

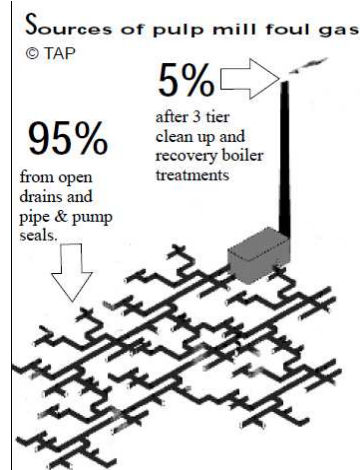
THE TASMANIAN PULP MILL—BELL BAY INDUSTRIAL ESTATE, TAMAR VALLEY

Is there toxic odour at Visy's pulp and paper mill at Tumut?

In a newsletter circulated in January 2010, opponents to the approved mill claimed that Tamar Valley businesses, and tourism were at a risk if the Valley was filled with a toxic stench from the mill.

Tasmanians against a pulp mill's newsletter featured the pulp mill in Tumut NSW, and community complaints of odour, as well as claims from Dr. W Raverty that foul gas surrounds all Kraft pulp mills. The news letter even included a diagram showing the source of this odour.

The newsletter claimed these fugitive odours would create a 55 kilometer foul gas zone extending south to Launceston and east to Scottsdale.



But what are the real lessons from the Visy pulp and paper mill in Tumut?

The Tumut Kraft pulp mill was built in 2001 with then President of the Australian Conservation Foundation, Peter Garrett, guest speaker at the start of construction. Despite Greens Senator Brown claiming it to be “An excellent example of pulp and papering” the mill did experience odour problems. In 2003 a team from Ensis (a joint venture of CSIRO) led by Dr Warwick Raverty was engaged to address the issue. Ensis reported that modern design had greatly reduced the problem but the operator was keen to achieve the absolute minimum level. The Ensis scientists using chemical fingerprinting pinpointed the four main sources from 130 possibilities and devised a system for ‘stripping’ these odours¹.

Visy advised NSW authorities that the odour study conducted in 2003 found that the most significant odour sources during steady state operations were the Paper Machine, Cooling Towers and the Wastewater Treatment Plant. [Not from open drains and pipes and pump seals!]

In 2005, Tasmanian newspaper, the Mercury, ran a series of award winning articles on the Tumut mill, entitled “Pulp mill that won over a community”² that also quoted two locals that have also been quoted in the 2010 Tamar Valley newsletter!

In 2006, Visy submitted a proposal to expand the mill, to increase capacity from 300,000 to 700,000 tonnes³. In this proposal Visy acknowledged that complaints had fallen since the Ensis report and implementation of strategies to reduce odour.

Odour management will continue to be a high priority for the expanded operations. The NCG collection will be replicated for the expanded plant. All odour improvements works that have been made to the existing mill will be incorporated into the design of the new components including the new Multi-fuel Boiler as secondary NCG management to the Recovery Boiler. Subject to performance confirmation, the recently installed condensate treatment system will be replicated for expanded operations to minimise odours from sources such as the Paper Machine, Cooling Towers and Cooling Ponds.

This application to expand operations was extensively advertised and public meetings held with invitations for public submissions to the NSW planning authority⁴. However only nine (9) submissions were received;

¹ Ensis Link, Winter 2004, No.1 [extract attached to this briefing paper]

² Neales S, Pulp Mill that won over a community The Mercury 07 Nov 2005

³ Visy Pulp & Paper 2006, Project Summary and Environmental Issues For Visy Pulp and Paper, Tumut Mill Expansion

⁴ Visy Pulp & Paper 2007, Proposed Mill Expansion, Tumut NSW submissions Report, accessed at <http://majorprojects.planning.nsw.gov.au/files/6788/Submissions%20Report.pdf>

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five from government Agencies, one from the Adelong progress association representing the regions tourism and small business sector, and three from individuals. Despite a population of over 11,000 in the Tumut shire with most living within 25 km of the mill site only **one** of these individual submissions was critical of the mill's odour.

In fact the Progress Association, representing similar tourism and fine food businesses to those in the Tamar Valley was summarized as:

The Adelong Progress Association as a representative of business owners and local residents strongly support the mill expansion project. The Association acknowledges Visy as one of the largest employers of local people in Tumut Shire and that the additional employment that will result from the project will have a positive impact on the community given the impact the drought has had in recent years.

