

South Australia

## Penola Pulp Mill Authorisation Act 2007

An Act to authorise certain works for the purposes of development of a pulp mill at Penola; to provide a mechanism for the authorisation of other works associated with the pulp mill; and for other purposes.

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### Legislative history

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## The Parliament of South Australia enacts as follows:

### 1—Short title

This Act may be cited as the *Penola Pulp Mill Authorisation Act 2007*.

### 2—Commencement

This Act will come into operation on a day to be fixed by proclamation.

### 3—Interpretation

In this Act, unless the contrary intention appears—

**Council** means the Wattle Range Council;

**project** means the construction of a pulp mill on the project site and the carrying out of associated works on and in the vicinity of the project site;

**project site** means the following land:

- (a) Sections 163 and 165, Hundred of Monbulla, being the whole of the land described in Crown Lease Volume 327 Folio 52;
- (b) Section 164, Hundred of Monbulla, being the whole of the land described in Certificate of Title Volume 5360 Folio 837;
- (c) Section 166, Hundred of Monbulla, being the whole of the land described in Certificate of Title Volume 5812 Folio 26;

**pulp mill** means a chemithermomechanical pulp mill involving any or all of the following infrastructure, equipment, structures and facilities (as well as other infrastructure, equipment, structures and facilities):

- (a) woodchip stockpile;
- (b) log yard;
- (c) static chipper;
- (d) pulp fibreline;
- (e) pulp drying and bailing facilities;
- (f) pulp storage and loading facilities;
- (g) chemical storage farm and hydrogen peroxide manufacturing plant;
- (h) power combined cycle plant;
- (i) substation and connection to the existing transmission grid;
- (j) steam boiler;
- (k) groundwater bores;
- (l) water treatment plant, waste water treatment plant and sewage treatment plant;
- (m) administration and amenities building;
- (n) maintenance workshops;
- (o) internal roadways, car park and access to Argyle Road and Millers Lane;

- (p) rail siding connection to the Mt Gambier to Wolsley railway line.

#### **4—Authorisation of certain works**

The works specified in Schedule 1 Part 1 are authorised subject to the conditions, reservations and other requirements specified in Schedule 1 Part 2.

#### **5—Application to Governor for other authorisations**

- (1) The following applications may be lodged with the Minister by or on behalf of the person undertaking the project:
  - (a) applications for the authorisation of works for the purposes of the project (being works other than those specified in Schedule 1 or works in relation to which a decision is reserved under Schedule 1);
  - (b) applications to vary the description of any works specified in Schedule 1, to vary or revoke conditions, reservations or other requirements specified in Schedule 1 or to attach new conditions, reservations or requirements to the authorisation in Schedule 1.
- (2) An application under this section must—
  - (a) be in a form determined by the Minister for the purposes of this Act; and
  - (b) include any information reasonably required by the Minister; and
  - (c) be lodged in the manner and accompanied by such plans, drawings, specifications or other documents as may be required by the Minister.
- (3) On receipt of an application under this section, the Minister must undertake consultation, in such manner as the Minister thinks fit, with the Environment Protection Authority and the Council in relation to the application.
- (4) The Minister will then submit a report and recommendations to the Governor on the matter.
- (5) The Governor may, on receipt of a report under subsection (4), determine to—
  - (a) grant the application subject to conditions, reservations and requirements (if any) determined by the Governor; or
  - (b) refuse the application.
- (6) The Governor may—
  - (a) when determining what conditions should be attached to an authorisation under this section, attach conditions that must be complied with in the future; and
  - (b) in relation to a matter that is relevant to an application under this section—
    - (i) vary or revoke conditions, reservations or requirements specified in Schedule 1 or conditions, reservations or requirements varied or imposed under this section; or
    - (ii) attach new conditions, reservations or requirements.
- (7) Notice of a determination of the Governor under this section must be given to the applicant and published in the Gazette.

- (8) The Minister may delegate a power or function under this section to a particular person or body or to the person for the time being occupying a particular office or position.
- (9) A delegation by the Minister—
  - (a) may be made subject to conditions and limitations specified in the notice of delegation; and
  - (b) is revocable at will and does not derogate from the power of the delegator to act in a matter.
- (10) A power or function delegated under subsection (8) may, if the instrument of delegation so provides, be further delegated.
- (11) The Governor may, by notice in the Gazette, delegate the power to make a determination under this section to a particular person or body or to the person for the time being occupying a particular office or position.
- (12) A delegation by the Governor—
  - (a) may be made subject to conditions and limitations specified in the notice of delegation; and
  - (b) unless the instrument of delegation otherwise provides, allows for subdelegation of the delegated power or function; and
  - (c) is revocable by further notice in the Gazette and does not derogate from the power of the Governor to act in the matter.
- (13) Fees are payable in respect of an application under this section as if it were an application under Part 4 Division 2 of the *Development Act 1993*.

