NSW GOVERNMENT
Department of Planning

MAJOR PROJECT ASSESSMENT:
Visy Tumut Mill Expansion, Tumut

Director-General's
Environmental Assessment Report
Section 75I of the
Environmental Planning and Assessment Act 1979

April 2007

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EXECUTIVE SUMMARY

Visy Pulp and Paper (the Proponent) proposes to expand its existing paper mill at Tumut in order to meet increasing paper demand in Asia, North America, Africa and Europe. The proposal would see the current 300,000 tonne per year paper manufacturing capacity of the mill increase within five years to a final capacity of 700,000 tonnes per year. Implementation would occur in two phases with timing of phase two implementation dependent on production requirements and economic feasibility. It is anticipated that the project would involve $450 million of capital investment and once operational would employ up to 50 staff directly. A further 350 jobs are anticipated to be created in service and supply industries associated with the plant. Construction employment is predicted to peak at approximately 500 jobs.

The expansion would take place on the existing mill site located at 436 Gadara Road, Tumut. It is located approximately eight kilometres west of Tumut and approximately 420 kilometres south-west of Sydney. The land immediately surrounding the site consists of cleared farmland, with the Tabletop Mountain range to the north, Deep Creek to the west and Gilmore Creek to the east. The disused Cootamundra-Tumut Railway Line lies immediately to the south of the site. Sandy Creek flows from west to east through the Proponent's site. The nearest residential dwelling is approximately one kilometre to the west. Scattered rural residential dwellings lie outside of this area, predominantly to the south, west and north. The Snowy Mountains Highway passes the site approximately 2.5 kilometres to its south and serves to connect the site to the regional road network as well as to the townships of Tumut and Adelong.

The Minister authorised the submission of a concept plan for the proposal. This approach was sought by the Proponent so that certainty could be gained regarding the level of environmental assessment and environmental controls required for specific project components which the Proponent felt were less likely to be undertaken due to timing and economic feasibility concerns. Since that time the Proponent has undertaken a detailed assessment of the environmental impacts associated with the project to a level commensurate with that required for full project approval. Consequently, the Department recommends that the Minister approve the concept approval and grant full project approval to all component parts of the project with the exception of the operation of the multi-fuel boiler on non-standard fuels. This component would be subject to a further project application and assessment under Part 3A because there are technically complex matters and strategic issues that require further consideration.

The potential environmental planning implications of the project are several due to the environmental impacts associated with paper manufacture and the close proximity of the site to residential areas. Concern was primarily raised by the community in relation to air quality, odour impacts, noise impacts and traffic safety. Government agency concerns were similar and comment was received from the Department of Environment and Conservation (DEC); NSW Health; Roads and Traffic Authority (RTA); Department of Natural Resources (DNR); and the Department of Housing. Key issues identified included potential adverse air quality and odour impacts (DEC; NSW Health); noise impacts (DEC); and affordable housing impacts (Department of Housing). The Proponent prepared a detailed Submissions Report to address each of these issues in turn and in some instances this involved committing to the implementation of additional mitigation measures beyond those committed to in the Environmental Assessment and the Statement of Commitments.

The Department has given thorough consideration to each issue and the Proponent's response to submissions. Conditions have been recommended which seek to minimise potentially adverse community impacts through the use of comprehensive air, noise and traffic management plans which require the Proponent to develop effective and proactive management processes for mitigating specific impacts. These plans are supported by regular monitoring; air and noise emission limits to preserve local amenity; and performance assessments to ensure that the level of performance predicted in the Environmental Assessment is being achieved when the plant is operational. The Department is satisfied that this combination of measures would ensure that the Proponent continues to enhance the performance of the project over the long-term and, more importantly, ensures that local amenity is preserved.

On balance, the Department considers that the proposed Tumut mill expansion is a project that would be of benefit to the State of New South Wales. This is because the project would yield significant social and economic benefit to the local region through employment creation and the likely flow-on effects for local business. Plus, it

provides the Proponent with the capacity to take advantage of a growing export market for paper products. It is the opinion of the Department that the environmental impacts identified by the Proponent and through Council, community and Government agency consultation can be effectively managed through the recommended conditions of approval.

Overall, the proposed Tumut mill expansion project could be approved subject to the effective implementation of the Proponent's Statement of Commitments and the Department's recommended conditions of approval.

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1. BACKGROUND

Visy Pulp and Paper (the Proponent) proposes to expand its existing paper manufacturing facilities at its Tumut Mill located approximately eight kilometres west of Tumut, approximately 420 kilometres south-west of Sydney. The site is located within the Tumut local government area at 436 Gadara Road, Tumut. A map of the site within the local area is shown in Figure 1.

The mill expansion would see paper manufacturing facilities increased by installing a second paper machine and associated pulping capacity. The expansion would increase the manufacturing capacity of the mill from 300,000 tonnes per year to a manufacturing capacity of 700,000 tonnes per year. The expanded mill would produce kraft liner board of various grades and white top liner.

The Proponent has indicated that the mill expansion would be undertaken in a phased approach such that product output would match projected market demand. The phasing however would not affect the manufacturing capacity upgrade, with the 700,000 tonnes per year production rate anticipated to be achieved within five years of commissioning the expanded facilities.

1.1 Existing Site

The site for the proposed mill expansion is located on land currently owned and used by the Proponent for the purposes of paper manufacture. The land is zoned 1(a) (Rural Zone) in the *Tumut Local Environmental Plan 1990* which permits paper manufacture in this zone with development consent.

The site consists of an existing paper manufacturing with a capacity of 300,000 tonnes per year which is owned and operated by the Proponent. A nineteenth century historic homestead is positioned at the northern end of the site within 100 metres of the existing mill structures.

1.2 Surrounding Land Use

The land immediately surrounding the site of the expansion consists of cleared farmland, with the Tabletop Mountain range to the north, Deep Creek to the west and Gilmore Creek to the east. The disused Cootamundra-Tumut Railway Line lies immediately to the south of the site. Sandy Creek flows from west to east through the Proponent's site.

The nearest residential dwelling is approximately one kilometre to the west. Scattered rural residential dwellings lie outside of this area, predominantly to the south, west and north. Adelong and Tumut are situated approximately eight kilometres to the west and east of the site respectively. The Snowy Mountains Highway which connects these two towns passes the site 2.5 kilometres to the south. The Tumut River is situated approximately eight kilometres to the east.

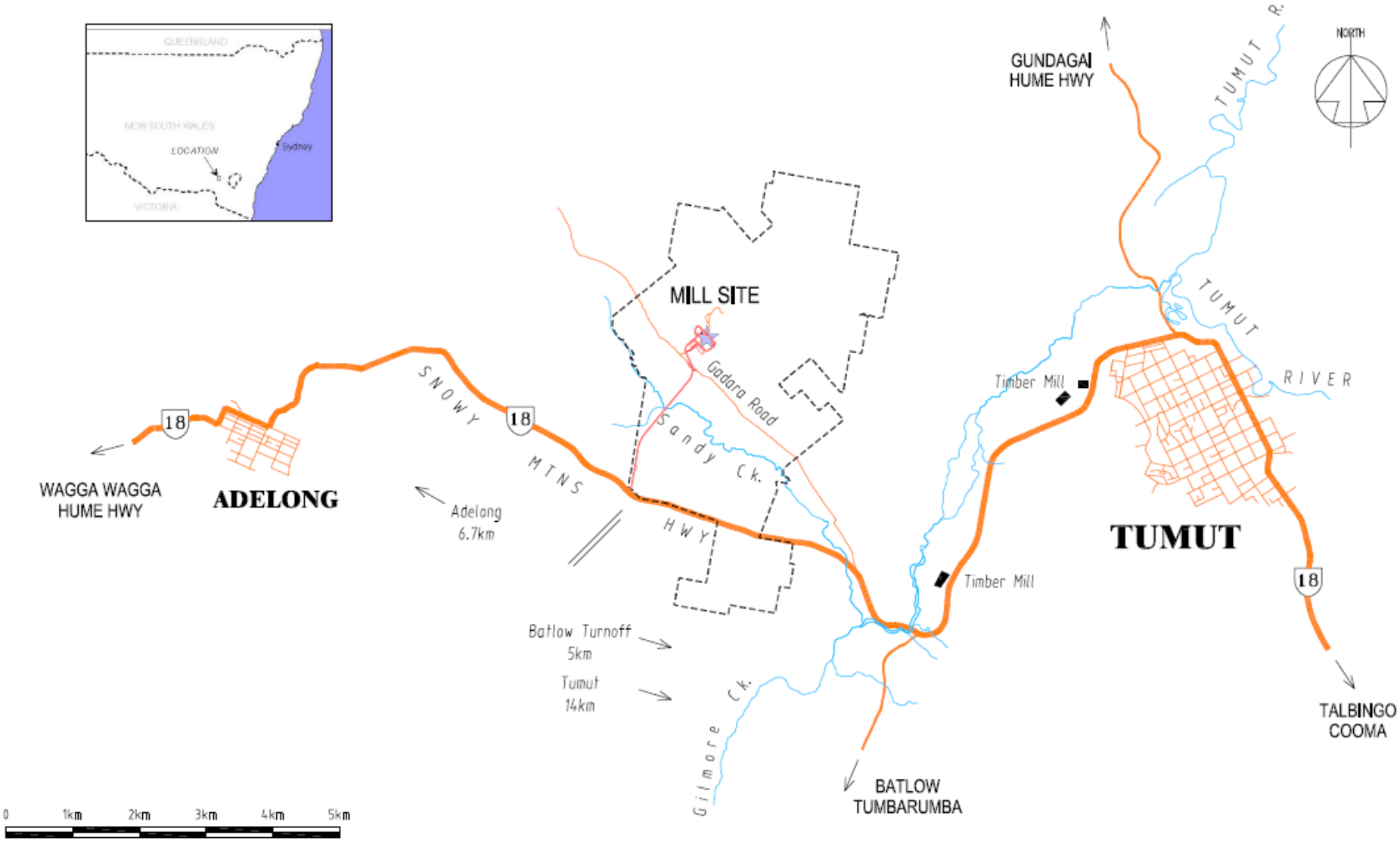

Figure 1: Tumut Mill Site (Reproduced fro..m the Proponent's Environmental Assessment)

2. PROPOSED DEVELOPMENT

2.1 Project Description

The Proponent proposes to expand the existing paper manufacturing facilities at its Tumut Mill. The Proponent has indicated that the expansion would be undertaken in a two phased approach with components described as part of the second phase being delayed subject to suitable market demand. However, production requirements may dictate that some components of phase two be brought forward and implemented as part of phase one.

