

Final

Statement of Expert Evidence (Ecology): Stockyard Hill Wind Farm

Prepared for

White & Case

January 2017



Ecology and Heritage Partners Pty Ltd

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1 NAME AND ADDRESS

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2 QUALIFICATIONS AND EXPERIENCE

Appendix A contains a statement detailing my qualifications and expertise and addressing the matters set out within Planning Panels Victoria's Guide to Expert Evidence.

3 AUTHOR'S STATEMENT

I, Aaron Organ of Ecology and Heritage Partners Pty Ltd, have prepared this Statement of Expert Evidence pertaining to the proposed amendment of the Stockyard Hill Wind Farm, and related matters of the proposed quarry and native vegetation removal. The proceeding statement is based on the findings of a series of ecological investigations undertaken by myself and staff at Ecology and Heritage Partners Pty Ltd. I adopt the findings in the reports that were prepared under my direction for the amendment application and other applications.

Although Ecology and Heritage Partners did not undertake the ecological investigations that formed part of the original development application, we were engaged to complete the post-approval ecological assessments for the SHWF since 2011. I was the overall Project Director and contributed to the analysis of the survey results for threatened species and communities, contributed to the report and the provision of ongoing support to the rest of the project team. Several Ecology and Heritage Partners personnel were involved in the detailed flora and fauna site investigations, including habitat hectare assessments, targeted flora and fauna surveys, preparation of the report and project meetings. All project staff are experienced botanists and zoologists, and have worked in similar environments throughout western Victoria. More recently, Tom Wright (Senior Botanist), Lyndsey Vivian (Consultant Botanist) and Monique Elsley (GIS Coordinator) assisted with the site assessments of the amended wind energy facility and proposed overhead powerline, and/or reporting for the proposed project amendment and associated planning permit applications.

4 BACKGROUND AND SCOPE

4.1 Proposed Amendment and Planning Permit Applications

Stockyard Hill Wind Farm Pty Ltd (SHWFPL) (a subsidiary of Origin Energy) is developing a wind farm project in south-west Victoria, known as the Stockyard Hill Wind Farm (SHWF). The Wind Energy Facility (WEF) has two related components; a grid connection (approximately 75 kilometres of overhead powerlines and terminal station) (already approved) and a quarry. Planning Permit No. PL-SP/05/0548 (Pyrenees Planning Scheme) (the Permit) was issued by the Minister for Planning on 26 October 2010 to enable the use and development of the SHWF WEF, including associated native vegetation removal.

My instructions relating to the Planning Panel is outlined in This Statement of Expert Evidence has the following scope:

- To explain my role in preparation of the amendment application, including the overhead powerline and quarry applications;
- To set out the methodology used in the identification of ecological features and values occurring within the study area;
- Explain the results of detailed investigations of the flora, fauna and ecological communities potentially impacted by the project (i.e. principally the changes in the proposed WEF and overhead powerline); and
- Provide responses to submissions regarding aspects of the applications relevant to my field.

The proposed amendments to the project have been referred to the Commonwealth Department of the Environment and Energy for assessment under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Due to the predicted impacts to the EPBC Act-listed Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP), Striped Legless Lizard *Delma impar* and Golden Sun Moth *Synemon plana* the Commonwealth Minister has determined that the project will result in a 'significant impact' on these matters of National Environmental Significance (NES). The project is currently being assessed under Preliminary Documentation, where appropriate avoidance, minimisation and offset measures have been identified, and will form part of the project approval under the EPBC Act. Consequently, matters of NES relating to the project are being assessed by the Commonwealth and are not a consideration of the Panel.

5 METHODS

5.1 Database Review and Ecological Assessments

Ecology and Heritage Partners have completed various studies for the SHWF since 2011. Those reports, including the most recent assessments for the amended WEF (Ecology and Heritage Partners Pty Ltd 2016a) and overhead powerline (Ecology and Heritage Partners Pty Ltd 2016b) included searches of relevant literature, online-resources and numerous databases to provide an assessment of flora and fauna values associated with the study area, which were then subject to field assessment. The following information sources have been previously reviewed for the study area:

- The Department of Environment, Land, Water and Planning (DELWP) online Biodiversity Interactive Map to ascertain the extent of historic and current Ecological Vegetation Classes (EVCs);
- The online resource Planning Maps Online;
- Aerial photography of the study area;
- Relevant environmental legislation and policies (e.g. Clause 52.17 of the local planning scheme: *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (the Guidelines) (DEPI 2013); and
- Previous ecological assessments, including targeted significant species and listed ecological community surveys within the study area and these are listed on Page 32 and 33 of this Statement, which are the reports that I have relied upon in preparing this witness statement.

5.2 Field Assessments

5.2.1 Previous assessments (project approval and surveys to fulfil project approval conditions)

Previous ecological assessments were undertaken as part of the State (i.e. the *Environment Effects Act 1978* and P&E Act processes) and Commonwealth (EPBC Act) planning and approval stages of the project (BLA 2009). In addition, several ecological assessments (post project approval) were undertaken by Ecology and Heritage Partners between 2011 and 2013 to satisfy several of the approval conditions under the EBPC Act and the WEF Permit. Namely those assessments that related to targeted surveys for significant species and communities required pursuant to permit / approval conditions (Ecology and Heritage Partners 2011a, 2011b, 2011c, 2012a, 2012b, 2013a, 2013b, 2014a, 2014b). Targeted surveys were undertaken for Spiny Rice-flower *Pimelea spinescens* subsp. *spinescens*, Striped Legless Lizard, Golden Sun Moth and NTGVVP.

The results of habitat hectare assessment undertaken by Ecology and Heritage Partners (2014a) were used to determine the extent and quality of remnant native vegetation to be removed within the permitted and the amended WEF footprint, and the resulting offset requirements.