## **6—Effect of authorisation**

Subject to this Act, the authorisation under section 4 and any authorisations granted under section 5 have effect as if they were development authorisations under Part 4 Division 2 of the *Development Act 1993*.

## **7—Declarations in respect of road and railway works**

- (1) The Governor may, by instrument in writing made on the recommendation of the Minister, declare specified road or railway works to be works that are necessary for the purposes of the project.
- (2) Before making a recommendation under subsection (1), the Minister must undertake consultation, in such manner as the Minister thinks fit, with—
  - (a) the Council; and
  - (b) if the works involve the clearance of native vegetation—the Native Vegetation Council; and
  - (c) if the works are road works—the Surveyor-General.
- (3) If the Governor declares specified road or railway works to be works that are necessary for the purposes of the project, then despite any other Act or law—
  - (a) the declaration will be taken to authorise the works, subject to any conditions specified in the declaration; and

- (b) no further consents or authorisations are required in respect of the works.
- (4) If the Governor declares specified road works to be works that are necessary for the purposes of the project, the Governor may, by the same or a later instrument in writing, make an order for a road process (within the meaning of the *Roads (Opening and Closing) Act 1991*) in respect of those works.
- (5) An order under subsection (4)—
  - (a) may deal with any matter that may be dealt with in a road process order under the *Roads (Opening and Closing) Act 1991*; and
  - (b) has effect as if it were a road process order made and confirmed under that Act.
- (6) Notice of an instrument under this section must be published in the Gazette.
- (7) In this section, a reference to **road or railway works** includes—
  - (a) works relating to an existing or proposed road or railway line; and
  - (b) infrastructure, equipment, structures, works and facilities incidental to, or associated with, an existing or proposed road or railway line.

## 8—Water allocation

- (1) Subject to this section, a licence granted under Chapter 7 of the *Natural Resources Management Act 2004* in respect of the pulp mill constructed as a result of the project (the **water licence**) must have endorsed on it a water allocation of 2 677 500 kilolitres per annum.
- (2) The Governor may, on the recommendation of the Minister, by notice in the Gazette, reduce the water allocation if satisfied that it is necessary or desirable to do so.
- (3) Before making a recommendation under this section the Minister must consult, over a period of at least 3 months, in such manner as the Minister thinks fit, with the holder of the licence, the relevant regional NRM board (under the *Natural Resources Management Act 2004*) and any other persons who, in the opinion of the Minister, have a substantial interest in the recommendation.
- (4) The water allocation applying in respect of the water licence must not be varied except in accordance with this section.
- (5) For the avoidance of doubt—
  - (a) the water licence may not be subject to conditions of a kind that could result in a variation of the water allocation applying in respect of the licence; but
  - (b) nothing in this section affects the ability under the *Natural Resources Management Act 2004* to impose conditions of any other kind on the water licence.

## 9—Governor may direct bodies for the purposes of this Act

- (1) In this section—
 

**prescribed body** means an agency or instrumentality of the Crown brought within the ambit of this definition by the regulations.

- (2) The Governor may, on the recommendation of the Minister, by notice in writing, direct a prescribed body for any purpose connected with the administration or operation of this Act, the operation of the pulp mill constructed as a result of the project or the cultivation and supply of timber or supply of other materials for use in the pulp mill.
- (3) Before making a recommendation under this section, the Minister must consult with the Minister responsible for the activities of the prescribed body.
- (4) A prescribed body must comply with a direction of the Governor under this section (and may do so despite any other Act or law).
- (5) Despite the provisions of any regulation made under this section, if a licence issued under the *Environment Protection Act 1993* applies to, or has conditions relating to, a key facility of the pulp mill, the Environment Protection Authority is not subject to direction under this section in relation to any matter connected with the operation of that key facility after the expiration of 6 months from the day of commencement of the licence.
- (6) For the purposes of subsection (5), the items listed in paragraphs (a) to (p) (inclusive) of the definition of *pulp mill* in section 3 are the *key facilities* of the pulp mill.