Phase one primarily consists of the installation of a new paper machine and pulp production line which would see paper manufacturing capacity increase by 400,000 tonnes per year to a combined total of 700,000 tonnes per year. The increase in manufacturing capacity would result in a commensurate increase in plant demand for feed material, energy and water requirements. Consequently the Proponent proposes to expand the existing woodyard operation and to install a new recovery boiler and gas fired power boiler to supplement existing energy requirements.

Tumut River water demand would increase mill demand from 746 ML of freshwater per year to 1,827 ML of freshwater per year due to the expansion. The facility's existing water supply infrastructure would require a further river pump to ensure sufficient capacity to handle the increased water requirements. Increased wastewater (of up to 477 ML per year) would consequently be produced by the expanded operations. The Proponent intends to manage the wastewater by treating and then irrigating the water on the Proponent's adjacent pastures. This practise is currently employed by the Proponent to manage the current 349 ML/year of wastewater produced by the existing operations.

Phase two of the expansion would see the installation of a multi-fuel boiler, natural gas turbine, de-inking plant and a digestor. The Proponent highlights that the implementation of these components would not increase mill production nor the types of fibres used, water consumption or the generation of wastewater beyond that of phase one.

The multi-fuel boiler would be used to generate steam and electricity, replacing the existing power boiler. The boiler would initially operate on standard fuels and, subject to further project approval, later operate on non-standard fuels such as paper machine residues and urban wood residues. A natural gas turbine would be installed which, when combined with the electricity generated from the multi-fuel boiler and the phase one electricity generating components, would supply the expanded facility with sufficient electricity to operate independent of the grid. A high pressure gas pipeline would be installed within the site boundary which would connect the turbine to the existing gas supply pipeline which connects to the Proponent's site.

The de-inking plant would be installed to produce white pulp, thereby eliminating the need to purchase white pulp from external sources. A digestor would be installed to provide supplementary fibre line capacity.

The Proponent seeks full project approval for both phase one and phase two components of the project. This however does not include the operation of the multi-fuel boiler (non-standard fuels) component for which the Proponent seeks concept approval only at this time. Under this approach, the Proponent would be required to seek full project approval for the operation of the multi-fuel boiler on non-standard fuels at a later date, once detailed design and further environmental information is available. Operation of the multi-fuel boiler on non-standard fuels would not occur until a separate project approval for the component is granted by the Minister. A full description of the recommended nature of the approval of this project is detailed in section 3.5 of this report.

2.2 Project Need

The Proponent states that it has identified a clear and growing demand for Kraft paper on the world market. In the 2005-2006 financial year the Proponent sold 125,000 tonnes or approximately 42 % of the existing Tumut mill's production on the export market to areas throughout Asia, Africa, Europe and North America. The Proponent asserts that this exposure has allowed the Proponent to establish firm long term supply relationships which could be further expanded to the benefit of the Proponent with valuable social and economic flow-on benefits for the local community and the broader state of New South Wales.

The Proponent has undertaken market studies to confirm this position. The market studies suggest that this export demand is likely to grow and as such it provides the Proponent with a significant business opportunity. The Proponent highlights the conclusions from these studies:

- Asia's total usage of Kraft liner board is in excess of 1.2 million tonnes per year and in the key markets identified by the Proponent, this total usage (including Asia) is in excess of 10.5 million tonnes per year;
- corrugated board production grew between 2000 and 2005 by 14 % in China, 8 % in Thailand and 12 % in Eastern Europe;
- there is more demand for greater cost competitive and 'fit for purpose' product, thereby creating a further market for the proposed multi-grade Kraft liner production line; and
- there is a growing trend towards using products that have been sourced from sustainable feedstock and greenhouse friendly technologies.

Consequently, the Proponent has indicated that it anticipates that 425,000 tonnes per year or around 60 % of production would be exported to take advantage of these markets.

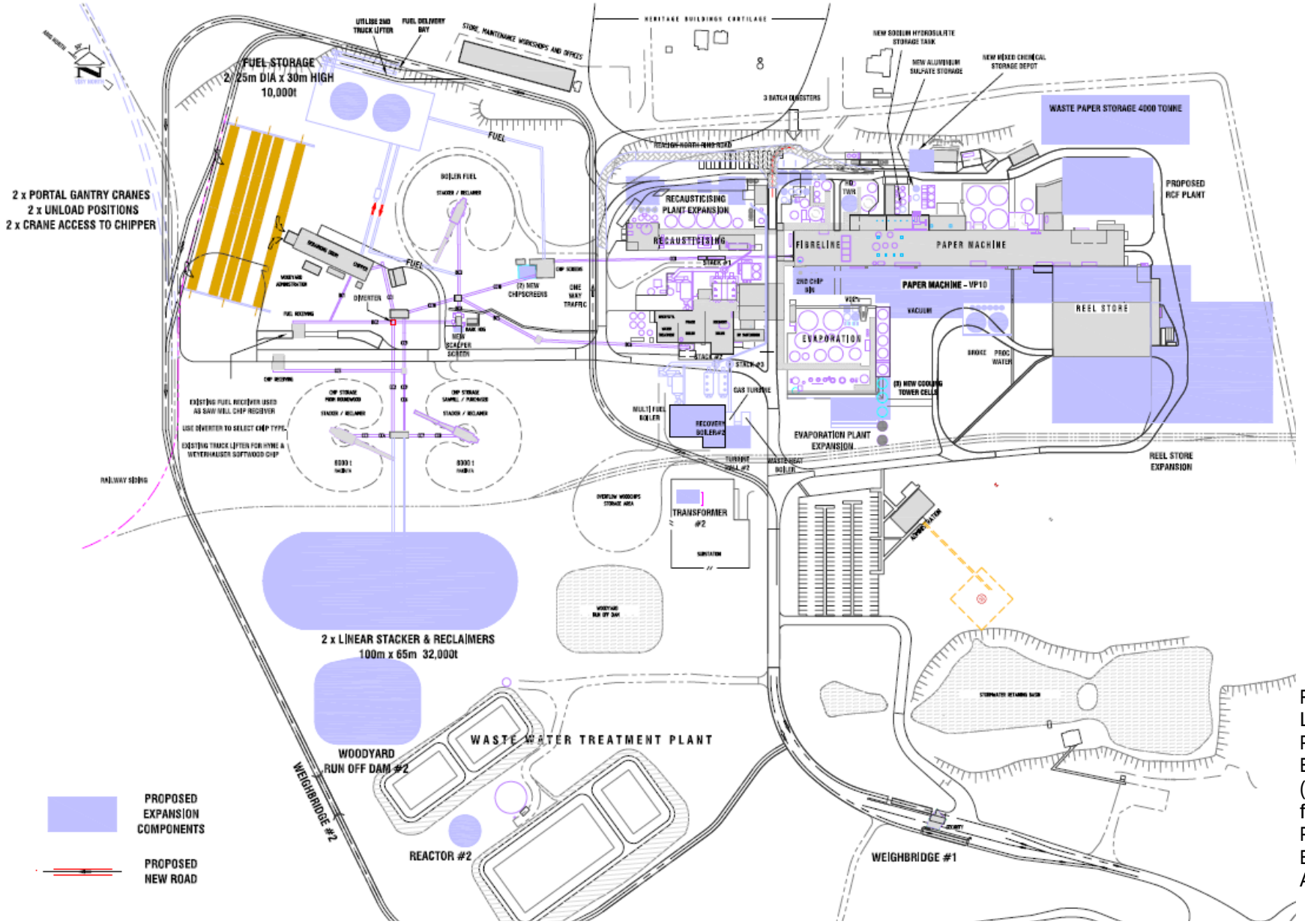

Figure 2: Mill Layout Proposed and Existing (Reproduced from the Proponent's Environmental Assessment).

3. STATUTORY CONTEXT

3.1 Major Project

The project is declared to be a Major Project under *State Environmental Planning Policy (Major Projects) 2005* because it is development that has a capital investment of more than $30 million for the purpose of manufacture of paper, pulp, cardboard or newsprint (clause 4(b)). The project will therefore be assessed and determined by the Minister for Planning under Part 3A of the *Environmental Planning and Assessment Act 1979*.

3.2 Permissibility

The site for the proposed mill expansion is located within land currently owned and used by the Proponent for the purposes of paper manufacture. The land upon which the expansion is proposed is zoned 1(a) Rural Zone in the *Tumut Local Environmental Plan 1990* (Tumut LEP). The proposed facility is an innominate permissible use in the zone.

3.3 Environmental Planning Instruments

There are no environmental planning instruments that substantially govern the carrying out of the proposal. The Department highlights that other than in relation to zoning and permissibility, the *Tumut Local Environmental Plan 1990* includes no particular provisions that substantially relate to the proposal.

3.4 Minister's Approval Power

The application and environmental assessment were placed on public exhibition from 2 February 2007 to 7 March 2007 and submissions invited in accordance with Section 75H of the Act. The Department has met all its legal obligations so that the Minister can make a determination regarding the project.

It is also noted that the Environmental Assessment submitted in support of the subject application adequately addresses the Director-General's requirements.