5.2.2 Recent assessments associated with the amendments to the WEF and overhead powerline

Additional site assessments of the WEF footprint and the powerline corridor were undertaken on 10 December 2015 to identify any additional patches of remnant native vegetation and/or significant species and communities within areas that are affected by the amended WEF footprint. Areas within the permitted WEF footprint that had previously been assessed (Ecology and Heritage Partners 2014a) were also assessed on 10 December 2015, where required.

The purpose of the recent site assessments was to identify any additional patches of remnant native vegetation, and/or significant flora and fauna species or communities affected by the project. The results of the additional site assessments across the amended WEF and the powerline corridor are outlined in Ecology and Heritage Partners Pty Ltd (2016a) and (Ecology and Heritage Partners Pty Ltd (2016b), respectively. A summary of the results of the previous and most recent assessment is provided below (Section 6).

6 WIND ENERGY FACILITY

6.1 Results

6.1.1 Flora

Ten Ecological Vegetation Classes (EVCs) (ranging from poor to very good condition) were recorded within the study area during the field assessments. Remnant native vegetation is largely restricted to road reserves and intersections with small degraded areas on private land. Scattered remnant indigenous River Red-gums *Eucalyptus camaldulensis* are present along road reserves and scattered across private property.

6.1.1.1 Significant Flora Species and Communities

National

- **Spiny Rice-flower *Pimelea spinescens* subsp. *spinescens*:** Although some suitable habitat was identified in the study area for this species, a desktop assessment found that there are no previous records of the species within the study area. Detailed targeted surveys for Spiny Rice-flower conducted in July-August 2011 did not locate any specimens within the permitted and amended WEF footprint study area (Ecology and Heritage Partners 2011c).
- **Matted Flax-lily *Dianella amoena*:** While this species was recorded at two locations within the broader study area (i.e. in Heavier-Soils Plains Grassland along Cheesemans Road reserve and Carngham – Streatham Road reserve), the species was not recorded within the permitted and amended WEF footprint and is not likely to be impacted.
- **White Sunray *Leucochrysum albicans* var. *tricolor*:** Approximately 30 White Sunray plants were recorded within the broader study area during targeted surveys. Plants were recorded within the road reserve on the east side of the Eurambeen Streatham Road and along sections of Stockyard Hill Road. Under the permitted WEF, the White Sunray population was proposed to be bisected by an access track leading to a turbine location. However, as a result of changes to the amended WEF footprint in this area plants will be avoided.

Small isolated patches of NTGVVP are present along road reserves and intersections within the study area.

State

One significant species listed as threatened under the FFG Act (Plump Swamp Wallaby-grass *Amphibromus pithogastrus*) and three state significant species (Golden Cowslips *Diuris behrii*, Arching Flax-lily *Dianella* sp. aff. *longifolia* (Benambra) and Slender Bindweed *Convolvulus angustissimus* subsp. *omnigracilis*) that are listed as threatened under the State's threatened species advisory list were recorded during a previous assessment (Ecology and Heritage Partners 2014a). The following is a summary of the results of the targeted surveys for State significant flora species and ecological communities listed under the FFG Act:

- **Plump Swamp Wallaby-grass *Amphibromus pithogastrus*:** Plump Swamp Wallaby-grass *Amphibromus pithogastrus* (Endangered in Victoria, listed under the FFG Act) was recorded within the study area along Dunnedges Road. Only a few individuals have previously been recorded in moderate quality vegetation.

- **Golden Cowslips *Diuris behrii*:** Approximately 13 Golden Cowslips (Vulnerable in Victoria, not listed under the FFG Act) were recorded within the study area during targeted surveys (Ecology and Heritage Partners 2014). Plants were located within the road reserve on the east side of the Eurambeen Streatham Road (occurring alongside the EPBC Act-listed White Sunray and NTGVVP) and along the WEF footprint on Property 4. The amended WEF footprint also intersects in the north east portion of Property 4 where Golden Cowslips has previously been recorded.
- **Arching Flax-lily *Dianella sp. aff. longifolia* (Benambra):** A single Arching Flax-lily (Vulnerable in Victoria, not listed under the FFG Act) plant was detected along the Geelong Road reserve within the permitted WEF footprint. No Arching Flax-lily plants are proposed to be impacted by the amended WEF.
- **Slender Bindweed *Convolvulus angustissimus* subsp. *omnigracilis*:** Slender Bindweed (Poorly Known, not listed under the FFG Act) was recorded at one location along the Stockyard Hill Road reserve. No Slender Bindweed plants are proposed to be impacted along the amended WEF footprint.

A further 21 state significant flora species have previously been recorded in the local area (Ecology and Heritage Partners 2014a). There is habitat for three significant flora species within the study area: Hairy Tails *Ptilotus erubescens*, Small Milkwort *Comesperma polygaloides*, and Australian Anchor Plant *Discaria pubescens*. However, no individuals were detected during targeted surveys.

One threatened community, the Western (Basalt) Plain Grassland floristic community, which is the state equivalent of the NTGVVP community and listed under the FFG Act, occurs within the study area on public land. Areas of the Western (Basalt) Plain Grassland community occur within patches of Heavier-soils Plains Grassland (EVC 132_61). All habitat zones of Heavier-soils Plains Grassland recorded within the study area, on public land, including those constituting NTGVVP, are part of the FFG Act listed community. No further ecological communities listed under the FFG Act are present within the study area and will not be impacted by the amended WEF.

6.1.2 Fauna

6.1.2.1 Fauna Habitat

The study area supports at least five broad habitat types for fauna, namely remnant woodland, modified native grassland, cleared agricultural land, plantations and aquatic habitat.

