

## CHAPTER 12

---

### Traffic and Transport Assessment

## 12. TRAFFIC AND TRANSPORT ASSESSMENT

---

Bega Duo Designs (BDD) was commissioned to undertake a Traffic and Transport Assessment for the proposed Project (see **Appendix 12** for full report). The study was conducted in accordance with the NSW Roads and Traffic Authority (RTA) *Guide to Traffic Generating Developments* and the Director-General's Requirements (DGR's), and provides a technical appraisal of the traffic and safety implications arising from the Project. Information on internal road infrastructure is described in **Chapter 3** Project Description and preliminary designs can also be seen in **Volume 2, Figures 3.1 and 3.2**.

### 12.1 Methods

The traffic and transport assessment undertaken comprised of a desktop study, consultation and fieldwork. The desktop study involved reviewing maps of the area to identify features and revision of RTA data to establish existing traffic volumes. Consultation with the Proponent, RTA, Comma-Monaro Shire Council, Bombala Council and heavy vehicles operators provided base Project information, advice on existing traffic conditions and possible routes for heavy vehicles during construction. Fieldwork by BDD inspected involved roads with the Project and undertook a traffic count in February 2009 to establish existing traffic volumes and road conditions.

This assessment developed strategies and recommendations to minimise traffic impacts throughout the life of the Project. However, the main focus of this assessment is the construction phase, as this is likely to generate maximum traffic impacts on the existing public road network and internal access tracks, compared to other phases.

### 12.2 Existing Situation

To establish existing traffic conditions within the locality of the Project, BDD reviewed traffic volumes and accident records.

The Monaro Highway, Nimmitabel has the largest volume of traffic with 1,907 vehicles per day (RTA 2006). Springfield Road, Snowy River Way at Jincumbilly and Maffra Road have less than 200 vehicles per day, while Avon Lake Road, Yandra Road, Boco Road and Bungarby Road have less than 50 vehicles per day (**Appendix 12**).

The RTA 'Crash' database has accident records over the past five years prior to June 2008, which included:

- Four accidents recorded on Springfield Road between Nimmitabel and Avon Lake Road. One of these accidents resulted in a fatal injury. This accident occurred in wet weather and driver fatigue was recorded as a contributing factor;
- One non-casualty accident recorded on Avon Lake Road;
- Three accidents (none fatal) recorded on the Snowy River Way between Avon Lake Road and Boco Road. This section of road has been reconstructed and sealed since 2008; and
- Three accidents recorded on Maffra Road including a single fatality. This fatal accident occurred on the curved section near Cooma and speed was recorded as a contributing factor.

## 12.3 Potential Impacts

A number of main and secondary roads, as discussed in **Chapter 3** Project Description and **Appendix 12**, will be used to access the Project site for construction, maintenance, refurbishment/decommissioning and visiting purposes. One of the major access routes is the Monaro Highway, which provides access between Cooma and Nimmitabel. Other roads to be potentially utilised include secondary roads used mainly by local and regional residents.

### 12.3.1 Construction

Construction traffic for the installation of the Project will be present over a period of approximately two years. The traffic will consist of:

- Articulated semi-trailers (extendible and regular trailer sizes) – for transporting initial establishment equipment, materials and turbine components;
- Tipper trucks – to bring stone for the access tracks and to remove soil;
- Bulldozers – for road works on-site;
- Concrete mixers – to transport concrete from the batching plant for use on-site;
- Cranes – one small mobile crane (up to 100 tonne) for assembly of turbines on the ground and a larger mobile crane (up to 600 – 1,000 tonne, or alternatively a 300-400 tonne crawler crane) for the erection of the wind turbine; and
- Conventional 4WD vehicles and sedans – use by on-site personnel.

During the construction period the most significant transport impacts are likely to occur during the construction of the wind turbines. Each of the wind turbines will require three or four escorted, extendible trailers for the tower, up to three for the blades and one for the nacelle. Additional loads will consist of concrete, steel reinforcement, base tower sections, road stone and other construction materials being delivered to the site.