3.5 Nature of the Recommended Approval

On application from the Proponent, the Minister has authorised the submission of a concept plan for the project. At the time of making this decision, the Proponent was considering a number of project components that were not certain due to implementation timing and economic feasibility considerations. As such the Proponent did not have the necessary level of detailed design information available commensurate with that required for a full project approval to be granted. Secondly, as the project will require significant capital to be raised and committed, the Proponent sought concept approval to gain certainty from the planning process in terms of the level of environmental assessment and environmental controls that may be required for the various components that may be undertaken at a later date.

Since that time, the Proponent has managed to complete a detailed environmental impact assessment of the all components of the proposed expansion with the exception of the proposed multi-fuel boiler when operating using non-standard fuels. This information was included in the Environmental Assessment submitted in support of the application. The Department considers that the Proponent has provided sufficient information such that an adequate level of assessment of the expansion project could be undertaken, and consequently recommends that the Minister form the view that no further environmental assessment of the expansion project, excluding the multi-fuel boiler (non-standard fuels) component, be required.

In relation to the operation of the multi-fuel boiler on non-standard fuels, the Department is of the opinion that further information and assessment is required. It is recommended that further assessment be undertaken under Part 3A of the Act because the outstanding issues such as the sources of the non-standard fuels, detailed chemical analysis of each fuel stream, fuel testing and quality control regimes are technically complex matters and have environmental impacts which extend beyond the local area. Furthermore, this component of the proposal requires careful consideration of how the application of the NSW Non-Standard Fuel policy interacts with the broader issue of sustainable waste management practices in New South Wales. It is therefore appropriate that further Ministerial involvement in the assessment and approval process occur.

The Department therefore recommends that the Minister exercise his power under the *Environmental Planning and Assessment Act 1979* to:

1. grant concept approval to the proposal in its entirety;
2. grant project approval for all but the multi-fuel boiler (non-standard fuels) component of the project; and
3. require further assessment and approval of multi-fuel boiler component of the project under Part 3A.

To reflect this approach, the Department has drafted two recommended instruments of approval. An instrument of concept approval has been created which grants approval to the concept of the proposal in its entirety and describes the subsequent assessment and approval requirements for the multi-fuel boiler (non-standard fuels) component of the proposal.

An instrument of project approval has also been created. This instrument grants full project approval to the project (with the exception of the operation of the multi-fuel boiler on non-standard fuels) and details conditions that establish stringent environmental standards, mitigation measures, environmental controls and monitoring requirements for the expanded facility.

4. CONSULTATION AND ISSUES RAISED

4.1 Introduction

The Department received 10 submissions during the exhibition of the application. Of these, two or 20 % of submissions objected to the proposal. Consideration of the issues identified in submissions and assessment of the environmental impacts of this proposal are provided in section 5 of this report.

4.2 Submissions from the Public, Private Companies and Organisations

A total of four submissions were received from the public, organisations and private companies. Of these submissions, two or 50 % of submissions from the public objected to the proposal. Of the two other public submissions, one stated concern without expressing objection to the proposal, while the other stated support for the proposal. The key issues identified in submissions from the public included:

1. Air quality impacts
   - confirmation of health effects on rain water quality due to increased air pollutants associated with additional truck movements;
   - may result in adverse health impact on local plants, animals and residents; and
   - confirmation of air quality and likely impacts associated with the use of non-standard fuels in the multi-fuel boiler.

2. Odour impacts
   - odour impacts already adversely affect local amenity and this is only likely to increase with the new plant;
   - odour complaint data used in the EA may not reflect the real situation regarding odour nuisance due to people stopping to complain because of the perception that their complaints are of little value;
   - for at least 50 days of 2006 odour was experienced at significant levels at one residence; and
   - commissioning of the new plant may result in extended periods of odour nuisance.

3. Noise impacts
   - increased noise levels will decrease local amenity;
   - noise from existing plant is presently experienced at considerable levels, this will only increase;
   - increased noise due to increased truck movements; and
   - potential sleep disturbance due to increased truck noise.

4. Traffic safety impacts
   - increased probability of motor vehicle accidents due to increased truck movements;
   - local road quality is inadequate for proposed traffic increases described for both operation and construction phases;
   - increased safety hazard when exiting driveway onto the Snowy Mountain Highway;
   - Gocup Road is not up to standard for dealing with the truck sizes described or the number of movements proposed;
   - Gocup Road is hazardous under wet, night-time conditions; and
   - Gocup and Batlow Roads need to be brought up to standard so that the safety hazard of these roads is eliminated

4.3 Submissions from Government

Five submissions were received from Government agencies: the Department of Environment and Conservation;; Roads and Traffic Authority; NSW Health (Department of Health); Department of Natural Resources and the Department of Housing. None of the agencies objected to the proposal, but raised a number of key issues for further consideration. Issues identified included: air quality impacts; odour impacts; noise impacts; and affordable housing impacts. Comments made by each agency are summarised below.

Department of Environment and Conservation (DEC)

- enhancements to be made to the Proponent's Draft Statement of Commitments including an intention to undertake: an independent detailed design review of non-standard fuel use/ technology; detailed review of odour management measures during start-up and shut-down conditions; develop specific noise management measures for potentially affected residents and the mitigation of extreme weather adverse noise impacts;
- proposal must ensure that during steady state operation when considered in conjunction with the existing plant that no adverse net change in odour will occur;
- insufficient detail has been provided to determine whether the proposed Vapour Concentration Evaporation (VCE's) will be adequate to reduce odour levels from condensate sources to the stated 50 %;
- the elimination of odour from many of the proposed new sources by connecting them to the HVLC system whereby they will be destroyed in the new recovery boiler should effectively control odour;
- the odour impact assessment (99th percentile figures) concludes that the proposal will likely comply with the requirement for no offensive odour to be emitted;
- the Proponent needs to investigate potential odour control measures beyond the plant operation measures prescribed in the EA. This must include a detailed investigation of possible methods for managing start-up and shut-down odour emissions;
- some exceedances of noise limits at nearby residences are predicted and these must be specifically addressed in a Noise Management Plan;
- mitigation measures will be required to existing and proposed activities such that sleep disturbance criterion is met;
- proposed licence conditions relating to emission limits and monitoring, odour, noise limits, and requirement to create specific management plans for mitigating operation and construction phase noise impacts;
- the Proponent needs to include a commitment to applying sound waste management principles such as actively seeking to maximise re-use and recycling of the various waste streams where possible;
- DEC is prepared to consider alternative and appropriate management options of residue ash from mill processes;
- further detail required regarding the suitability of the proposed landfill site, including a demonstration that the intended site has the appropriate licences to take the quantities and types of waste that would be received from the Proponent;
- the traffic noise assessment identified some exceedances of traffic noise criteria which need to be addressed through feasible and reasonable traffic noise mitigation measures; and
- the development and implementation of a Traffic Noise Management Strategy which would include detailed measures to feasibly and reasonably manage noise impacts associated with traffic is recommended.

Roads and Traffic Authority (RTA)

- RTA supports the intersection analysis (SIDRA) which indicates that the existing intersection treatment at the intersection of the Snowy Mountains Highway and Bachelor's Valley Way can accommodate additional traffic likely to be generated from the project;
- the swept path of the largest vehicles proposed to be entering/ exiting the site and manoeuvring through the site is to be in accordance with the relevant Australian Standard and to the satisfaction of Council;
- layout and dimensions of the car park and any internal roadway is to be in accordance with the relevant Australian Standard;
- number of car parking spaces associated with the development is to be determined to the satisfaction of Council;
- consideration must be given to the use of traffic calming measures on internal roads;
- concern exists regarding traffic generated during the construction period and potential adverse impacts that this may have on road safety and the capacity of the intersection described in the point above. Consideration should be given to techniques for managing these impacts such as staggered start/ finish times; and
- suitable provision needs to be made to retard any increased stormwater run-off from the site to the Snowy Mountains Highway.

NSW Health

- modelled air data provided in the EA show low ground level concentrations of emissions which are unlikely to have an affect on current residents surround the mill with regard to chronic, acute or irritation impacts;
- the project should be conditioned to require that best available technology be used for combustion sources and pollution control equipment;
- the health risk assessment should be refined with real data when available to help establish the quantative health risk. Specific consideration should be given to nitrogen dioxide, sulphur dioxide and chlorine gas, and include monitored emissions of PAH's;
- predicted odour emissions appear to be acceptable;
- a specific odour management plan should be derived through community consultation to deal with odour impacts associated with start-up and shut-down activities. This should include pre-warning locals of potential odour issues; and
- the complaints management strategies outlined in the Draft Statement of Commitments must be accompanied by an appropriate strategy for dealing with complaints.

Department of Natural Resources (DNR)

- the Proponent is required to have 100 % of its entitlement available to enable the conversion of general security shares to high security shares as prescribed in the Murrumbidgee Regulated River Water Source Water Sharing Plan, the current available water determination is 10 %;
- there is inadequate specific details regarding increasing the winter storage dam capacity and such detailed design information should be submitted to DNR prior to seeking a water licensing requirements;
- the Proponent needs to provide details to DNR relating to storages to be considered under the Maximum Harvestable Right Dam Capacity;
- shallow groundwater levels below areas CP1, CP3 and CP4 are of significant concern and suggests that subsurface drainage is ineffective and requires modification or expansion;
- shallow groundwater must be mitigated consistent with the recommendations made in the EA with an intent to review irrigation practices such that a more sustainable long term water management practise is adopted;
- the location of the proposed irrigation areas have the potential to impact on groundwater and surface water quality and therefore it is necessary that additional groundwater monitoring be undertaken to monitor the effects of the proposed irrigation areas; and
- conditions of consent relating to groundwater monitoring and obtaining a licence for the proposed Tumut River pump.

