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Volume 4

**Chapter 17**

Summary of environmental effects in the  
Victorian terrestrial environment

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# 17 Summary of environmental effects in the Victorian terrestrial environment

This chapter provides a summary of the potential effects of the project's construction, operation and decommissioning on the terrestrial environment in Victoria.

## 17.1 Project activities

In Victoria, the terrestrial components of the project consists of the shore crossing at Waratah Bay, approximately 90 km of land cables, a land-sea joint where the sea cables will connect to land cables, a communications building and converter station at Hazelwood. A transition station may also be required at Waratah Bay (adjacent to the communications building) if there are different cable manufacturers or substantially different cable technologies.

The project will be constructed in two stages. Stage 1 will involve site establishment, all civil works, site establishment and hardstand for the converter station, installation of the first converter and laying of stage 1 cables and conduits for stage 2 cables. If needed, the transition station will be constructed during stage 1.

Stage 2 will involve constructing the second HVDC converter at the Hazelwood converter station sites, laying of the stage 2 cables, testing and commissioning, and any remaining site rehabilitation.

HDD will be employed for shore crossings, as well as major roads, waterways, infrastructure and native vegetation. Specialised cable lay vessels will lay the subsea cable on the seabed, whilst trenching will be used to lay the land cables from Waratah Bay to Hazelwood in Victoria. To construct the land cable, a 20 m to 36 m wide construction corridor is necessary to allow access for trenching, haul roads, removal of spoil and ancillary activities to support the civil works and pulling the cable through the conduits.

The project will operate twenty-four hours per day, three hundred and sixty-five days per year. The Hazelwood and Heybridge converter stations, the communications building and the transition station (if required) near Waratah Bay will be the only visible project components once the cables have been installed underground and under the seabed.

The operational lifespan of the project is a minimum of 40 years. At the end of its operation the project will be either decommissioned or upgraded to extend its operation. Decommissioning will be planned and carried out in accordance with regulatory and landholder requirements at the time.

A detailed overview of project activities is provided in Volume 1, Chapter 6 – Project Description.

## 17.2 Method

Detailed technical studies were completed to assess the impacts of the project during construction, operation and decommissioning, and are provided as appendices to this EIS/EES. The technical studies adopted a range of methods to assess the project's potential impacts and identify opportunities. Applicable legislation, policy, guidelines, and community consultation informed studies in addressing the EIS assessment guidelines and EES scoping requirements.

Technical specialists completed a range of activities including field inspections, targeted surveys, modelling, research, and stakeholder and community engagement, and used their experience to assess project impacts and identify opportunities.

Avoidance of impacts has been maximised through route selection and project design. Potential impacts of the project were then assessed based on the proposed design and construction method. Where the impact assessment has identified the need to reduce impacts, the project is applying an outcomes-based approach through the preparation of EPRs. EPRs set out the environmental outcomes that must be achieved through implementing mitigation measures during construction, operation and decommissioning of the project, regardless of the final design adopted.

## 17.3 Existing environment

The project is located in the Gippsland region of Victoria and traverses agriculture, forestry, conservation and rural residential land uses. The landscape across the study area varies. From Waratah Bay the alignment crosses small coastal dunes, flat open plains, the undulating foothills of the Strzelecki ranges, steeper terrain near Mirboo North and Darlimurla, and then the low-lying plains in the Morwell River valley. It is an active landscape, and a number of locations along the alignment show evidence of slope instability and landslides.

There has historically been a low incidence of bushfire in the project area between Waratah Bay and Hazelwood due to the modified nature of the landscape. Agricultural practices in surrounding land uses and subsequent interruptions to the fuel load and large areas of cleared land across the landscape also reduce the fire risk.

The project alignment crosses 82 waterways, including eight major waterways. The major waterways include Morwell River, Little Morwell River, Tarwin River East Branch, tributaries of Tarwin River East Branch (north and south), Stony Creek, Buffalo Creek, Fish Creek, and Bennetts Creek/Eel Hole Creek. The project also crosses the Tarwin and Central Gippsland groundwater catchments in Victoria. The remaining 74 waterways are small or ephemeral, and are classified as being of low or minor importance.

