

Referral of proposed action

Project title	Bell Bay Pulp Mill
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1 Contacts

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| 1.1 | Referring party | Person, agent or agency who is making the referral
Les Baker
Project Manager
Gunns Limited
PO Box 572, Launceston Tasmania 7250
03 6335 5201
03 6331 7587 |
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- | | | |
|-----|--------------------------|---|
| 1.2 | Responsible party | Person responsible for or who will carry out the proposed action.
If same as 1.1, write 'as above'
As above |
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- | | | |
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| 1.3 | Proponent | Person responsible for preparing assessment documentation, if approval is required. If same as 1.2, write 'as above'
As above |
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2 Summary of proposed action

NOTE: You must attach an A4 size map/plan(s) showing the location and approximate boundaries of the area in which the project is to occur. The summary below should encompass any alternative locations, timeframes or activities that are listed in Section 3.2.

2.1	Short description	Gunns Limited (Gunns) proposes to establish a bleached Kraft pulp mill, and ancillary chemical production and infrastructure, at Bell Bay in northern Tasmania. The proposed mill may produce between 700,000 and 1,100,000 ADt pulp per annum from wood sourced from hardwood and softwood forests and plantations. The Kraft pulp method will be used to produce high quality pulp. The bleaching process will be Elemental Chlorine Free (ECF).
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2.2 Latitude and longitude if area less than 5 hectares, provide the location as a single pair of latitude and longitude references.		Latitude			Longitude		
	location point	degrees	minutes	seconds	degrees	minutes	seconds
	Bell Bay	41	09	32	146	55	21

2.3	Locality	<p>The site of the proposed mill is located between an existing electricity transmission line and the River Tamar, south of Bell Bay. The site is vegetated and dominated by <i>Eucalyptus amygdalina</i> forest. The site slopes towards the River Tamar, and is backed by the Tippogoree Hills to the east. The dam, quarry and solid waste disposal sites are located east of the East Tamar Highway.</p> <p>An effluent disposal pipeline is proposed to be constructed from the pulp mill to an area near Five Mile Bluff, north of George Town, to deliver effluent to a 200m-long ocean outfall diffuser located approximately 2.7km offshore.</p> <p>A water supply pipeline and associated infrastructure is proposed to be constructed between Lake Trevallyn, near Launceston, and the pulp mill. This system may further link to the existing water supply from Curries River dam with the construction of a water supply pipeline from the mill to the Esk Water treatment plant located approximately 6km to the north east of the mill. The Curries River dam supply could serve as an emergency backup when Trevallyn dam water is unavailable.</p> <p>A temporary workers accommodation facility may be constructed to house construction workers for the project. It is proposed to be constructed on industrial zoned land on the outskirts of George Town.</p>
2.4	Size of the development footprint or work area (hectares)	<p>While the Pulp Mill Site depicted on the attached plan will be up to 650ha to accommodate vegetated buffers and screening and possible future expansion of operations or a paper mill (neither of which form part of the current project or this referral), the proposed footprint of the pulp mill is less than 100ha.</p> <p>The land on which the workers accommodation facility may be located will be subdivided into a lot of approximately 14ha.</p> <p>The effluent pipeline is approximately 19 km long, and the water supply pipeline approximately 40 km long.</p>
2.5	Street address of the site	<p>The Pulp Mill Site is located on the East Tamar Highway, Long Reach.</p> <p>The workers accommodation facility has frontage to Main Road and Agnes Street, George Town.</p>

2.6	Lot description	<p>The Pulp Mill Site is part of certificate of title volume 143039 folio 1 (Freehold land owned by Comalco) and part of property ID 2535084 (Crown land managed by Forestry Tasmania). The Pulp Mill Site is proposed to accommodate the pulp mill, chemical plant, wharf, quarry, dam and solid waste disposal facility.</p> <p>The workers accommodation facility is part of Lot 1 on Plan 128887 (freehold land owned by Waterfrontages Real Estate Pty Ltd).</p> <p>A list of the titles crossed by the proposed water supply and pipeline route is at pages 3-23 and 3-24 of Volume 3B of the Draft IIS.</p> <p>A list of the titles crossed by the proposed effluent pipeline route is at pages 6-250 and 6-251 of Volume 3B of the Draft IIS.</p> <p>In this referral, the Project Area includes the Pulp Mill Site, the effluent and water supply pipelines, and the workers accommodation facility.</p>						
2.7	Local Government Area and Council contact (if known)	<p>George Town Council (pulp mill site and effluent outfall). Contact Ngaire McCrindle - General Manager Launceston City Council (water supply). Contact Frank Dixon – General Manager West Tamar Council (wharf). Contact Ian Pierce – General Manager</p>						
2.8	Project life	<p>Gunns plans to commence construction shortly after Commonwealth and Tasmanian approvals have been obtained. Commissioning of the mill is anticipated to occur in late 2009 or early 2010.</p>						
2.9	Alternatives	<p>The operational life of the Project will be at least 30 years.</p>						
2.10	State assessment	<table border="1"> <tr> <td data-bbox="600 1249 675 1361">X</td> <td data-bbox="683 1261 1509 1361">No</td> </tr> <tr> <td data-bbox="600 1368 675 1429"></td> <td data-bbox="683 1368 1509 1429"></td> </tr> <tr> <td data-bbox="600 1435 675 1496">X</td> <td data-bbox="683 1435 1509 1496">Yes, complete Section 3.5</td> </tr> </table>	X	No			X	Yes, complete Section 3.5
X	No							
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2.11	Component of larger action	<table border="1"> <tr> <td data-bbox="600 1496 675 1592">X</td> <td data-bbox="683 1503 1509 1592">No</td> </tr> <tr> <td data-bbox="600 1541 675 1592"></td> <td data-bbox="683 1541 1509 1592"></td> </tr> </table>	X	No				
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3 Detailed project description

NOTE: The proposal described here is the action(s) on which ALL subsequent decisions under the EPBC Act will be made, including decisions on significance, level of assessment (if needed) and approval (if needed). It is therefore important that the description is complete and includes all components and activities associated with the action, as well as any specific alternatives to be assessed. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in Section 3.6.

3.1 Description of proposal

The two major phases of the action are the construction and operation of the pulp mill.

Construction phase

The construction phase will include the following activities, not all of which are confined only to the Pulp Mill Site:

- clearance of native vegetation
- site works to create a level site
- possible construction of a quarry
- construction of the pulp mill buildings and installation of processing equipment and associated infrastructure, both at the Pulp Mill Site and at other locations, including infrastructure for water supply, power and natural gas
- construction of a pipeline to discharge effluent to an ocean outfall
- construction of a warehouse for pulp storage
- construction of a new shipping berth facility adjacent to the Pulp Mill Site in the River Tamar
- construction of infrastructure for solid waste disposal
- construction of other infrastructure to be used in conjunction with the pulp mill, including water supply pumping station and pipelines
- possible construction or upgrade of existing road and rail infrastructure
- possible temporary accommodation for construction workers
- construction of a chemical plant

Operation phase

1. Mill Technology

The mill is proposed to use the Kraft process for producing pulp. The pulp will be bleached, dried and then baled into standard sizes for sale to local and export markets. The Kraft process is considered a very efficient process, as the wood residues removed from the wood fibres are burnt in a recovery boiler to generate the mill's steam and power requirements. This process also regenerates the chemicals used in the pulping process so they can be reused. As a result, the mill only requires small quantities of make-up pulping chemicals.

Included as part of the project is an electricity co-generation facility. With the exception of mill start-ups, the mill is proposed to be self-sufficient in electricity, and will be capable of generating significant excess power that can be sold on the National Electricity Market.

A raw water treatment plant is proposed to be installed to treat water to the standards required for the operation of the pulp mill. Significant quantities of water will be recirculated within the mill to minimise water consumption, and an effluent treatment plant will be used to treat the final effluent to the standards prescribed by the mill's environmental approvals. The treated waste water is then proposed to be discharged to an ocean outfall in accordance with environmental approvals for the project.

2. Pulping process

A modern Kraft process is Gunns' preferred pulping method, as it is a well developed and proven technology and produces high quality pulp in an efficient manner.

3. Bleaching process

The bleaching process will be Elemental Chlorine Free (ECF). The primary bleaching chemical will be chlorine dioxide, but other bleaching chemicals include, but are not limited to, oxygen, hydrochloric or sulphuric acid and hydrogen peroxide.

4. Effluent treatment and disposal

The mill will be designed to minimise effluent discharge and maximise the use of recycled water. Significant sections of the bleach plant water system will be partially closed, with bleach plant filtrate from various bleaching stages recycled back through the fibre line and the recovery process. This will reduce the volume of water that will be required to operate the plant, and impurities carried in these streams will be burnt in the recovery boiler.

Prior to discharge via the ocean outfall, effluent will be treated in the effluent treatment plant, which includes secondary effluent treatment with activated sludge processes. On an average monthly basis, approximately 64,000 tonnes/day of treated effluent will be discharged approximately 2.7km off-shore, near Five Mile Bluff.

Gunns considers that a completely closed cycle Kraft mill, and even a closed cycle bleach plant, are not yet technically proven or economically viable technologies.

5. Mill capacity

The mill will have to be of world scale for it to be financially viable, so the output of the mill will be in the range of 700,000 to 1,100,000 ADT of pulp per annum, depending on pulping efficiencies and the fibre yield of the wood used in the mill. The output can be achieved based on the existing volume of woodchips available for export.

6. Wood Supply

Volumes of pulpwood

Gunns anticipates that between 3.2 and 4.0 GMt of pulpwood will be processed by the pulp mill per annum. A mixture of wood from native forests, pine and eucalypt plantations will be used. The quantities of plantation wood used in the mill is likely to increase over time as plantations become available for harvesting. The projected levels of plantation wood available for harvest will range from present levels of around 1 million GMt/a up to approximately 4 million GMt/a over the life of the project.

Pulpwood will be mostly sourced from Forestry Tasmania, private forest owners, and Gunns' owned or managed resource. In addition, Gunns intends to utilise about 300,000 GMt/a of sawmill residues as pulpwood supply for the mill.