Department of Housing (DH)

- project has the potential to impact on the housing market in Tumut and possibly the surrounding areas, particularly during the construction phase;
- no evidence has been provided to demonstrate the availability of tourist accommodation, taking into account seasonal variation, to house construction workers. This should be provided;
- no evidence has been provided to demonstrate that the accommodation areas cited in the EA are feasible/ likely in terms of commuting distance for construction workers. This should be provided;
- proposal would reduce emergency accommodation options employed by the Department of Housing to help those in urgent housing need;
- increased demand for short-term accommodation due to the construction workforce will increase demand for housing assistance because low income earners will not be able to compete with relatively highly paid construction workers;
- permanent residents of caravan parks (low income earners) are at risk of becoming homeless due to the demand of the construction workforce for accommodation;
- over long term the cost of purchasing a house will increase due to the workforce associated with the new plant and its flow on effects. Higher rentals and higher house prices are likely to result placing further demand on already limited affordable housing available in the local area; and
- Proponent needs to develop a strategy with Council and relevant agencies deal with increased demand for human services in the area, including housing assistance.

4.4 Submissions from Local Government

A submission was received from Tumut Shire Council which did not expressly state support or objection to the proposal. Council did, however, raise a number of matters that it considered should be carefully considered as part of the assessment of the proposal. The key matters are as follows:

1. Traffic Impact
   - increase in traffic is a safety concern, particularly on the feeder roads from the softwood plantations and on Gocup Road from Tumut to Gundagai;
   - Gocup Road requires upgrading. Council in conjunction with the South West Slopes Softwoods Working Group has sought funding from the Government for an upgrade of this road;
   - Gocup Road should be reclassified as a State Arterial Road, thereby giving the timber producing areas of the South West Slopes a direct feeder onto the Hume Highway at Gundegai; and
   - there have been many safety incidents at the intersection of the Snowy Mountains Highway and Main Road 85 and at the intersection of the Snowy Mountains Highway and Gocup Road. Both of these intersections will be heavily used by transport associated with the project so it is likely that the frequency of safety incidents will increase; and
   - request RTA upgrade the intersections including a roundabout at the intersection of the Snowy Mountains Highway and Gocup Road.

2. Civic Infrastructure
   - Council's civic infrastructure, particularly the Tumut District Hospital, will not have the capacity to mange the short and long term population increases associated with the project; and
   - request that the Government upgrade the hospital to meet future needs created by project.

3. Waste Management
   - opposes land filling waste and recommends that the Proponent investigate alternate uses for de-inking and de-ashing sludge.

4.5 Submissions Report

On review of the issues identified in submissions, the Department required the Proponent to prepare a Submissions Report to address each of the issues raised in those submissions. As part of this process, the Proponent reviewed each submission and made specific comment in relation to each issue identified.

Some minor changes to the Statement of Commitments were made to more thoroughly address issues raised. The revised Statement of Commitments is attached to this report as Appendix C. In several instances the Proponent has responded to resident issues identified by committing to implement a residence specific solution to the concern. The Submissions Report should be referred to for more detail regarding these undertakings. However, the Proponent's response to some of the broader community issues and more commonly raised concerns has been outlined below.

Response to noise concerns

Concerns regarding noise predominantly focused on noise created by trucks travelling to and from the facility, to which the Proponent responded in two ways. Firstly, the Proponent committed to including the noise mitigation measures suggested by the DEC into the Traffic Noise Strategy described in the EA. This included a commitment to schedule movements, where practicable, such that truck movements are reduced during sensitive times of the night.

Secondly, the Proponent committed to a number of undertakings that would be implemented to reduce noise impacts at specific receivers. This includes noise amelioration measures and commitments to undertake further noise monitoring to confirm predicted noise levels. The Proponent also made recommendations to the RTA to install signage and speed limits that promote quiet driver practises in affected areas.

Response to traffic hazard concerns

Traffic concerns focused on two different issues, namely specific concerns at individual residences and concern regarding the likelihood of increased accidents due to a combination of increased road/ intersection congestion and poor road quality.

In relation to concerns at specific residences, the Proponent concurred with the concerns identified and made a number of recommendations that the RTA implement residence specific solutions to each issue. Similarly, the Proponent asserted that it supported suggestions for local road improvements, stating that it was actively involved with Council and other industries in seeking public funding to improve Gocup and other local roads. The Proponent highlighted however that the findings of the Traffic Impact Assessment in the EA found the local roads to be within acceptable levels of service and therefore the predicted traffic impacts are acceptable in terms of traffic safety.

Response to concerns regarding potential shortages in housing supply

The Proponent undertook an additional study to support the conclusion presented in the EA that the project would not have an adverse effect on local housing supply or affordability. The study sought to further clarify the likely demand for housing by detailing the likely on-site manning levels for each week of construction and the possible housing availability or likely supply level of housing. To do this the Proponent examined the recorded manning levels during the construction of the existing mill and obtained data from the Australian Bureau of Statistics on local occupancy rates of hotels/ motels and caravan parks for the 12 month period between July 2005 and June 2006.

The study demonstrated that at its peak a construction workforce of 500 employees would most likely be required over an approximate 20 week period, with workforce levels decreasing considerably beyond this period. This information was then compared with the data from the Australian Bureau of Statistics which demonstrated that on average there were approximately 500 room vacancies and over 400 available sites at caravan parks within the Tumut and Wagga areas. The Proponent argued that given the high vacancy rate and the fact that the vacancy data did not include other nearby communities such as Adelong, then housing construction workers locally is highly feasible and not likely to adversely affect local housing supply.

The Proponent argued further that given the high level of supply and the likelihood that construction workers would seek accommodation at the higher end of the rental market, it would be unlikely that their presence within the local market would adversely affect housing affordability at the lower end.

4.6 Agency Review of the Submissions Report

The Submissions Report was submitted to the Department and provided to the DEC, RTA, NSW Health, DNR, Department of Housing and Council for consideration and comment. Comment was received from the DEC, RTA, NSW Health, DNR and the Department of Housing and this has been summarised as follows:

Department of Environment and Conservation

- DEC agrees to the proposed air and noise monitoring changes to the Proponent's Statement of Commitments the majority of which clarified under which environmental conditions certain requirements applied;
- DEC concurs with the Proponent that an independent detailed design review of non-standard fuel use/ technology is unnecessary provided detailed installation and commissioning information is included in the requirements for obtaining project approval for the multi-fuel boiler (non-standard fuels) component;
- DEC does not support removing the requirement of the Proponent to ensure that all activities, including start-up and shut-down activities, be conducted in a manner that will eliminate offensive odour at or beyond the boundary of the premises; and
- DEC supports the proposed additions to the Noise Management Plan.

Roads and Traffic Authority (RTA)

- RTA has been developing a roundabout treatment for the intersection of the Snowy Mountains Highway and Gocup Road however at this stage detailed plans are not available and this project is not on any current work program because the cost of the program cannot be justified at this stage;
- if the project is likely to lead to significant road safety concerns at the intersection then the Proponent should contribute to the cost of design and construction of the roundabout;

- RTA has undertaken road safety work at the intersection of the Snowy Mountains Highway and Main Road 85 (Batlow Road) in recent years and the issues associated with the close proximity of the adjacent bridge are noted however no further works have been identified at this stage;
- road safety measures outlined by the Proponent should be discussed with Council and Council can take the matter further with the Local Traffic Committee. The Local Traffic Committee consists of Council, the RTA, the police and a representative of the local member, and can make a recommendation to the RTA for consideration; and
- the speed reduction measure to reduce traffic noise impact requires the consideration of a number of factors and on recommendation from the Local Traffic Committee the RTA can review these factors and determine whether to implement this measure.

NSW Health

- NSW Health notes that PAH emissions are not planned to be monitored as it is believed that these emissions would be below emission limits;
- the Health Assessment in the EA made assumptions regarding its level and identified it to be the key drive behind the carcinogenic risk assessment and it is therefore important that this assumption is confirmed; and
- confirmation of PHA emission levels should be undertaken when the plant is operational for both standard and non-standard fuel operating scenarios.

Department of Natural Resources (DNR)

- DNR recognises that the Proponent is aware of the process for obtaining adequate water supply and the risks this potentially places on the project;
- the "as constructed" details of the Winter Storage Dam will be required by DNR to determine licensing requirements prior to construction;
- the Proponent must provide DNR with the Maximum Harvestable Right Dam Capacity for the property and the existing capacity of the runoff collection dams;
- DNR supports the Proponent's intention to install additional groundwater monitoring bores around the proposed irrigation areas, however no information has been provided to indicate how the Proponent intends to improve sub-surface drainage beneath the irrigation areas that are not working effectively. DNR considers this to be a significant issue for the long terms sustainable management at the site; and
- recommended conditions of consent regarding obtaining a work approval from DNR for the proposed Tumut River pump and groundwater monitoring.

Department of Housing (DH)

- the additional study conducted by the Proponent indicates that there will be sufficient temporary accommodation for the construction workforce;
- it has been suggested that construction workers would be seeking to rent in a higher rental bracket than lower income earners, although this statement has not been supported by evidence;
- DH highlights that across NSW only 60 % of affordable rental accommodation is available for lower income earners because higher and middle income earners are living in lower cost accommodation thereby making it more difficult for lower income earners to compete;
- increased demand from moderate to high income earners will have flow-on effects on the housing market;
- the impact on permanent residents of caravan parks could be significant as there is potential for long term sites to be switched to short term use and for fees to be increased also; and
- DH supports the Proponent's intention to participate in discussions with Council and the DH to determine a process for monitoring impacts and developing appropriate housing responses for the areas affected.

5. ASSESSMENT OF ENVIRONMENTAL IMPACTS

After consideration of the Environmental Assessment, submissions, Submissions Report and the Government agency response to the Submissions Report, the Department has identified the following key environmental issues associated with the proposal:

- air quality impacts;
- odour impacts;
- noise impacts;
- traffic noise impacts and
- traffic safety impacts

All other issues are considered to be minor and have been adequately addressed as part of the Proponent's Statement of Commitments.

