

**SUBMISSION TO THE
RESOURCE PLANNING AND DEVELOPMENT COMMISSION**

**ON GUNNS PROPOSED PULP MILL
DRAFT INTEGRATED IMPACT STATEMENT**

By Lisa Clarkson,

10 September, 2006

GENERAL COMMENTS ON THE DRAFT IIS

The RPDC states on its web site (under the heading, "How will the impact of the project be assessed"?) that "the proponent will prepare a Draft IIS, which will describe the proposal and address all potential environmental, social, community and economic impacts of the construction and operation of the proposal". Gunns' Draft IIS document fails to fulfill this directive as it does not address ALL potential impacts and presents a decidedly positive "spin" to most aspects of this development whilst ignoring or disregarding negative impacts. It is extraordinary that such a voluminous document can be so lacking in discussion and review of some important impacts. Moreover, Gunns fails to adequately address some impacts/issues as set out in the RPDCs Scope IIS guidelines (2005). It is my opinion that the RPDC should instruct Gunns to fully comply with the guidelines so that a comprehensive and integrated impact statement is indeed presented to the Commission and for public scrutiny.

SPECIFIC COMMENTS on the DRAFT IIS

WATER SUPPLY

RPDC Scope Guidelines for the Draft IIS state under Section 7.9.2. Water Supply and Associated Infrastructure,

(2) **"The impacts associated with the supply of water to the mill must be reviewed. These impacts considered must include the following. The impact of the additional water abstraction from all direct and indirect sources on other users (existing industrial users, recreational fishing, recreational water users, commercial fishing, water dependent species and ecosystems, habitat for listed EPBC Act species, irrigation, public drinking water, private supplies etc.) should be reviewed. The proponent must consult with the relevant State and Australian Government authorities as necessary to identify water regimes necessary to protect water dependant ecosystems (including estuaries and riparian vegetation) downstream from the point of extraction and demonstrate how such flows will be maintained"**.

Volume 15, Appendix 44 Draft IIS **Volume 3a, Section 5 Draft IIS**

Volume 15 Appendix 44, Section 4.2. Water Balance

Gunns response

The proponent states that most of this section is based on information obtained from Hydro Tasmania's web site and staff but no specific references are cited. The water supply model used is based on historical flow data for 1994-2004 (provided by Hydro Tasmania) and assumes that:

1. water will be taken from the portion of flow entering Cataract Gorge when dam is surcharging. This occurs on average 80 days/year.
2. on all other occasions the water will be taken from Lake Trevallyn.

Comments

The model provided is based on historical flow data, and does not include any analysis of any effects of future climate change. Moreover, this section of the Draft IIS fails to mention the impact that Global Warming might have on flow regimes and therefore, security of water supply. Hydro Tasmania recently released a report that stated "a business risk analysis identified climate change and its implications for a hydro generator as a high risk". The report, based on modelling, indicated that future climate change from 2006-2040 may result in trends towards lower rainfall, higher maximum and minimum temperatures and higher evaporation rates in the eastern half of Tasmania (Hydro Tasmania, 2006). This will impact on the South Esk River/Great Lake catchment and may result in lower lake/storage levels and far less dam overflow events than is currently assumed in Gunns water supply model. The failure to even include Global Warming/Climate Change as a credible impact in the analysis of the water supply is a serious omission on behalf of the proponent.

In the context of Climate Change and measures that might be taken to mitigate its effects, this question should be addressed: what impact will the water allocation from Lake Trevallyn for the pulp (and future