Only fragmented patches of the native vegetation and scattered trees remain in areas dominated by pastoral properties along the southern extent of the project alignment. Dense plantations of native and introduced species are more prominent in the ranges north of Mirboo North. Further north, pastoral properties with fragmented woodlands are the predominant land use in the plains of Latrobe Valley. Across the alignment, there is ecologically valuable native vegetation and some locations where threatened species were found alongside roads and rail lines.

The terrestrial ecology impact assessment identified 54 significant fauna species and 37 significant flora species that are present or likely to occur within the survey area. One threatened ecological community was identified in the survey area, the Gippsland Red Gum Grassy Woodland and Associated Native Grassland (EPBC Act critically endangered) and equivalent FFG Act listed Forest Red Gum Grassy Woodland Community or Central Gippsland Plains Grassland (FFG Act critically endangered).

The agriculture, forestry and fishing industries are key economic drivers in Gippsland. Key tourist attractions include coastlines and state parks, including Waratah Bay and Wilsons Promontory. Housing availability within the study area is constrained. There are higher proportions of unemployed First Peoples within the regional study area relative to non-Indigenous people. The median household income in the regional study area is 28% lower than the rest of Victoria. Consultation for the social impact assessment found that there is a strong sense of community within the study area. Respondents strongly identify with community and social participation through sporting clubs, generational farming practices and a desire for the project to seek suppliers and potential workers for the project from the local community.

The project is located in an environment with low background noise levels. Sparsely populated rural areas, agricultural activities, livestock, and local traffic influence the average ambient noise, along with natural noise contributions from wildlife and wind-induced vegetation movement. Traffic generated by the project will use roads ranging from local residential access roads to major arterial roads. The road types and conditions vary across the existing road network which currently accommodates over size and over mass vehicle types. These roads include freeways, highways and rural roads that vary in capacity from around 100 vehicles per day, to over 3000 vehicles per day and vary in type from single-lane unsealed roads to two-lane, two-way freeways, with occasional overtaking lanes.

The project landscape is characterised by the Victorian coastal areas and productive hinterland landscapes, which include grazing, dairy, horticultural and forestry areas which are valued for their productivity and rural amenity. The landscape and visual assessment characterises the environment into six landscape character units based on the key features, attributes and associated environmental protections (such as significant landscape overlays) contained in the planning scheme.

Desktop review, site assessments, and subsurface testing with First Peoples present on Country in accessible areas, identified a total of 28 Aboriginal cultural heritage places within the area of disturbance. Of these cultural heritage places, 13 were previously identified and 15 new places were recorded. These places include 10 artefact scatters, seventeen LDADs, and one multicomponent artefact scatter and ochre quarry site.

A single non-Indigenous cultural heritage site, a brick cistern, was identified in the survey area, near Buffalo.

## 17.4 Effects of construction

This section summarises the impacts of construction activities on environment and heritage, amenity and land use, and the community which have been discussed in detail in the preceding chapters of this volume.

### 17.4.1 Environment and heritage

Activities to construct the converter station, shore crossing, cable trench and joint pits are the primary sources of impacts to the environment. Trenching will gradually progress along the project alignment, resulting in short-term impacts at any one location. Landholders are expected to resume the pre-existing land uses, following the completion of the project's construction phase.

Avoidance of impacts to ecological values including native vegetation, threatened species and migratory species habitat and threatened ecological communities, was a key objective of the route selection for the project. However, there will be some areas of native vegetation that are required to be cleared for construction of the land cables within Victoria, resulting in impacts on ecological values.

As not all properties could be accessed for detailed ecological surveys, a conservative approach has been taken for some locations to assume presence of threatened species and ecological communities where native vegetation and habitat for threatened species may be present.