Sources of pulpwood – Gunns' owned and managed estate

As at 30 June 2006, Gunns' forest estate was comprised of:

- freehold land (204,296 ha). Of the freehold land owned by Gunns, 80,478 ha were plantations (mostly hardwood), 38,628 ha were managed native forest available for wood production, and the balance was either inaccessible or unavailable for harvesting (eg for cultural heritage or environmental reasons); and
- managed estate that was leased, held under agreement, or held under joint venture by Gunns or a related company (69,634 ha). Of this amount, 43,516ha were plantations (mostly hardwood) with the balance being either productive native forest areas or areas inaccessible or unavailable for harvest.

Gunns' plantations are planned for harvest through a combination of thinnings and clear fell when it reaches maturity, which occurs between 10-25 years from when the trees are planted.

Gunns' native forests are managed over a notional 60-80 year rotation, and mostly managed on selective harvest regimes.

Sources of pulpwood – private landowners

As at June 2005, there was a total of 403,256 ha of gazetted Private Timber Reserves. In addition, excluding Gunns' owned or managed plantation estate on private land, there was 50,000 ha of hardwood plantation and 76,000 ha of softwood plantation on private land in Tasmania.

Because of the speculative nature of negotiating and purchasing a supply of wood from third party landowners, the average planning horizon for third party private wood supply is typically less than 12 months.

Sources of pulpwood – Forestry Tasmania

Gunns understands Forestry Tasmania manages approximately 1.5 million ha of public land in Tasmania, of which 830,000 ha is available for wood production. In addition, Forestry Tasmania manages approximately 100,000 of plantations.

Gunns intends to secure a supply of 2 million GMt/a of hardwood supply from native forests and plantations under a long-term supply contract with Forestry Tasmania.

Wood supply modelling

Gunns undertook a comprehensive, peer-reviewed wood supply modelling process. Some key outcomes of this modelling were:

- the pulp mill intake of pulp wood was well below the 5-7 million GMt/a of wood potentially available in Tasmania; and
- the majority of the resource will, over time, be sourced from the north east of Tasmania.

Other matters

Tasmanian forests are required to be harvested in accordance with the Tasmanian Regional Forest Agreement (RFA) and the Tasmanian *Forest Practices Act 1985*. Pulpwood will be sourced from Tasmanian forests.

The RFA remains in force until 8 November 2017, but provides for the Australian and Tasmanian governments to agree to extending its duration during the third five yearly review. This review is due to commence in 2012. In the unlikely event that the RFA is not renewed beyond 2017, the harvesting of Tasmania's forests will continue in accordance with Tasmania's and the Commonwealth's environment protection, forestry and national parks and reserve legislation. Furthermore, individual forestry operations may require referral and potential assessment under the EPBC Act if there is no RFA in force.

This referral does not include the impact of forestry operations undertaken for the supply of pulpwood to the pulp mill. The planning horizon for timber harvesting operations referred to above make it impossible to meaningfully predict where forestry operations will take place after 2017 for the purpose of supplying pulpwood to the mill. Accordingly, it is speculative to consider that any forestry operations undertaken after 2017 for the purpose of supplying pulpwood to the mill are likely to have a significant impact on matters protected by the EPBC Act.

For these reasons, the harvesting of Tasmanian forests for supplying wood to the pulp mill is not a part of the referred action.

The majority of pulpwood will be sourced from forests managed in accordance with the Australian Forestry Standard which is endorsed under the international forest certification system PEFC (Program for Endorsement of Forest Certification Schemes).

Most of the logs will be processed into woodchips at Gunns' existing Tamar woodchip export facility. The Tamar woodchip export facility will need to be upgraded to accommodate the increased volume of log processing.

7. Use of raw materials

The raw materials for the proposed pulping process will be used, manufactured or purchased for the mill include:

- natural gas or oil to supplement the firing of boilers and the lime kiln.
- approximately 500,000 green tonnes per annum of bark, fines, sawdust, wood waste and other forest residues or biofuel, which may be burnt to supply steam and power for the pulp mill. Excess power will be sold to the National Electricity Market;
- pulping make-up chemicals such as:
 - sodium hydroxide - up to 38,000 t/a may be used. Based on a 48% concentration, this would translate to approximately 79,000 t/a of sodium hydroxide liquid.
 - sodium sulphate (salt cake) - up to 20,000 t/a of the powder form will be used;
 - calcium carbonate (limestone) - up to 30,000 t/a of limestone will be sourced either from within Tasmania, or imported;
 - the bleaching chemicals and the chemicals required for the production of bleaching chemicals which may include, but are not limited to, oxygen, hydrogen peroxide, hydrochloric or sulphuric acid, salt and methanol. The quantities of bleaching chemicals necessary will depend on the bleaching sequence adopted; and
- other operating materials, maintenance materials and office supplies, which will be sourced locally where available.

8. Water supply

Water is proposed to be supplied to the pulp mill site through a water supply pipeline from Lake Trevallyn near Launceston. The water will be supplied by Hydro Tasmania from the South Esk, Great Lake System. This proposed water supply regime will include the construction and operation of:

- a raw water pump station near Lake Trevallyn;
- a pipeline from the pump station to the dam on the Pulp Mill Site.

Most of the water supply pipeline will be located within road reserves, and on private property. The pipeline will cross the River Tamar and a number of other creeks and road intersections.

Gunns also proposes to construct a water storage dam to the east of the pulp mill on land to be purchased by Gunns across a valley in the Tippogoree Hills, with sufficient capacity to store at least three days' water supply. A backup water supply from Curries River Dam may also be developed, which could involve the construction and use of a water supply pipeline from the mill to the Esk Water treatment plant located approximately 6km to the north west.

Gunns currently anticipates that the pulp mill will require approximately 26GL of water per annum.

9. Wharf facilities

Pulp is proposed to be shipped from a new berth facility to be constructed adjacent to the pulp mill in the River Tamar (see attached plan of the Pulp Mill Site). The berth will have a depth of approximately 12 metres. The berth is likely to stand on piles in the river.

The wharf facility will be designed to accommodate the full mill output as well as use for the importation of raw materials.

10. Solid waste disposal

Any solid waste which cannot be reused will be disposed of at a controlled disposal site. A new waste disposal site is proposed as part of the Project. The approximate location of the proposed waste disposal site is depicted on the attached site plan.

11. Gas supply

Gas may be supplied to the mill through a pipeline linked to the Bell Bay power station located approximately 2km to the north west.

If gas supply is not available, Gunns will secure energy from an alternative source such as oil to supplement the firing of boilers and the lime kiln.

3.2 Alternative locations, time frames or activities that form part of the referred action

Relevant alternatives are discussed in the relevant sections of the referral, as appropriate.

3.3 Previously considered alternatives and the 'do nothing' case

Gunns has considered the possibility of:

- locating the pulp mill at Hampshire, in north west Tasmania
- taking water supply from and the construction of a dam on the Pipers River
- other pulping process technology, including a soda and sulphite process and a thermo-mechanical process
- various technologies to manufacture chlorine dioxide

Site selection

Gunns originally considered two possible locations for the Project: Bell Bay and Hampshire. Gunns' first referral of the Project (EPBC 2005/1914), which was withdrawn in August 2005, included both locations. However, Gunns selected the Bell Bay site as the location of the Project on an assessment of economic, social, environmental and strategic planning considerations. Further information about the site selection process is in the draft IIS section 10 of Volume 1B.

Water supply

Gunns also considered the possibility of securing a water supply from the Pipers River. This would have involved the construction of a new dam. However, due to environmental considerations including possible impacts on listed threatened species in the vicinity of the Pipers River, Gunns reconsidered water supply options. The proposed water supply from Lake Trevallyn represents water that would otherwise have been used by Hydro Tasmania in the Trevallyn Power Station.

Further information on water supply is at pages 5-159 – 5-161 of Volume 3B of the Draft IIS.

Pulping process technology

Gunns considered various pulping technologies during its assessment of the feasibility of the project, but selected the Kraft pulping method because the soda and sulphite methods produce pulp of a lower strength and are less efficient than the Kraft process, and the thermo-mechanical process produces a lower quality pulp which is traded on a smaller world market and at a lower price than Kraft bleached pulp. The thermo-mechanical pulp process uses a significant amount of electricity, which the state would need to import.

Chemical production technologies

Gunns considered two alternative chlorine dioxide production techniques in the Draft IIS:

- integrated chemical plant, which uses hydrochloric acid as a reactant with sodium chlorate to produce a chlorine dioxide gas, which is then chilled before the chlorine is stripped from the chlorine dioxide solution in an adsorption column. The sodium chlorate would be manufactured at the chlorate plant.

- a non-integrated chemical plant, which uses imported sulphuric acid as an acidifier, imported methanol or hydrogen peroxide as a reactant and sodium chlorate to produce chlorine dioxide. The sodium chlorate would be manufactured at the chlorate plant.

Gunns preferred option is to use an integrated chemical plant.

The Supplementary Information includes information in support of a configuration for an integrated chemical plant and preserves an alternative option of using the methanol (non-integrated chemical plant) process described in the Draft IIS at section 6.3.4 of Volume 1B.

3.4 Context, planning framework and state/local government requirements

The Pulp Mill Site and workers accommodation facility are both within the municipality of George Town and are subject to the George Town Planning Scheme 1991. The Pulp Mill Site is zoned IN3 (Bell Bay Major Industrial), and the workers accommodation facility is currently zoned general industrial. The water supply and effluent pipelines cross a number of zones.

The Tasmanian Parliament is currently considering the Pulp Mill Assessment Bill 2007 (**Bill**), which proposes an assessment procedure for the Project.

Under the Bill, the provisions of any Act, planning scheme, special planning order or interim order requiring the approval, consent or permission for, or regulating or permitting the regulation of, any use or development in relation to the project do not apply to the project.

Instead, the Tasmanian Minister for Planning must appoint a consultant to undertake an assessment of the project against the *Recommended Environmental Emission Limit Guidelines for any new Bleached Eucalypt Kraft Pulp Mill in Tasmania*. The consultant must report to the Minister for Planning that either the project should proceed and the conditions that should apply to the project, or that the project should not proceed.