paper) mill have on Hydro Tasmania's capacity to supply Tasmania's renewable energy needs, particularly from the South Esk system which represents approximately 50% of Tasmania's hydro storage capacity? For example, storage level in Great Lake/Lake Augusta is currently low at 18.9% of capacity (as of 21 August 2006) and has been at historic low levels for the last 8 years. In addition, Hydro Tasmania has been recently supplementing Tasmanian energy needs (through the driest winter ever) with power generated on the mainland whilst selling hydro-generated electricity, into the National Electricity Market (NEM), at peak times in order to conserve water storages in Tasmania (Hydro Tasmania, media release, 30 August, 2006). In the not too distant future, it is highly probable that some form of carbon tax will be introduced (as already suggested by State Governments) to reduce greenhouse gas emissions and this will no doubt be imposed on non-renewable electrical generation. If Tasmanians are "forced" to use such greenhouse intensive energy (i.e. coal-fired) because of reduced rainfall and because Hydro Tasmania is forgoing generative potential in order to supply 26-40 GL/a of water to Gunns pulp mill for the next 30 years, who will incur this economic impact, Gunns, the energy users or both? Such important potential impacts and issues resulting from accessing a water supply from a hydro-electric generator, who admits that climate change will present immense challenges and risks to its own business, should be discussed. In order to satisfy the requirements of the IIS guidelines to discuss ALL POTENTIAL IMPACTS, the proponent should be instructed to include an assessment of climate change on water supply and security.

In the context of Hydro Tasmania's entry into the National Electricity Market (by way of Basslink), a 2001 DPIWE report into water availability in Tasmania argued that "in the longer term Hydro Tasmania water requirement for Basslink may have an impact on water availability for irrigators who obtain an allocation from Hydro Tasmania due to changing water flows through power stations" (Section 3.4 pg. 21). Although the report is considering the impact to irrigators it could well apply to industrial users such as the proponent in the context of Hydro Tasmania's obligations and business arrangements in the National Electricity Market. In further discussion of water supply issues and impacts it is worth noting that Philips (in DPIWE, 2001) in exploring opportunities of water resources for heavy industrial users did not recognise Trevallyn Dam as having heavy water usage potential suitable for supplying a pulp or paper mill. Water storage is so small that in the context of hydro-electric generation, Trevallyn Dam supplies a "run of the river" power station. And yet, Trevallyn Dam is the only option that Gunns gives any real consideration to in terms of securing a water supply for its proposed pulp mill. Of interest, the proponent makes passing reference to the Meander Dam under construction (Section 2.1 Trevallyn Dam, Volume 15, Appendix 44, Draft IIS). If the proponent is planning on accessing a portion of water from the Meander Dam (or any other source) to supplement its supply from Lake Trevallyn it should be revealed along with the cost (as has been provided for the Lake Trevallyn supply).

The proponent concludes (4.2.1.) that the impact of mill water extraction on Lake Trevallyn is an approximate reduction in flow through the Cataract Gorge and Power Station of 0.79% and 1.28% respectively (Table 3, Volume 15, Appendix 44 Section 4.2). Although these percentages appear small, Section 5.7.5. of Volume 3a, recognises that "a significant volume of water is required to supply the pulp mill" but considers this extraction very minor in regards to the overall hydrology. However, Table 5-12 lists this extraction as a "moderate negative impact" and does so in the context of a model that is based on historical flow data. I would argue, that as the model does not consider any future long-term changes or reduction in rainfall nor does it consider land use changes in the catchment (e.g. tree plantation development) that may result in changes to the hydrology, that Gunns is premature in arriving at the conclusion that the water extraction is insignificant. Further modelling is required that includes such significant changes to the hydrological regime before a conclusion is determined.

Gunns states that "base flows will be maintained" in the Cataract Gorge (that is minimum low flows). For years the issue of what constitutes adequate environmental flow has been hotly debated with many critical of Hydro Tasmania's reluctance to increase the environmental flow down the Cataract Gorge until 2003. It is not yet known whether this new water regime is ecologically satisfactory and yet many of the listed threatened species of the Trevallyn Nature Recreation Area (TNRA) and Cataract Gorge exist in the riparian/riverine zone and require appropriate environmental flows and management. Prescription 3.5.1. of the draft TRNA Management Plan (PWS, 2006) states "Give priority to protecting and enhancing the riparian and aquatic habitats and threatened species associated with the South Esk River gorge... and encouraging appropriate future flow regimes". The proponent makes the assumption that "environmental flows will be maintained at current levels" (page 164, Vol 3:5) for the life of the pulp mill and doesn't discuss the potential impact that changing future flow regimes may have on their water allocation. Nor does the Draft IIS reveal whether there would be an economic cost incurred to the proponent if Hydro Tasmania is forced to forgo

