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Position Statement – Proposed Tamar Valley Pulp Mill

The Tasmanian Branch of the AMA has examined the (draft) Gunns' Integrated Impact Statement¹ and in summary concludes:

AMA Tasmania has significant concerns about the potential for adverse health effects resulting from the proposed Pulp Mill.

Background

The Tasmanian Resource Planning and Development Commission (TRPDC) will soon decide on whether to approve a Pulp Mill to be built and operated by Gunns Ltd, producing up to 1.3 million air-dried tonnes of pulp per annum.²

Building is planned for the eastern bank of the Tamar River at Bell Bay in the Tamar River Valley 45 kilometers north-west from the city of Launceston. The Mill will thus be within the Tamar Valley Air Shed (TVAS)³ with its inherent meteorological inversion layer.

Community concerns have been expressed locally about the potential health impact of the proposed development, including in respect of any possible air pollution.^{4 5} Particulate pollution especially has been identified as the major air quality issue for Tasmania.⁶ Launceston has one of the worst air qualities within Australia particularly in winter with its air quality being regarded as “*seriously compromised*”.⁷ According to government information, there are an estimated eight additional deaths per year as a result of air pollution in the Launceston area.⁸ The Pulp Mill design incorporates the burning of wood and/or wood-byproducts to provide power. Air emissions resulting from this and as a by-product of related mill operations have the potential to add to the existing adverse respiratory load of air-borne particles in Launceston and surrounding areas.

Prediction of adverse impacts for air emissions from a pulp mill requires high-quality reliable scientific modeling to predict any future pulp mill pollution. Any model⁹ is only as good as the data input, for example the number and position of monitoring stations, and the nature of the model used.

The potential adverse health and environmental effects from the proposed Pulp Mill will be strongly influenced by the technology used in the pulping process.

Pulp mills are often associated with odour problems.¹⁰ There is scientific literature which demonstrates that odour is not just a nuisance factor, but can also adversely affect health.^{11 12}

An increase in road traffic using current road systems¹³ is likely to increase the risk of road fatalities. Little concrete information has been provided in the IIS, while Tasmanians continue to be tragically reminded of the risk potential.¹⁴ Additionally any increase in road traffic will increase air emissions and noise.

The AMA regrets that it has not been given sufficient time to examine all the potential health effects of the proposed Pulp Mill (for example, water and land pollution), and remarks that our organisation is not unique in this respect.¹⁵ We note that Gunns employed at least 40 professionals to produce an Integrated Impact Statement (IIS) of over 7,000 pages costing in excess of 11 million dollars.

The AMA identified the following issues as central to an understanding of the potential health impact of the proposed pulp mill.

KEY ISSUE 1 (MODELING)

Reliable air-shed modeling must underpin any predictions of effects on respiratory (lung) health from a new pulp mill. This must take into account multiple emissions sources ie. existing industries, truck movements, wood heaters, in addition to a new pulp mill. Current monitoring of air pollution in Launceston and the Tamar Valley has concentrated on PM₁₀ rather than the smaller PM_{2.5} particles. The measurements of the smaller particles are believed to be more closely associated with adverse health effects. Closer monitoring of PM_{2.5} is required.

- The model for predicting air pollution in the Tamar Valley Air Shed as used in the IIS largely fails to meet the acceptance criteria as set out by the United States Environmental Protection Agency (US EPA)¹⁷. The number of monitoring stations used was low by comparison.¹⁸
- The model predicts the levels of PM₁₀ particles to be only one-fifth of the actual measured values in Launceston.¹⁹ There are other wide variances.²⁰
- The IIS makes no mention of the PM_{2.5} particles that are believed to be more closely associated with the adverse health effects of particle air pollution.^{21 22}
- It is noted that new (more rigorous) standards could be introduced for PM_{2.5} in 2008 and this must be taken into account.²³

<p>ASSESSMENT: Respiratory health effects of the proposed Pulp Mill cannot be determined because the air pollution predictions used are highly unreliable.</p>

KEY ISSUE 2 (POLLUTANTS)

A pre-requisite for any new pulp mill in the Tamar Valley is modern technology which would help to ensure minimal atmospheric pollution to especially avoid additional particulate loads to the community, particularly in Launceston.

- The IIS states that the most modern technology available will be used in the proposed Pulp Mill.
- The Pulp Mill will release measurable amounts of important pollutants, so-called Class 1 pollutants – small particles, sulphur dioxide and oxides of nitrogen - and others including inorganic chlorinated and reduced sulphur compounds.

ASSESSMENT: Despite the planned use of this technology we cannot be certain that Launceston and the Tamar Valley will not be subjected to additional atmospheric pollution.

KEY ISSUE 3 (MORBIDITY & MORTALITY)

Any pulp mill in the Tamar Valley must not increase already existing morbidity and mortality (illness & death) from atmospheric or other pollutants.

- Small particle air pollution (PM₁₀) already exists in the Tamar Valley – this is known to be associated with increased illness and death.²⁴
- The IIS predicts an increase in the levels of these particles.²⁵

ASSESSMENT: the establishment of a Pulp Mill in the Tamar Valley could cause an increase in the already existing morbidity and mortality from atmospheric pollutants.

KEY ISSUE 4 (ODOUR)

Any new pulp mill must not expose people living or working more than one (1) kilometre from the pulp mill to any odour on more than five(5) days per year.

- Despite intensive efforts existing pulp mills, including older and more recent designs, release unpleasant odours that are a cause of significant community concern internationally.^{26 27}
- Gunns is introducing improved odour-control technology which is untested.