The Tasmanian Minister for Planning must consult with any person or body which would, if the Bill were not enacted, be responsible for issuing or regulating a permit, licence or approval for the project and must request a recommendation as to the conditions that should apply to the project. The Minister must prepare a Pulp Mill Permit with the recommended conditions, and table the Pulp Mill Permit and the consultant's report before the Tasmanian Parliament.

The project is approved if the consultant's report recommends that the project should proceed, and each House of Parliament accepts the Pulp Mill Permit.

3.5 Environmental impact assessments under Commonwealth, state or territory legislation

The project has been the subject of two previous referrals under the EPBC Act:

- 2005/2262 (which is replaced by this referral), and
- 2004/1914 (which was withdrawn when referral 2005/2262 was lodged).

In light of the proposed new state environmental impact assessment process, the project requires new consideration under the EPBC Act.

The Bell Bay pulp mill was declared by Order of the Administrator on 22 November 2004 to be a project of state significance under section 18(2) of the *State Policies and Projects Act 1993* (Tas) (**SPP Act**). This was followed up by a direction made by the Premier and Minister administering Part 3 of the SPP Act to the Resource Planning and Development Commission (**RPDC**) pursuant to section 20 of the SPP Act (the **Minister's Direction**). The Minister's Direction directed the RPDC to undertake an integrated assessment of the environmental, social, economic and community issues relevant to the project. Requirement number 5 of the Minister's Direction included requirements relating to the assessment of matters related to the EPBC Act.

A draft integrated impact statement (IIS) was placed on public exhibition in July 2006 for 10 weeks. About 750 public submissions were received by the RPDC on the draft IIS. In response to the submissions, Gunns prepared 5 Volumes of Supplementary Information which was published on Gunns' website on 14 March 2007.

In March 2007, Gunns withdrew the project from the RPDC assessment process. The Bill proposes to revoke the Order of the Administrator declaring the Project to be a project of state significance.

The Tasmanian environmental assessment process proposed by the Bill is described in section 3.4.

3.6 A staged development or component of a larger project

NOTE: The Minister for the Environment and Water Resources may not accept a referred action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act).

If you wish to make a referral for a staged or component referral, read 'Fact Sheet 6 Staged Developments/Split Referrals' and contact the EPBC Act Referrals Section (1800 803 772).

This project represents the entire works proposed.

4 Affected environment

NOTE: You must attach a map(s)/plan(s) clearly showing the location of the action in relation to any matters of national environmental significance

4.1 Matters of national environmental significance

4.1 (a) World Heritage Properties

The Pulp Mill Site is approximately 55km from the nearest boundary of the Tasmanian Wilderness World Heritage Area.

4.1 (b) National Heritage Places

There are no National Heritage Places in the vicinity of the Project Area.

4.1 (c) Wetlands of International Significance (Ramsar)

Two RAMSAR wetlands occur near the northern coast of Tasmania: the Flood Plain Lower Ringarooma River and the Little Waterhouse Lake.

The Flood Plain Lower Ringarooma River covers a significant area, approximately 9km north west of Gladstone. It incorporates a series of freshwater lagoons and a freshwater marsh area. Its catchment area is the Ringarooma River catchment. It is located approximately 85km from the Pulp Mill Site.

Little Waterhouse Lake is located within the Waterhouse Conservation Area and is a coastal freshwater lagoon, with a relatively small catchment in the immediate area. It is located more than 60km from the Pulp Mill Site.

The Pulp Mill Site is not within the catchment of either wetland, and no impacts are anticipated on these wetlands.

4.1 (d) Listed threatened species and ecological communities

Flora

Three nationally listed flora species have been recorded along and in the vicinity of the effluent pipeline route, these being:

- *Prasophyllum secutum* – Northern Leek Orchid (National endangered, State vulnerable),
- *Xanthorrhoea arenaria* – Sand Grass Tree (National vulnerable, State vulnerable), and
- *Xanthorrhoea bracteata* – Shiny Grass Tree (National endangered, State vulnerable).

Prasophyllum secutum was last recorded in the vicinity of the effluent pipeline route in 1971, and has not been recorded since. It was not found during field surveys conducted by Gunns' consultants. The *Xanthorrhoea* species have both been recorded within the effluent pipeline route and were found during the field surveys.

No other nationally listed species have been recorded in the Project Area.

There is potential habitat for three further nationally listed species within the Project Area, these being:

- *Caladenia caudata* – Tailed Spider Orchid (National vulnerable, State rare),
- *Epacris exserta* – South Esk Heath (National endangered, State vulnerable), and
- *Glycine latrobeana* – Clover Glycine (National vulnerable, State vulnerable).

None of these species were observed during field surveys. It is considered possible that *Caladenia caudata* may be present within the Project Area, given the difficulty of identification when the

species is not in flower. However, both *Glycine latrobeana* and *Epacris exserta* are generally distinctive even when not flowering, and therefore it is considered unlikely that they are present. There are no nationally listed ecological communities in the vicinity of the Project Area.

Further information is located in the Flora Report by GHD in Appendix 29, Volume 12 of the Draft IIS available at http://www.gunnspulpmill.com.au/iis/V12/V12_A29.pdf and Tim Wills' witness statement in the Supplementary Information available at http://www.gunnspulpmill.com.au/iis/supp/tim_wills_ews.pdf.

Terrestrial fauna, birds and amphibians

The following six nationally listed terrestrial fauna, birds and amphibians have been recorded within 5km of the Project Area:

- Green and Gold Frog – *Litoria raniformis* (National vulnerable, State vulnerable),
- Tasmanian Devil – *Sarcophilus harissi* (National vulnerable, State vulnerable),
- Spotted-tailed Quoll – *Dasyurus maculatus maculatus* (National vulnerable, State rare),
- Eastern Barred Bandicoot – *Perameles gunnii gunnii* (National vulnerable),
- Wedge-tailed eagle (Tasmanian) - *Aquila audax fleayi* (National endangered, State endangered), and
- Swift Parrot – *Lathamus discolor* (National endangered, State endangered).

One additional species currently nominated for listing under the EPBC Act that has also been recorded within 5km of the Project Area is the Masked Owl (Tasmanian) – *Tyto novaehollandiae castanops* (State endangered).

Of these seven species, only the masked owl was potentially located within the Project Area, at the Pulp Mill Site. Further investigative work utilising call-back and nest tree searching failed to confirm the presence of the species at the site.

A nest of the wedge-tailed eagle was located approximately 900m from the solid waste disposal site. This nest site is separated from the proposed waste disposal site by a significant ridgeline. The swift parrot is recorded as occurring occasionally within the Tamar region, although it was not recorded during field surveys.

The Green and gold frog has previously been recorded within 500m of the Project Area. It was not located during field surveys despite call-back and searches of suitable habitat. A peer review has noted that the call-back activities may not have been adequate to definitively locate the species.

The Tasmanian Devil, Spotted-tailed quoll and Eastern barred bandicoot were not located during field surveys, despite targeted trapping and scat survey. Given the abundance of potentially suitable habitat for these species present within and in the vicinity of the Project Area, it is possible that these species are present, although in low densities.

Further information is located in the Fauna Report by GHD in Appendix 30 of Volume 13 available at http://www.gunnspulpmill.com.au/iis/V13/V13_A30.pdf and Attachments 2 and 3 to Brett Lane's witness statement in the Supplementary Information available at http://www.gunnspulpmill.com.au/iis/supp/brett_lane_att_2.pdf and http://www.gunnspulpmill.com.au/iis/supp/brett_lane_att_3.pdf

Invertebrates

Two nationally listed invertebrate species were recorded within 5km of the Project Area:

- Giant Freshwater Crayfish – *Astacopsis gouldi* (National vulnerable, State vulnerable), and
- Mt Arthur Burrowing Crayfish – *Engaeus orramakunna* (National vulnerable, State vulnerable).

The Project Area is outside the known range of both of these species. The Giant Freshwater Crayfish is not known from the Tamar River catchment and the Mt Arthur Burrowing Crayfish is only known from approximately 300 square km area centred on Mt Arthur well to the east of the project area.

Further information is located in the Fauna Report by GHD in Appendix 30 of Volume 13, and Attachments 2 and 3 to Brett Lane's witness statement in the Supplementary Information available at http://www.gunnspulpmill.com.au/iis/supp/brett_lane_att_2.pdf and http://www.gunnspulpmill.com.au/iis/supp/brett_lane_att_3.pdf

Fish and marine species

A nationally listed freshwater fish species, the Australian Grayling - *Prototroctes maraena* (National vulnerable, State vulnerable), may occur in the River Tamar.

Thirteen listed threatened species under the EPBC Act are likely to occur in the nearshore or offshore waters adjacent to Five Mile Beach:

- *Eubalaena australis* - Southern Right Whale (National Endangered, State Endangered);
- *Megaptera novaengliae* - Humpback Whale (State Endangered, National Vulnerable);
- *Balaenoptera physalus* - Fin Whale (National Vulnerable, State Vulnerable);
- *Balaenoptera borealis* - Sei Whale (National Vulnerable);
- *Balaenoptera musculus* - Blue Whale (National Endangered, State Endangered);
- *Carcharodon carcharias* - Great White Shark (National Vulnerable, State Vulnerable);
- *Carcharias taurus* - Grey nurse Shark (National Vulnerable);
- *Mirounga leonine macquariensis* - Southern Elephant seal (National Vulnerable, State Endangered);
- *Neophoca cinerea* - Australian sea lion (National Vulnerable);
- *Caretta caretta* - Loggerhead turtle (National Endangered, State Endangered);
- *Chelonia mydas* - Green turtle (National Vulnerable, State Vulnerable);
- *Eretmochelys imbricata* - Hawksbill turtle (National Vulnerable, State Vulnerable); and
- *Dermochelys coriacea* - Leatherback turtle (National Vulnerable, State Vulnerable).

Further information about fish and marine species is located at Appendix 24 of Volume 11 of the Draft IIS available at http://www.gunnspulpmill.com.au/iis/V11/V11_A24.pdf. The expected impacts of the Project on these species are explained in section 5.1(d).