#### **10—Judicial review not available**

Despite any Act or law, no proceeding for judicial review or for a declaration, injunction, writ, order or other remedy may be brought to challenge or question—

- (a) a decision or determination of the Governor, the Minister or any other person under this Act or otherwise required to be made by this Act; or
- (b) procedures under this Act; or
- (c) an act, omission, matter or thing incidental or relating to the operation of this Act.

#### **11—Immunity provision**

No act or omission undertaken or made by the Governor, the Minister or any other person engaged in the administration of this Act with a view to exercising or performing a power or function under this Act gives rise to any liability (whether based on a statutory or common law duty to take care or otherwise) against the Governor, Minister or other person or the Crown.

#### **12—Expiry of Act or provisions of Act**

- (1) The Minister may, by notice in the Gazette, certify—
  - (a) that specified works authorised under this Act have been completed; or
  - (b) that the project has been completed.
- (2) If, in accordance with this section—
  - (a) the Minister certifies that specified works authorised under this Act have been completed, sections 4 and 5 cannot be used to authorise any development (within the meaning of the *Development Act 1993*) undertaken after the date of publication of the notice in relation to those works; or

- (b) the Minister certifies that the project has been completed, sections 4 and 5 cannot be used to authorise any development (within the meaning of the *Development Act 1993*) undertaken after the date of publication of the notice in relation to the pulp mill constructed as a result of the project.
- (3) If, on the expiration of the prescribed period after the commencement of this Act, the Minister has not published a notice under subsection (1)(b)—
  - (a) this Act will expire; and
  - (b) the water licence referred to in section 8 will be taken to be cancelled and the water allocation of the licence will vest in the Minister responsible for the administration of the *Natural Resources Management Act 2004*.
- (4) In subsection (3)—

*prescribed period* means—

  - (a) if the Governor, by notice in the Gazette, prescribes a period for the purposes of this definition—that period; or
  - (b) in any other case—3 years.

### 13—Regulations

- (1) The Governor may make such regulations as are contemplated by, or necessary or expedient for the purposes of, this Act.
- (2) The regulations may—
  - (a) be of general application or vary in their application according to prescribed factors;
  - (b) provide that a matter or thing in respect of which regulations may be made is to be determined according to the discretion of the Minister.

## Schedule 1—Authorised works

### Part 1—Specification of works

#### 1—Specified works

- (1) The works described in the following documents and plans, tabled in the House of Assembly on the day on which this measure was introduced into that House, are specified for the purposes of section 4:
  - (a) *Report for the Penola Pulp Mill Authorisation Bill* by Penola Pulp Pty Ltd., dated May 2007;
  - (b) Plans 100-0-1001 Rev B; 213-0-2101 Rev B; 221-0-2101 Rev B; 224-0-2101 Rev B; 250-0-4401 Rev B; 281-0-1221 Rev B; 281-0-1222 Rev B; 311-0-2101 Rev A; 415-0-2101 Rev B; 415-0-2102 Rev B; 415-0-2103 Rev-B; 415-0-2104 Rev B; 415-0-2120 Rev B; 441-0-2101 Rev B; 415-0-2121 Rev B; 511-0-2101 Rev B and 675-0-2101 Rev B.
- (2) These works will be taken to be the *development* for the purposes of Part 2 of this Schedule.

## **Part 2—Specification of conditions, reservations and other requirements**

### **2—Specified conditions, reservations and requirements**

The conditions, reservations and requirements set out in this Part are specified for the purposes of the authorisation under section 4.

### **3—General conditions, reservations and requirements**

- (1) Except where minor amendments may be required by other relevant Acts or where matters are subject to further assessment as reserved matters or by other conditions imposed by this Schedule, the development must be carried out in strict accordance with the documents and plans referred to in Part 1 of this Schedule.
- (2) Before any building work is undertaken, the building work is to be certified by a private certifier, or by a person determined by the Minister for the purposes of this condition, as complying with the provisions of the Building Rules to the extent that is appropriate in the circumstances.
- (3) Detailed proposals must be submitted in relation to the following reserved matters requiring further authorisation in accordance with section 5 prior to operation of the pulp mill:
  - (a) design of buildings and structures including materials and colours, site layout, car parking and access and landscaping;
  - (b) stormwater management and drainage.
- (4) The following detailed plans must be developed to the satisfaction of the South Australian Country Fire Service:
  - (a) a Construction Fire & Emergency Safety Plan (C.F.E.S.P.) addressing Fire / Emergency Risk Control for the development including project management staff, design consultants and trade contractors must be developed prior to construction of the pulp mill;
  - (b) a Bushfire Protection and Prevention Plan (B.P.P.P.)—
    - (i) providing a description of the environment and development of a statement on the district and the local bushfire problem; and
    - (ii) documenting specific objectives and formulating strategies to meet the objectives of planning and coordination of fuel reduction and management programs,must be developed prior to construction of the pulp mill;
  - (c) a Fire Operations Management Plan (F.O.M.P.) providing a framework for the management of incidents and resources within the Region or, where extreme wildfire or other significant emergency occurs, activation of the Zone Disaster Plan and/or the State Response Plan to aid in the coordination of major incidents must be developed prior to operation of the pulp mill.
- (5) All driveways and vehicle manoeuvring areas must conform to Australian Standards and be constructed, drained and paved with bitumen, concrete or paving bricks in accordance with sound engineering practice and appropriately line marked to the reasonable satisfaction of the Minister prior to operation of the pulp mill.