5.1 Air Quality Impacts

Issues

An air quality assessment was undertaken to determine whether the project may result in any adverse impacts on local air quality. It was stated to have been conducted in accordance with the *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales (DEC 2005)*. The key pollutants that were considered were those that are typically associated with paper manufacturing mills such as carbon monoxide (CO), nitrogen dioxide (NO_2), particulates (or dust) and sulfur dioxide (SO_2) amongst others. Toxic and odour air pollutants were also evaluated as some of these elements can be produced as a by-product of the paper manufacturing.

The Proponent specifically examined the effect of the project (after both phase one and phase two) in conjunction with actual emission data from the existing plant at a number of nearby residences and locations. The predictive modelling determined the maximum predicted air pollutant concentrations for all of the pollutants to comply with the DEC ambient air quality criteria for the predicted highest ground level concentration (Table 1). Pollutant levels were at least one order of magnitude less than the DEC air contaminant criteria for most pollutants.

Table 1: Air Impact Modelling Results (Reproduced from the Proponent's Environmental Assessment).

Pollutant	Averaging Time	Existing (μm^{-3})	Phase 2 (μm^{-3})	Criteria (μm^{-3})
CO	1-hr maximum	229	428	30000
NOx	Annual	0.95	3.23	62
NO_2	1-hr maximum	22.3	77.6	246
TSP (as PM_{10})	24-hr maximum	2.59	4.98	50
	Annual	0.24	0.445	30
SO_2	1-hr maximum	190	433	570
	24-hr maximum	17.5	40.5	228
	Annual	1.62	3.55	60
HF	24-hr maximum	0.0187	0.119	1.5
Cd	1-hr maximum	0.000874	0.00392	0.018
Hg	1-hr maximum	0.00115	0.00886	0.18
TCDD	1-hr maximum	0.00000001	0.000000025	0.000002
Cl	1-hr maximum	0.6	16.6	50
H_2SO4 (as SO_3)	1-hr maximum	2.51	7.15	18
HCl	1-hr maximum	13.6	36.7	140
Pb	Annual	34.8	0.0011	0.5
Sb	1-hr maximum	0.000558	0.0023	9
As	1-hr maximum	0.00546	0.0164	0.09
Be	1-hr maximum	0.0000052	0.000244	0.004

Cr	1-hr maximum	0.00453	0.0178	0.09
Cu	1-hr maximum	0.052	0.117	18
Mn	1-hr maximum	0.0364	0.0887	18
Ni	1-hr maximum	0.00466	0.0111	0.18
VOCs / Methanol	1-hr maximum	0.333	0.653	3000
TRS (as H2S)*	Nose-response at most affected location	1.16	2.3	1.38 (>2000) 4.38 (2)
	Nose-response at most affected residence	0.24	0.48	1.38 (>2000) 4.38 (2)

Note: TRS values are measured in odour units (ou). Odour criteria is determined by the DEC based on population density. Values contained in brackets indicate the population density value assumed in using that criterion. Refer to section 5.2 for further discussion of odour impact.

Consideration

The Department is satisfied that the assessment undertaken of potential air quality impacts from the proposal is adequate. Predictive air dispersion modelling was undertaken which found that the proposal would meet the relevant DEC air quality goal for each of the pollutants. The Department highlights that the predicted maximum levels due to the implementation of the proposal are in most cases at least one order of magnitude less than the relevant air quality goals stated by the DEC. In light of the results presented, both the Department and DEC are satisfied with the predicted level of air quality performance of the project.

While air emission levels are a key issue of concern for this proposal, the Department acknowledges that this issue is closely related to potential concern regarding human health impacts. To this end, the Department required that a Human Health Impact Assessment be undertaken as part of the Environmental Assessment to examine potential exposures and risks to human health in areas off-site. Review of the Human Health Impact Assessment and the predicted toxic air pollutant levels was undertaken by NSW Health. Based on the findings of the assessment, NSW Health concluded that the proposal would be unlikely to have adverse health effect on current residents. The Department concurs with this conclusion.

The Department believes that provided all the nominated environmental commitments are implemented during the construction and operational phases of the project, the resultant air quality and associated health impacts from the proposal would be within acceptable limits. Notwithstanding this, the Department has recommended a range of conditions to ensure that strict air emission limits are met throughout the entire life of the project. This commences with construction, with the recommendation of conditions that seek to minimise dust generation and ensure that fuel burning equipment will meet air emission requirements when operational. For example, the Proponent would be required to submit manufacturer's performance guarantees, stating equipment compliance with air emission limits, for all fuel burning equipment to the DEC prior to project operation. The conditions would also ensure that any emissions discharged from stacks comply with current NSW air emission criteria.

Whilst such controls and the Proponent's mitigation measures are effective methods for ensuring a standard of air quality is likely, air quality performance should be regularly monitored and reported to ensure that local air quality is maintained. It is for this reason that the Department has recommended that the Proponent establish and maintain an air quality monitoring program throughout the construction and operation of the project. Air quality monitoring program results, demonstrating compliance with performance criteria stipulated in the recommended approval, would be required to be submitted to the Department annually.

The Department would also require the Proponent to refine the human health impact assessment with actual monitoring data once the project is operational. While the Department highlights NSW Health's conclusion that no adverse impacts are likely, the Department believes this to be a prudent approach that would equip NSW Health with a more definitive understanding of potential impacts and provide transparency regarding health concerns to local residents.

It is the opinion of the Department then, that provided the Proponent's mitigation measures are implemented and the recommended Instrument of Approval is adopted, the project is anticipated to meet all relevant air quality criteria.

5.2 Odour Impacts

Issues

Odour is one of the key issues associated with paper manufacture due to the presence of total reduced sulfides (TRS) which are a gaseous by-product of the Kraft pulping process. Whilst other contaminants such as methanol, turpentine and some inert gases may also contribute, TRS are particularly problematic because of their low odour threshold, requiring only between 0.5 parts per billion to 5 parts per billion to be detected.

Since the commencement of the existing plant in 2001, odour has been an ongoing concern for the facility. Complaints from the public regarding the existing facility are predominantly nuisance odour related. The Proponent highlights that the number of complaints is decreasing annually and attributes this to the implementation of better odour control measures. This may in part be true. The improvement was also highlighted in a resident submission, however it was also asserted by the resident that the improvement is possibly in part a result of local residents ceasing to make complaints due to a perception of powerlessness to make change.

The potential for further odour impacts has been raised as a key issue in several submissions to the current project. DEC's submission identified the need for the Proponent to ensure that all odour impacts, including those that result from start-up and shut-down events, be eliminated. NSW Health's submission acknowledged the potential odour impact on nearby residents by highlighting the need to proactively undertake community consultation prior to known potentially odour generating events. One resident submission raised concerns that the current project would only serve to worsen the odour impacts already experienced by residents living close to the facility.

As part of the Environmental Assessment for the project, the Proponent conducted an odour impact assessment to evaluate the likely level of impact that would be incurred by the project. The assessment involved predictive modelling, giving consideration to all potential odour sources and their odour emission rates, odour control measures, local climatic conditions, topography effects and strong temperature inversion conditions, so that odour impact predictions could be made. The assessment used this information to then determine the predicted maximum odour level (highest 1-hour average predicted) and 99th percentile level (odour level to odour would not exceed 99 % of the time) at nearest residences for when the existing facility is operational and for when the expansion project is operating in combination with the existing facility. Direct comparison between the existing impact and the cumulative impact of the proposed expansion is therefore possible and this is shown in Table 2.

Table 2 – Predicted Odour Levels at Nearest Residences (Reproduced from the Proponent's EA)

Receptor	Maximum Odour Level (OU)		99th Percentile Odour Level (OU)		Proposed Odour Criteria* 99th Percentile (OU)
	Existing	Expansion	Existing	Expansion	
Havilah	24	16	4	3	5
Pleasant View	48	34	7	6	5
Minjary	15	10	4	3	5
Reka	26	18	5	4	5
Woomera	32	24	6	5	5
Whispering Pines	33	23	5	4	5
Deep Creek	13	10	3	2	5
Glengarry	34	24	4	3	5
Glenroy Park	9	7	2	2	5
M Bradley	19	13	2	2	5
The Lagoon	7	5	2	1	5

B & K Gentle	9	7	2	2	5
Moonapinna	9	7	2	1	5
S Bevan	11	8	2	1	5
Willow Bend	6	5	1	1	7
R & C Beale	9	7	2	1	5
J Adams	24	18	3	2	5
Bradley & Whiting	17	11	5	4	5
Adelong Main Street	11	7	1	1	3
Tumut Main Street	3	2	1	1	2

* Note: DEC odour assessment criteria are based on population density. A criterion of 2 odour units (ou) is given to urban areas of population greater than 2000. The criteria increases up to 7 OU as population density decreases.

The predictive modelling found that at the majority of residences the proposed expansion project would result in better odour performance than that presently experienced from the existing facility. Notwithstanding this, all residences are predicted to experience reduced worst-case odour levels when compared with that experienced from the existing plant. The assessment notes that the modelling results predict that the proposed 99th percentile odour criteria are satisfactorily met at all but two residences for the existing plant, and that this would be reduced to one following the operation of the project.

Consideration

The Department is satisfied that the assessment of potential odour impacts has been carried out in accordance with the DEC's *Technical Framework – Assessment and Management of Odour from Stationary Sources in NSW* (DEC, 2006) and *Technical Notes – Assessment and Management of Odour from Stationary Sources in NSW* (DEC, 2006). Predictive modelling has been used which considers local climatic conditions, proposed odour control methods, adverse weather conditions and utilised actual emission levels collected through the monitoring of the existing plant. In this regard then, the predictive modelling undertaken provides a reasonable indication of the likely odour impact of the expansion project and in particular it allows odour impact to be determined relative to the existing level of impact.