Impacts to ecological values will be avoided or reduced through the implementation of EPRs, including requirements to:

- Complete surveys at locations that could be impacted by the final design to confirm vegetation type and extent, habitat suitability and presence or absence of threatened species.
- Develop and implement measures to avoid or minimise impacts on native vegetation and critical habitats as far as reasonably practicable, including realignment of the area of disturbance, reducing the width of the area of disturbance and use of trenchless construction methods.
- Implement measures to avoid impacts on the EPBC Act listed Gippsland Red Gum (*Eucalyptus tereticornis subsp. mediana*) Grassy Woodland and Associated Native Grassland TEC, including the related FFG Act listed threatened community.
- Prepare and implement a biodiversity management plan that includes the following:
  - Measures to manage the risk of introduction and spread of environmental weeds and diseases during construction.
  - Pre-clearance inspections by a suitably qualified ecologist prior to habitat removal.
  - Work restrictions during nesting and breeding times within 100 m of critical habitat of relevant native fauna species.

The potential residual impacts to the bog gum (listed as critically endangered under the FFG Act) are rated as high, due to the uncertainty regarding the full extent of the population that could be impacted and the feasibility of avoidance measures. To inform detailed design and to avoid and minimise impacts to threatened flora species, EPRs require further habitat assessments to be completed prior to construction, when site access is available.

Terrestrial and aquatic fauna species are unlikely to be significantly impacted by the project. Most fauna species are mobile and able to utilise areas of habitat in the surrounding region that won't be impacted. Fauna habitat values impacted by the project represent a small proportion of habitat available in the region. The potential residual impacts to most threatened fauna species is low. The potential residual impacts to ground dwelling fauna and shorebirds is moderate due to the sensitivity of one or more species within the subgroup (listed as endangered under the EPBC Act), however the impacts are unlikely to have a significant impact on the species.

Prior to the implementation of measures to comply with EPRs, 10.56 ha of native vegetation, including 49 large trees, will be directly impacted (removed) as a result of the proposed construction works. An additional 10.69 ha of native vegetation, including 135 large trees, will be indirectly impacted (consequential losses). Following the successful implementation of measures to comply with EPRs, direct construction impacts may be reduced to 6.2 ha of native vegetation removed (including 39 large trees) and 0.55 ha of consequential losses (including 12 large trees).

Overall, the project is not likely to impact the recovery of threatened species or communities and will not have a significant impact on MNES. Direct and indirect impacts caused by the project can be avoided or managed through the implementation of measures to comply with EPRs.

MLPL is seeking approval and offsets for a worst case scenario of impacts to native vegetation, which assumes the successful implementation of measures to comply with EPR EC01 (requiring the avoidance of impacts to the EPBC Act and FFG Act listed TEC), and all other impacts as per the pre-mitigated impact assessment. This worst case scenario assumes impacts to up to 21.14 ha of native vegetation, including 184 large trees.

Based on the successful implementation of measures to comply with EPR EC01, offsets for threatened species and ecological communities listed under the EPBC Act are not required, as the project is not anticipated to have a residual significant impact on threatened species or ecological communities listed under the EPBC Act.

State biodiversity offsets for native vegetation have been calculated in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017) with general habitat and species offsets triggered based on the assessment of the worst case scenario.

Project impacts to geomorphology and ground stability could occur during construction where vegetation clearance and ground disturbance lead to decreased slope stability, unstable landforms, changed water body dynamics, and lost or degraded soil structure and other physical properties. The alignment comprises of 187 trench sectors that have unique geomorphological characteristics including: 105 trench sectors with a residual impact of low, 69 trench sectors with a residual impact of moderate and 13 trench sectors with a

residual impact of high. The high impacts are largely related to uncertainty about ground conditions and landform stability. The moderate impacts are those where the change is potentially medium-term, generally contained within the project area, and require remediation to avoid further degradation. In these areas the impacted geomorphic attributes can be reinstated with standard mitigation.

