriers such as timber walls, bund walls, racked timber and topographical features provide the most effective 'in line' reduction of noise levels. Although vegetation barriers can provide good visual screening, which generally offsets other forms of potential nuisance such as noise, vegetation barriers up to several metres thick do not, in general, provide much attenuation for industrial noise.
- The use of extension telephone bell and public address systems should be avoided. If in operation, they should not be used outside normal operating hours.

Machinery and Equipment:

- Select machinery and equipment with low noise emissions and keep well maintained.
- Timber processing machines, (e.g. planers) which have the potential to emit excessive noise should be housed in acoustic enclosures. Alternatively they could be grouped in an area that has appropriate sound proofing.
- All machines with a tendency to produce vibrations should be mounted on vibration dampeners and mounted on individual foundations free of the rest of the floor.
- Compressors, generators and motors should be housed in a sound-attenuating enclosure.
- Sawdust blowers, extraction and collection systems (such as fans, blowers, cyclones and exhausts) should be fitted with silencers or baffles to reduce noise emissions.
- Dust extraction fans and pneumatic conveying fans are common sources of noise. Fan design can be a critical cause of excessive noise. Larger fans with lower shaft speed may emit less noise.
- Large pieces of wood off-cuts and other foreign materials should be prevented from entering dust extraction systems.
- Extraction fans should be fitted with suitable inlet silencers to minimise noise transmission along ductwork.
- Where a fabric filter duct collection system is fitted, the reverse pulse system may need to be silenced.

5.2.4.3 Operating hours

- Conditions may be placed on a wood processing operation to limit operating hours to control noise emissions.
- Permissible operating hours will vary but operations are generally not allowed on Sundays, and State-wide public holidays (excluding Easter Tuesday).
- Activities that do not generate significant noise, such as machinery maintenance, may be carried out at any time.
- Larger and more sophisticated wood processing activities (e.g. biofuel, pulp and paper, bio-refineries) seeking to operate continuously or with extended operating hours will first need to demonstrate to the Regulatory Authority that such operations will not cause environmental nuisance.

5.2.4.4 Wood chippers

- Wood chippers may be a significant source of noise; therefore there is a need to ensure that such noise emissions are carefully managed.
- Static wood chippers should be acoustically enclosed, with the discharge and in-feed chutes being positioned to direct noise away from noise sensitive receptors.
- Mobile wood chippers can be used, on a short term basis, to chip wood residues from the operation. However, approval from the Regulatory Authority must be sought prior to operation. This is because the use of a mobile wood chipper is likely to increase noise emissions.

5.2.4.5 Chainsaws

- The *Environmental Management and Pollution Control (Noise) Regulations 2016* set limits for the maximum level of noise that a chainsaw powered by an internal combustion engine is permitted to produce. They also set the circumstances when a chainsaw is permitted to be used, and the approvals that are required to operate a chainsaw close to residences (i.e. within 300m). Approval mechanisms include a Land Use Permit, an EPN, or an emergency authorisation.
- Where approval is given, operators should seek to reduce the noise impact from chainsaws as far as practical. The following factors should be considered:
    - distance to neighbours
    - hours of use
    - surrounding land uses
    - using sound barriers
    - regular maintenance of equipment

5.2.4.6 Log delivery and movement

- Routes for the movement of trucks to and from the premises should be selected to avoid residential areas wherever practicable.
- Limit truck movements through residential areas to reasonable operating hours and along specified routes wherever practicable.
- Encourage all heavy vehicles to use main highways where possible.
- Take care not to drop logs from a height onto the ground, decks or other logs.

5.2.5 Management of environmentally hazardous substances

5.2.5.1 Storage and handling

- Where present, environmentally hazardous substances should be stored within a bunded area, or spill tray for smaller quantities.
- Spill containment pallets can be used for temporary storage of environmentally hazardous substances. Such pallets should be placed on a level surface to ensure containment capacity is maintained.
- If short term storage outside of bunded areas/spill containment pallets becomes necessary, ensure that the temporary storage area is able to contain any spills.
- Where activities with an increased likelihood of spillage are undertaken frequently (such as vehicle refuelling, vehicle and equipment maintenance or transfer of bulk volumes of environmentally hazardous substances), this should occur at a location which supports containment and recovery of spills. For example, a vehicle loading apron.
- It is not recommended to store drums on wooden pallets on open ground.

5.2.5.2 Bund design and construction

- The size and design of any bunded area, or spill tray, should be appropriate to the amount and type of substance being stored. A common rule is that a bund should be capable of containing at least 110 per cent of the largest storage tank.