Marine and Migratory Avifauna

For the assessment of marine and migratory avifauna, the study area consisted of the entire Tamar Estuary and foreshore, the northern coast of Tasmania from Tenth Island to West Head and an arc approximately 12km offshore between these points. Seventy three EPBC Act listed marine and/or migratory avifauna species, including the previously mentioned Swift parrot, have been recorded or are predicted to occur within the study area. Of these species twenty four were recorded during field surveys undertaken by Gunns' consultants.

Further information is located in Attachments 3 to Brett Lane's witness statement in the Supplementary Information available at http://www.gunnspulpmill.com.au/iis/supp/brett_lane_att_3.pdf

4.1 (e) Listed migratory species

Avifauna

Thirty eight migratory avifauna species have been recorded within the study area (a subset of species defined previously in section 4.1(d) Marine and Migratory Avifauna). Of these species, 21

are listed as migratory under JAMBA or CAMBA and the remaining 17 listed under the Bonn Convention.

Further information is located in Attachments 3 to Brett Lane's witness statement in the Supplementary Information available at http://www.gunnspulpmill.com.au/iis/supp/brett_lane_att_3.pdf

Marine migratory species

Six species listed as migratory species under the EPBC Act are likely to occur in the nearshore or offshore waters adjacent to Five Mile Beach: Southern Right Whale, Humpback Whale, Fin Whale, Sei Whale, Blue Whale and Great White Shark.

Further information about marine migratory species is located at Appendix 24 of Volume 11 of the Draft IIS available at http://www.gunnspulpmill.com.au/iis/V11/V11_A24.pdf. The expected impacts of the Project on these species are explained in section 5.1(e).

4.1 (f) Nuclear actions

There is no nuclear action associated with the project.

4.1 (g) Commonwealth marine areas

The Commonwealth marine area begins 3 nautical miles (approximately 5.6km) from the Tasmanian coastal baseline, and the discharge of treated effluent from the ocean outfall will be approximately 2.7km offshore from Five Mile Bluff, in Tasmanian State waters in Bass Strait.

4.2 Important or unique aspects of the environment, if relevant

4.2 (a) Soil and vegetation characteristics

The Pulp Mill Site is dominated by *Eucalyptus amygdalina* forest on dolerite, with smaller and localised areas of coastal *E. amygdalina* forest, shrubby *E. ovata* – *E. viminalis* forest, *Allocasuarina verticillata* forest, *Melaleuca ericifolia* coastal swamp forest and *Notelaea* – *Pomaderris* – *Beyeria* forest. Smaller areas of other vegetation communities are also present. The Pulp Mill Site is transected by several easements including the Esk Water pipeline, railway line, powerlines and is dissected by numerous tracks. The Pulp Mill Site has been disturbed in the past by fire and logging, although is relatively free of weed species. Twelve flora species of state significance have been recorded on the Pulp Mill Site.

The water supply pipeline from Trevallyn Dam to the Pulp Mill Site intersects areas of native vegetation, agricultural land and easements. Condition of the vegetation varies significantly along the alignment. Eleven flora species of state significance have been recorded along the alignment.

The effluent pipeline from the Pulp Mill Site to Five Mile Bluff intersects areas of native vegetation, agricultural land and easements. Condition of the vegetation varies significantly along the alignment. Eleven flora species of state significance have been recorded along the alignment.

The workers accommodation facility contains highly degraded native vegetation and a high level of weed infestation. Less than 1ha of the state listed vegetation community, *Melaleuca ericifolia* swamp scrub, is present. No species of national or state significance have been recorded at the site.

4.2 (b) Water flows, including rivers, creeks and impoundments

The Pulp Mill Site is set back from the eastern bank of the Tamar River. Several small streams are located within and adjacent to the Pulp Mill Site. Construction of the solid waste disposal area will result in a localised impact on the upper reaches of Williams Creek. It is not anticipated that this will result in any impacts downstream.

The water supply for the mill will be taken from Trevallyn Dam, near Launceston. The water supply pipeline from Trevallyn Dam to Bell Bay will cross the Tamar River and a number of smaller streams.

The effluent pipeline from Bell Bay to Five Mile Bluff will also cross a number of smaller streams, with a major crossing located at Donovans Bay, within the Tamar River estuary.

The workers accommodation facility area does not contain any streams.

4.2 (c) Outstanding natural features, including caves

No outstanding natural features have been identified.

4.2 (d) Gradient

The Pulp Mill Site slopes from the Tippogoree Hills to the Tamar River. The effluent pipeline will pass to the north through coastal plains and sand dunes prior to entering Bass Strait.

The water supply pipeline from Trevallyn Dam will pass to the south, mostly along road reserves and existing easements.

The site of the workers accommodation facility is relatively flat, with no obvious gradient.

4.2 (e) Buildings or other infrastructure

There are no buildings currently on the Pulp Mill Site other than the adjacent wood chip mill complex. The East Tamar Highway, a large electricity transmission easement, a water supply pipeline and a railway traverse the site.

4.2 (f) Marine areas

The Pulp Mill Site is adjacent to the River Tamar Estuary, which flows into Bass Strait.

The treated effluent will discharge into Bass Strait, west of Five Mile Bluff, via a 200m long diffuser and ocean outfall pipeline. The area forms part of the Boags marine bioregion. A number of estuaries, including the River Tamar Estuary, enter the marine environment near the outfall site and provide nursery and breeding grounds for migratory fish.

A number of surveys in the vicinity of the ocean outfall pipeline and diffuser have been completed. Along the pipeline route, the seabed is sandy, low profile reef, medium profile reef and mixed sand/low profile reef. Plant communities consists mainly of algae and seagrass, with the dominant species recorded being red foliose algae. Sponges were also recorded in a 1km radius of the diffuser, with highest cover recorded for the ascidian *Polycarpa viridus*. Previous surveys found a species of keyhole limpet protected under the Tasmanian *Living Marine Resources Management Act 1995* within 200m of the pipeline route.

The intertidal zone species close to the shore crossing site include polychaetes, molluscs and crustaceans, with amphipods dominating the biota.

A total of 109 invertebrate families were recorded within a 1km radius of the diffuser location. A single specimen of the Gunns Screw Shell (*Gazameda gunnii*), a species listed as vulnerable under the Tasmanian *Threatened Species Protection Act 1995*, was found within a 1km radius of the diffuser location. No other benthic infauna species identified from the survey are listed as threatened or protected.

Fish likely to occur in the area of the ocean outfall include a mixture of pelagic, reef and demersal fish. While the outfall site is located approximately 15kms from the nearest estuaries, it is possible that some migratory fish species that move between freshwater and the ocean also occur periodically in the area.

As outlined in sections 4.1(d) and (e), a number of protected species have either been recorded or potentially occur in the vicinity of the outfall.

Species such as abalone, rock lobster and scallops have been previously recorded in the vicinity of the outfall, but not in commercial quantities.

Further information about the marine area in the vicinity of the ocean outfall is located at Appendix 24 of Volume 11 of the Draft IIS available at http://www.gunnspulpmill.com.au/iis/V11/V11_A24.pdf.

4.2 (g) Kinds of fauna

Nationally listed species have been previously detailed section 4.1, above. Many locally common species of fauna have been identified during field surveys as occurring within and adjacent to the Project Area. Twenty nine state listed threatened species, incorporating those listed on both National and State legislation, have been identified or are predicted to occur within 5km of the Project Area.

Marine fauna is described at section 4.2(f) above.

4.2 (h) Current state of the environment

The Pulp Mill Site currently is vegetated predominantly by *Eucalyptus amygdalina* forest. This forest is well tracked and disturbed. Further areas of disturbance are located to the north, east and south and include infrastructure (railway line, power line easement and roads) and industrial development (woodchip mill and power station). Recent wildfires have affected native vegetation in the areas of the proposed dam, quarry and solid waste disposal site.

The effluent pipeline will pass through disturbed land which is currently used for industrial, transport or rural purposes for most of its length. However, prior to entering the ocean near Five Mile Bluff, the pipeline will pass through coastal vegetation, including areas of shrubby coastal heath and nationally listed *Xanthorrhoea* species (as outlined at section 4.1(d)).

The majority of the length of the water supply pipeline will be located within road reserves and existing easements and land used for rural purposes along the East Tamar Highway.

The Workers Accommodation Facility site is located to the south of George Town and contains vegetation which is highly disturbed and degraded. Part of the site has previously been used as a waste disposal area and the site is infested with weeds, particularly gorse. Weed control measures have partially been implemented on the site by the landowner and has consisted of slashing the vegetation.

4.2 (i) Commonwealth Heritage Places and places on the Register of the National Estate

Part of the Pulp Mill Site to the west of the East Tamar Highway is within the Four Mile Creek Wildlife Sanctuary, which is listed on the Register of the National Estate. The Australian Heritage Database records that the place is assessed as no longer reaching the threshold for National Estate listing.

There are no Commonwealth Heritage Places in the vicinity of the Project Area.

4.2 (j) Known Indigenous heritage values

Twenty two sites on the Tasmanian Aboriginal Site Index (TASI) have been recorded within and adjacent to the Pulp Mill Site. These sites consist of isolated artefacts and artefact scatters. Of these sixteen were unable to be confirmed in field surveys, through the site no longer being visible or the mapped location being ambiguous or erroneous.

Five sites on the TASI have been recorded within and adjacent to the water supply pipeline alignment. These sites consist of isolated artefacts, artefact scatters and a quarry. Of these three

were unable to be confirmed in field surveys, through the site no longer being visible or the mapped location being ambiguous or erroneous.

Four sites on the TASI have been recorded within and adjacent to the effluent pipeline alignment. These sites consist of isolated artefacts and a shell midden. Of these one was unable to be confirmed in field surveys, through the site no longer being visible or the mapped location being ambiguous or erroneous.

There are no sites listed on the TASI at the workers accommodation facility site.

Further information is located in the Indigenous heritage assessment report in Appendix 14, Volume 8 of the Draft IIS available at http://www.gunnspulpmill.com.au/iis/V8/V8_A14.pdf and Tim Stone's witness statement in the Supplementary Information available at http://www.gunnspulpmill.com.au/iis/supp/tim_stone_ews.pdf

4.2 (k) Other important or unique values of the environment

The Project Area is in the vicinity of the Tippogoree Hills Forest Reserve.