6.1.2.2 Significant Fauna Species

National

- **Striped Legless Lizard *Delma impar*:** This species has a patchy distribution within the study area, and has been recorded during targeted surveys from areas of suitable grassland habitat primarily along roadside remnants (e.g. Stockyard Hill roadside reserve). Striped Legless Lizard habitat is proposed to be impacted in areas supporting native grassland (principally in the southern portion of the study area).
- **Golden Sun Moth *Synemon plana*:** All suitable areas within the study area have been surveyed for this species. The species was detected in high numbers from a single property (property 4) within

the study area and areas of native grassland habitat are proposed to be impacted by the amended WEF footprint.

State

While several State significant fauna species have previously been recorded within the local area, the proposed development across the amended WEF footprint is unlikely to significantly impact any fauna species listed under the FFG Act.

6.2 Comparison of Impacts

There are several proposed alterations to the WEF footprint that have resulted in the avoidance of ecological impacts. A comparison between the impacts associated with the permitted WEF and, in most cases, a reduction in the impacts associated with the amended WEF is summarised below.

6.2.1 Significant species and ecological communities

A comparison of impacts to significant species and ecological communities between the permitted WEF footprint and the amended WEF footprint is outlined below. The amended WEF footprint will result in:

- A reduction of approximately 0.49 hectares of NTGVVP (approximately 0.55 hectares in the permitted WEF footprint compared with approximately 0.06 hectares for the amended WEF footprint) proposed to be impacted, including avoidance of remnant patches along several roadsides (e.g. south of the intersection of Millars Road and Skipton Road, Cheesemans Road, Geelong Road and Dunnets Road);
- The avoidance of populations of White Sunray along Eurambeen Stratham Road and Stockyard Hill Road;
- The avoidance of Matted Flax-lily along Cheesemans Road;
- The avoidance of a small population of Golden Cowslips in Property 4 and Arching Flax-lily along Geelong Road. However, the amended WEF footprint will potentially impact a small population of Golden Cowslips in the north eastern portion of Property 4;
- The avoidance of scattered remnant trees along Mt Emu Settlement Road;
- A reduction of approximately 1.1 hectares of confirmed Golden Sun Moth habitat (2.67 hectares in the permitted WEF footprint compared with 1.57 hectares for the amended WEF footprint) across Property 4; and
- The amended WEF footprint and permitted WEF footprint are likely to impact similar areas of potential Striped Legless Lizard habitat. Within the amended WEF footprint medium quality habitat for Striped Legless Lizard will be impacted across properties 24 and 52, although the species presence has not been confirmed in these areas.

6.2.2 Native vegetation and offsets

6.2.2.1 Wind Energy facility (internal access tracks and turbine locations)

A comparison of impacts to remnant native vegetation and associated offset requirements between the permitted WEF footprint and the amended WEF footprint is provided below and summarised in Table 1 and 2.

Both the permitted WEF and amended WEF are within Location C (under the Guidelines), and fall under the High Risk-based pathway. Both footprints are estimated to impact a similar area of remnant native vegetation (Table 1). Both footprints are estimated to require similar general offsets: 4.172 General BEUs for the permitted WEF (under the current design assumptions) compared with 5.176 BEUs for the amended WEF.

The most significant difference between the permitted WEF and the amended WEF is with respect to the specific offsets required. The permitted WEF (under the current design assumptions) requires specific offsets for three species: Button Wrinklewort, White Sunray, and Matted Flax Lily, along with general offsets. In comparison, the amended WEF has no specific offsets required and will only require general offsets (Table 1). The likely reason why specific offset have been triggered for the permitted WEF is that a larger area is proposed to be impacted across property 42.

Table 1. Comparison of offset targets between the permitted and amended WEF

	Permitted WEF – original design assumptions	Permitted WEF – current design assumptions	Amended WEF
Total Extent	15.915	31.991	34.415
Remnant Patch (ha)	15.071	30.936	32.657
Scattered Trees (no.)	12	15	25
Strategic Biodiversity Score	0.358	0.364	0.369
General Offsets Required	1.993 General BEUs	4.172 General BEUs	5.176 General BEUs
Specific Offsets Required	Button Wrinklewort (0.575 specific BEUs), White Sunray (1.010 specific BEUs)	Button Wrinklewort (1.044 specific BEUs), White Sunray (1.853 specific BEUs), Matted Flax-lily (1.252 specific BEUs)	None
Minimum Strategic Biodiversity Score*	0.283	0.289	0.296

Note: BEU = Biodiversity Equivalence Units

The previous habitat hectare assessment undertaken to inform the original permit application WEF footprint (BLA 2009) identified that 5.28 hectares of remnant native vegetation was proposed to be removed, with an associated offset target of 3.09 habitat hectares under the Net Gain policy (NRE 2002). These figures are specified in the Permit, whereby Condition 6(f) of the Permit states that as part of the native vegetation management plan must include 'a clear extent of the 5.28 ha (3.09 habitat hectares) of native vegetation to be removed'.

While the total extent of remnant native vegetation proposed to be removed associated with the amended WEF footprint is greater than the area outlined in the former assessment (BL&A 2009), given the highly modified nature of the patches of vegetation and the subsequent low habitat score (i.e. the majority of patches have a habitat score of 0.23 or less), along with the low Strategic Biodiversity Score (i.e. 0.296) this has led to a very similar offset requirement for the amended WEF footprint.

The difference in the extent may be due to:

- An underestimation based upon ground conditions at that time of the original surveys and/or due to the difference in the assessment methodology undertaken by BLA (BLA 2009) (i.e. BLA assessments were based on different design assumptions). A review of the native vegetation mapped in BLA (2009) revealed that it was broadly consistent with the extent of remnant native vegetation mapped more recently (Ecology and Heritage Partners 2011a, 2011b); and,
- The difference in design assumptions applied for access tracks in the BLA's assessment compared with those used by Ecology and Heritage Partners' as per instructions. That is, BLA investigated an eight metre wide impact area for the proposed access tracks to calculate the offset requirements under the Framework, compared with a 12.5 metre wide area for the smaller access tracks and a 13.5 metre wide area for trunk access roads used by Ecology and Heritage Partners, to calculate the total area of remnant native vegetation proposed to be removed and the associated offsets for the WEF footprint under the Guidelines.