more generative potential to increase environmental flows in addition to providing the proponent with its water allocation. Or would only energy customers incur this cost? The fact that Hydro Tasmania has historically been opposed to increasing environmental flows down the Cataract Gorge (because it represents a loss of revenue) indicates that this is a potentially significant issue and one that is likely to be exacerbated by future water supply insecurities in the South Esk/Great Lake Catchment.

REFERENCES

"Basslink plays an important role through the driest winter on record". Accessed on 6 Sept. 2006 at <http://www.hydro.com.au/home/Corporate/Media+Releases/Basslink+plays+an+important+role+through+the+driest+winter+on+record.htm>

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DPIWE, 2001 Report on Water Availability in Tasmania – Background Report. Accessed on 23 August, 2006 at [http://www.dpiw.tas.gov.au/inter.nsf/Attachments/JMUY-4Z27MN/\\$FILE/surfacewateravailability.PDF](http://www.dpiw.tas.gov.au/inter.nsf/Attachments/JMUY-4Z27MN/$FILE/surfacewateravailability.PDF)

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LANDFILL

Volume 16, Appendix 55 and Volume 2b, Section 12.6 Draft IIS **Volume 4, Part 4 Draft IIS**

Comments :

Water table

Pitt and Sherry (Volume 16, Appendix 55) reported that the water table at the foot end of the landfill is <5m (3m) and they conclude that it is possible that during wet conditions the water table may contact with the landfill liner/barrier. They believe that more monitoring is required to ascertain the likelihood of this happening as their testing occurred during the dry months of March and April, 2005. It is of concern that it is considered appropriate to still use the site but by the time the foot end is required for solid waste containment (i.e. 8 years later), enough data will have been collected to clarify whether there is a problem. The high water table at the foot end of the site is a potential source of groundwater contamination.

Breach of landfill barrier

Impermeable liners have been suggested in the design of the landfill to contain and control leachate from the solid waste. Pitt and Sherry recognise a real potential for the liners to be breached by the heat of hydration of Lime Kiln ESP dust. Coupled with a high water table at the foot end of the landfill, this possible breach increases the potential for significant groundwater contamination. In Section 12.6.4 (Summary of Impacts and Management Measures – Groundwater and hydrology), Table 19 does not list management measures to prevent breach of the liners by the heat of hydration of Lime Kiln ESP dust. There is a significant risk that if the wastes are not properly mixed (so as to release the heat prior to being placed in the cells) that the heat will destroy the liners' impermeability. Proper mixing requires care especially as the tyres and tracks of spreading vehicles may push unhydrated lime onto the liners. In light of these significant risks I question the disposal of unhydrated lime in the landfill and believe some other reuse should be found as a matter of priority (as directed in Scope IIS Guidelines, Sections 7.4.1 (2) and 7.4.2).

Heavy metals and organic compounds in solid waste and leachate

We are assured that the solid waste is non-hazardous, because it is essentially inorganic and benign, and yet a perusal of Pitt & Sherry's report indicates that hazardous materials will be present. For example, the Executive Summary gives the chemical properties of the leachate of the solid waste to be placed in the landfill site. It states that it will comprise (amongst other things) "dissolved heavy metals and metalloids at elevated pH" (pg. iii). In addition, Pitt and Sherry recognise that most of the problematic environmental

elements originate primarily in wood (notes-Appendix A, 2.8) and components of the solid waste such as power boiler ash, green liquor dregs, slaker sand, lime kiln ESP dust etc. will be contaminated with wood – hence potentially hazardous organic compounds, in particular, organic halogens may be present although these are not quantified. Heavy metals are listed under Section 2 of Appendix A – “chemical composition of solid waste”. The components of the solid waste that contain heavy metals are derived from wood fuel, screening and cleaning rejects, green liquor dregs, slaker sand, Lime Kiln ESP dust, power boiler ash and from the causticising and Lime Kiln area. For the causticising and Lime Kiln areas, heavy metal content is dependent upon the wood species being pulped and thus varies between 436 mg/kg for plantation grown eucalypt to 699 mg/kg for pine.