Geotechnical testing, detailed ground conditions and landform stability assessments will inform the detailed design and development of engineering measures for construction management. The alignment will be revised where the risk of landslide cannot be reduced to tolerable levels. A tolerable level of risk is defined as risk within a range that is within a range that society can live with to secure certain benefits. It is a range of risk regarded as non-negligible and needing to be kept under review and reduced further if possible (AGS 2007). EPRs will require the implementation of measures to further assess ground conditions, inform detailed design and construction measures to achieve slope stability, minimise ground movement and erosive processes.

Project construction will interact with groundwater where activities occur below the groundwater table and dewatering of construction trenches is required. The groundwater impact assessment considered the potential impacts to consumptive or productive uses, and aquatic and terrestrial GDEs. Construction activities will temporarily dewater aquifers, which may result in exposure of ASS or allow for saline intrusion of groundwater in coastal areas. Groundwater levels are expected to return to current levels, as the duration of dewatering will be localised and short term. The groundwater EPRs were developed to maintain the consumptive or productive uses of groundwater, GDEs and cultural values associated with groundwater. The residual impact to groundwater levels and quality is predicted to be low during project construction, through implementing measures to comply with EPRs.

To avoid direct physical, flow and water quality impacts, HDD will be used to cross 15 waterways, including seven of the eight major waterway crossings. The eighth major waterway (Little Morwell River) will be crossed by open cut trench construction method. The other waterways are minor or ephemeral and will be crossed with open cut methods. Mitigation measures will be implemented to minimise impacts from changing flow, alterations to waterways and any loss of floodplain storage so that impacts will be short term and localised. A monitoring program will be implemented to monitor surface water quality before and after construction. Flood modelling will inform design and construction to avoid and minimise impacts on flooding and erosion, due to surface run off. With implementing these measures to comply with EPRs, the residual impacts to waterways have been assessed as low.

The potential sources of contamination along the project alignment include: a former industrial site, potential PFAS containing sites, a petrol station and intensive agricultural practices. Two areas along the project alignment were identified as having a high probability of containing ASS. All properties identified with medium or high risk of contamination will be inspected prior to construction commencing. An ASS management plan will include measures to manage the risks associated with disturbing ASS, including degradation of flora and fauna. By implementing these measures to comply with EPRs, the risk to human and ecological values from contaminated land and ASS has been assessed as low.

Of the 28 Aboriginal heritage places identified in the areas surveyed, no impacts are expected at six sites located outside the AoD, low residual impacts will occur to seven places and moderate residual impacts will

occur to 15 places. The places with a moderate residual impact includes artefact scatters, LDADs and an ochre quarry. There is also potential for unidentified artefacts and places to be impacted by the project. All works will be conducted in accordance with the two CHMPs being developed for the project, including identifying, salvaging and managing known and newly identified artefacts. The outcomes of the CVA will also be incorporated into the management conditions of the CHMPs to reduce the impact of the project on tangible and intangible Aboriginal cultural heritage.

The cultural heritage assessment identified a single non-Indigenous archaeological site in the study area, a brick cistern located in Buffalo which had not previously been recorded. The cistern has been avoided by the concept design and the EPRs provide for ongoing protection of the cistern in construction, operation and decommissioning so there are no residual impacts from the project expected. A historical heritage management plan will be prepared and implemented with measures to avoid and manage impacts to the cistern and unexpected finds, including archaeological features associated with the brick cistern.

## 17.4.2 Amenity and land use

The landscape and visual assessment considered the project's visual impacts from 18 viewpoint locations within the public domain. Visual impacts will be short term, due to the transitory nature of construction activities along the project alignment. During construction, temporary visual impacts will occur where the construction areas are visible from public roads, the Grand Ridge Rail trail and from the townships of Buffalo and Dumbalk. Construction will occur for a longer duration at the shore crossing, transition station and communications building, laydown areas and Hazelwood converter station. During operation there will be nil to low residual impacts at all viewpoints along the project alignment as construction areas will be remediated, vegetation screenings will be established along the boundaries and the above ground structures will not be dominant features in the landscape. The Hazelwood converter station will be next to the existing Hazelwood substation and the communications building in Waratah Bay will be screened with an existing earth mound.