A summary of the comparison between the permitted and amended WEF is provided below (Table 2).

Table 2. Comparison of impacts from permitted and amended WEF footprints

Ecological Features	Wind Energy Facility (permitted footprint with current design assumptions)	Wind Energy Facility (amended footprint)	Change in Impact
<u>EPBC Act listed ecological communities:</u> Natural Temperate Grasslands of the Victorian Volcanic Plains	0.55 ha	0.06 ha	Reduction of 0.49 ha
<u>EPBC Act listed species:</u> - Spiny Rice-flower - Matted Flax-lily - White Sunray - Striped Legless Lizard - Golden Sun Moth	0 0 30 3.55 ha (known); 0.41 ha (high); 32.27 ha (medium) and 26.60 ha (low) 2.67 ha	0 0 0 0.03 ha (known); 0.00 ha (high); 39.63 ha (medium) and 18.64 ha (low) 1.57 ha	0 0 30 plants retained Reduction of 3.52 ha (known) and 0.41 ha (high) 1.10 ha

Ecological Features	Wind Energy Facility (permitted footprint with current design assumptions)	Wind Energy Facility (amended footprint)	Change in Impact
<u>P&E Act (Permitted Clearing Assessment):</u>			
- Total Extent #	31.991 ha	34.415 ha	Increase of 2.424 ha
- Remnant Patch	30.936 ha	32.657 ha	Increase of 1.721 ha
- Scattered Trees	15	25	Increase of 10
- Strategic Biodiversity Score	0.364	0.369	Increase of 0.005
<u>Offset requirements</u>			
- Native vegetation	37.991 ha	35.160 ha	Reduction of 2.831 ha
- General offsets required	4.172 BEU	5.176 BEU	Increase in 1.004 BEUs
- Specific offsets required	Button Wrinklewort = 1.044 BEU White Sunray = 1.853 BEU Matted Flax Lily = 1.252 BEU	No specific offsets required	Reduction in Specific Offsets for: Button Wrinklewort = 1.044 BEU White Sunray = 1.853 BEU Matted Flax Lily = 1.252 BEU
<u>FFG Act listed species:</u>			
- Plump Swamp Wallaby-grass	3 plants	0 plants	3 plants retained
- Golden Cowslip	13 plants	13 plants	No change
- Arching Flax-lily	1 plant	0 plants	1 plant retained
- Slender Bindweed	0 plants	0 plants	No Change

Note: # - the total extent of remnant native vegetation is defined as the combined total area of remnant native vegetation and scattered remnant trees (a default area of 0.071 is applied for each scattered remnant tree).

6.2.2.2 Roadsides and intersection upgrades

A total of 157 patches of remnant native vegetation are mapped within the study area, ranging in quality from a site assessed condition score of 0.15 to 0.49. Areas proposed to be impacted include:

- Grassy Woodland (1.899 hectares);
- Plains Grassland (0.085 hectares);
- Higher Rainfall Plains Grassy Woodland (0.456 hectares);
- Plains Grassy Woodland (0.143 hectares); and,
- Heathy Dry Forest (0.005 hectares).

The study area is within Location C, with 3.852 hectares of native vegetation proposed to be removed. As such, the permit application falls under the High Risk-based pathway (Table 3). As the application falls under the High Risk-based pathway, a habitat hectare assessment was completed to determine condition scores of vegetation proposed to be removed.

Table 3. Permitted Clearing Assessment (the Guidelines)

Risk-based pathway	High
Total Extent	3.852
Remnant Patch (ha)	2.587
Scattered Trees (no.)	18
Location Risk	C
Strategic Biodiversity Score	0.244

6.2.3 Offset Targets

The offset requirement for native vegetation removal is 0.261 General BEUs, along with Specific units for Button Wrinklewort (0.202 specific BEUs). A summary of proposed vegetation losses and associated offset requirements is presented below (Table 4).

Table 4. Offset targets

General Offsets Required	0.261 General BEUs
Specific Offsets Required	Button Wrinklewort (0.202 specific BEUs)
Vicinity (catchment / LGA)	Glenelg Hopkins CMA / Pyrenees Shire Council
Minimum Strategic Biodiversity Score*	0.191

Note: BEU = Biodiversity Equivalence Units

6.3 Mitigation Measures

For the removal of vegetation that falls under the High Risk-based pathways, the Guidelines (DEPI 2013) require the responsible authority to consider whether reasonable steps have been taken to ensure that impacts of the proposed removal of native vegetation on biodiversity have been minimised. Minimisation effort should be commensurate with the contribution that the native vegetation makes to Victoria's biodiversity (DELWP 2016c).

6.3.1 Contribution to Victoria's Biodiversity

The *Biodiversity assessment handbook, Permitted clearing of native vegetation* describes the relevant information to consider when determining the contribution native vegetation makes to Victoria's biodiversity (Table 5). Based on available information it is determined that the native vegetation proposed to be removed as part of the amended WEF application, including the proposed roadside and intersection upgrades, has a Moderate contribution to Victoria's biodiversity (Table 5).