- (6) All car parking areas, driveways and vehicle manoeuvring areas must be maintained at all times to the reasonable satisfaction of the Minister.
- (7) All materials and goods must be loaded and unloaded within the boundaries of the project site and the adjacent railway land owned by the Minister for Transport.
- (8) The rail loading facilities must be constructed to appropriate engineering standards, including drainage, paving, rail tracks and other ancillary facilities to the satisfaction of the Department for Transport, Energy and Infrastructure (and any development on the adjacent rail lines forms part of the development and is subject to the same general requirements contained within this Schedule as the subject land).
- (9) Landscaping to achieve screening of the development must be established prior to the operation of the pulp mill and must be maintained and nurtured at all times, with any diseased or dying plants being replaced.
- (10) A watering system must be installed and operated so that all plants receive sufficient water to ensure their survival and growth.
- (11) The development and the project site must be maintained in a serviceable condition and operated in an orderly and tidy manner at all times.
- (12) All external lighting of the project site, including car parking areas and buildings, must be designed and constructed to conform with Australian Standards and must be located, directed and shielded and be of such limited intensity that no nuisance or loss of amenity is caused to any person beyond the site.
- (13) All stormwater design and construction must be in accordance with Australian Standards and recognised engineering best practices to ensure that stormwater does not adversely affect any adjoining property or cause environmental harm.
- (14) The woodchip and log piles storage areas must be well drained, be on level, solid ground or paved with asphalt, concrete or other hard surface material.
- (15) Operation of the pulp mill must not commence until the person undertaking the project undertakes a Traffic Impact Statement and develops, to the reasonable satisfaction of the Council and the Department for Transport, Energy and Infrastructure, a Traffic Management Plan including the following matters:
  - (a) the volume and type of vehicles (including Restricted Access Vehicles) required for the construction stage of the development, including parking provisions and access arrangements;
  - (b) the volume profile and distribution of workforce traffic, including parking requirements and access arrangements;
  - (c) the volume profile and distribution of heavy vehicle traffic (including Restricted Access Vehicles) associated with the operation of the pulp mill.
- (16) The person undertaking the project must, prior to operation of the pulp mill, make a contribution to the Council, of an amount agreed between the person undertaking the project and the Council, for the upgrade of Millers Lane and Argyle Road.

#### **4—Conditions relating to stormwater and surface water**

The pulp mill must be designed, constructed and operated so as to ensure that at all times—

- (a) no process water discharges to the receiving environment (including wetlands and surface water drains); and
- (b) there are no impacts upon the hydrology of surrounding watercourses or wetlands; and
- (c) there is a maximisation of stormwater reuse on the project site to—
  - (i) minimise off site discharges of stormwater; and
  - (ii) reduce groundwater water extractions; and
- (d) there are no discharges, with the exception of treated stormwater, to surrounding waters; and
- (e) spillages from the production processes are prevented, and that contaminated stormwater and fire fighting water are prevented from entering the stormwater system or the surrounding surface waters, whether during operations or catastrophic events.

#### **5—Conditions relating to groundwater**

The pulp mill must be designed, constructed and operated so as to ensure that at all times no discharges are permitted from the project site to groundwater.

#### **6—Conditions relating to soil testing**

Prior to the operation of the pulp mill, the person undertaking the project must—

- (a) in accordance with any written directions of the Minister, obtain, and have analysed, samples of soil from land that is, or may be, affected by the pulp mill; and
- (b) provide a report to the Minister detailing the results of the analysis.