The Pulp Mill Site is identified as being within the Long Reach Private Sanctuary and Long Reach Conservation Area pursuant to the *Nature Conservation Act 2002*. The Long Reach Conservation Area comprises the narrow coastal area along the foreshore and the existing rail line. The Long Reach Private Sanctuary comprises 607 ha, which includes the woodchip mill, thermal power station, railway line and golf course. The area was first declared a sanctuary in 1952 under the *Animals and Birds Protection Act 1928* at the request of the owners, the then Australian Aluminium Production Commission (now Comalco).

Comalco subsequently approached the then National Parks and Wildlife Service (PWS) in 1986 and again following the rezoning of the site to Major Industrial Zone under the Planning Scheme with the intent to revoke the conservation status. This is yet to occur.

The State Forest area for the solid waste disposal area is an Informal Reserve. Informal Reserves are areas on State Forest, other than a Forest Reserve, that are managed as a protection zone under the Management Decision Classification System. An informal reserve can also be an administrative reserve on public land that is managed to protect CAR values.

4.2 (l) Tenure of the action area (eg freehold, leasehold)

The Pulp Mill Site is freehold land currently owned by Comalco (Rio Tinto). Part of the solid waste disposal site is located on State Forest administered by Forestry Tasmania.

Effluent and water supply pipelines traverse mostly State road reserves, recreation reserves and some freehold land.

The workers accommodation facility site is freehold land, currently owned by Waterfrontages Real Estate Pty Ltd.

Gunns proposes to purchase the freehold land for the Pulp Mill Site and workers accommodation facility, and obtain easements for the effluent and water supply pipelines.

4.2 (m) Existing land uses

The Pulp Mill Site is currently unused. The area is vegetated with largely disturbed eucalypt forest. The freehold land is zoned for industrial use, and the State Forest land is an Informal Reserve. The pipeline routes are currently road reserves, recreational reserves, agricultural land, easements and containing native vegetation. The workers accommodation facility is largely unused land, and contains a former waste disposal area.

4.2 (n) Proposed land uses

The proposed land use of the Pulp Mill Site is for a pulp mill and associated infrastructure. The associated infrastructure includes all things necessary and convenient for the construction and operation of a pulp mill and includes a dam, chemical production plant, quarry and solid waste disposal facility.

The proposed land use of the workers accommodation facility site is for temporary accommodation of construction workers for the pulp mill's construction.

The proposed land use of the pipeline corridors is for effluent, gas and water supply pipelines.

5 Nature and extent of likely impacts

5.1 Likely impacts on matters of national environmental significance (NES)

5.1 (a) Likely impact on the world heritage values of a declared World Heritage property

There are no likely impacts to the world heritage values of a declared World Heritage property. The nearest boundary of the Tasmanian Wilderness World Heritage Area is approximately 55km from the Pulp Mill Site.

None of the associated water supply or effluent disposal infrastructure or the workers accommodation facility will be located within or in close proximity to a declared World Heritage property.

5.1 (b) Likely impact on the heritage values of a listed National Heritage place

There are no likely impacts to the heritage values of a listed National Heritage place.

5.1 (c) Likely impact on the ecological character of a declared Ramsar wetland

There are no likely impacts to the ecological character of a declared RAMSAR wetland. The two RAMSAR wetlands located near the northern coast of Tasmania are over 60km from the Pulp Mill Site.

None of the water supply or effluent disposal infrastructure or the workers accommodation facility will be located within or in close proximity to a declared RAMSAR wetland.

5.1 (d) Likely impact on the members of a listed threatened species or ecological community, or their habitat

The likely direct impacts on flora, and the habitat of terrestrial fauna, birds and amphibians has been assessed during field surveys of the Project Area. Consequently, specific identification of impacts on listed threatened species have been identified below.

Flora species

Species	Likely Impact
<i>Prasophyllum secutum</i>	This species was last recorded in the vicinity of the pipeline outfall in 1971, and has not been recorded since. It is a species of orchid which only flowers after fire. It is difficult to assess the likelihood that the species occurs within the Project Area. Based on known information, a potential impact on this species is considered unlikely.
<i>Xanthorrhoea arenaria</i> and <i>Xanthorrhoea bracteata</i>	Due to taxonomic difficulties these species are collectively referred to as <i>Xanthorrhoea aff. bracteata</i> . The construction methodology for the pipeline outfall has been optimised to ensure no direct impacts on the majority of the population of this species. There is, as a consequence, only potential for direct impact on one single individual located adjacent to the effluent pipeline route. This impact may not occur depending up on the final micro-siting of the pipeline. There is potential for an indirect impact on this species through the introduction or spread of the pathogen <i>Phytophthora cinnamomi</i> .

<i>Caladenia caudata</i> , <i>Epacris exserta</i> and <i>Glycine latrobeana</i>	These species were not located during field surveys. An impact on these species is considered unlikely.
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Further information is located in the Flora Report by GHD in Appendix 29, Volume 12 of the Draft IIS available at http://www.gunnspulpmill.com.au/iis/V12/V12_A29.pdf and Tim Wills' witness statement in the Supplementary Information available at http://www.gunnspulpmill.com.au/iis/supp/tim_wills_ews.pdf.

Terrestrial Fauna, birds and amphibians

Species	Likely Impact
Green and gold frog	The potential impact on this species is through habitat disturbance. Suitable habitat for this species is located along the pipeline routes within the Project Area, however the micro-siting of the pipeline route may avoid habitat impacts. Field surveys failed to locate the species, however it has been considered through peer review, that these survey techniques may not have been adequate to locate the species.
Masked owl	The potential impact on this species is through removal of potential nest trees. Suitable habitat for this species is located within the Project Area, however the micro-siting of the project may avoid habitat impacts. Mitigation measures for the project include targeted surveys for the masked owl prior to site clearing. A possible sighting of this species was made at the Pulp Mill Site, however this sighting was unable to be confirmed through further survey effort.
Wedge-tailed eagle	A search for nests of this species revealed the presence of a nest, located approximately 900m from the closest boundary of the solid waste disposal site, on the other side of a significant ridgeline. Based on the distance of this nest from the Pulp Mill Site, impacts on this species is considered unlikely.
Swift Parrot	This species occurs in the broader Tamar River area occasionally and is not usually dependent on forests and woodlands in northern Tasmania. A small area of potential foraging habitat, <i>E. ovata</i> forest, will be impacted, however it is expected that the habitat removal will have minimal impact on the species.
Tasmanian devil, Spotted-tailed quoll and Eastern barred bandicoot	Suitable habitat for these species occurs within the project area. These species occur in a large range of habitat types and some temporary impacts are possible during clearing activities, however, given the mobile nature of these species it is expected that they can move away from sources of disturbance into surrounding undisturbed areas.

Further information is located in the Fauna Report by GHD in Appendix 30 of Volume 13 of the Draft IIS available at http://www.gunnspulpmill.com.au/iis/V13/V13_A30.pdf, and Attachments 2 and 3 to Brett Lane's witness statement in the Supplementary Information available at http://www.gunnspulpmill.com.au/iis/supp/brett_lane_att_2.pdf and http://www.gunnspulpmill.com.au/iis/supp/brett_lane_att_3.pdf.

Invertebrates

As previously stated in section 4.1(d), the known ranges of the Giant freshwater crayfish and Mt Arthur burrowing crayfish are outside the Project Area, and consequently no impacts on these species are anticipated.

Marine and Migratory Avifauna

Seventy three species listed migratory and/or marine species are predicted and/or have been recorded within the project area. No significant habitat for these species will be removed due to the construction of the project. The installation of the effluent pipeline on the shoreline on the northern coast of Tasmania has the potential to temporarily impact breeding shorebirds if they are utilising the area at time of construction.

An assessment of the potential effects of marine construction on the Little Penguin was undertaken, and found that the potential effects relate mainly to underwater noise. While behavioural avoidance is expected to be the response should they enter the waters around active construction, the impacts are assessed as not significant.

A specific literature review of the White-bellied sea eagle and Little penguin was undertaken as sentinel species in the assessment of the impacts of constituents of effluent, including dioxins, which found that adverse effects are not anticipated. As impacts were not expected in these species, no adverse effects are anticipated in other species.

Further information is located in Attachments 3 to Brett Lane's witness statement in the Supplementary Information available at http://www.gunnspulpmill.com.au/iis/supp/brett_lane_att_3.pdf . The assessment of construction impacts on Little Penguins is located at Appendix 5 to David Balloch's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/david_balloch_app_5.pdf . The Ecotoxicological risk assessment can be found at Appendix 2 to Roger Drew's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/roger_drew_att_2.pdf .

Fish & marine species

Impacts in Tasmanian State waters

The construction of the effluent outfall pipeline and diffuser installation is not likely to have significant impacts on listed EPBC Act species or their habitat.

Potential impacts on fish may arise from a loss of habitat, and by the generation of suspended sediment plumes and underwater noise during construction. None of the impacts assessed were significant. Potential impacts on marine mammals and turtles may arise from vessel collision and underwater noise arising during construction. The impacts were assessed as not significant.

An assessment of the impacts of the treated effluent on listed threatened species was undertaken, and none were found to be especially responsive to any of the constituents in the proposed effluent. A specific assessment of the Australian fur seal was undertaken as a sentinel species in the assessment of the impacts of dioxins in the treated effluent, which found that adverse effects are not anticipated.

Further information about the impacts on listed threatened species from construction of the effluent pipeline outfall can be found in Appendix 5 (Construction) of David Balloch's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/david_balloch_app_5.pdf . Information about the impacts of effluent can be found in Appendix 6 (Operational impacts) of David Balloch's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/david_balloch_app_6.pdf . The Ecotoxicological risk assessment can be found at Appendix 2 to Roger Drew's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/roger_drew_att_2.pdf . Information about effluent dispersion and dilution rates can be found in the January report of the Hydrodynamic modelling

report attached to Ross Fryar's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/ross_fryar_att_3.pdf .

Impacts in the Tamar River

The construction of the water supply pipeline in the Tamar River and Donovan's Bay, , and the construction and operation of the wharf facility, are not likely to have significant impacts on listed EPBC Act species or their habitat.