The bushfire assessment considered the history of fires across the study area and assessed the bushfire related impacts the project may have on life and property, and the risk posed to the project from bushfire, with consideration of landscape factors. The focus of the bushfire EPRs is to implement measures to avoid ignition of fires during construction, verify onsite firefighting water capacity at high-risk areas, and develop an emergency response procedure with the aim of preventing injuries or fatalities and damage to property, in the event of a bushfire. As such, the residual risk of bushfire impacts to life and property assets during construction have been assessed as insignificant. The residual risk of impact to property assets such as pine plantations, forested and agricultural lands arising from construction-related bushfire impacts has also been determined to be insignificant. The risk of simultaneous fire propagation within the landscape is extremely low. Subsequently, the residual risk of widespread fire propagation within the study area is low.

Access to private and public property may be temporarily altered, while changes to amenity may occur from noise and dust generated during construction. There will be temporary changes to nature and volume of traffic on the rural road network which may affect the ability of the road network to perform safely. Implementing the EPRs will ensure that access to private property, public spaces and amenities is maintained, where feasible. Where this is not feasible, interruptions will be communicated to relevant



stakeholders. There will also be measures implemented to manage traffic volumes, movement and road safety for all users. Overall, the residual impacts to amenity values and property access during construction will not impact on the viability of existing land uses.

The noise and vibration generated during construction will be from activities that progress along the project alignment, as well as construction of the converter station, Morwell River crossing and shore crossing at Waratah Bay. Offsite heavy vehicle movements along public roads have been considered as low risk, as they will be infrequent and there will be little change from current traffic noise. The vibration risk during construction is low, due to the distances from construction works to sensitive receivers. To maintain a low risk of harm when construction occurs within 25 m of a receiver, low vibration emitting plant and equipment will be used. Following implementation of EPRs, the residual risk of harm from construction noise and vibration will be low for all construction activities, and medium for night works associated with the continuous HDD at the shore crossing.

During construction, the key activities associated with dust generation include the construction and upgrades of roads, excavation, trenching and vegetation clearance. With the implementation of measures to comply with EPRs, the risk of harm from dust generated during construction is negligible to low for sensitive receivers, and low for ecological receivers. Overall, the project is not expected to impact community amenity, health and safety due to air quality impacts.

Construction through agricultural and forestry properties may require modification to existing farming practices to minimise impacts to operations and productivity. Prior to construction, detailed property management plans will be prepared in consultation with the land managers for each agricultural and forestry property. Organic farming operations are expected to be able to be maintained through construction and operation through implementation of the EPRs which include requirements to protect agricultural uses from activities that would impact biosecurity. With the implementation of measures to comply with EPRs, the residual impacts during construction will be low for all agriculture types except dairy operations, organic farming and forestry, which may experience some moderate residual impacts.

Traffic associated with project construction will utilise major arterial roads, arterial roads, minor streets/roads and access tracks. During construction, impacts on road performance, safety and conditions traffic may occur through the increased construction traffic on local roads, provision of access to heavy vehicles and transportation of the transformers to the converter station. Road works may be required to improve road geometry at some intersections and remove obstructions to travel, such as low hanging power lines, to facilitate access of heavy vehicles and the transformer transporter. With the implementation of measures to comply with the traffic and transport EPRs, residual impacts during construction are mostly low or very low.

Some moderate residual impacts remain as there will be a change to the road network and its operation during the construction phase on the project. Without implementing management measures to comply with EPRs, construction traffic has the potential to increase the crash risk and pose a risk to pedestrian crossings in townships. The construction activities will result in short term increases in construction related traffic on roads and highways within the study area. These potential impacts will be managed through the implementation of a traffic management plan to provide safe operating construction standards and monitoring of traffic generating construction activities.