#### **7—Conditions relating to Dioxin testing**

- (1) The pulp mill must be designed, constructed and operated so that the level of Dioxin emitted in the waste gas from the boiler combustion zone does not, at any time, exceed 0.1 nanograms per cubic metre at standard temperature and pressure, dry basis.
- (2) Testing for Dioxin in the waste gas from the boiler combustion zone must be undertaken immediately after the end of the commissioning period for the pulp mill and at least once every 12 months thereafter and the results of the testing must be reported to the Minister.
- (3) The Minister must ensure that copies of a report provided to the Minister in accordance with subclause (2) are tabled in both Houses of Parliament within 6 sitting days after the receipt of the report by the Minister.

## **8—Conditions relating to air quality**

The pulp mill must be designed, constructed and operated so as to ensure that at all times—

- (a) ground level concentrations of air pollutants from the plant do not exceed those set out in Table 1 (below); and
- (b) ground level concentrations of odours emitted from the plant do not exceed the criteria set out in Table 2 (below), when modelled using Ausplume with odour measurements in accordance with Australian Standard Stationary source emissions – Determination of odour concentration by dynamic olfactometry, AS/NZS 4323.3:2001, Standards Australia.

**Table 1**

Substance	Reason for classification	Averaging time	Design criteria mg/m <sup>3</sup> <sup>1</sup>	Design criteria ppm <sup>2</sup>
<b>Class 1</b>				
Carbon monoxide	Toxicity	1-hour	29	25
Nitrogen dioxide (in Adelaide metro area)	Toxicity	1-hour	0.113	0.0625
Nitrogen dioxide (outside Adelaide metro area)	Toxicity	1-hour	0.158	0.075
Sulfur dioxide	Toxicity	1-hour	0.45	0.17
<b>Class 2 (toxicity-based)</b>				
Acetone	Toxicity	3-minute	40	16.7
Acrylic acid	Toxicity	3-minute	0.2	0.067
Ammonia	Toxicity	3-minute	0.6	0.83
Aniline	Toxicity	3-minute	0.25	0.067
Antimony and compounds	Toxicity	3-minute	0.017	-
Asphalt (petroleum) fumes	Toxicity	3-minute	0.17	-
Barium (soluble compound)	Toxicity	3-minute	0.017	-
Biphenyl	Toxicity	3-minute	0.043	0.0067
Bromochloromethane	Toxicity	3-minute	35	6.7
Bromoform (tribromomethane)	Toxicity	3-minute	0.17	0.017
Bromotrifluoromethane	Toxicity	3-minute	203	33
Carbon black	Toxicity	3-minute	0.1	-
Carbon tetrachloride (tetrachloromethane)	Toxicity	3-minute	0.021	0.0033

Substance	Reason for classification	Averaging time	Design criteria mg/m <sup>3</sup> <sup>1</sup>	Design criteria ppm <sup>2</sup>
Chlorine	Toxicity	3-minute	0.1	0.033
Chlorine dioxide	Toxicity	3-minute	0.0093	0.0033
Chloroform (trichloromethane)	Toxicity	3-minute	1.6	0.33
Chloromethane (methyl chloride)	Toxicity	3-minute	3.4	1.7
Chlorophenol	Toxicity	3-minute	0.083	-
Chromium (III) compounds	Toxicity	3-minute	0.017	-
Copper fume	Toxicity	3-minute	0.0067	-
Copper dusts and mists	Toxicity	3-minute	0.033	-
Cotton dust (raw)	Toxicity	3-minute	0.0067	-
Crotonaldehyde	Toxicity	3-minute	0.2	0.067
Cyanide (as CN)	Toxicity	3-minute	0.17	-
Cyclohexane	Toxicity	3-minute	35	10
Cyclohexanol	Toxicity	3-minute	6.9	1.7
o-Dichlorobenzene	Toxicity	3-minute	10	1.7
1,2-Dichloroethylene	Toxicity	3-minute	26.3	6.7
Dichlorvos	Toxicity	3-minute	0.033	0.0033
Dinitrobenzene (all isomers)	Toxicity	3-minute	0.033	0.005
Dinitrotoluene	Toxicity	3-minute	0.05	-
Ethanolamine	Toxicity	3-minute	0.25	0.1
Ethylbenzene	Toxicity	3-minute	14.5	3.3
Ethyl butyl ketone	Toxicity	3-minute	7.7	1.7
Ethyl chloride (chloroethane)	Toxicity	3-minute	86.6	33.3
Ethylene glycol (vapour)	Toxicity	3-minute	2.0	-