If the solid waste and its leachate is considered benign why then is it necessary to monitor the landfill site and groundwater for the substances listed in Tables 11 and 12 of Section 4.4.6. (Volume 4, Part 4 – Monitoring Plan)? These tables include heavy metals and organic compounds such as PAHs, BTEX, TPH and PCBs. I would therefore argue that the solid waste is a source of potentially hazardous materials that may escape containment due to a failure of the lining (as discussed previously) or by diffusion through the liners which could result in significant contamination of the groundwater. It is suggested that leakage can be attenuated (through soil) but in case it is not, contamination is irrelevant because the groundwater is not potable, and doesn't seep into any known wetlands. And yet the landfill site is indeed only 1.5 km away from the Tamar River! There is little doubt that the groundwater flows into either Williams Creek or directly into the Tamar River and once in the groundwater, this potentially hazardous “cocktail of chemicals” will be impossible to remove.

IMPACT ON AIR QUALITY **Volume 9, Appendix 16 Draft IIS**

Section 6 Emission Sources and Section 7.1. Existing Air Quality in TVAS

Comment

It is of great concern that there has been no direct measurement of background ambient air quality in the Tamar Valley Air Shed, other than what has been conducted at the Rowella Air Quality Monitoring Station since July 2005! Without an understanding of background levels in various locations of the Tamar Valley how can the impact of the pulp mill's emissions be properly assessed.? The situation may arise that even though the pulp mill emissions are well within criteria limits their contribution to an already polluted air shed may be enough to “tip the balance”! Although the TAPM model will “simulate the space and time varying backgrounds by directly modelling the impacts of significant sources of these constituents within TVAS” (pg. 23), I question the veracity of such modelling with such little data.

Section 6.1 Proposed Mill Emission Rates

Comment

Table 6-2 shows that NOx emissions exceed the Guidelines by approximately 30 per cent. Although solutions are provided that reduce this exceedence, it is argued that exceeding the NOx guidelines provides a better “environmental outcome” (pg. 19). This is totally unacceptable and I would argue that if the proposal cannot satisfy the requirements set by the RPDC for emissions then the proposal should not be allowed to go ahead. The setting of emission guidelines was subject to rigorous consultation and review specifically for the purpose of establishing a BEK pulp mill. Gunns must show that this type of pulp mill will not exceed any emission guidelines irrespective of what design is used.

Section 8 Validation of TAPM prediction of background Air Quality

Comment

It is my opinion that a comparison of a two month subset of the Rowella AQMS data to the TAPM prediction is inadequate. Based on GHD's comments that a full 12 month dataset will be compared after July 2006 indicates that they too, feel that it is inadequate (pg. 26). I argue that at this stage, it is impossible to make any conclusion on the ability of the model to simulate adequately the background air quality of the TVAS and that the RPDC must reject the findings of the air quality modelling until a reasonable dataset has been compared. In light of the time constraints imposed for public comment, will the RPDC (at a later date), on the

completion of the further analysis of the dataset by GHD, enable the public to then comment on the findings and the predictive powers of the modelling?

In the event, that the current modelling is considered adequate in predicting the background air quality for the TVAS, I would express concern that it consistently over-predicted or under-predicted concentrations of targeted emissions. In particular, the propensity for the model to significantly under-predict PM10 concentrations makes it extremely difficult to comprehend how it can be concluded that the mill's signal is virtually undetectable at Ti Tree Bend (pg. 28).