### 17.4.3 Social and economic

The project will deliver social and economic benefits to regional and local communities in Gippsland. The construction of the project will provide employment and training opportunities for the region, including the workforce transitioning out of the Latrobe Valley coal power sector. The development and implementation of an industry participation plan will facilitate the integration of First Peoples, females, youth and socially vulnerable groups into the project workforce. The project's construction will support local businesses through purchasing goods and services required to support the project's construction. The project also has the potential to increase the regions prosperity, enhancing residents' health and wellbeing through investments in community infrastructure.

The use of short-term accommodation by construction workers will positively impact regional industry and business. However, there is also the potential for the construction workers using short-term accommodation to constrain the availability of tourism accommodation, leading to lower tourist numbers visiting the region. This could negatively affect revenue for regional tourism operators and local businesses such as retail and food services.

The assessment also found that the demand for rental properties during construction generated by the construction workforce could also potentially have a high negative impact on housing affordability and availability due to the increased demand. This is a key issue because the average income in the regional study area is 28% lower than the state average, which means that households will be more sensitive to rental price increases.

Many of the moderate social impacts identified during construction of the have been addressed in the discipline specific studies, such as impacts to native vegetation, amenity, and cultural heritage. However, the social impact assessment considers the same impacts in the context of what the community values, resulting in different impact ratings in some cases.

## 17.5 Effects of operation

During operation, most of the project will be underground, with a 20 m wide easement to protect the cable alignment. The Hazelwood converter station and communications building at Waratah Bay are the main above ground components. A transition station may also be constructed at Waratah Bay.

The project will operate 24hrs a day over 365 days per year. Operation of the project is expected to cause minimal environmental impacts as only minor maintenance activities are required for most of the infrastructure once constructed. The converter station is manned during normal working hours and has a small number (two to five) of operational staff onsite, expect when there are planned outages twice a year requiring up to 20 staff.

The cable only requires direct access for maintenance or repairs. Visual inspections of the alignment will occur about every fortnight using public roads and access tracks. Access to private properties will be minimised to reduce the disturbance to farming and forestry operations. There are few operational vehicles

required, and procedures will be in place to manage their potential to spread pests and weeds. A detailed overview of the project's operational activities is provided in Volume 1, Chapter 6 – Project Description.

The converter stations will generate light and noise, and the movement of operational vehicles could also generate light and noise emissions. A maximum of five light vehicles per day will enter and exit the converter station site. Due to the low level of light and noise pollution associated with the operation of the converter stations, and the limited number of vehicles used by operational staff, the residual impacts associated with the operational phase of the project are low. The operational activities associated with the project will not have a significant impact on ecological values. The project is not likely to impact the recovery of threatened species or communities and will not have a significant impact on MNES.

The key activities with the potential to cause impacts on the geomorphology conditions and ground stability are generally restricted to the construction phase of the project. The timeframe over which geomorphological changes and process occur is often a long period, and therefore may occur during the operational phase of the project. However, it is not likely the operational and maintenance activities will impact ground stability along the project alignment.

The impacts to groundwater during operation could include aquifer damping effects or increased recharge during backfilling, and contamination of groundwater from potentially toxic substances. With the application of measures to comply with the groundwater EPRs during construction, including the use of existing soils to backfill trenches and non-toxic drilling additives, the residual impacts to groundwater values in operation have been assessed to be low.

The contaminated land and acid sulfate soils assessment considered potential contamination from accidental spills and leaks from hazardous substances during the operational phase of the project. Any hazardous chemicals and fuels used during operation, such as diesel for generators or herbicides for property maintenance, will be stored in accordance with the relevant regulatory requirements and manufacturer's specifications. During operation, project activities are not expected to disturb ASS. Overall, the residual impact associated with contaminated land and ASS during operation has been assessed as low.

During operation, the converter station, communications building, and potential transition station will result in minor increases in flood levels, which are predicted to be less than 50 mm. The flood level will be contained to the immediate area and are not expected to impact project infrastructure or surrounding land uses. EPRs require the final design to be developed to meet the requirements of WGCMA and to include measures to reduce flood risks. With the implementation of these measures during design and construction, residual risks from flooding in operation have been assessed to be low.