**Penola Pulp Mill Authorisation Act 2007—25.10.2007 to 31.10.2007—uncommenced**

Schedule 1—Authorised works

<b>Substance</b>	<b>Reason for classification</b>	<b>Averaging time</b>	<b>Design criteria mg/m<sup>3</sup><sup>1</sup></b>	<b>Design criteria ppm<sup>2</sup></b>
Fluoride	Bioaccumulation	24-hour	0.0029	0.0034
		7 days	0.0017	0.002
		90 days	0.0005	0.00059
The fluoride content is calculated by dry weight and expressed as fluoride (F-) ppm.				
Fluorine	Toxicity	3-minute	0.053	0.033
Formaldehyde	IARC Group 2A carcinogen	3-minute	0.04	0.033
n-Hexane	Toxicity	3-minute	5.9	1.7
2-Hexanone	Toxicity	3-minute	3.3	0.83
Hydrogen chloride	Toxicity	3-minute	0.25	0.17
Iron oxide fume	Toxicity	3-minute	0.17	-
Magnesium oxide fume	Toxicity	3-minute	0.33	-
Maleic anhydride	Toxicity	3-minute	0.033	0.0083
Manganese and compounds	Toxicity	3-minute	0.033	-
Mercury				
- organic	Bioaccumulation	3-minute	0.00033	-
- inorganic	Bioaccumulation	3-minute	0.0033	-
Methyl acrylate	Toxicity	3-minute	1.2	0.33
Methyl bromide (bromomethane)	Toxicity	3-minute	0.63	0.17
Methylene chloride (dichloromethane)	Toxicity	3-minute	5.8	1.7
Nitric acid	Toxicity	3-minute	0.17	0.067
n-Pentane	Toxicity	3-minute	60	20

Substance	Reason for classification	Averaging time	Design criteria mg/m <sup>3</sup> <sup>1</sup>	Design criteria ppm <sup>2</sup>
2-Pentanone	Toxicity	3-minute	23.3	6.7
Phosphoric Acid	Toxicity	3-minute	0.033	-
Phthalic anhydride	Toxicity	3-minute	0.2	0.033
Propylene glycol monomethyl ether	Toxicity	3-minute	12	3.3
Silver metal	Toxicity	3-minute	0.0033	-
Silver, soluble compounds (as Ag)	Toxicity	3-minute	0.00033	-
Sulfuric acid	Toxicity	3-minute	0.033	-
1,1,1-trichloroethane (methyl chloroform)	Toxicity	3-minute	22.7	4.2
1,1,2-trichloroethane	Toxicity	3-minute	1.8	0.33
Trichlorofluoromethane	Toxicity	3-minute	187	33.3
Trimethylbenzene (mixed isomers)	Toxicity	3-minute	4.0	0.83
Vinyl toluene	Toxicity	3-minute	8.1	1.7
Welding fume (total particulate)	Toxicity	3-minute	0.17	-
Wood dust	Toxicity	3-minute	0.0033	-

Wood dust is the particulate emission generated prior to the pulping process in the sawing, milling or other mechanical treatment of seasoned hardwoods and softwoods. Environment Protection Authority guidelines class wood dust as a group 1 carcinogen due to the toxic resins present in the seasoned timber.

<b>Substance</b>	<b>Reason for classification</b>	<b>Averaging time</b>	<b>Design criteria mg/m<sup>3</sup><sup>1</sup></b>	<b>Design criteria ppm<sup>2</sup></b>
Zinc chloride fume	Toxicity	3-minute	0.033	-
Zinc oxide fume	Toxicity	3-minute	0.17	-



Substance	Reason for classification	Averaging time	Design criteria mg/m <sup>3</sup> <sup>1</sup>		Design criteria ppm <sup>2</sup>	
			Odour	Toxicity	Odour	Toxicity
<b>Class 2 (odour-based)</b>						
Acetaldehyde	Odour	3-minute	0.076	5.9	0.042	3.2
Acetic acid	Odour	3-minute	0.50	0.82	0.20	0.32
n-Butanol	Odour	3-minute	0.9	5.1	0.3	1.7
n-Butyl acetate	Odour	3-minute	1.85	23.8	0.39	5.0
Butyl acrylate	Odour	3-minute	0.18	-	0.035	
Butyl mercaptan	Odour	3-minute	0.012	0.06	0.004	0.017
Carbon disulphide	Odour	3-minute	0.13	1.01	0.042	0.32
Chlorobenzene	Odour	3-minute	0.20	1.5	0.042	0.32
Cumene (isopropyl benzene)	Odour	3-minute	0.039	8.1	0.008	1.6
Cyclohexanone	Odour	3-minute	0.48	3.2	0.12	0.82
Diacetone alcohol	Odour	3-minute	1.3	-	0.28	
Diethylamine	Odour	3-minute	0.06	0.97	0.02	0.32
Dimethylamine	Odour	3-minute	0.017	0.59	0.0094	0.32
Diphenyl ether	Odour	3-minute	0.14	-	0.02	
Ethanol	Odour	3-minute	3.8	62.7	2.0	33.3
Ethyl acetate	Odour	3-minute	22.1	23.6	6.3	6.6
Ethyl acrylate	Odour	3-minute	0.0008	0.66	0.0002	0.16
Hydrogen sulfide	Odour	3-minute	0.00014	0.47	0.0001	0.32
Methanol	Odour	3-minute	5.5	8.7	4.3	6.7
Methylamine	Odour	3-minute	0.005	0.43	0.0042	0.32