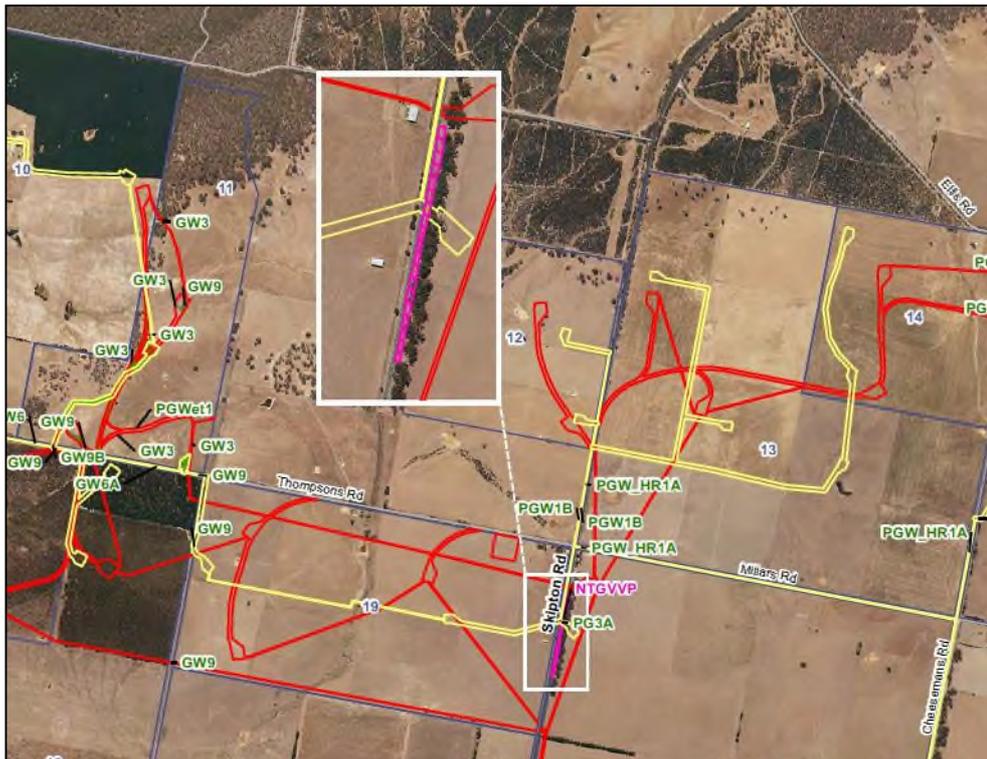
Table 5. Assessment of the contribution the native vegetation makes to Victoria's biodiversity (as per Table 3 of the Handbook [DELWP 2015])

Criteria	Assessment (WEF and Roadside and Intersection Upgrades)	Contribution
What is the extent and condition of native vegetation?		
Habitat hectare assessment <ul style="list-style-type: none"> The higher the value, the greater the contribution to Victoria's biodiversity. Scores above 0.8 indicate very good condition. 	<u>WEF</u> Total extent: 34.415 hectares (32.657 hectares of remnant patch and 25 scattered trees). Habitat score: 0.11 to 0.77 <u>Roadside and intersection upgrades</u> Total extent: 3.852 hectares (2.587 hectares of remnant patch and 18 scattered trees). Habitat score: 0.15 to 0.49	Low to High
What is the landscape biodiversity value of the native vegetation?		
Strategic Biodiversity Score <ul style="list-style-type: none"> The higher the value, the greater the contribution to Victoria's biodiversity. Scores above 0.8 are very important sites. 	<u>WEF</u> : 0.369 <u>Roadside and intersection upgrades</u> : 0.244	Low
Is the native vegetation important habitat for rare or threatened species?		
Number of Rare or Threatened species habitats impacted <ul style="list-style-type: none"> The more species listed, the greater the contribution the native vegetation makes to Victoria's biodiversity. Site observations may also be considered. 	<u>WEF</u> : No species <u>Roadside and intersection upgrades</u> : 29 species	Based on overall impacts to habitat for rare or threatened species the overall impact is considered to be <u>Moderate</u> .
Number of Rare or Threatened species habitats impacted above the specific offset threshold <ul style="list-style-type: none"> The more species requiring a specific offset, the greater the contribution the native vegetation makes to Victoria's biodiversity. 	<u>WEF</u> : No species <u>Roadside and intersection upgrades</u> : Habitat for one species is being impacted above the specific offset threshold (Button Wrinklewort) An offset of 0.202 specific units of habitat for Button Wrinklewort is required	
The proportional impact for species requiring a specific offset <ul style="list-style-type: none"> The higher the proportional impacts, the more important that site is for that particular species. 	<u>WEF</u> : No species <u>Roadside and intersection upgrades</u> : The proportional impact for Button Wrinklewort is 0.014%.	
Habitat importance score for impacted species <ul style="list-style-type: none"> The higher the habitat importance score, the more important that site is for that particular species. 	Low	
Impact on highly localised habitat <ul style="list-style-type: none"> Native vegetation that provides habitat for species with highly localised habitat is very important vegetation as it is limited and any loss needs to be carefully considered. 	There is no impact on highly localised habitat for any species.	

6.3.2 Minimisation Statement¹

It is my view that SHWFPL have avoided and minimised the proposed removal of remnant native vegetation, and also areas supporting EPBC Act-listed species and communities, and sensitive sites by locating the WEF footprint in areas of exotic vegetation / areas devoid of ecological values (See Plates 1 and 2 below).

Plate 1. Areas of remnant native vegetation (NTGVVP) proposed to be avoided along Skipton Road (yellow is the permitted footprint and red is that revised footprint).



¹ Section 5.2 (page 20) of the Handbook (DELWP 2015) states:

“Minimisation should target native vegetation that makes the greatest contribution to Victoria’s biodiversity - that is, areas of better condition, higher strategic biodiversity score, and/or higher habitat importance scores.

The minimisation statement could state that minimisation was achieved by a past strategic planning exercise or by site interventions, or that it is not achievable or desirable on site for specific reasons.”