- The IIS has modeled Total Reduced Sulphur (TRS) as a predictor of odour and predicts a minimal odour problem.
- Odour can be detected by the human nose when the concentrations of known odour-causing substances (such as TRS) are close to zero.^{28 29}

ASSESSMENT: it is possible that people living or working more than one kilometre from the proposed Pulp Mill, including in Launceston, will be exposed to odour on more than five days per year.

KEY ISSUE 5 (ROAD TRAFFIC)

Any new pulp mill proposal must demonstrate effective systems to minimise or eliminate the additional risk of traffic accidents and, particularly in settled areas, noise and vehicle emissions from additional road traffic.

- The issue of how timber will be transported to the proposed Pulp Mill has yet to be publicly released.
- The future of the rail transport system regarding substitution of rail for road transport of logs is unclear.

ASSESSMENT: the AMA cannot yet comment on the health aspects of timber transport – including road fatalities and noise and vehicle emissions – from additional road traffic to and from the proposed Pulp Mill.

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REFERENCES / NOTES

- ¹ <http://www.gunnspulpmill.com.au/iis/default.htm>
- ² http://www.rpdc.tas.gov.au/projects_state_signif/pulp_mill/pm_docs/pm_index.htm
- ³ As defined in the IIS.
- ⁴ Tamar residents raise concerns at pulp mill. *The Examiner*; 5 May 2005.
- ⁵ City streets awash with anti-mill protesters. *The Sunday Examiner*; 17 September 2006, p1 (*"Thousands of protesters make their way down St John St, Launceston, yesterday as part of a rally to protest against the Tamar pulp mill proposal."*)
- ⁶ <http://www.rpdc.tas.gov.au/soer/atm/1/issue/2/ataglance.php>
- ⁷ Tasmanian Air Quality Strategy June 2006 p80.
- ⁸ *Ibid.* p23
- ⁹ A *model* is a system of postulates, data, and inferences presented as a mathematical description of an entity or state of affairs; often this refers to a computer simulation based on such a system <eg. climate *models*, the CSIRO TAPM air pollution *model* as used in the PAE air quality assessment report 8/8/06> [definition based on Merriam-Webster online dictionary <http://www.m-w.com/dictionary>]
- ¹⁰ <http://www.maf.govt.nz/mafnet/publications/rmupdate/rm7/rm0703.htm>
- ¹¹ Jaakkola JJ et al, The South Karelia Air Pollution Study: changes in respiratory health in relation to emission reduction of malodorous sulphur compounds from pulp mills. *Arch Environ Health*. 1999 July-Aug;54(4):254-63.
- ¹² Marttila et al, The South Karelia Air Pollution Study: the effects of malodorous sulfur compounds from pulp mills on respiratory and other symptoms in children. *Environ Res*.1994 Aug;66(2):152-9.
- ¹³ Pulp mill traffic concern. *The Examiner*; 20 September 2006, p9 (*"The council believes volumes would grow by 80 per cent on the Batman Highway, 12 per cent on the West Tamar Highway and 121 per cent on Frankford Main Rd."*)
- ¹⁴ Three killed. Girl in critical condition after North-West accident. *The Examiner*; 22 September 2006 p1. (*"Three people are dead and a child is in a critical condition after a collision between a [fully-laden] logging truck and a station wagon on the North-West Coast."*)
- ¹⁵ Dioxin output figure wrong: `human error' in pulp mill draft IIS. *The Examiner*; 20 September 2006 (*"It was revealed yesterday that "human error" had caused expert consultants Toxikos to underestimate the level of potentially harmful dioxins by 45 times...The Tasmanian Greens and the Wilderness Society were furious that the public wouldn't get more time to analyse the possible health effects of the increase."*)
- ¹⁷ US EPA data as noted in the IIS.
- ¹⁸ Tamar Valley Airshed Study (14 monitoring stations); Large Industry Bell Bay 1993 (9 stations); Gunns Integrated Impact Statement 2006 (1-2 stations).
- ¹⁹ Supplementary air quality assessment of proposed pulp mill. Final report. *Pacific Air & Environment* (PAE). 8 August 2006; p27.
- ²⁰ *Ibid.* p23, 25, 28.
- ²¹ <http://www.launceston.tas.gov.au/subsector.php?id=2401>
- ²² Tasmanian Air Quality Strategy June 2006 p8.
- ²³ *Ibid.* p21.
- ²⁴ <http://www.launceston.tas.gov.au/airquality.php>
- ²⁵ The Committee notes with concern that no expected chart of predicted PM₁₀ concentrations for the city of Launceston has been provided in the PAE (Pacific Air & Environment) report of 8 August 2006 (neither written copy provided by Gunns, nor is available on the web-site).
- ²⁶ Partti-Pellinen K et al, The South Karelia Air Pollution Study: effects of low-level exposure to malodorous sulfur compounds on symptoms. *Arch Environ Health*. 1996 July-Aug; 51(4):315-320.
- ²⁷ Husman T & Heinonen O P, High risk of respiratory irritation due to malodorous pollutants among atopic population. *Allergy, Supplement*.51 (Supplement No 32):64, 1996.
- ²⁸ <http://dhfs.wisconsin.gov/eh/HlthHaz/pdf/Pulpodors.pdf>
- ²⁹ Bates, David Dr. *The citizens' guide to air pollution*. Publisher: David Suzuki Foundation