Substance	Reason for classification	Averaging time	Design criteria mg/m <sup>3</sup> <sup>1</sup>		Design criteria ppm <sup>2</sup>	
			Odour	Toxicity	Odour	Toxicity
Methyl ethyl ketone	Odour	3-minute	5.9	16	2.0	4.9
Methyl mercaptan	Odour	3-minute	0.00084	0.032	0.00042	0.016
Methyl methacrylate	Odour	3-minute	0.21	13.4	0.05	3.2
Methyl styrene	Odour	3-minute	0.25	8.1	0.052	1.7
Methyl isobutyl ketone	Odour	3-minute	0.41	6.7	0.1	1.6
Nitrobenzene	Odour	3-minute	0.0047	0.16	0.00094	0.032
Perchloroethylene (tetrachloroethylene)	Odour	3-minute	6.3	11.2	0.94	1.7
Phenol	Odour	3-minute	0.036	0.13	0.0094	0.032
Phosphine	Odour	3-minute	0.0056	0.014	0.0042	0.01
n-propanol	Odour	3-minute	0.075	16.4	0.03	6.2
Pyridine	Odour	3-minute	0.013	0.52	0.0042	0.16
Styrene (monomer)	Odour	3-minute	0.21	6.97	0.05	1.64
Toluene	Odour	3-minute	0.65	12.3	0.17	3.2
Triethylamine	Odour	3-minute	0.36	0.39	0.09	0.1
Xylenes	Odour	3-minute	0.35	11.4	0.08	2.7

Substance	Reason for classification	Averaging time	Design criteria mg/m <sup>3</sup>	Design criteria ppm <sup>2</sup>
<b>Class 3</b>				
Acrolein	USEPA extremely toxic	3-minute	0.00077	0.00033
Acrylonitrile	USEPA Group B1 carcinogen	3-minute	0.014	0.0067
Alpha chlorinated toluenes and benzoyl chloride	IARC Group 2A carcinogen	3-minute	0.017	0.0033
Arsenic and compounds	IARC Group 1 carcinogen	3-minute	0.00017	-
Asbestos	IARC Group 1 carcinogen	3-minute	0.33 fibres/litre	-
Benzene	IARC Group 1 carcinogen	3-minute	0.053	0.017
Beryllium and beryllium compounds	IARC Group 1 carcinogen	3-minute	0.000007	-
1,3-butadiene	IARC Group 2A carcinogen	3-minute	0.073	0.033
Cadmium and cadmium compounds	IARC Group 1 carcinogen	3-minute	0.000033	-
Chromium VI compounds	IARC Group 1 carcinogen	3-minute	0.00017	-
1,2-dichloroethane (ethylene dichloride)	Mutagen (USEPA)	3-minute	0.13	0.033
Epichlorohydrin	IARC Group 2A carcinogen	3-minute	0.025	0.0067
Ethylene oxide	IARC Group 1 carcinogen	3-minute	0.006	0.0033
Hydrogen cyanide	USEPA extremely toxic	3-minute	0.37	0.33
MDI (Diphenylmethane diisocyanate)	USEPA extremely toxic	3-minute	0.000073	-
Nickel and nickel compounds	IARC Group 1 carcinogen	3-minute	0.00033	0.00017
PAH (as BaP)	IARC Group 2A carcinogen	3-minute	0.00073	-
Pentachlorophenol	USEPA extremely toxic	3-minute	0.0017	-
Phosgene	USEPA extremely toxic	3-minute	0.013	0.0033
Propylene oxide	USEPA Group B1 carcinogen	3-minute	0.16	0.067

