

Fact Sheets – Bell Bay Pulp Mill

Environmental monitoring

- The pulp mill project operates under both Commonwealth and Tasmanian regulatory regimes, and each has its own detailed monitoring requirements.
- The comprehensive monitoring regime, which encompasses data gathering and reporting across many hundreds of parameters.
- The Commonwealth Baseline and Operational Monitoring Program (C-BOMP) predominately addresses issues of Commonwealth concern in accordance with the Environment Protection and Biodiversity Conservation Act, 1997, namely:
 - Listed threatened species and communities
 - Listed migratory species, and
 - Commonwealth marine areas.
- The State Baseline and Operational Monitoring Program (S-BOMP) responds to the Tasmanian Government's requirements for environmental monitoring in accordance with the Pulp Mill Assessment Act, 2007 and the normal Tasmanian environmental regulatory regime. Environmental factors to be monitored under the S-BOMP include:
 - Chemical and particulate air quality
 - Odour
 - Noise
 - Ground and surface water
 - Marine water quality
 - Marine sediment, and
 - Marine ecological communities
- The S-BOMP also includes an extensive "sentinel program" involving testing for chemical compounds in living organisms and/or human-consumed products including mussels, Little Penguins, fish (flathead & leatherjacket), and cows' milk.
- Any proposed changes to the C-BOMP or S-BOMP will require Commonwealth and/or State Government approval following technical review.
- The monitoring program will be conducted by specialist consultants as well as appropriately trained Gunns employees. Laboratory analyses will be undertaken by laboratories certified by the National Association of Testing Authorities (NATA) or their equivalent.
- Reporting requirements for the monitoring program are extensive. Monitoring reports and source data will be made available to the public through the project website and community engagement forums.

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Summary of monitoring requirements

Atmospheric	Effluent & Marine
<p>Five Air Quality Monitoring Stations (AQMS) located near the mill site within the Tamar Valley will continuously monitor weather conditions, odorous chemicals and airborne particles. Other air pollutants will be continuously monitored at one AQMS.</p>	<p>Mill Effluent will be continuously monitored for volume and a number of key pollutants using on-line instruments at the wastewater treatment plant outlet.</p>
<p>Continuous Emission Monitors (CEMS) will measure pollutant emissions as they exit the mill stacks, including using web-cams to maintain visual surveillance of emission points.</p>	<p>Mill Effluent will be monitored via discrete periodic sampling at the wastewater treatment plant outlet for a range of pollutants via laboratory analysis. Sampling will occur every day, week or month depending on the pollutant to be measured. Chemical analysis will be undertaken by NATA-certified laboratories (or equivalent).</p>
<p>A Real Time Dispersion Model will continuously track and model emissions, predicting the location of emission plumes within the atmosphere. The model will use data obtained from the AQMS network and the CEMS, allowing the mill to be managed to minimise dispersion of emissions. This will also allow rapid investigation of any complaints.</p>	<p>Marine Ecological Effects Monitoring will take place in Bass Strait in the area surrounding the outfall and beyond, to identify any effect (change) on the diversity or abundance of local marine flora and fauna. Focus areas will include benthic infauna (animals that live in the sand) and benthic epiflora and epifauna (animals and plants that attach to reefs). Specialist marine ecologists will undertake this component in accordance with a highly detailed assessment and analytical protocol developed specifically by the Commonwealth for pulp mill marine outfall monitoring.</p>
<p>A series of Odorous Compound Monitoring Programs will be in place to identify and or manage any odours. These programs include community-based odour surveys and an odour panel consisting of nearby residents. Chemical sampling methods will also be used to identify any fugitive emission points or the presence of odorous chemicals.</p>	<p>Baseline monitoring of marine water quality has been completed. After operations commence, frequent sampling will occur initially and then reduce to lower intensity. Chemical, physical and optical properties of the water will be examined and reported. Monitoring will be in accordance with Australian Guidelines for Marine Water Quality Monitoring.</p>

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A series of **discrete sampling programs** will be undertaken to demonstrate 'before and after' comparisons of a number of pollutants that are of concern to various stakeholder groups. These programs include measuring 'dioxins' in Cows milk and air as well as the concentration and chemical composition of PM2.5 particulates. Most sub-programs will be undertaken on a monthly or quarterly sampling regime.

Marine Sediment sampling will occur at high frequency in Bass Strait in order to identify any changes in chemical and physical composition of sediments at several sites near and distant to the outfall. Two annual surveys will characterise baseline conditions before operations commence. Several sample runs per year at the same sites will examine post-operational trends. Purpose built sampling equipment will be used to focus analysis on the top 20mm of sediment. Chemical analysis will include persistent organic pollutants, such as 'dioxins' and resin acids and many other parameters

A network of **Noise Monitoring Stations** will continuously log noise data on the mill site and in the nearby Rowella area. Seasonal attended surveys will also be carried out at a number of noise sensitive and representative locations in the Rowella area.

The **Marine Sentinels Program** involves examining tissue concentrations of a range of pollutants in shellfish, fish and penguin eggs. Additional analysis will examine many of the same animals for possible 'effects' such as their general condition, growth rates and reproductive ability. Several surveys will be undertaken before operations commence and will be repeated after commencement.

Estuarine

Surveillance of **construction impacts** due to installation of mill infrastructure (wharf and pipeline) within the River Tamar including underwater noise to protect sensitive species.

Terrestrial

Mill site soils, groundwater and surface waters will be monitored, providing surveillance of the management and security of mill process materials. A monthly sampling regime will be undertaken initially.

An **infrastructure program** provides surveillance of threatened or sensitive species that may be a component of local habitats adjacent to mill infrastructure such as the pipeline route.

Reporting

Substantial public reporting of all monitoring must be presented annually to State and Commonwealth regulators and published for all stakeholders to review. Independent environmental auditing will be undertaken for the Commonwealth in addition to routine oversight of the project (including monitoring activities) by the Independent Site Supervisor and Independent Expert Group.