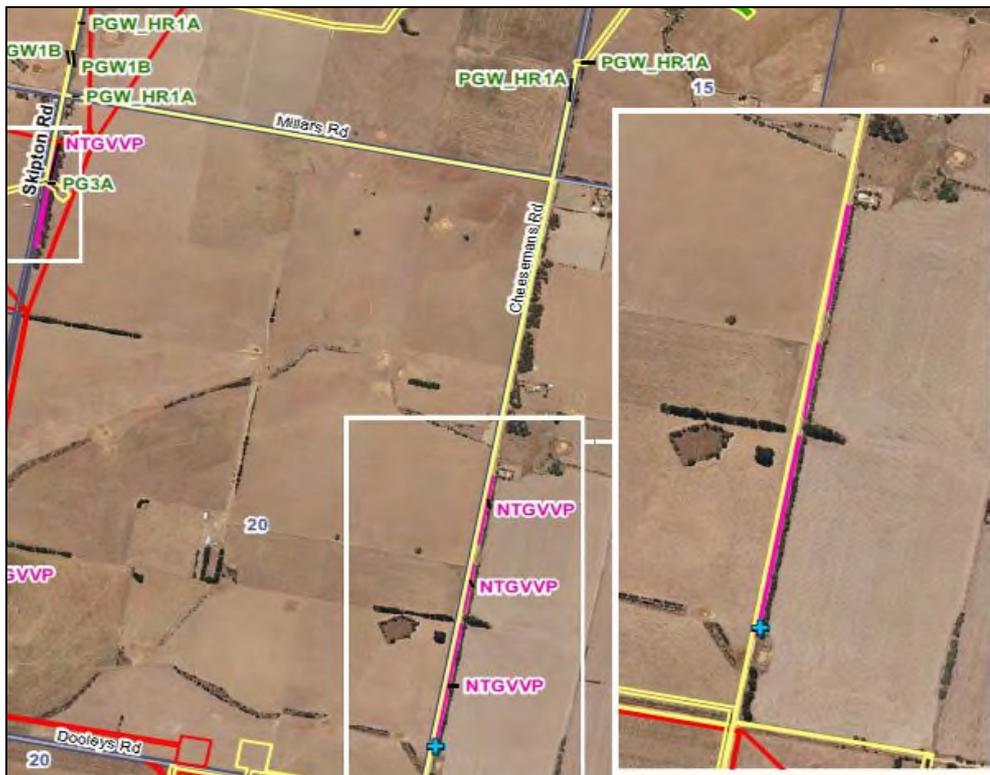
Section 6.3.2 (page 26) of the Handbook (DELWP 2015) states:

“Minimisation should be commensurate with the contribution that the native vegetation makes to Victoria’s biodiversity. Minimum effort can be considered reasonable when the native vegetation contributes lower value to Victoria’s biodiversity – for example, only general offsets are required, strategic biodiversity score is low, the native vegetation is limited in extent and isolated from other patches of remnant vegetation.”

Section 6.5, Table 4 (page 29) of the Handbook (DELWP 2015) states:

“Statement can describe that minimisation is unreasonable at the site level because the native vegetation makes a very low contribution to biodiversity (such as no species offset requires, low strategic biodiversity score) or because retained native vegetation would have limited long term prospect of retaining biodiversity value.”

Plate 2. Areas of remnant native vegetation (NTGVVP) and Matted Flax-lily avoided along Cheesemans Road (yellow is the permitted footprint and red is that revised footprint).



Areas of ecological values will be further minimised through the implementation of an Environment Management Plan (EMP), which is included as a planning permit condition. Several measures will be undertaken (as appropriate) as part of the development of the project and will be in accordance with the EMP which is required to be implemented:

- Further micro-siting techniques, including fencing retained areas of native vegetation. If indeed necessary, trees will be lopped or trimmed rather than removed. Similarly, soil disturbance and sedimentation into drainage lines / dams will be avoided or kept to a minimum, to avoid, or minimise impacts to fauna habitats.
- All contractors will be aware of ecologically sensitive areas to minimise the likelihood of inadvertent disturbance to areas marked for retention. Habitat zones (areas of sensitivity) will be included as a mapping overlay on construction plans;
- Tree Retention Zones (TRZs) will be implemented to prevent indirect losses of native vegetation during construction activities (DSE 2010). A TRZ applies to a tree and is a specific area above and below the ground, with a radius 12 x the DBH; and,
- Construction stockpiles, machinery, roads, and other infrastructure will be placed away from areas supporting native vegetation and/or other ecological sensitive areas;

6.4 Offset Impacts

The Guidelines (DEPI 2013) require offsetting as the final step in considering the impacts of development on native vegetation. Under the High Risk-based pathway, emphasis is placed on minimising impacts, and only after these steps have been taken should offsets be considered. Offset targets must be met, as specified in (Table 1 and Table 4). Based on the current offset requirements for the amended WEF footprint (including the proposed roadside and intersection upgrades), the offset obligations generated by the development can be satisfied through existing credits registered through the over-the-counter (OTC) scheme. As such, it is anticipated that the relevant offset obligations generated by the WEF can be secured through an OTC scheme without any difficulty.

In addition, a detailed Offset Management Plan / Conservation Management Plan for the proposed removal of medium quality Striped Legless Lizard and Golden Sun Moth will be prepared to the satisfaction of DoEE.

7 OVERHEAD POWERLINE

7.1 Results

7.1.1 Flora

7.1.1.1 *Significant Flora Species and Communities*

National

One species of national significance (White Sunray) was recorded within very close proximity to the footprint of the original overhead powerline. This species was recorded within roadside reserves along Rokewood-Skipton Road south of Notmans Road and north of Mount Bute Road. The current overhead powerline route is proposed to be located within private property to the north of the roadside reserve, thereby avoiding the populations of this species.

Two ecological communities listed under the EPBC Act were recorded within the study area: NTGVVP and Grassy Eucalypt Woodland of the Victorian Volcanic Plain (GEWVVP).

State

No state significant species were recorded within the footprint of the original overhead powerline or the revised overhead powerline.

One threatened community, the Western (Basalt) Plain Grassland floristic community, listed under the FFG Act also occurs within the study area, which is the state equivalent of the NTGVVP community. Areas of the Western (Basalt) Plain Grassland community occur within patches of Heavier-soils Plains Grassland (EVC 132_61) in the study area.