On review of the results presented in the odour impact assessment, the Department concurs with the Proponent that the expanded mill facility will either maintain or improve odour impacts when compared with existing levels. The Proponent states that, notwithstanding this, it commits to continued improvement with regards to the control of odorous emissions and that this commitment would be made possible through the introduction of new processes and technology as they become available. One of the key controls proposed for this project is vapour compression evaporator technology which the Proponent intends to install across the entire facility (existing and proposed) to reduce plant-wide odour emissions.

The Department supports this commitment by the Proponent, highlighting that it demonstrates the Proponent's desire to continually seek to further reduce odour impacts on nearby residents. The Department also notes the other odour management commitments made by the Proponent such as the use of communication strategies regarding significant odour impact events and maintaining a 24 hour complaints hotline. The Department's recommended conditions require these commitments to form part of a broader suite of odour management initiatives that would be sufficiently robust so to address any ongoing odour concerns. This would include the preparation of an Air Quality Management Plan to ensure that a suitable odour management system is in place. The plan would provide specific detail regarding mitigation and management measures to address odour impacts resulting from the project, and importantly, it would require that the Proponent establish an odour management process, which would ensure the continual improvement of the facility over both the short and long term.

To support this approach, the Department also recommends the Proponent undertake an annual odour audit to investigate actual plant odour performance against previous odour performance audits. The audit would be undertaken each year over the life of the project. This recommended approach – of combining the Air Management Plan with an annual odour audit, would provide the Proponent with a methodology for annually evaluating the effectiveness of the continual odour improvement program. It would serve to support the Proponent's commitment to continually working towards reducing odour impact.

The Department understands, however, that a significant odour issue associated with both the existing plant and the proposed project is odour impacts associated with start-up, shut-down and other process upset conditions. These instances require specific treatment in addition to the measures outlined above. The odour impact assessment (see Table 2 – Maximum Odour Level) predicts these impacts to be considerably reduced at many of the residences when compared with the impacts due to the existing plant. However, it is noted that such levels are in most cases predicted to still be considerably higher than the DEC odour criteria.

The potentially adverse impact of these events is acknowledged by the Proponent, who has committed to communicating such events to the community and to implementing the control measures that currently operate for the existing plant. The Department and DEC support this course of action. However, the Department highlights that regardless of the cause of the emissions (i.e. through events such as maintenance shut-downs) the Proponent must ensure that odour emissions from such events do not impact on nearby residents or other nearby sensitive land-uses.

These high odour instances are infrequent events, which in most cases are known in advance by the Proponent because their cause and effect is well understood by the Proponent. In this instance then it is important that a comprehensive management approach is adopted to specifically address these short duration, infrequent events. Consequently, the Department recommends the Proponent provide the Director-General with a detailed report prior to the commencement of operation which assesses all feasible and reasonable odour mitigation measures that can be applied to these specific instances of high nuisance odour. The Proponent would be required to undertake the report in consultation with the DEC and specific attention would be given to mitigation measures outside of those discussed in the Environmental Assessment such as specific equipment maintenance scheduling and minimising certain activities under weather conditions that have been shown to maximise impacts. It is believed that through the implementation of these types of initiatives, the frequency and intensity of significant odour impact events could be more effectively managed and notably reduced.

The Department acknowledges however, that effectively mitigating these high nuisance odour events would most likely occur over time as new technology and new processes become available. Consequently a long term commitment by the Proponent would be required to continually work towards reducing their impacts. It is with this regard that the Proponent would be required to comply with Section 129 of the *Protection of the Environment Operations Act 1997* which does not permit the emission of any offensive odour from the facility.

5.3 Noise Impacts

Issues

A noise impact assessment was undertaken as part of the Environmental Assessment to determine whether the project would have an adverse effect on local amenity. There are a number of rural residential residences scattered throughout the area that could be potentially affected.

The noise assessment undertaken by the Proponent stated that it had been undertaken in accordance with the DEC's *Industrial Noise Policy*. The assessment determined the predicted impacts of the plant on nearby residences, giving consideration to the impact of the project cumulatively with the existing plant. As certain weather conditions are known to adversely enhance noise impacts, the Proponent considered the noise impact of the project using three different weather scenarios – normal weather conditions; noise enhancing weather conditions; and extreme noise enhancing weather conditions. The Proponent anticipated that the project would likely require noise control in order to protect local amenity and for this reason noise controls were incorporated into the modelling.

The noise impact assessment results are described in Table 3. The Proponent concluded that on the basis of the assessment, higher noise limits than those in place for the existing plant would be required. The Proponent asserted that these limits would need to be higher than the project specific noise limits derived through the application of the *Industrial Noise Policy*. Values shaded in red represent exceedances of the project specific noise limits.

Table 3: Cumulative Noise Impact (Reproduced from the Proponent's Environmental Assessment).

Residence	Project Specific Noise Limits			Predicted Impacts		
	Day	Evening	Night	Neutral Weather Conditions	Moderate Noise Enhancing Weather Conditions	Extreme Noise Enhancing Weather Conditions*
Havilah	35	35	35	20	25	31
Pleasant View	35	35	35	34	38	45
Mijary	35	35	35	21	25	33
Reka	35	38	35	29	34	40
Woomera	35	35	35	43	47	53
Whispering Pines	35	35	35	29	33	39
Deep Creek	35	35	35	33	37	42
Glengarry	35	35	35	30	34	41
Glenroy Park	37	38	36	29	33	40
M Bradley	37	38	36	26	30	37
The Lagoon	42	43	36	27	31	37
B & K Gentle	39	38	35	26	30	36
Moonapinna	35	35	35	22	26	33
S Bevan	35	35	35	4	8	14
Willow Bend	42	43	36	3	7	16
R & C Beale	42	43	36	27	31	38
J Adams	35	35	35	29	33	39
Bradley & Whiting	35	35	35	28	32	38

* Note: Extreme weather conditions are predicted to occur less than 0.1 % of the year. The *Industrial Noise Policy* does not require extreme weather conditions to be modelled nor have limits applied in these situations.

The cumulative noise impact assessment predicts that the project specific noise limits would be met at all residences with the exception of "Woomera" under neutral weather conditions. Under moderate noise enhancing conditions exceedances are predicted again at "Woomera" in addition to "Pleasant View" and "Deep Creek". Under extreme noise enhancing weather conditions, exceedance of the noise limits are predicted at the majority of residences with sleep disturbance predicted to be experienced at "Woomera". Extreme weather conditions are predicted to occur less than 0.1 % of the year

The cumulative noise impacts presented in Table 3 assume a 10-12 dB(A) noise reduction to impulsive noise sources such as the hopper and the debarker/ chipper. Two possible options were outlined for achieving that level of noise reduction, both of which require significant acoustic treatment. The Proponent states that under either option the project would satisfy sleep disturbance criteria at all residences and for all three weather scenarios with the exception of the "Woomera" residence (8 dB(A) exceedance predicted).

Consideration

The Department is generally satisfied that the assessment approach employed by the Proponent with respect to noise impacts is appropriate and consistent with the requirements of the NSW *Industrial Noise Policy*.

While compliance with the project specific noise limits derived by the *Industrial Noise Policy* has been predicted for the majority of residences under both neutral and moderate noise enhancing weather conditions, the Proponent requested that higher noise limits apply to the project. The Proponent reasoned that a limit of 40 dB(A) over all time periods would allow a margin of safety to be built into the noise limits such that potential long term noise increases due to aging plant or the introduction of new technology/ processes could be accommodated. It was suggested by the Proponent that a 40 dB(A) limit at all residences is reasonable for a rural area and would not cause significant annoyance provided the noise emissions were not of an intrusive or tonal nature.

The *Industrial Noise Policy* enables higher noise limits than the project specific noise limits to be used when it has been demonstrated that a Proponent has undertaken all feasible and reasonable mitigation measures and still is

unable to comply with the noise limits. In these circumstances, the *Industrial Noise Policy* states that the predicted impacts should then be considered within the context of the economic and social benefits that would likely be experienced by the community should the project proceed. In the instance of this project, such economic and social benefits appear likely through the flow on effects associated with increased local employment levels (50 operation jobs) and increased local business demand. This assessment is further supported by comment received in submissions. Council and two of the four public submissions were highly positive of the social impact that the Proponent, through the introduction of the existing mill, had had on the local community. Furthermore, Council and three of the four submissions also highlighted the Proponent's ongoing commitment to proactively reduce the environmental impacts of its existing operations on the local community. In light of these considerations, an increase in noise limits beyond those derived by the *Industrial Noise Policy* is justified. This is a view supported by the DEC.

The Department recommends the noise limits detailed in Table 4 below. These limits have been determined based on consideration of the noise impact assessment presented by the Proponent in the Environmental Assessment and are consistent with the requirements of the *Industrial Noise Policy*. It must be noted that an increase to the derived noise limit has not occurred where this criteria can be met. Consequently, the Department highlights that the noise criterion for the majority of residences is 35 dB(A) which is comparatively low, and represents 5dB(A) above the assumed minimum background noise level in the *Industrial Noise Policy* (30 dB(A)). Some limits above this level have been adopted, thereby acknowledging the inherent difficulties in complying with the project specific noise levels at certain residences once all feasible mitigation measures have been implemented.

Table 4: Maximum Allowable Noise Contribution

Location	Day 7:00am to 6:00pm Mondays to Saturdays 8:00am to 6:00pm Sundays and public holidays	Evening 6:00pm to 10:00pm on any day	Night 10:00pm to 7:00am Mondays to Saturdays 10:00pm to 8:00am Sundays and public holidays	
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	L_{Amax}
Pleasant View*	40	40	40	45
Deep Creek*	39	39	39	45
Reka* & Glengarry*	36	36	36	45
Any other residence	35	35	35	45

* Note: As described in Appendix N of the EA

While the Department appreciates the Proponent's argument for seeking higher limits than those recommended at all residences, it is not felt that this is justified. Where the *Industrial Noise Policy* limits have been demonstrated to be able to be met, these limits have been applied. The Proponent asserts that higher limits would allow for gradual increases in noise emissions due to either aging plant or the installation of further new plant. However, the Department and DEC is of the opinion that the adoption of higher limits on these grounds would be effectively be giving permission to the gradual creep of noise emissions over the long term. As such, only higher limits have been applied where higher noise levels are predicted and all feasible and reasonable mitigation measures have been applied. Adoption of higher limits on the grounds of aging plant or new processes is not considered to be an appropriate approach to managing the long term noise impacts of the proposal and the Department emphasises that it is the Proponent's responsibility to ensure compliance over the life of the project, regardless of these effects.