During operation, activities associated with weed control and access track maintenance have the potential to directly impact Aboriginal cultural heritage values which have not been disturbed in construction. The implementation of management measures in accordance with the approved CHMPs and outlined in the EPRs, will minimise impacts to both tangible and intangible Aboriginal cultural heritage values. The level of impact assessed for the identified values within the area of disturbance during operation are the same as those assessed for construction, as the assessment assumed impacts will occur for each stage. However, construction activities will have affected the values and mitigations will be implemented in accordance with

the CHMPs. Therefore, the impact on Aboriginal cultural heritage values will be less in operation. No impacts are expected to identified values outside of the area of disturbance.

Operational impacts to non-indigenous heritage and unexpected finds, including archaeological features associated with the brick cistern, will be managed through the implementation of a HHMP. The residual impact to non-indigenous heritage has been assessed as nil.

The undergrounding of most of the project has largely avoided visual and landscape impacts associated with the operational phase of the project. Visual impacts of the Hazelwood converter station buildings will be managed with vegetation screening and exterior building design that minimise contrast with the surrounding area. The communications building (and transition station if required) will not be a dominant feature in the landscape view at Waratah Road due to vegetation, topography and distance from Waratah Bay viewpoints. Overall, the residual impacts to visual amenity from operation have been assessed to be low.

The OEMP will include measures to avoid fire ignition, manage onsite water supply for firefighting purposes, and bushfire ignition management during operations. A bushfire emergency management plan will also be prepared. Through the implementation of measures to comply with bushfire EPRs, the residual risk to life and property assets during operations has been assessed to be insignificant.

The operation of the project will result in some changes to the existing land use within the easement, largely in locations where above ground infrastructure is proposed, and in plantation areas. The use of land for the operation of the communications building, potential transition station and Hazelwood converter station will be altered but will not impact the surrounding land uses. The area impacted within plantation land is small in the context of the broader plantation landholding. The use of land for the operation of the cable is expected to be consistent with the established land use prior to construction. Overall, operational impacts to land use are very low.

Once operational, the Hazelwood converter station will generate noise. The project design will incorporate noise attenuation to minimise noise levels to the extent reasonably practicable. Prior to commissioning of the converter station, an operation noise management plan will be developed in consultation with the EPA for the converter station and transition station sites. The plan will outline noise compliance testing procedures, maintenance and monitoring measures. To confirm compliance with the requirements of the plan, an operation noise compliance assessment will be undertaken to confirm actual noise levels. With the implementation of measures to comply with EPRs, the residual impact of noise and vibration emissions will be low.

Operation and maintenance activities are unlikely to affect farm and forestry operations, as the activities will be confined to cable joint pits or cable fault locations within the 20m wide easement. Activities that may impact on the cable will be restricted within the easement area during operation. This includes planting of deep-rooted trees, construction of houses or dams, or excavation deeper than 0.7 m. There is not expected to be any restrictions on forestry equipment access over the cables as the design will accommodate heavy forestry equipment.

Site access for routine inspections, maintenance and unscheduled repairs will be required during operation. Protocols will be in place to manage site access, addressing farm and forestry biosecurity requirements and to minimise disturbance to landholders. Routine maintenance is likely to be required every five years at joint pits (where sections of cable are joined together underground) and involves two workers using hand tools and a 4WD vehicle. Routine inspections will be undertaken fortnightly from roads or permanent access tracks. Measures to reduce impacts on agricultural and forestry properties will be incorporated into the OEMP. With the implementation of these measures, residual impacts from operation have been assessed as low except for dairying which has a moderate residual impact, as it requires intensive grazing and high inputs to maintain improved pastures.

Residual impacts to forestry have been assessed as moderate as there could be longer term operational impacts on forestry where wood stocks are removed and restriction on plantation practices are permanent. These impacts to forestry will however be addressed and reduced by refinement of the final design and alignment in the construction stage of the project.