7.1.2 Fauna

7.1.2.1 *Fauna Habitat*

Eight broad fauna habitat types: Red-gum woodland; planted windrows and woodlots, native grassland, exotic grassland; creeks and drainage-lines, dams and wetlands, patches of native shrubs and cultivated land (agricultural crop) occur along the current overhead powerline. Fauna habitat quality ranges from low to high across the entire study area.

7.1.2.2 *Significant Fauna Species*

National

No fauna species of national significance were recorded within the footprint of the overhead powerline. Eighteen nationally significant fauna species have previously been recorded from the local area (Ecology and Heritage Partners 2016b).

Based on habitat type and conditions present within the study area, it is unlikely that most of these species would occur within the study area on a regular basis and use the site as preferred habitat. Due to the linear

nature of the overhead powerline and minimal ground disturbance associated with the development, it is considered unlikely that the proposed action will have a significant impact on these species.

State

One species of state significance (Hardhead *Aythya australis*) was recorded during the initial survey undertaken from 20-24 February 2012, and an additional two species of state significance, Brolga *Grus rubicunda* and Blue-billed Duck *Oxyura australis* were recorded during the 19-23 November 2012 surveys. However, none of these species were detected along the current overhead powerline. These species are likely to reside within the local area. It is noted that potential impacts to avifauna are being considered by Biosis Pty Ltd.

7.2 Proposed Impacts

A summary of impacts associated with the construction of the overhead powerline in the current alignment is outlined below (Table 6).

Table 6. Impacts associated with the proposed overhead powerline

Ecological Features	Overhead Powerline
<u>EPBC Act listed ecological communities and species:</u> Natural Temperate Grasslands of the Victorian Volcanic Plains Grassy Eucalypt Woodland of the Victorian Volcanic Plain EPBC Act-listed species	0.237 ha 0.002 ha No species proposed to be impacted
<u>P&E Act (Permitted Clearing Assessment):</u> - Total Extent - Remnant Patch - Scattered Trees - Strategic Biodiversity Score <u>Offset requirements</u> - General biodiversity equivalence units - Specific - Minimum strategic biodiversity score	4.829 ha 1.945 ha (0.523 Pyrenees and 1.422 Corangamite) 41 (37 Pyrenees and 4 Corangamite) 0.323 At total of 0.416 BEUs: 0.311 BEUs (Corangamite), 0.105 BEUs (Pyrenees) Button Wrinklewort = 0.602 BEU (Pyrenees) 0.312 (Corangamite) 0.205 (Pyrenees)
<u>FFG Act listed species:</u> - Plump Swamp Wallaby-grass - Golden Cowslip - Arching Flax-lily - Slender Bindweed - Golden Sun Moth	No species proposed to be significantly impacted

7.3 Minimise Impacts

7.3.1 Contribution to Victoria's Biodiversity

The Handbook (DELWP 2015) describes the relevant information to consider when determining the contribution native vegetation makes to Victoria's biodiversity (Table 7). It is determined that the native vegetation proposed to be removed as part of the current application has a Moderate contribution to Victoria's biodiversity.

Table 7. Assessment of the contribution the native vegetation makes to Victoria's biodiversity (as per Table 3 of the Handbook [DELWP 2015])

Criteria	Assessment	Contribution
What is the extent and condition of native vegetation?		
Habitat hectare assessment <ul style="list-style-type: none"> The higher the value, the greater the contribution to Victoria's biodiversity. Scores above 0.8 indicate very good condition. 	Total extent: 4.829 hectares (1.945 ha of remnant patches and 41 scattered trees). Habitat score: 0.05 to 0.56	Low to Moderate
What is the landscape biodiversity value of the native vegetation?		
Strategic Biodiversity Score <ul style="list-style-type: none"> The higher the value, the greater the contribution to Victoria's biodiversity. Scores above 0.8 are very important sites. 	0.323	Low
Is the native vegetation important habitat for rare or threatened species?		
Number of Rare or Threatened species habitats impacted <ul style="list-style-type: none"> The more species listed, the greater the contribution the native vegetation makes to Victoria's biodiversity. Site observations may also be considered. 	Modelled habitat for 40 species	Based on overall impacts to habitat for rare or threatened species the overall impact is considered to be <u>Moderate</u> .
Number of Rare or Threatened species habitats impacted above the specific offset threshold <ul style="list-style-type: none"> The more species requiring a specific offset, the greater the contribution the native vegetation makes to Victoria's biodiversity. 	Habitat for one species is being impacted above the specific offset threshold (Button Wrinklewort) An offset of 0.602 specific units of habitat for Button Wrinklewort is required	
The proportional impact for species requiring a specific offset <ul style="list-style-type: none"> The higher the proportional impacts, the more important that site is for that particular species. 	The proportional impact for Button Wrinklewort is 0.016%.	
Habitat importance score for impacted species <ul style="list-style-type: none"> The higher the habitat importance score, the more important that site is for that particular species. 	The habitat importance score ranges from 0.410 to 0.780.	
Impact on highly localised habitat <ul style="list-style-type: none"> Native vegetation that provides habitat for species with highly localised habitat is very important vegetation as it is limited and any loss needs to be carefully considered. 	There is no impact on highly localised habitat for any species.	

7.3.2 Minimisation Statement

In my opinion, SHWPL have avoided and minimised the proposed removal of remnant native vegetation, and also areas supporting EPBC Act-listed species and communities, and sensitive sites such as roadsides and waterways and alternation by locating the current powerline footprint in areas of exotic vegetation / areas devoid of ecological values. Impacts to areas of ecological values will be further minimised through the implementation of an EMP. Similar to the WEF above, additional measures will be undertaken as part of the development of the project (in accordance with the EMP) to further avoid and minimise impacts to ecological values.