The noise limits in Table 4 do no include the most adversely affected residence, "Woomera". The DEC has advised that the noise levels predicted for this residence exceed levels which the DEC would willingly support or licence. Subsequently, the Department has recommended conditions that provide the landowner with the opportunity to relocate at the cost of the Proponent if desired by the landowner. The landowner would be able to obtain independent land valuation, legal services and expert opinion if required at no charge. Similarly, any relocation costs and fair compensation for the disturbance created on the landowner would also be funded by the Proponent. The Department highlights however that this condition would not require the landowner to relocate if

this was not desired by the land owner. The recommended condition would, if adopted by the Minister, also allow for an alternative agreement to be reached. The Department acknowledges that this course of action is not ideal however it is seen as a satisfactory approach which ensures that the broader social benefits associated with the project are balanced with the amenity of an individual. This approach is consistent with the *Industrial Noise Policy* and is only appropriate when it has been demonstrated that despite the intended use of all feasible and reasonable noise mitigation measures, significant long term adverse impacts are likely to persist.

In relation to the predicted noise performance of the project under extreme noise enhancing conditions, the Department notes that the frequency of this type of weather conditions is predicted to be less than 0.1 % of the year. Importantly, while the assessment predicts non-compliance with the noise limits at many of the residences assessed, the *Industrial Noise Policy* does not require extreme noise enhancing weather effects to be evaluated or limits applied when the frequency of occurrence is at low levels like those predicted. Nevertheless, the Department is of the opinion that should these unlikely conditions arise, appropriate management and plant design needs to be in place to ensure that noise impacts are mitigated to acceptable levels. The Department has therefore recommended that the Proponent include in its Noise Management Plan measures to ensure that if these weather conditions do arise, that noise levels would be limited to a maximum of 43 dB(A) at all residences. This is lower than the *Industrial Noise Policy* sleep disturbance criteria of 45 dB(A) for this project. This requirement goes over and above what is required in the *Industrial Noise Policy* because such effects are not even required to be assessed when their occurrence is predicted to be as low as that predicted here.

In addition to a comprehensive Noise Management Plan detailing noise management and mitigation processes, the Department also recommends that a comprehensive noise audit be undertaken with respect to the project within 90 days of the commencement of operation. The noise audit would seek to confirm that the project is operating within the bounds of the project approval and predicted noise outcomes. In the event that divergence from the predicted noise impacts is measured, the noise audit would identify this and would require the Proponent to identify and apply additional noise management measures such that measured noise would not exceed the noise limits.

5.4 Traffic Noise Impacts

Issues

A traffic impact assessment was undertaken as part of the Environmental Assessment to determine whether the increase in heavy vehicle traffic associated with the project would adversely affect noise amenity at residences located adjacent to main roads in the local area. The Proponent had identified that haulage routes for the project would be the same as those used by current operations. Public submissions identified this potential impact to be a key issue associated with the Proposal, stating that heavy vehicle noise was already affecting local amenity and that the project would only worsen noise impacts.

The traffic noise impact assessment stated that it was undertaken in accordance with the DEC's *Environmental Criteria for Road and Traffic Noise* (1999). The assessment modelled the predicted traffic noise impact at nine different residences and compared the predicted noise levels with the DEC traffic noise criteria. Consideration was given to noise impacts due to each phase and cumulatively with the existing traffic noise. Table 5 describes the predicted noise levels of the project after both phases have been implemented. Values contained in brackets represent the increase in noise above existing levels due to the project.

Table 5: Cumulative Traffic Noise Impacts after Phase 2 (Reproduced from the Proponent's Environmental Assessment)

Residence	Day DEC Criteria 60 dB(A)	Night DEC Criteria 55 dB(A)
Sullivan (Adelong)	60.6 (+0.6)	52.7 (0)
Kelly (Wondalga Rd, Tumbarumba)	55.4 (+0.4)	50.2 (+0.8)
Dallas (Gocup Rd, Gundagai)	58.2 (+0.2)	54.6 (+0.5)

Barton (Gocup Rd, Gundagai)	53.9 (+0.9)	51.2 (+1.6)
Thompson (Bombowle Rd)	55.3 (+0.3)	52.2 (+0.2)
Steunkal (Snowy Mountains Highway, west of Batlow Rd)	60.1 (+3.3)	56.8 (+4.8)
Beale (Snowy Mountains Highway, west of Batlow Rd)	63.6 (+0.8)	59.5 (+1.2)
Glengarry (Snowy Mountains Highway, west of Batlow Rd)	46.9 (+0.4)	44.4 (0)
Michael (western edge of Tumut)	63.5 (+0.6)	58.4 (+1.4)

The study predicts that the DEC traffic noise criteria would be exceeded at three residences and one residential area. The study states that noise sources at "Sullivan" would be dominated by numerous different sources and not solely that of heavy vehicles. In the case of "Steunkal" and "Beale", the Proponent asserts that these impacts could be effectively managed through appropriate mitigation measures such as noise insulation. The Proponent intends to implement a Truck Management Plan to minimise noise impacts on the residential area on the western edge of Tumut represented by "Michael". All other locations were predicted to experience noise levels which would comply with DEC road traffic noise criteria.

Consideration

The Department is satisfied that the traffic impact assessment has been conducted in accordance with the DEC's *Environmental Criteria for Road and Traffic Noise* (1999). Predictive modelling was undertaken to determine the likely impact of approximately an additional 250 heavy vehicle movements on local resident amenity. The assessment evaluated the impacts on a number of residences selected so as to provide an adequate understanding of traffic noise levels on key haulage routes.

The assessment predicted exceedances at three of the residences and at one residential area (represented by "Michael"). The Proponent has indicated that it intends to ensure that noise impacts at these residences would be effectively mitigated through the implementation of a Truck Management Plan and the sound proofing of "Beale" and "Steunkal". The other remaining residence predicted to be adversely affected is "Sullivan". The Proponent asserts that because this residence is located on the main street of Adelong, it is likely that noise impacts are affected by many different sources other than just heavy vehicles. The Proponent highlights the project's small contribution to noise levels at that location, stating that the 0.6 dB(A) is minimal when compared to the 60 dB(A) generated by existing sources.

On the basis of this assessment, the Proponent concludes that the impact of heavy vehicles associated with the proposal is not considered to be extensive or excessive and that the predicted impacts can be managed through the measures proposed. The Department concurs with this conclusion, highlighting that the strategy outlined by the Proponent is consistent with that described in the DEC's *Environmental Criteria for Road and Traffic Noise* (1999). While some exceedances are predicted, the Department believes that these impacts can be effectively mitigated through the use of the measures proposed. These measures have been enhanced by both the DEC and the Department and this is reflected in the recommended conditions of approval. Should the recommended conditions be adopted by the Minister, the Proponent would be required to prepare a Truck Management Plan which would detail a broad suite of actions to be undertaken by the Proponent and truck drivers to ensure that noise impacts are minimised. This would include restrictions on routes; movement scheduling; the reduction in noisy heavy vehicle practices; and a driver training program to raise awareness of the Plan. Such measures would then be reinforced through the use of penalties for breaches and random monitoring. Provided these measures are undertaken, the Department is satisfied that existing amenity would be maintained.

In the case of "Sullivan" the Department also concurs with the Proponent's assessment and conclusion. The Department agrees that heavy traffic would be one of the many possible sources contributing to the daytime 60 dB(A) noise impact experienced at this residence. In this context then, the predicted contribution of the project (0.6 dB(A)) is likely to have minimal effect on that residence and therefore does not require further mitigation.

5.5 Traffic Safety Impacts

Issues

The Proponent predicts that the expanded mill would likely require on average 531 movements per day in order to supply raw material to the site and to transport product. This represents an approximate increase of 252 additional movements per day, or slightly less than double the number of movements associated with the existing plant. Subsequently, the Proponent undertook a Traffic Impact Assessment in order to determine the effect the predicted increase in traffic would have on the existing road network and how this would then impact on local traffic safety. The assessment also gave consideration to traffic accident data and in particular sought to determine whether any change had been observed in accident frequency which corresponded with the introduction of traffic associated with the existing plant.

Access to the existing mill occurs via Bachelors Valley Way which connects to the regional road network via the Snowy Mountains Highway. The proposed expansion would result in an increase in vehicle movement to and from the site and consequently an increase in the use of this intersection. As part of the traffic impact assessment a site access safety study was conducted to determine whether the intersection has sufficient capacity to safely accommodate the predicted increase in usage. The intersection study consisted of two components. Firstly, the study assessed the intersection sight distance to determine whether the intersection adhered to sight distance safety standards. The study concluded that the sight distance to the turning lane and site distance to the intersection were all within acceptable RTA design guidelines when approached from either Adelong or Tumut and therefore did not require alteration. Secondly, the study evaluated the level of service (LOS) of the intersection, or in other words, the average delay experienced by vehicles wishing to undertake a turn at the intersection. Visual inspection and intersection modelling concluded that the LOS is not predicted to be adversely affected by the proposal, with average delays anticipated to remain at similar levels to those currently experienced. The safety of the intersection was then evaluated by examining historic RTA crash data recorded within 500 meters of the intersection. The investigation concluded that no accidents had been recorded at the intersection since its construction.