Section 10 Conclusions

Comment

I would like to ask the RPDC to consider the following questions in light of the findings in regard to the predicted background air quality at George Town A. Is it acceptable to emit pollutants into an airshed that is already polluted such that Class 1 constituents such as PM10 already exceed criterion limits set by the Air Quality NEPM? The Emission limit guidelines specify "that the air shed capacity must not be compromised by the addition of new emissions where the air shed criteria are those given in the National Environment Protection (Ambient Air Quality) Measure (Air Quality NEPM) (Section 5.1. pg. 12, Draft IIS). And yet the proponent argues that NEPM criteria are not relevant as they are just goals (deferring to the PM criterion set in the Air Quality Environment Protection Policy). Although it is argued that the pulp mill's contribution will be negligible (at <3%), will the people of South George Town be comforted by this fact?

HUMAN HEALTH RISK ASSESSMENT OF BELL BAY PULP MILL EFFLUENT **Volume 10, Appendix 22 Draft IIS** **Volume 6, Appendix 7 & Volume 7 Appendix 9 Draft IIS**

Comment

On reading this section, I should feel completely confident that there is "unlikely to be" any risk to human health from exposure to the pulp mill effluent, after all, that is the conclusion drawn by Toxikos. We are assured that dioxins will be non-detectable and non-accumulative, and that heavy metals will be in such low concentrations as to warrant no risk despite large uncertainties in existing background levels for some elements such as cadmium. Tainting is not likely to occur but will be monitored, initially, anyway. But to allay our fears we are further assured that as the most likely source of accumulation is in the consumption of fish and the area just happens to be devoid of fish there is no chance of ill-effects. And finally, no one would want to pursue recreational activities in the area because of the "harshness of the physical environment and scarceness of marine organisms" (pg. 11) thus eliminating the potential for primary contact with the effluent. Despite this last assurance, Tasmanians do enjoy recreational activities in the area and have caught and consumed these non-existent fish.

So, why should I be concerned? Because Toxikos states that "the Bell Bay mill will incorporate many engineering improvements not present in current best practice ECF mills. There is therefore, uncertainty regarding the constituents and their concentrations in the Bell Bay mill effluent" (pg. 22). Previously, Toxikos states that "Jaako Poyry Oy provided the information on the type of constituents in the discharged mill effluent and their concentrations. Gunns provided additional information from their consultants as it came to hand. Toxikos has taken this information at face value" (pgs. 19 -20). So Toxikos' risk assessment is reliant on information provided that is essentially theoretical and unproven because the engineering improvements are not currently in use in best practice ECF mills. It requires a "leap of faith" to accept this information on face value as Toxikos has done. The efforts that have been made to portray this mill in such a positive light would lead me to believe (if I took it all at face value) that I could probably drink the effluent for 30 years with no ill effects whatsoever. I am sceptical of pronouncements stating that any large-scale, long-term industrial process resulting in the creation and discharge of numerous organic and inorganic by-products would have little effect on the environment or human health. I am reminded of other pronouncements such as those of tobacco companies who, for years, denied the role of cigarette smoking in causing cancer and other ill-effects.

I request the RPDC consider, in light of the concerns expressed within the general community about pulp mill effluent and given that the role of Jaako Poyry Oy as a consultancy firm may present a conflict of interest, that the information provided by Jaako Poyry Oy be INDEPENDENTLY VERIFIED by another agency. I