- Bunded areas should be designed to capture all spillages or leaks. This includes leaks from tanks that are above the height of a bund wall. Bunds also need to prevent mixing of incompatible substances.
- The design of bunded areas and loading aprons should allow for easy recovery of liquids whether from accumulated rainfall or from spills. This can be done through grading or drainage to a sump or collection point. Loading aprons can be graded or drained into a connected bund.
- Bunded areas need to be inspected regularly for collected liquids or rubbish, as these will reduce the capacity of the bund to contain spills. Such liquid and rubbish would typically be considered a controlled waste, and should be disposed of in an approved manner.
- Bunds, spill trays and vehicle loading aprons need to be made from, or lined with, materials that are impervious and will not react with the substances being held in the bund. Bitumen, mortar and concrete blocks are not impervious, so if they are to be used in the construction of a bund or loading apron these materials will need to be lined with a sealant.
- For more information on bunding, refer to EPA's Bunding and Spill Management Guidelines[2]

5.2.5.3 Spill kits

Spill kits suitable for the types and amounts of substances used on the premises should be kept in suitable locations for use to contain spills. Suitable locations include near the bunded storage area, where oils and lubricants are commonly used, and close to machinery during maintenance activities.

Sawdust is suitable to be used for minor spill containment and absorption, provided that a sufficient quantity is set aside for this purpose. If sawdust is used to contain a spill, this would thereafter be classified as a controlled waste and will need to be disposed of in an approved manner.

5.2.5.4 Underground petroleum storage systems

Underground Petroleum Storage Systems (UPSS) must be managed in accordance with the *Environmental Management and Pollution Control (Underground Petroleum Storage Systems) Regulations 2010* (UPSS Regulations). These set the requirements for the registration, monitoring and decommission of a UPSS.

More information about requirements under the UPSS Regulations can be found on the Underground Fuel Tanks[3] page on the EPA website.

5.2.5.5 Storage and handling of dangerous goods and substances

The storage, handling and transport of dangerous goods and dangerous substances must comply with the requirements of relevant State Acts and Regulations, including:

- *Dangerous Goods (Road and Rail Transport) Act 2010*;
- *Dangerous Goods (Road and Rail Transport) Regulations 2010*; and
- *Work Health and Safety Act 2012*.

5.2.6 Other operational issues

Wood processing operators should also consider the following issues.

5.2.6.1 Lighting control

- Lights used to illuminate areas of the premises for security or any other reason should be angled or shaded in such a manner so that the light does not directly illuminate any nearby residential premises.

5.2.6.2 Monitoring

- Some Permit or EPN conditions may require sampling or measurements of water quality, boiler stack emissions or noise emissions.

[2] https://epa.tas.gov.au/Documents/Bunding_and_Spill_Management_Guidelines_Dec_2015.pdf

[3] https://epa.tas.gov.au/regulation/underground-fuel-tanks

- Sampling, measuring and testing should be carried out by trained and qualified people to ensure accurate results.

5.2.6.3 Visual management

- Good housekeeping is encouraged as a neat and tidy site reduces visual impact and is less likely to give rise to public complaint.
- Landscaping and fences can be used to screen the premises and can provide effective wind breaks to assist in dust control.
- Neatly stacked timber racks can also assist in establishing an effective visual screen.

5.2.6.4 Work health and safety

- Work Health and Safety (WHS) requirements are not addressed in these Guidelines.
- Information on WHS requirements can be obtained from Work Safe Tasmania, telephone 1300 366 322 or visit www.worksafe.tas.gov.au.

5.2.7 Suspension and closure of operations

5.2.7.1 Suspension of operations

If a decision is made, or an event occurs, that results in or will result in the suspension of wood processing operations, the Regulatory Authority should be advised promptly.

While the operations are suspended the operator needs to ensure that the site is managed to prevent environmental harm or nuisance being caused by anything that may leave the premises, such as dust emissions or stormwater. Under these circumstances, the Regulatory Authority may require the operator to develop and submit for approval a Care and Maintenance Plan for the premises.

Should the operations be suspended for more than two years, the Regulatory Authority may require the operator to decommission and rehabilitate the premises as if it had closed permanently.

5.2.7.2 Closure of wood processing operations

If a decision is made, or an event occurs that results in or will result in cessation of wood processing operations, the Regulatory Authority should be advised promptly.

After being informed, the Regulatory Authority may require the operator of the premises to develop a plan which details how the premises will be decommissioned and rehabilitated to an acceptable standard. This plan is called a Decommissioning and Rehabilitation Plan (DRP).

The Regulatory Authority may provide guidelines for what should be included in the DRP. This may include details of:

- The proposed future use of the land
- How plant and equipment will be decommissioned and removed.
- Building demolition.
- History of use of any hazardous substances or spillages that may have caused site contamination that requires clean-up.
- Past practices, such as open burning of wood waste.
- Decommissioning of any underground or above ground fuel tanks.
- How wastes, including residues from the wood processing operation, will be disposed of.
- Investigations and testing for potential site contamination.
- Any earthworks that will take place.
- Establishment of a stable non-polluting landform (including runoff control)
- The estimated cost of site clean-up.

- How long the clean-up will take.

Once the Regulatory Authority has approved the DRP, decommissioning and rehabilitation must be done in accordance with the DRP.

Regulation of the premises will only cease after decommissioning and rehabilitation has been completed in accordance with the approved DRP.

ENVIRONMENT PROTECTION AUTHORITY