Load weights and lengths of equipment and components will vary. The heaviest loads are expected to be the 600 – 1,000 tonne crane (weighing approximately 135 tonnes) and the nacelle (weighing approximately 70 tonnes). The longest loads will be for the blades, which will have trailer lengths approximately 50 m long. As discussed in **Chapter 3** Project Description and **Appendix 12** areas will be made available on-site for semi-trailer trucks to turn around or manoeuvre.

On-site movement during the construction period will mainly consist of concrete mixers moving from the batching plants to the wind turbine bases, to pour tower footings. Each footing may contain up to 310 m<sup>3</sup> of concrete to be poured over an eight hour period, which would result in a rate of up to 12 concrete mixer truck trips per hour.

Traffic predictions by BDD for the construction of 48 wind turbines at the Sherwins Cluster, which represents the maximum amount of construction that could occur during the construction of the Project, estimated 240 vehicles per day during peak construction period (or approximately 40 vehicles per hour). An increase in traffic volumes can impact on road safety and logistical issues. These potential impacts include (full description **Appendix 12**):

- Traffic noise and delays;

- Vehicle collisions (with stock or due to obstruction by long loads) or loss of control;
- Dust from unsealed roads (see **Chapter 19** General Environmental Assessment); and
- Road surface deterioration, particularly during wet weather.

The Project is proposed to be built in stages to minimise the above mentioned potential impacts and limit the increase on traffic volumes.

**Heavy and Over-Sized Haulage:** There are a number of options for a haulage route to Nimmitabel (as listed in **Appendix 12**). To minimise potential impacts the final route will take into consideration the shortest route to the Project site with appropriate carriageway and clearance, or the route that causes least disruption to local transport and commercial activities. A final route will be decided prior to construction between the Proponent, haulage contactor and road authorities and any required road modifications or upgrades design and assessed at the time, as necessary.

**Public Visits:** Experience gained from operational wind farms at Hallett and Starfish Hill in South Australia, Albany and Esperance in Western Australia, Ravenshoe in Queensland, Crookwell and Blayney in New South Wales and Codrington in Victoria suggests that there will be a great deal of interest generated during the construction phase of the Project. This could be true for the Project as there are no operational wind farms in the area, and public awareness of wind farms is of growing interest.

#### 12.3.2 *Operation and Maintenance*

Operational traffic will be restricted to maintenance and inspection vehicles, or other traffic use (e.g. visitors), which will make periodic visits to the site, as discussed in **Chapter 3** Project Description. Vehicles used will be standard 4WD vehicles, sedans or vans. Bulldozers/graders could be needed on an infrequent basis for maintenance of access roads during the life of the Project, which will allow for continued maintenance and inspection.

Also if a significant component of a turbine needs replacement, then larger vehicles such as a crane or semi-trailer could be required.

#### 12.3.3 *Decommissioning*

The traffic and potential impacts will be similar to the construction phase of the Project. However, there will be less traffic volume as there will be no requirement for concrete mixer trucks, which in turn will reduce the potential impacts during decommissioning.

#### 12.3.4 *Cumulative Impacts*

An assessment of cumulative environmental impacts considers the potential impact of a proposal in the context of existing developments and future developments to ensure that any potential environmental impacts are not considered in isolation. The main source of traffic within and around the Project is currently from agricultural activities, a small number of residential dwellings and logging trucks.

During construction, traffic levels will increase impacts however the Project is proposed to be built in stages which is aimed to limit the number of roads that are impacted during the construction phase,

thereby reducing cumulative impacts. During the operation phase, a small increase to existing traffic volumes can be expected resulting in a low level of cumulative impact.

## 12.4 Management and Mitigation

The following mitigation measures listed in this section cover the entire Project's operation, from construction through operation to decommissioning.