Impacts on fish in the Tamar River are assessed as not significant. Aquatic mammals such as small cetaceans and seals are not expected to be present in the upper Tamar Estuary, but may be present in the lower Tamar Estuary. The construction impacts on those species are assessed as not significant provided the real-time visual monitoring protocol is implemented.

The hydrodynamic modelling shows that only very low concentrations of treated effluent are likely to reach the mouth of the Tamar River, and therefore it is highly unlikely that there will be any impacts from the treated effluent on species in the Tamar River.

Further information about the impacts on listed threatened species in the Tamar River can be found in Appendix 2 (Tamar River Crossing) available at http://www.gunnspulpmill.com.au/iis/supp/david_balloch_app_2.pdf , Appendix 3 (Wharf construction) available at http://www.gunnspulpmill.com.au/iis/supp/david_balloch_app_3.pdf and Appendix 4 (Donovan's Bay Crossing) of David Balloch's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/david_balloch_app_4.pdf . Information about effluent dilution at the mouth of the Tamar River can be found in the January report of the Hydrodynamic modelling report attached to Ross Fryar's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/ross_fryar_att_3.pdf .

5.1 (e) Likely impact on the members of a listed migratory species or their habitat

Avifauna

Thirty eight species listed as migratory are predicted or have been recorded within the project area. No significant habitat for these will be removed from the construction of the project. The installation of the effluent pipeline on the shoreline on the northern coast of Tasmania has the potential to temporarily impact breeding shorebirds, if they are utilising the area at the time of construction.

A specific literature review of the White-bellied sea eagle and Little penguin was undertaken as sentinel species in the assessment of the impacts of the constituents of effluent, including dioxins, which found that adverse effects are not anticipated. As impacts were not expected in these species, no adverse effects are anticipated in other species.

Further information is located in Attachments 3 to Brett Lane's witness statement in the Supplementary Information available at http://www.gunnspulpmill.com.au/iis/supp/brett_lane_att_3.pdf . The Ecotoxicological risk assessment can be found at Appendix 2 to Roger Drew's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/roger_drew_att_2.pdf .

Marine migratory species

The construction of the effluent outfall pipeline and diffuser installation is not likely to have significant impacts on listed EPBC Act species or their habitat.

Potential impacts on fish may arise from a loss of habitat, and by the generation of suspended sediment plumes and underwater noise during construction. None of the impacts assessed were significant. Potential impacts on marine mammals and turtles may arise from vessel collision and

underwater noise arising during construction. The impacts were assessed as not significant, provided the real-time visual monitoring protocol is implemented.

An assessment of the impacts of the treated effluent on listed threatened species was undertaken, and none were found to be especially responsive to any of the constituents in the proposed effluent. A specific assessment of the Australian fur seal was undertaken as a sentinel species in the assessment of the impacts of dioxins in the treated effluent, which found that adverse effects are not anticipated.

Further information about the impacts on listed threatened species from construction of the effluent pipeline outfall can be found in Appendix 5 (Construction) of David Balloch's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/david_balloch_app_5.pdf . Information about the impacts of effluent can be found in Appendix 6 (Operational impacts) of David Balloch's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/david_balloch_app_6.pdf . The Ecotoxicological risk assessment can be found at Appendix 2 to Roger Drew's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/roger_drew_att_2.pdf . Information about effluent dispersion and dilution rates can be found in the January report of the Hydrodynamic modelling report attached to Ross Fryar's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/ross_fryar_att_3.pdf .

5.1 (f) Likely impact on the environment in part of the Commonwealth marine area Construction

The impacts of the construction of the ocean outfall, and construction in the Tamar River, are assessed as not significant, provided the whale real-time visual monitoring protocol is implemented (discussed further in section 6).

The assessment found that suspended sediment plumes caused by construction will be localised and transient in nature, that the impact on marine benthic habitats constitute an impact on between 3-4% of similar habitat available in the area, and that noise from construction will have a localised but temporary impact on marine fish and that acoustic damage to fish, turtles, dolphins, pinnipeds and large cetaceans is most unlikely. A visual monitoring protocol has been recommended for marine mammals both in the Tamar River and near the ocean outfall construction area to minimise any risk from underwater noise and vessel strike.

Recreational fishing may be temporarily impacted by construction exclusion zones. The impacts on seasonal Australian salmon fishery near Five Mile Bluff is assessed as not significant where the salmon congregate. Most marine construction will likely occur late spring to autumn and not during the winter months when salmon are migrating out of the Tamar Estuary.

Further information about the impacts on Commonwealth marine area from construction of the effluent pipeline outfall can be found in Appendix 5 (Construction) of David Balloch's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/david_balloch_app_5.pdf .

Operation

Effluent concentrations & impacts

The hydrodynamic model of effluent concentrations shows that maximum concentrations of effluent in Bass Strait occur within a period of 30 days, and that there are no further increases in effluent after that time.

Hydrodynamic modelling of the treated effluent discharged from the ocean outfall shows that diluted treated effluent will reach Commonwealth marine areas, albeit in extremely low concentrations (greater than 1:15,000 dilution). The dilution maps in the hydrodynamic modelling reports highlight that the dispersing treated effluent plumes tend to be transported along the

northern Tasmanian coast (in both directions) and not directly out to sea and Commonwealth waters. However, in the medium and longer term, the dispersing diluted treated effluent will indirectly reach offshore Bass Strait and Commonwealth waters.

No long-term significant impacts on Commonwealth water quality are predicted.

Sediment deposition

An assessment of discharged particle components of the treated effluent found the particles are very fine and have low settling velocities. Estimates of particulate matter discharge equate to 1.28m³/day or 466m³/year. A conservatively small estimate of the area over which particulate might settle is 10km², which would result in a depth of 0.047mm/year over that area. However, this estimate is conservative, as it does not account for the decay of the organic particulate matter and slower settling rates. Consequently, impacts arising from sediment deposition are not considered significant.

Impacts on marine flora and fauna

An assessment of marine flora and fauna was undertaken in a hypothetical 1 in 100 dilution of treated effluent. The assessment found that there was no adverse impact on the survival, breeding, and migration of fish, marine mammals, birds and other organisms in both state and Commonwealth waters. The existing primary productivity of the surrounding ecosystem will be unaltered, which together with a lack of direct toxicity to organisms, indicates ecological community structures and species diversity are unlikely to be adversely changed by the treated effluent.

In addition to mitigation measures during construction, Gunns will undertake treated effluent dispersion monitoring, and monitoring of the long-term impacts of treated effluent on the marine environment.

Further information about effluent dispersion and sediment deposition can be found in the January 2007 report attached to Ross Fryar's witness statement and the body of his witness statement, available at http://www.gunnspulpmill.com.au/iis/supp/ross_fryar_ews.pdf and http://www.gunnspulpmill.com.au/iis/supp/ross_fryar_att_3.pdf. Information on the impacts on marine flora and fauna from the effluent can be found in Attachment 2 to Roger Drew's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/roger_drew_att_2.pdf, and Appendix 6 to David Balloch's witness statement available at http://www.gunnspulpmill.com.au/iis/supp/david_balloch_app_6.pdf.

5.2 Likely impacts for nuclear actions, actions affecting Commonwealth land or actions taken by the Commonwealth

The action is not a nuclear action, will not be taken by the Commonwealth or by a Commonwealth agency, and will not be taken on Commonwealth land.

The construction of the ocean outfall may impact on Commonwealth marine areas, as the effluent pipeline is anticipated to extend approximately 2.7km offshore, which is in the vicinity of the boundary of the Commonwealth marine area. However no direct impacts on Commonwealth marine areas are anticipated during construction.

The seabed to the west of Five Mile Bluff and close to the shore contains reef structures which may be impacted by construction of the pipeline, though these areas are also outside the Commonwealth marine area.

6 Measures to avoid or reduce impacts

1. Listed threatened species

A comprehensive flora and fauna survey has been conducted within the Project Area.

The mitigation measures for avoiding and minimising impacts on listed threatened species include:

- Micrositing the Project Area to minimise impacts;
- Micrositing and tunnelling of the effluent pipeline to minimise impacts on *Xanthorrhoea* species;
- Avoiding accidental loss or damage to native vegetation/habitat;
- Development of a Vegetation Management Plan;
- Targeted surveys for the state listed Gunns Screw Shell prior to effluent pipeline construction and relocation of live shells outside the area of direct seabed disturbance and the influence of lateral sedimentation;
- Development of a Fauna Management Plan;
- Minimisation of light emissions from the pulp mill facility;
- Allowing fauna access to vegetated areas of the site;
- Retaining a seed bank for threatened species;
- Minimising the spread or introduction of environmental weeds, including Rice Grass in Donovan's Bay;
- Minimising the spread and reducing the impact of *Phytophthora cinnamomi*;
- Development of a Fire Management Strategy;
- Minimising the width of firebreaks;
- Maintenance of native herbivore grazing regimes;
- Rehabilitation of disturbed areas;
- Timing of construction activities;
- Provision of offsets for threatened vegetation communities;
- Provision of a network of reserves across the Pulp Mill Site;
- Pre-construction check of shoreline area for breeding shore-birds;
- Pre-clearing check of trees with nesting hollows for signs of use by species such as the masked owl;
- Development of an Environmental Management Plan; and
- Real-time visual monitoring program during the construction of ocean outfall pipeline, water supply pipeline and wharf with a 1km radius for whale, dolphin and seal presence.

2. Commonwealth marine area

The following measures to mitigate impacts on Commonwealth marine areas include:

- Real-time visual monitoring program during the construction of ocean outfall pipeline, water supply pipeline and wharf with a 1km radius for whale, dolphin and seal presence ;
- A focussed survey for the Tasmanian listed Gunns screw shell, including relocation outside the area of direct seabed disturbance or influence of lateral sedimentation, to a similar sandy seabed habitat; and
- Treated effluent dispersion monitoring, and monitoring of the long-term impacts of treated effluent on the marine environment.