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 Schedule 1—Authorised works

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<b>Substance</b>	<b>Reason for classification</b>	<b>Averaging time</b>	<b>Design criteria mg/m<sup>3</sup><sup>1</sup></b>	<b>Design criteria ppm<sup>2</sup></b>
Respirable crystalline silica—inhaled in the form of quartz or cristobalite (measured as PM <sub>2.5</sub> )	IARC Group 1 carcinogen	3-minute	0.00033	-
TDI (toluene-2,4-diisocyanate and toluene-2,6-diisocyanate)	USEPA extremely toxic	3-minute	0.00007	-
Trichloroethylene	IARC Group 2A carcinogen	3-minute	0.9	0.17
Vinyl chloride	IARC Group 1 carcinogen	3-minute	0.043	0.017
1	gas volumes are expressed at 25° C and at an absolute pressure of one atmosphere (101.325 kPa)			
2	parts per million (volume/volume)			

**Table 2**

<b>Number of people</b>	<b>Odour units (3-minute average, 99.9%)</b>
2000 or more	2
350 or more	4
60 or more	6
12 or more	8
Single residence (less than 12)	10

## **9—Conditions relating to noise**

The pulp mill must be designed, constructed and operated so as to ensure that the noise generated from the project site during construction, and once constructed, does not exceed the following limits:

- (a) 47dB(A) between the hours of 7am and 10pm when measured and adjusted at the nearest sensitive receptor in accordance with the *Environment Protection (Industrial Noise) Policy 1994*;
- (b) 40dB(A) between the hours of 10pm and 7am on the following day when measured and adjusted at the nearest sensitive receptor in accordance with the *Environment Protection (Industrial Noise) Policy 1994*;
- (c) 45dB(A) between the hours of 10pm and 7am on the following day when measured and adjusted at the Katnook gas plant accommodation facility in accordance with the *Environment Protection (Industrial Noise) Policy 1994*;
- (d) 60dB(A) Maximum (L<sub>maxFast</sub>) between the hours of 10pm and 7am on the following day when measured and adjusted at the nearest sensitive receptor in accordance with the *Environment Protection (Industrial Noise) Policy 1994*.

## **10—Conditions relating to solid waste**

- (1) Solid waste must not be buried, stockpiled or composted at the project site.
- (2) All solid waste must be stored, transported and disposed of in a manner that minimises the risk of environmental harm (including environmental nuisance).
- (3) The pulp mill must be designed, constructed and operated having regard to, and implementing wherever possible in descending order of priority from (a) through to (g), the following principles of waste management:
  - (a) avoidance of the production of waste;
  - (b) minimisation of the production of waste;
  - (c) reuse of waste;
  - (d) recycling of waste;
  - (e) recovery of energy and other resources from waste;
  - (f) treatment of waste to reduce potentially degrading impacts;
  - (g) disposal of waste in an environmentally sound manner.

## 11—Conditions relating to greenhouse gas emissions

- (1) A report prepared by an expert in the application of technology to minimise industrial greenhouse gas emissions must be provided to the Minister.
- (2) The report must detail all measures applied in the design and implementation of the development to minimise greenhouse gas emissions and, as a minimum, must address the following matters:
  - (a) greenhouse gas emissions and inventory prepared using—
    - (i) emissions factors and methods consistent with those published, at that time, by the Australian Greenhouse Office;
    - (ii) Greenhouse Gas Accounting methods consistent with the *Greenhouse Gas Protocol (GHG Protocol)* issued by the World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD);
    - (iii) Scope 1, 2 and 3 emissions categories as described in the GHG Protocol with Scope 3 emissions that include, as a minimum, the emissions associated with—
      - (A) transport of wood to the pulp mill;
      - (B) transport of pulp from site (to the point of next-use if within Australia, to point of export if used internationally);
      - (C) if deemed to be material, delivery of bulk consumables to site and the removal of waste products from site;
  - (b) measures to minimise greenhouse gas emissions;
  - (c) carbon sequestration options;
  - (d) minimising emissions over the life of the pulp mill;
  - (e) benefits on a global or national scale.

## Legislative history

### Notes

- For further information relating to the Act and subordinate legislation made under the Act see the Index of South Australian Statutes or [www.legislation.sa.gov.au](http://www.legislation.sa.gov.au).

### Principal Act

Year	No	Title	Assent	Commencement
2007	40	<i>Penola Pulp Mill Authorisation Act 2007</i>	25.10.2007	uncommenced