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24 September 2006

Executive Commissioner  
Resource Planning and Development Commission  
HOBART, TAS

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The Liffey District Resource Management Group is happy to afford its support to the draft IIS for the elemental chlorine-free pulp mill to be located at Bell Bay in the Tamar Valley. Our reading of the Executive Summary provided us with the knowledge that the chosen ECF technology will not have an adverse impact on the environment or northern communities including our region.

We came to this agreement of affording support for ECF technology following our study of *section 5.1 Mill Design*. This interest, in which technology was best, followed on from some public comments by mill opponents that totally closed loop technology was the only safe option.

An added parcel of information that assisted us in reaching this agreement of support for ECF was your (RPDC) report on the *Development of new environmental emission limit guidelines for any new bleached eucalypt kraft pulp mill in Tasmania. Volume 1 August 2004*.

In that report your commission found:

- Total closed loop and zero emissions technology are not currently available (Page 61)
- as of the beginning of 2004, there are no paper grade bleached kraft mills (using eucalypt or other raw material) that operate fully closed on a continuous basis. (Section 3.6.1)

- The term "closed cycle" describes a mill operation that is still a goal but not yet an industrial reality for either chemical or mechanical pulp mills. (Page 86)
- ECF bleaching is today (2004) the dominant bleaching method worldwide (75% of total bleached kraft pulp production) and has been adopted in most new installations. (Section 2.8.3)
- Effluent from an ECF bleach plant contains chlorinated organic compounds, measured by the bulk analytical parameter AOX. Effluent from a TCF bleach plant still contains chlorinated organic compounds, although their quantity is much lower. (Section 2.1)
- The United Nations Environment Programme (UNEP) considers the ECF and TCF bleaching methods to be equivalent with respect to their potential formation of PCDD and PCDF [UNEP/PCDD & PCDF, 2003]. (Section 2.9.4)

We understand that, you then commissioned consultants AMEC to conduct a Review of ECF and TCF bleaching processes and specific issues raised in the WWF report on Arauco Valdivia in 2006. This report contains a raft of conclusions including the following that are relevant to claims made by opponents to the planed ECF Bell Bay pulp mill:

No	Conclusion	Sub-section
5	ECF bleaching is at present (Q2 2006) the dominant bleaching method worldwide (75% of total bleached kraft pulp production) and has been adopted in most new installations.	2.4.5
6	A rapid decrease in the concentration of PCDD/ PCDF has been measured at several pulp mill locations in North America and Europe either in sediments or biota after the introduction of either ECF or TCF bleaching.	2.4.6
7	PCDD and PCDF emissions in ECF and TCF effluents are about the same.	2.4.6
8	If ECF bleaching is used, the emissions of 2,3,7,8-TCDD and 2,3,7,8-TCDF to water are lower than the limit of quantitation (US EPA Method 1613 <sup>1</sup> ).	2.4.4
9	If TCF bleaching is used, the emissions of 2,3,7,8-TCDD and	2.5.3

<sup>1</sup> US EPA Method 1613 for Analysis of Dioxins and Furans in Wastewater, which has a minimum level of 10 pg/L for 2,3,7,8-TCDD and 2,3,7,8-TCDF.

	2,3,7,8-TCDF to water are lower than the limit of quantitation (US EPA Method 1613 <sup>1</sup> ).	
10	<p>TCF bleaching developed in the early 1990s and reached a market share of around 5% of the total bleached kraft pulp production. Since then, this market share has gradually declined to around 4%.</p> <p>The TCF market is at present stagnant or decreasing, no premium is paid for TCF pulps and the expectation for less problematic recycle of effluents has not been realised. Thus, mills in Germany and the Nordic countries have either abandoned or reduced TCF production in favour of ECF production.</p>	2.5.4 and 2.6
11	The treatability of ECF and TCF bleaching effluents in a biological treatment plant is for all practical purposes about the same. Because of this, the treated effluent characteristics depend more on the pulpwood, mill geographical location and pulping process than on the selected bleaching process.	2.7.1
25	<p>The overall conclusion from the review of recent studies of environmental impact of bleached kraft mill effluents confirms that neither ECF nor TCF bleaching gives clear environmental advantages.</p> <p>It is noted that EDS have also been shown to occur in the effluent from a BKP mill employing TCF bleaching.</p>	2.7.3.3
27	There is no systematic difference in effect intensity or effect pattern between the whole mill effluents from mills employing ECF or TCF bleaching.	2.8.1
28	<p>There is no indication of a difference between ECF and TCF bleaching in terms of acute and chronic toxic effects on aquatic eco-systems</p> <p>The remaining environmental effects of modern mills (e.g. sub-lethal toxicity to aquatic organisms) cannot be predicted from the bleaching sequence alone. Future evaluations of these environmental effects should focus also on other unit operations within the mill (e.g. wood handling, cooking, washing, screening, spill and foul condensate handling).</p>	2.8.1
29	ECF pulps have better paper-making properties than TCF pulps. TCF bleaching offers no advantage over ECF bleaching in terms of reducing or eliminating an effluent discharge.	2.8.1
42	ECF bleached pulp dominates the world bleached chemical pulp market. Data shows a widening gap between ECF and TCF	2.11.4.5

	bleached pulp production. ECF bleaching continues to grow whereas TCF, at approximately 5% of the world market at present (Q2 2006), is declining. There are mills originally built with the intention of producing TCF bleached pulp that have converted or plan to convert to ECF bleaching with the capability of producing TCF bleached pulp as required.	
46	<p>As the ECF and TCF bleaching processes are considered BAT in [IPPC BREF, 2001] and acceptable for use in pulp bleaching in [UNEP, 2006], they should also be acceptable for pulp bleaching according to:</p> <ul style="list-style-type: none"> <li>• BAT and BEP as defined in Article 5 and qualified in Annex C of the Stockholm Convention.</li> <li>• General prevention measures relating to BAT and BEP as defined in Annex C of the Stockholm Convention.</li> </ul> <p>In Annex C to the Convention process changes such as moving to closed systems are recommended. This may however lead to build up of non-process elements such as chloride in the systems which could increase any formation of TCDD and TCDF in the recovery boiler.</p>	3.1.4

We are confident that our agreed support for ECF based upon the draft IIS and the contents of the two mentioned reports published by your Commission, is correct.

We agree that the accepted guidelines published by your RPDC are world's best practice, and the draft IIS demonstrates that the proposed pulp mill can meet these guidelines and as a consequence the ECF pulp mill for Bell Bay should be approved as soon as possible.

Jarrood Burn  
President