7 Conclusion on the likelihood of significant impacts

NOTE: Under the EPBC Act, you must identify in the referral whether or not you believe significant impacts on the matters protected under the Act are likely. If you identify that significant impacts are likely, you must identify the relevant protected matters in section 7.2.

Do you THINK your proposed action is likely to have significant impacts?

- | | |
|-------------------------------------|---------------------------|
| <input checked="" type="checkbox"/> | No, complete section 7.1 |
| <input type="checkbox"/> | Yes, complete Section 7.2 |

7.1 Proposed action is NOT LIKELY to have significant impacts

Key reasons

7.2 Proposed action is LIKELY to have significant impacts

Matters likely to be impacted

- | | |
|--------------------------|--|
| <input type="checkbox"/> | sections 12 and 15A (World Heritage) |
| <input type="checkbox"/> | sections 15B and 15C (National Heritage places) |
| <input type="checkbox"/> | sections 16 and 17B (Wetlands of international importance) |
| <input type="checkbox"/> | sections 18 and 18A (Listed threatened species and communities) |
| <input type="checkbox"/> | sections 20 and 20A (Listed migratory species) |
| <input type="checkbox"/> | sections 21 and 22A (Protection of the environment from nuclear actions) |
| <input type="checkbox"/> | sections 23 and 24A (Marine environment) |
| <input type="checkbox"/> | sections 26 and 27A (Protection of the environment from actions involving Commonwealth land) |
| <input type="checkbox"/> | section 28 (Protection of the environment from Commonwealth actions) |

Key reasons

8 Assessment approach under the EPBC Act

NOTE: If a decision is made that a proposal needs approval under the Act, the Minister will also decide the assessment approach needed to satisfy the objectives of the Act. While the information you have provided in this referral will be taken into account in making this decision, the final decision rests with the Minister.

Level of assessment

<input type="checkbox"/>	Bilateral Agreement applies
<input type="checkbox"/>	Accredited assessment
<input type="checkbox"/>	Assessment on referral information
<input checked="" type="checkbox"/>	Preliminary information
<input type="checkbox"/>	Public Environment Report
<input type="checkbox"/>	Environmental Impact Statement
<input type="checkbox"/>	Commission of Inquiry
<input type="checkbox"/>	No comment/Not sure

Key reasons

In preparing the Draft IIS and the Supplementary Information, Gunns has undertaken a thorough assessment of the impacts of the project on matters of national environmental significance protected under the EPBC Act, and an extensive public exhibition, consultation and submission process.

The assessment has involved:

- initial assessment of possible impacts in the Draft IIS;
- over 750 public submissions to the Draft IIS;
- independent reviews of the Draft IIS by Beca AMEC, Uni Quest Pty Ltd, CSIRO Marine and Atmospheric Research, Farley Consulting Group and URS Forestry, each engaged by the RPDC;
- a response to the RPDC consultants' reports and public submission by Gunns experts; and
- peer reviews of the draft IIS studies, and new expert reports, which form part of the Supplementary Information.

As a result of this extensive assessment of the impacts of the project on matters of national environmental significance, Gunns considers the project can be adequately assessed by Preliminary Information.

9 Environmental history of the responsible party

NOTE: The EPBC Act Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach for actions that need approval under the Act.

	Yes	No
<p>9.1 Does the party taking the action have a satisfactory record of responsible environmental management.</p> <ul style="list-style-type: none"> If Yes, provide details <p>Gunns has been fined on 3 occasions for minor breaches of the Forest Practices Act, for actions taken by contractors to Gunns.</p> <p>Gunns has a significant focus on responsible environmental management. Gunns recognises its obligations to protect significant environmental values and to be cognisant of community requirements.</p> <p>Proper environmental management is seen as vital to the maintenance of Gunns' forestry business. Gunns' objectives are to:</p> <ol style="list-style-type: none"> Fully utilise the Forest Management Area's potential to grow and supply forest products; Maintain the area's significant environmental values; and Foster broad-based government and community support. <p>Gunns has four levels of nationally and internationally recognised certification, these are detailed following:</p> <p>Environmental Management System – ISO 14001</p> <p>Gunns operates an Environmental Management System (EMS) to ensure environmental issues are assessed and effectively managed. Gunns' EMS provides the systematic basis which facilitates our continued compliance to applicable legal requirements set by regulators as well as policy commitments set by the company. Gunns' EMS was first certified to the International Standard ISO14001 in 1998. A full recertification occurred in 2001 and again in 2005.</p> <p>Australian Forestry Standard</p> <p>Gunns achieved accreditation under the Australian Forestry Standard ((AFS) AS4708) for the Forest Management Area in November 2003.</p> <p>This is a forestry specific, performance based standard that is consistent with international frameworks for sustainable forest management. The AFS is the national benchmark for independent verification of environmental, economic and social sustainability in forest management.</p> <p>Gunns' implementation of the AFS was subject to independent verification and this verification continues on a regular basis. A key feature of the implementation of this Standard was the inclusion of auditable (internal and external) Performance Indicators. The role of the indicators is to:</p> <ul style="list-style-type: none"> Show the status of performance at a single point in time; Measure and monitor changes over time in order to promote continuous improvement in forest management; Provide a mechanism for reporting to stakeholders via a publicly released annual sustainability report. <p>Gunns produces an annual Sustainable Forest Management (SFM) Report (available at www.gunns.com.au) that details the results of these indicators.</p>	Yes	

<p>Chain of Custody</p> <p>The Chain of Custody (CoC) for certified wood and forest products Standard (AS4707) is a standard that compliments the AFS. Gunns obtained CoC certification in November 2004. The CoC Standard is an inventory control system that tracks a wood or forest product from its origin in an AFS certified forest through to its end use by the consumer (covering all phases of ownership, transport, manufacture and sale). It was created to allow the labeling of wood products. This is an important mechanism in independently communicating to our customers and their customers that the products being supplied were from sustainable (AFS certified) origins. Gunns sources products predominantly from its own Management Statement Area (certified to the AFS) and Forestry Tasmania (also certified to the AFS), allowing the majority of products processed to comply with the CoC Standard and be sold as certified material.</p> <p>Programme for Endorsement of Forest Certification</p> <p>The AFS is mutually recognised at the international level within the Programme for Endorsement of Forest Certification (PEFC) schemes framework. PEFC was established to promote sustainably managed forests through independent third party certification.</p>		
<p>9.2 Is the party taking the action subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?</p> <ul style="list-style-type: none"> • If Yes, provide details 		No
<p>9.3 For an action for which a person has applied for a permit under the EPBC Act, is the person making the application subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?</p> <ul style="list-style-type: none"> • If Yes, provide details 		No
<p>9.4 If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?</p> <ul style="list-style-type: none"> • If Yes, provide details of environmental policy and planning framework <p>See section 9.1 above.</p> <p>In addition, when constructed Gunns will seek ISO 14001 accreditation for pulp mill EMS.</p>	Yes	
<p>Gunns Environmental Policy</p> <p>Gunns is committed to pursuing industry best practice in environmental performance. As an international resources-based company, Gunns acknowledges that its shareholders, employees and the community at large expect responsible environmental practice by Gunns businesses.</p> <p>Gunns embraces the principle of sustainable development, ie. development which meets the needs of the present without compromising the ability of future generations to meet their own needs. Gunns believes this principle is fundamental to Gunns' continued success and growth.</p> <p>Specifically Gunns is committed to:</p> <ul style="list-style-type: none"> • Complying with environmental legislation, regulations, standards and codes of practice relevant to the particular business as the absolute minimum requirement in each of the communities in which it operates. • Open and transparent communication with principal stakeholders to ensure long term sustainability of Gunns Limited in Tasmania. • Conducting its operations to minimise and, wherever practicable, eliminate negative environmental impacts. 		

- Continual improvement of its environmental performance including regular review and the setting of rigorous environmental objectives and quantified targets (particularly with regard to the efficient use of energy and materials, the minimisation of waste and the prevention of pollution).
- Conducting business with suppliers and contractors who have a commitment to a responsible environmental policy.
- Remediating any contaminated sites to standards internationally acceptable for the site purpose.

To support this commitment, Gunns will progressively implement and maintain environmental management systems for its businesses based on the international standard ISO 14001 (“Environmental management systems – specifications with guidance for use”) or its equivalent, and will also concurrently implement the Gunns Safety, Health and Environment Best Practice Elements.

Through communication and training, all employees and contractors will be encouraged and assisted to enhance Gunns’ environmental awareness and performance.

Sustainable Forest Management Policy

Gunns is committed to Sustainable Forest Management that is environmentally sound, economically viable and socially desirable through the application of the following principles;

- Forest Management shall be conducted in a systematic manner and based on
- recognised environmental standards.
- Maximising economic value of all forest products in order to enhance long term social and economic benefits.
- Forest Management shall recognise community and cultural values and strive to foster good relations.

Gunns’ performance in relation to Sustainable Forest Management is independently verified and reported in order to ensure continuous improvement.