justify my request on the following basis. There is inconsistency here in the Draft IIS Report. What are the engineering improvements NOT PRESENT in current best practice ECF mills that Toxikos refer to in their human health risk assessment of the pulp mill effluent? I would like to know why the engineering changes have been included by explaining what problematic/deleterious impacts they are attempting to ameliorate in the ECF process and on what scientific/technical basis it can be concluded that these theorised changes will result in the practical elimination of all toxic elements from the effluent. A perusal of Jaako Poyry Oy's Main Report and Annexes (Volume 6, App. 7, Volume 7 App. 9) has failed to enlighten and generally only reveals that a treatment/plant is modern or BAT. In Section 5 (Vol. 6, App. 7, pg.xi) Jaako Poyry Oy state that "compliance will be achieved with the mill design based on modern, proven technology and the choice of the mill equipment featuring the best possible environmental performance". In addition, under Section 1.3.1. (Liquid Effluents) they state "... all limits listed above can be met with BAT environmental safeguards already in use in Bleached Kraft Pulp Mills" (my emphasis).

PULPWOOD SUPPLY **Volume 14, Appendix 38, Executive Summary Draft IIS**

General Comment

When the pulp mill project was first proposed the public were led to believe that the proposal would replace the export of wood chips with a locally value-added product. However, the Draft IIS reveals that the intent has been to create a pulp product sourced, initially, and predominantly from publicly owned state forest whilst the proponent continues to export woodchips from its own holdings (I was personally informed in 2005 by the Pulp Mill Task Force that current clients who purchase Gunns woodchips would buy pulp instead of woodchips once the mill was operational). And although the proportion of state forest utilised will fall over the life of the pulp mill, even when a 100% plantation strategy is feasible (i.e. after 2017), non-plantation based timber will still comprise approximately one-quarter of the mill supply (see Figure 5.2. Executive Summary). Gunns has failed to include or even acknowledge in its Draft IIS that this strategy would continue to generate division within the Tasmanian community. Nor is it acknowledged that the proposal could jeopardise potential ecotourism opportunities or other forest-based industries by locking up forests for pulp production. Furthermore, because the proponent repeatedly ignores the potentially negative social implications of its decision-making it is not fulfilling an important requirement of the IIS.

Section 4.2. Scope IIS Guidelines

The Scope Guidelines (1) state that the proponent must "show how the statutory provisions address environmental, social, economic and community issues".

Comment

It is my opinion that the proponent has failed to show how the statutory provisions address the social and community issues surrounding the continuation of woodchipping in Tasmania. Despite the discussion of the legislative framework of the Regional Forest Agreement and its attending Acts there has been no discussion of the division caused between woodchip industries and communities/social groups as a result of the continued clearance of native forest and conversion to plantation and the conversion of farm land to tree plantation for pulp wood production. There is an erroneous misconception that the RFA has adequately addressed the divisive environmental and social issues surrounding forest resource utilisation in Tasmania and yet, the level of angst that still exists within the community suggests that THIS IS NOT THE CASE.

The Scope Guidelines (11) state "detail the arrangements which are or will be in place to secure a sufficient supply of pulpwood for the projected life of the mill".

Comment

No details are given by the proponent of the 20 year resource agreement entered into with Forestry Tasmania to supply State Native Forest. In fact, the proponent only vaguely mentions that there are existing and future contractual arrangements with Forestry Tasmania and that long term supply estimates have been forwarded by the latter. Given that this agreement involves public forests, the arrangements, supply estimates and costs should be made publicly available. The proponent also reasons that in the unforeseen circumstance of a reduction in wood availability from a particular source then it is likely another source will be found for pulp mill supply with a resultant reduction in wood processed for export chips. Gunns should therefore, detail that scenario, by describing where this alternative wood supply would be sourced and how this would impact on its costings.

Scope Guidelines (13) “Canvas feasibility and environmental issues associated with an “all plantation” sustainable yield wood supply strategy”.

Comment

Although Gunns states that 100% plantation wood supply is possible by 2017, it concludes that this is not “an anticipated strategy” citing economic and transport costs. The proponent provides scant discussion of an “all plantation” strategy and in particular, does not factor in the environmental benefits associated with the use of a plantation based forest resource. Nor does the proponent recognise that a 100% plantation based mill supply is more socially acceptable and would address some of the community concerns expressed in regard to the pulp mill proposal.