The crash data study for the Bachelors Valley Way intersection formed part of a larger traffic accident study undertaken as part of the assessment to determine whether the increase in traffic, in particular that of heavy vehicle movements associated with the operation of the existing mill, had had any adverse impacts on the rate of local traffic accidents. To assess this, RTA traffic accident data for the Tumut Shire over the period of 1996 to 2004 (inclusive) was investigated. The assessment found that the crash incidence rate within the Tumut Shire had not changed in general terms since the commencement of operation of the existing mill. It noted that the average number of accidents in the five years before the facility was found to be 90.6, which is marginally higher than the 90.0 recorded for the four years since the commencement of the mill. A targeted assessment was then undertaken to give specific consideration to the number of crashes on the main roads of the Tumut Shire, in particular Gocup Road, the Snowy Mountains Highway, Tumbarumba Road, Bombowiee Creek Road, Adelong Road, Main Road 85 (Batlow Road), Tumut Road and Old Tumbaraumba Road. This assessment concluded that while an increase in fatality and casualty was noted, this appeared generally consistent with the general traffic growth in traffic in the local region

The LOS of the existing road network was assessed in order to determine whether the road network has sufficient capacity to safely accommodate the likely increase in traffic movements associated with the project when considered within the context of a growth in general traffic. The LOS rating system for road networks differs from that for intersections. LOS for individual roads is a measure of the interaction between vehicles, that is, the more vehicles on a given road, the lower the LOS rating. LOS ratings range from LOS A (free flowing traffic) to LOS F (highly congested), with LOS C and D being considered satisfactory within a rural area. The road capacity study determined average daily traffic (ADT) data from RTA traffic counts for 2003 and the data was then compared with the average daily traffic predicted for 2008. Contributions due to heavy vehicles and heavy vehicles associated with the facility were also determined. Table 6 details the predicted traffic impact of the expanded facility on the regional road network.

Table 6: Expanded Mill Final Vehicle Traffic (Reproduced from the Proponent's Environmental Assessment)

Route	Total Existing Heavy Vehicles*	2003 ADT	Estimated Phase 2 extra Visy Heavy Vehicle Movements	Predicted 2008 ADT* incl Phase 2	Estimated Total Heavy Vehicles incl phase 2*	LOS current / estimated
via SMH - Adelong	226 (16.6%)	1359	51	1618	272 (16.8%)	B / B
via Main Road 85 (Batlow Rd) - Wondalga	180 (11.5%)	1568	71	1877	251 (13.4%)	B / B
via Gocup Rd - Gundagai	228 (13.5%)	1692	101	2046	329 (16.1%)	B / B
via Bombowlee Ck / Wee Jasper Rd - Buccleuch	533 (30%)	1775	-3	2058	530 (25.8%)	B / B
via SMH - Talbingo	34 (6.3%)	537	9	630	43 (6.8%)	A / A
SMH to Tumut (West of Batlow Rd)	437 (18%)	2497	201	3064	638 (20.8%)	B / C
SMH to Tumut (Western edge of Tumut)	552 (12.4%)	4452	130	5270	682 (12.9%)	C / C-D

* Note: Values contained in brackets represent the contribution of heavy vehicles to that route as a percentage of total vehicles for that route.

** Note: Values for average daily traffic (ADT) 2008 include 5 years cumulative natural growth in average daily traffic of 3 %.

The assessment highlights that the greatest increase in total traffic on the routes assessed would be for the Snowy Mountains Highway between the existing facility and Main Road 85 (Batlow Road), which is predicted to experience an increase of 201 movements per day or in other words 100 additional trucks. Gocup Road is predicted to increase by 101 vehicle movements per day or by approximately 50 trucks. The assessment also demonstrates that while the number of heavy vehicle movements is predicted to increase the relative contribution of heavy vehicle movements to total traffic is predicted to remain at similar proportions to that presently experienced. The greatest change in the relative contribution of heavy vehicles to total traffic is predicted to be on the Snowy Mountains Highway between the mill and Batlow Road, which is likely to see a 2.8 % increase in the relative contribution of heavy vehicles to total traffic on that route. The study notes that for the majority of routes, no change in the level of service rating is predicted and that LOS is predicted to be within the standards expected of regional roads. The Proponent concluded that the proposal would therefore have a low impact on the regional road network.

Consideration

The Department is satisfied that the traffic impact assessment has been conducted in accordance with the RTA's *Guide to Traffic Generating Developments* (2002). Traffic safety concerns were identified in three of the four public submissions and in the submission from Council. The main concern regarded a perception that the existing road network would be unable to safely support the increase in traffic associated with the proposal. It was asserted that the combination of increased road and intersection congestion (due to more truck movements) would likely result in more accidents and that this effect would be worsened as a result of the general poor quality of the local road network. Council's submission supported this viewpoint, highlighting that traffic safety was of specific concern and that the number of accidents and near misses at the intersection of Gocup Road with the Snowy Mountains Highway and at the intersection of Main Road 85 (Batlow Road) with the Snowy Mountains Highway was increasing.

The Department, in undertaking its assessment of the proposal, sought specific comment from the RTA in relation to the potential impact of the proposal on local traffic conditions. The RTA was satisfied with the level of traffic impact assessment undertaken and did not identify any specific safety concerns regarding the conclusions drawn by the Proponent. The Department is of similar opinion, highlighting that the level of service of the transport

routes that would be used by the Proponent would remain of similar standard to that of today and on most routes this standard is considered well above satisfactory levels for rural roads.

While it is acknowledged that some extra congestion may be experienced, the Department highlights that this needs to be considered within the context of natural transport growth within the Tumut Shire. In this context, the most significant impact would be on the Snowy Mountains Highway between the existing mill and Main Road 85 (Batlow Road) where the increase in heavy vehicles due to the project contributes 6.6 % of the average daily traffic level predicted for 2008. For Gocup Road this is predicted to be 4.9 %, Main Road 85 (Batlow Road) 3.8 % and for the Snowy Mountains Highway via Adelong this is predicted to be 3.2 %. In light of this, the Department is of the opinion that while there would be some increase in the number of heavy vehicle movements on these routes, this increase would not be at appreciable levels. Furthermore, such increases are predicted in the majority of cases to be on the regional roads or the State highway, and therefore should not overly affect the daily activities of residents using the local roads.

The Department also sought comment from the RTA in relation to Council and resident concern regarding the potentially adverse effect the predicted increase in traffic would have on local intersection safety. The RTA, in their submission to the proposal, supported the Proponent's conclusion that the intersection of the Snowy Mountains Highway and Bachelors Valley Way would be able to safely accommodate the predicted increase in traffic due to the project. In response to concerns regarding the intersection of the Snowy Mountains Highway and Gocup Road, the RTA advised that consideration had been given to providing a roundabout treatment to this intersection however the cost of implementing this change was not considered justified based on existing and predicted usage at this time. The RTA also gave consideration to Council's safety concern regarding the intersection of Main Road 85 (Batlow Road) and the Snowy Mountains Highway. The RTA highlighted that road safety work at this intersection had been recently undertaken to address such concerns and that no further works were needed at this stage. On the basis of this advice, the Department has formed the opinion that the existing main intersections have sufficient capacity to safely accommodate the predicted increase in traffic due to the project.

While the capacity of main transport routes and intersections was raised as a concern, the Department acknowledges resident and Council concern that part of local road safety is dependent on local road quality. The Proponent's assessment states that it has not assessed local road quality however it does concede that local road quality could generally be improved. The Proponent recommends that local initiatives described in the *Regional Transport Plan for the Timber Industry in South West Slopes of NSW* (developed by the Proponent in partnership with other local industry and Council) be adopted by the Commonwealth Government under the Commonwealth AusLink program. The Proponent also asserts that other measures such as introducing overtaking lanes and widening road shoulders would serve to noticeably improve road safety.

The Department supports the recommendations in principle and has subsequently required, as part of the recommended conditions, that the Proponent work with local Council regarding these matters. Council, if satisfied of their need, may then elect to recommend the initiatives to the Local Traffic Committee. The Local Traffic Committee consists of Council, the RTA, the Police and a representative of the local member, and this body can make direct recommendation to the RTA. While the Department could require the Proponent to undertake such work, the Department is not of the opinion that the Proponent should be required to fund such programs as it is but one of many users of the local road network, and it has been demonstrated that this project is not anticipated to significantly impact on predicted traffic levels.

CONCLUSIONS AND RECOMMENDATIONS

The Department has assessed the Environmental Assessment, Statement of Commitments, submissions on the proposal, submissions report and is satisfied that the impacts of the proposal can be mitigated and/ or managed to ensure an acceptable level of environmental performance.

The potential environmental planning implications of the project are several due to scale of the project and the close proximity of the site to residential areas. Concern was primarily raised by the community in relation to air quality, odour impacts, noise impacts (including from traffic) and traffic safety. The Proponent prepared a detailed submissions report to address each of these issues in turn and this was reviewed by the government agencies and comment received.

Council and government agencies, including DEC, DNR, NSW Health, RTA and the Department of Housing also provided comment. The issues raised by these bodies were similar to that identified by the community but also included potential adverse impacts on affordable housing and human health.

The Department, on advice from the relevant agencies, has recommended a series of conditions that seek to effectively manage the concerns that have been identified by the community, Council and the government agencies. These conditions would serve to enhance the commitments that have already been made by the Proponent in its Statement of Commitments and would ensure that environmental impacts are minimised.

The Department is of the opinion that the project would be of benefit to the State of New South Wales. This is because the project would provide significant social and economic benefit to the local region in the form of direct and indirect employment, as well as flow on effects for local businesses.

Overall, the proposed Visy Tumut Mill Expansion project could be approved subject to the effective implementation of the Proponent's Statement of Commitments and the Department's recommended conditions of approval.

APPENDIX A – RECOMMENDED CONDITIONS OF (CONCEPT) APPROVAL

APPENDIX B – RECOMMENDED CONDITIONS OF (PROJECT) APPROVAL

APPENDIX C – STATEMENT OF COMMITMENTS

APPENDIX D – RESPONSE TO SUBMISSIONS

APPENDIX E – ENVIRONMENTAL ASSESSMENT