10 Information sources and attachments

10.1 References

Draft IIS – available at <http://www.gunnspulpmill.com.au/iis/default.htm>

Volume 1A	Gunns	<ul style="list-style-type: none"> • Legislative Framework • Justification for the Project and Consequences of not Proceeding • Regional Environment
Volume 1B	Gunns	<ul style="list-style-type: none"> • Public Consultation • Project Description • New Infrastructure and Off-site Ancillary Facilities • Major Construction Phase Activities • Major Commissioning Phase Activities • Site Selection for the Pulp Mill
Volume 2A	Gunns	<ul style="list-style-type: none"> • Existing Environment – Pulp Mill Site • Impact Assessment Methodology – Pulp Mill Site • Potential Environmental Impacts and Management Measures – Pulp Mill Site
Volume 2B	Gunns	<ul style="list-style-type: none"> • Risk Assessment – Pulp Mill Site • Potential Economic Impacts and Management Measures – Pulp Mill Site • Potential Social and Community Impacts and Management Measures – Pulp Mill Site • Summary of Triple Bottom Line Assessment – Pulp Mill Site • Description of the Proposed Wharf Facility • Potential Environmental Impacts and Management Measures – Wharf Facility • Description of the Landfill (Solid Waste Disposal Facility) Quarry and Water Reservoir • Potential Environmental Impacts and Management Measures – Landfill, Quarry and Water Reservoir
Volume 3A	Gunns	<ul style="list-style-type: none"> • Detailed Description of the Water Supply Pipeline • Existing Environment – Water Supply Pipeline • Impact Assessment Methodology – Water Supply Pipeline • Potential Environmental Impacts and Management Measures – Water Supply Pipeline • Summary of Triple Bottom Line Assessment – Water Supply Pipeline • Overview of the Effluent Pipeline • Detailed Description – Effluent Pipeline • Existing Environment – Effluent Pipeline • Potential Environmental Impacts and Management Measures – Effluent Pipeline • Summary of Triple Bottom Line Assessment – Effluent Pipeline • Introduction to the Workers Accommodation Facility • Detailed Description – Workers Accommodation Facility • Existing Environment – Workers Accommodation Facility • Potential Environmental Impacts and
Volume 3B	Gunns	

Volume 4		Gunns	<ul style="list-style-type: none"> Management Measures – Workers Accommodation Facility • Summary of Triple Bottom Line Assessment – Workers Accommodation Facility • Safety, Health, Environment and Quality Management System (SHEQ-MS) • Environmental Management Plans • Monitoring Plan • Conclusion • Commitments
Volume 5	App 1	GHD	Cross Reference Guidelines
Volume 5	App 2	EPBC	Referral
Volume 5	App 3	RPDC	Final Scope Guidelines
Volume 5	App 4	RPDC	Development of New Environmental Guidelines Volume 1
Volume 5	App 5	RPDC	Development of New Environmental Emission Limit Guidelines Volume 2
Volume 5	App 6	GHD	Other Legislation
Volume 6	App 7	Jaakko Poyry	Main Report
Volume 7	App 8	Jaakko Poyry	Drawings
Volume 7	App 9	Jaakko Poyry	Annexes
Volume 8	App 10	GHD	Social Impact Assessment Report
Volume 8	App 11	GHD	Consultation Report
Volume 8	App 12	GHD	Environment and Community Group Interview Report
Volume 8	App 13	Archaeological Services Tasmania	Historic Heritage Reports
Volume 8	App 14	Tim Stone	Indigenous Heritage Report
Volume 8	App 15	Allen Consulting Group	Economic Report
Volume 9	App 16	GHD	Air Quality Assessment Pulp Mill Emissions
Volume 9	App 17	GHD	Air Quality Construction
Volume 9	App 18	GHD	Pulp Mill Noise Report
Volume 9	App 19	PAE	Pacific Air Report
Volume 9	App 20	GHD	Greenhouse Gas Emissions
Volume 10	App 21	Toxikos	Air Emissions Report
Volume 10	App 22	Toxikos	Human Health Risk Assessment Bell Bay Pulp Mill Effluent
Volume 10	App 23	Toxikos	Comment on Bell Bay Effluent and Potential Impact on nearby Seal Colonies Report
Volume 11	App 24	Aquenal	Marine Outfall Report
Volume 11	App 25	Aquenal	Wharf Report
Volume 11	App 26	Aquenal	Environmental Investigation at Proposed Tamar River Crossing for Water Supply Pipeline
Volume 11	App 27	Aquenal	Marine Monitoring Spring 05
Volume 11	App 28	GHD	Donovans Bay Assessment Report
Volume 12	App 29	GHD	Flora Report
Volume 13	App 30	GHD	Fauna Report
Volume 13	App 31	Gunns	Effluent Pipeline Forest Practices Plan
Volume 13	App 32	Gunns	Pulp Mill Forest Practices Plan
Volume 13	App 33	Gunns	Water Pipeline Forest Practices Plan
Volume 13	App 34	Gunns	Workers Accommodation Forest Practices Plan
Volume 13	App 35	Gunns	Eagle Nest Search Report
Volume 13	App 36	ECO Tas	Survey for Tasmanian Masked Owl on Proposed Pulp Mill Site
Volume 14	App 37	Pitt and Sherry	Workers Accommodation Facility Report
Volume 14	App 38	Gunns	Pulpwood Supply
Volume 14	App 39	Gunns	Quarry Application Report
Volume 14	App 40	Gunns	Subdivision Plan Report
Volume 14	App 41	GHD	Soil Baseline 2006
Volume 14	App 42	GHD	Lighting Assessment
Volume 14	App 43	GHD	Transport Assessment

Volume 14	App 44	GHD	Water Report – Concept Design for Water Supply from Lake Travallyn
Volume 15	App 45	Hargraves	Effluent Pipeline and Design Basis
Volume 15	App 46	Hargraves	Gas Pipeline Lateral and Station Report
Volume 15	App 47	Maunsell	Bell Bay Pulp Mill Wharf Facility Report
Volume 15	App 48	GHD	Preliminary Hazard Analysis
Volume 15	App 49	Orica	Blasting Risk Analysis Report
Volume 16	App 50	Pitt and Sherry	Four Mile Beach Dune Crossing Remediation and Revegetation
Volume 16	App 51	Pitt and Sherry	Geomorphological Assessment Proposed Shoreline Crossing Area Effluent Pipeline
Volume 16	App 52	Atteris	Ocean Outfall Conceptual Engineering Study
Volume 16	App 53	Pitt and Sherry	Four Mile Beach Dune Crossing Geological Setting
Volume 16	App 54	Hargraves	Donovans Bay Construction Management Plan
Volume 16	App 55	Pitt and Sherry	Solid Waste Landfill Conceptual Design
Volume 16	App 56	Pitt and Sherry	Water Supply Tamar River Crossing Pipeline Installation/DIER Water Pipeline Tamar River Crossing
Volume	App 57	GHD	Operational Monitoring Program (this plan is provided in full in Volume 4 of the Draft IIS. This appendix has been left blank deliberately).
Volume 17	App 58	Ecotox	Toxicity Assessment of Pulp Mill Effluent Pine Pulping Campaign
Volume 17	App 59	Ecotox	Toxicity Assessment of a Pulp Mill Effluent for Proposed Tasmanian Pulp Mill
Volume 17	App 60	Ecotox	Chlorate Report – Brown Macro Alga
Volume 18	App 61	BFP	Onshore Geotechnical Investigation
Volume 18	App 62	BFP	Pulp Mill Geotechnical Investigation
Volume 18	App 63	GHD	Hydrodynamic Modelling Ocean Outfall
Volume 18	App 64	GHD	Hydrodynamic Modelling Wharf Outfall

Supplementary Information – available at <http://www.gunnspulpmill.com.au/iis/default.htm>

Gunns	Summary of Supplementary Information Document
Mr Kari Tuominen	Overview of Pulp Mill Processes
Dr Esa Vakkilainen	Description of Recovery Systems
Mr Hannu Jappinen	Effluent Treatment and Emissions
Mr Edward Bechberger	Integrated Chemical Plant
Dr Veronique Levy	Water Quality Parameters and Objectives
Mr Ross Fryar	Hydrodynamic Modelling
Dr Rick Krasso	Toxicity Sampling
Mr Derek Shields	Review of Aquenal Monitoring Program
Dr Roger Drew	Marine Impact and Health Risk Assessment
Mr David Balloch	Estuarine and Marine Impact Assessment
Mr Robin Ormerod	Air Quality Assessment and Greenhouse Gas Emissions
Mr Greg Collins	Noise Assessment
Dr Roger Drew	Health Risk Assessment – Air Impacts
Mr Eric Jas	Effluent Outfall Design and Installation
Dr Michael Pollington	Shore Crossing Management and Rehabilitation
Dr Ian Woodward	Landfill Design and Tamar River Crossing
Dr Tim Wills	Flora
Mr Brett Lane	Terrestrial Fauna and Avifauna
Mr Tim Offor	Social Impact Assessment and Mitigation
Mr Robert de Fegely	Pulpwood Supply
Mr Keith Midson	Transport
Mr Jon Stanford	Economic Impact Assessment
Dr Tim Stone	Aboriginal Heritage

10.2 Reliability of information

The information in the referral is based on assessments undertaken in the Draft IIS and the Supplementary Information.

10.3 Attachments

You must attach	figures, maps or aerial photographs showing the project locality (section 2)	X
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 4)	X ¹
If relevant, attach	copies of any state or local government approvals and consent conditions (section 3.4)	
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 3.5)	
	copies of any flora and fauna investigations and surveys (section 4)	X ²
	technical reports relevant to the assessment of impacts on protected matters and that support the arguments and conclusions in the referral (section 4 and 5)	X ³
	report(s) on any public consultations undertaken, including with Indigenous Stakeholders (section 4)	X ⁴

¹ This material is included within the relevant weblinks to the Draft IIS and Supplementary Information, as referenced within section 4 of this referral

² This material is included within the relevant weblinks to the Draft IIS and Supplementary Information, as referenced within section 4 of this referral

³ This material is included within the relevant weblinks to the Draft IIS and Supplementary Information, as referenced within sections 4 & 5 of this referral

⁴ This material is included within the relevant weblinks to the Draft IIS and Supplementary Information, as referenced within section 4 of this referral

11 Signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (Section 489, EPBC Act).

Project title		Gunns Limited Bell Bay Pulp Mill
11.1	Party who prepared the referral	I declare that the information contained in this form is, to my knowledge, true and not misleading. I request that the person named in 11.3 below (if any) be designated as the proponent for the action.
	Signature	<i>Les Baker</i>
	Date	30 March 2007
	Full name	Leslie Ralph Baker
11.2	Party who is responsible for action	I declare that the information contained in this form is, to my knowledge, true and not misleading.
	Signature	<i>Les Baker</i>
	Date	30 March 2007
	Full name	Leslie Ralph Baker
11.3	Proponent (complete only if different from 11.2)	I, being the person nominated in Section 1.3 of this referral form as the nominated proponent (or agent acting on behalf of), agree to be designated as the proponent for the action described above if it is decided that the action requires approval under Part 9 of the EPBC Act.
	Signature	
	Date	
	Full Name	

If the referring party is a small business (fewer than 20 employees), estimate the time, in hours and minutes, to complete this form (include your time reading the instructions, working on the questions and obtaining the information and time spent by all employees in collecting and providing this information).

Hours	Minutes