The traffic associated with the operation of the converter station will involve light vehicles and is not expected to compromise the safety, function or operation of the surrounding road network. No traffic impacts are expected during operation of the project.

During operation there is the potential for social and economic impacts, both positive and negative. An industry participation plan will be implemented to provide opportunities for employment to First Peoples, females, youth and socially vulnerable groups during the operation of the project. This was assessed as providing a moderate residual positive impact or benefit for the community. There is the potential for negative impacts in operation as residents and the community may experience stress, anxiety, and frustration due to their concerns about potential health impacts from the project.

The project also has the potential to have a high positive social impact or benefit through economic activity resulting in large taxation receipts generated by the project which will flow to local, state and Commonwealth governments and positively impacting the Victorian community. The project will also enhance residents' health and wellbeing through investments in community infrastructure during construction providing benefits through operation, potential downward pressure on energy prices, and greater telecommunication security through the expansion of infrastructure.

## 17.6 Effects of decommissioning

If the project is decommissioned at the end of its 40-year design life, all above-ground infrastructure will be removed, and associated land returned to the previous land use or as agreed with the landholder. The activities will be similar to those required for construction of the project and are not expected to cause significant impacts to environmental values.

The key objective for decommissioning will be to leave a safe, stable and non-polluting environment and avoid or minimise impacts where infrastructure is removed. Remediation of any contamination and reinstatement and rehabilitation of the site will be undertaken to provide a self-supporting landform suitable for the end land use. Conduits for the shore crossing and waterway crossings will be left in situ to avoid the impacts of removal.

Decommissioning activities will be planned and carried out in accordance with regulatory and landholder requirements at the time of decommissioning. A decommissioning management plan will be prepared prior to planned end of service and decommissioning of the project with approval sought under the relevant legislation at the time. The decommissioning management plan will be prepared to outline how activities would be undertaken and potential impacts managed.

## 17.7 Conclusion

Avoidance of impacts has been a key objective for the selection of the project alignment and design developed for assessment in the EIS/EES. Construction activities for the majority of the project in Victoria will be short term and transient as the construction for the land cable progresses along the alignment. Once construction is complete, there will be fewer impacts during operation.

During construction there will be impacts on ecological values where vegetation will be cleared or indirectly impacted. Further surveys will be completed for the final design and alignment to confirm presence or absence of threatened species and communities. The construction area of disturbance will continue to be refined through detailed design to avoid impacts as much as possible. The assessment has determined that a maximum of 4.13 ha of native vegetation will be directly impacted with 2.45 ha indirectly impacted.

A range of temporary, short-term impacts will occur within the community due to the availability of housing for the construction workforces, construction traffic volumes on local roads and impacts to visual amenity from construction works. However, local businesses are likely to benefit overall from increased demand for goods and services during the construction phase of the project and also receive the benefit of ongoing employment opportunities for local residents during the project's expected minimum 40 year operational life.

After construction has been completed and the land has been reinstated, landholders will generally be able to return to existing uses, except for some restrictions that will apply to the easement. Property condition surveys will inform property management plans, detailing property specific measures to minimise disruption to farm or forestry infrastructure. A rehabilitation strategy must be implemented for the progressive rehabilitation of disturbed areas not being used for permanent infrastructure.

Project operation has fewer impacts than during construction. During operation, impact may be associated with the movement of operation and maintenance vehicles, contamination from accidental spills and leaks of hazard substances, and noise emissions associated with the operation of the converter station. As operational activities will occur within the area of disturbance, there will be a low likelihood of additional impacts to Aboriginal and non-indigenous cultural heritage. There will be no removal of vegetation in operation.

Impacts during decommissioning are expected to be less than during construction. Decommissioning activities will be planned and carried out in accordance with regulatory and landholder requirements at the time of decommissioning with the key objective of leaving a safe, stable and non-polluting environment. A decommissioning management plan will be prepared and approved under the relevant legislation at the time.