From Visy's response to the **only** individual submission expressing concern on odour, Visy agreed with conditions imposed by the regulator to minimize and mitigate odour. Planning approval was given to the expansion of the works which was commissioned in 2009 without the creation of a "55 km foul gas zone".

Shire population 11,238, Area 3,767 km², over half National parks & State forest. Tumut to Adalong less than 15 km



The approved mill in the Tamar Valley

Incorporated into the design are many of the lessons learnt at Tumut and other mills around the world. In terms of odour emissions, the pulp mill will feature the most sophisticated odour abatement system in the world.

Odour will be collected and destroyed through a burning process in the recovery boiler with the power boiler as a backup. When these two boilers are not operating during mill start ups and shut downs, a tertiary system which is a small dedicated incinerator will be used to burn any odorous gases.

Diffuse emissions from the waste water system and cooling tower will be minimized by the indirect cooling of effluent.

Further affirmation that odour emissions will not cause any concern was made by Mr Robin Ormerod of Pacific Air & Environment, one of Australia's leading experts in the fields of meteorology and air quality, in his 2007 expert Witness Statement in the Supplementary Information who concluded that the emission guidelines are "...**highly protective against odour**" and that "...**residents in the area should not notice any odour from the mill.**"⁵

Conclusion:

Based on the expert assessment of the design of the mill and submissions on the expansion of the Tumut pulp mill there will not be a toxic "foul gas zone" around the mill. Business in the Tamar valley like Tumut should benefit from the increased employment and economic activity.

⁵ R. Ormerod 2007, Expert Witness Statement Air quality, Pacific Air & Environment

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A JOINT VENTURE OF CSIRO & FOREST RESEARCH

ensis

ensis LINK

NO. 1
WINTER 2004

Research updates from ensis – a joint venture of CSIRO and Forest Research

REDUCING pulp odour

A collaboration between ensis and Visy Pulp and Paper is helping the company fine-tune operations at its new kraft mill in Tumut, NSW, to maximise environmental performance and product quality.

A Melbourne-based ensis team, led by Dr Warwick Raverty, has addressed an issue common to kraft pulp mills around the world; odour resulting from minute leaks of the process by-products hydrogen sulfide ('rotten-egg gas') and various organic sulfides. Scandinavians used to call this 'the smell of money', says Dr Raverty, because of the employment opportunities kraft mills offer.

Modern design and engineering have greatly reduced the problem in the state-of-the-art Tumut mill that began operation in 2001. However, Visy is very proud of its environmental performance reputation and was keen to achieve the absolute minimum levels of odour emissions. Visy engaged CSIRO and a consultancy company to look for any appreciable sources within the mill and devise solutions to minimise discharges.

To locate possible sources, the ensis scientists built a device able to collect sufficient quantities of the odour chemicals for laboratory analysis, despite their extremely low concentrations in the air. Chemical 'fingerprinting' pinpointed the four main sources from about 130 possibilities.

Dr Raverty says the high level of water recycling in the mill – which means it uses less water per tonne of pulp produced than any other kraft mill in the world, a major environmental plus – creates the potential for a build-up of the odour chemicals. Measurable emissions were found to emanate from the distilled water stream in the recycling plant.

The scientists have devised a system for 'stripping' the odours out of the distilled water, and tested it successfully in a pilot plant. The technique, used widely in the chemical and petroleum industries, involves passing a stream of tiny air bubbles through the water, which carry out the chemicals. Visy now plans to install a full-scale odour-stripping unit at the mill in the next few months.

The contaminated air stream from the odour-stripping unit will be piped into the boiler that recovers the pulping chemicals for recycling. There, the hydrogen sulfide and organic sulfides will be converted to odourless sulfur dioxide.

The collaborative project to help optimise processes at the Tumut mill is addressing a range of issues. A key contribution by researchers from ensis in New Zealand is to examine ways to improve the colour of the pulp produced.

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ensis scientist, Michael Wedding, makes some final adjustments to the top of the 6 m high pilot air stripper built by ensis at Visy Pulp and Paper Tumut Mill. ensis used this equipment to gather data on which Visy are basing the design of their new full-sized odour removal plant.