### 12.4.1 Construction

- Contact a licensed haulage contractor with experience in transporting heavy and over-size loads. The contractor would be responsible for obtaining all required approvals and permits from the RTA and Councils and for complying with any conditions specified in the aforementioned approvals;
- Develop a Traffic Management Plan in conjunction with the haulage contractor and road authorities to include, but not be limited to, the following:
  - Scheduling of deliveries, timing of transport, limiting the number of trips per day;
  - Undertaking community consultation before and during all haulage activities and providing a dedicated telephone contact list to enable any issues to be rapidly identified and addressed;
  - Managing the haulage process, including the erection of warning signs and/or advisory speed signs posting in advance of isolated curves, crests, narrow bridges and changes of road conditions;
  - Placing of speed limits on all roads that would be used primarily by construction traffic to reduce the likelihood of any accidents and reduce maintenance costs;
  - Designing and implementing temporary modifications to intersections and roadside furniture as appropriate;
  - Producing a Transport Code of Conduct which would be made available to all contractors and staff detailing traffic routes, behavioural requirements and speed limits;
  - Establishing procedures to monitor traffic impacts on public and internal access tracks during construction, including noise, dust nuisance and travel times, and to implement modified work methods to reduce such impacts where possible; and
  - Reinstating pre-existing conditions after temporary modifications to the roads and pavements along the route where applicable, in consultation with the relevant authorities.
- Implement all aspects of the Traffic Management Plan in co-ordination with the Councils and RTA;
- Prepare road dilapidation reports covering pavement and drainage structures in consultation with the Councils for all of the routes before and after construction. Any damage resulting from construction traffic, except that resulting from normal wear and tear, would be repaired at the Proponent's cost. Alternatively, the Proponent may negotiate other forms of compensation for road damage with the relevant roads authorities as appropriate;
- The reconstruction of the causeway, as discussed in **Chapter 3** Project Description, will be in accordance with the Department of Water and Energy under the *Water Management Act* 2000 and the NSW Department of Primary Industries Fish Friendly Waterways Crossing guidelines; and

- Consideration for establishing a transport pool for employees from nearby towns to minimise traffic volumes.

#### 12.4.2 *Operation and Maintenance*

- Establish a procedure to ensure the ongoing maintenance of the Project site access roads during the operation phase. This maintenance would include sedimentation and erosion control structures, where necessary.

#### 12.4.3 *Decommissioning*

- Prepare and implement a revised Traffic Management Plan reflecting the changes in traffic volumes, during time of decommissioning.

### 12.5 Summary

The introduction of an additional 240 vehicles per day during the construction period could have a significant impact on the existing road users, especially on the minor and unsealed roads, for approximately two years until construction of the Project has finished. Major impacts are expected during the construction period, with minor impacts during the operational phase.

Adoption of all the strategies for minimising traffic impacts outlined in this section should reduce community disruption and the risk of traffic incidents, thus facilitating minimum disruption to the existing traffic conditions.

### 12.6 Proposed Transmission Line

The proposed transmission line will be assessed apart from this EA under Part 5 of the *EP&A Act*.

Access to each pole location and along the line is required during the construction and operation of the transmission line. Access requirements to the transmission line during construction and operation would largely be catered for through using a combination of the existing road network, internal (farm) vehicles tracks and the transmission line easement itself.

Considering the low volume of expected vehicle traffic during construction and operation, combined with the presence of large areas of existing cleared grazing land along the proposed transmission line route, the establishment of a vehicle access track would require only minimal, if any, civil works.

Large sections of the proposed route traverse existing farmland comprising a mix of grazed native and non-native grasses. These sections are likely to not require clearing for the establishment of the transmission line. Furthermore, these areas are currently trafficable by normal four-wheel-drive-vehicles and are likely to not require clearing or any civil works to facilitate vehicle access for either construction or ongoing operation, however this remains subject to final route selection and detailed design.

#### 12.6.1 *Cumulative Impacts*

The proposed transmission line development will occur in parallel with the planned upgrade to the existing 66 kV network as described in Chapter 3 Project Description and the Boco Rock Wind Farm.

It is anticipated that there will be a low level of cumulative effect to traffic volumes from the construction of the proposed transmission line in the area. However, if necessary, an assessment will be included in the Review of Environmental Factors for the transmission line.

This page is left intentionally blank.