7.4 Offset Impacts

The offset obligations generated by the proposed overhead powerline can be satisfied through existing credits registered in our OTC database. Several landowners registered in our offset database have suitable General BEUs native vegetation credits available within Pyrenees Shire Council and Corangamite Shire Council and the Glenelg Hopkins and Corangamite CMA, and it is anticipated that the relevant offset obligations generated by this proposal can be secured through an OTC scheme without any difficulty.

8 QUARRY

The following section is based on the flora and fauna assessment completed by Ecology and Heritage Partners (2013c).

8.1 Results

8.1.1 Flora

Based on the previous site assessments the study area assessed supported degraded remnants of Heavier-soils Plains Grassland (132_61) and Stony Rises Woodland (EVC 203) (see Figures 2a-2c in Ecology and Heritage Partners 2013c). Higher Rainfall Plains Grassy Woodland (EVC 55_63) occurs within the road reserve of the Stockyard Hill – Wangatta Road reserve. However, the proposed quarry area is dominated by introduced species with scattered native grasses (i.e. no patches of remnant native vegetation). A single remnant indigenous tree is present in the southern portion of the property (Ecology and Heritage Partners 2013c).

Patches of remnant native vegetation and the scattered remnant tree will not be impacted by the proposed quarry.

8.1.1.1 Significant Flora Species and Communities

National

No nationally significant flora species were identified within the study area during the current surveys. The likelihood of occurrence of nationally significant species within the study area is considered low due to the limited, poor quality habitat present and paucity of records in close proximity to the proposed quarry area.

Based on the poor quality of habitat, ongoing grazing and agricultural practices it is unlikely that any nationally significant species occur within the study area.

NTGVVP is absent from the study area due to lack of adequate cover (>50%) of key perennial grass species and the high cover (>50%) of grassy and herbaceous weeds.

No other EPBC Act-listed communities occur within the proposed quarry area.

State

No state significant flora species or ecological communities were identified within the study area during the current surveys. Based on the poor quality of habitat, ongoing grazing and agricultural practices it is unlikely that any state significant species occur within the study area.

8.1.2 Fauna

8.1.2.1 Fauna Habitat

The study area contains a range of fauna habitats, including modified grassland, stony rises and a single scattered tree. Modified woodland (Plains Grassy Woodland) occurs outside of the study area within the Stockyard Hill – Wangatta Road reserve.

Scattered occurrences of native perennial grasses such as spear grass *Austrostipa* spp., wallaby grass *Rytidosperma* spp., and Common Wheat-grass *Anthosachne scabra* also occur within the study area.

8.1.2.2 Significant Fauna Species

National

With the exception of Striped Legless Lizard, which has a low likelihood of occurrence, none of these nationally significant species are likely to use habitat within the study area. The Striped Legless Lizard may occupy grassland and rocky rises within the study area and as such, targeted surveys were carried out. However, Striped Legless Lizard was not detected within the study area during the targeted surveys.

More recently, Golden Sun Moth was recorded in high quality native grassland habitat approximately nine kilometres north of the study area (Ecology and Heritage Partners Pty Ltd 2012a). The study area was considered low quality habitat (comprising a high percentage cover of non-native vegetation) and therefore unlikely to support an extant population of the moth.

State

There have also been 20 state significant fauna species previously recorded within 10 kilometres of the study area. Eighteen of these species are birds, although none of these are likely to use the area as habitat. Grey Goshawk *Accipiter novaehollandiae novaehollandiae* or Black Falcon *Falco subniger* may fly over the study area to forage on very rare occasions. However, given the most recent documented record for these species occur in 1975 and 1997 respectively, it is highly unlikely to provide important habitat for either bird.

8.2 Proposed Impacts

The proposed quarry area does not contain any features (vegetation community, flora and fauna habitats) of conservation significance and therefore no significant ecological impacts are expected.

9 DRAFT PLANNING PERMIT CONDITIONS

I have reviewed the planning permit conditions for the WEF, the overhead powerline (Pyrenees and Corangamite) and the proposed quarry that relate to ecology (e.g. Environmental Management Plan, offset requirements under the Guidelines), and consider them to be appropriate given the extent of proposed impacts associated with the project.

10 RESPONSE TO SUBMISSIONS

Table 3 Response to submissions.

Outline of Submission relevant to biodiversity	Submission Number	Response
Wind Energy Facility – amended application		
Objection of removal of vegetation and offsetting.	4	<p>The amended WEF footprint has avoided and minimised the proposed removal of remnant native vegetation, and also areas supporting EPBC Act-listed threatened species and communities and sensitive sites by locating the WEF infrastructure in areas of exotic vegetation / areas devoid of ecological values.</p> <p>The proposed removal of remnant native vegetation associated with the project can be satisfactorily offset in accordance with the State native vegetation policy (i.e. the Guidelines) and the Commonwealth EPBC Act.</p>
Impact on native flora and fauna.	10	<p>The amended WEF footprint has avoided and minimised the proposed removal of remnant native vegetation, and also areas supporting EPBC Act-listed threatened species and communities and sensitive sites by locating the WEF infrastructure in areas of exotic vegetation / areas devoid of ecological values.</p> <p>The proposed removal of remnant native vegetation associated with the project can be satisfactorily offset in accordance with the State native vegetation policy (i.e. the Guidelines) and the Commonwealth EPBC Act.</p>
<p>Re-siting of O5, V4, V5, V8 and V9 one kilometre further south due to impacts on vulnerable fauna along Mt. Emu Creek. Species named included:</p> <ul style="list-style-type: none"> - Wedge-tailed Eagle - Growling Grass Frogs - Owls - Bats - Fat-tailed Dunnart - Long-necked Tortoise - Striped Legless Lizard - Blue-tongued Lizard - 60 species of waterbird, including Brolga. <p>Creek also home to:</p> <ul style="list-style-type: none"> - Platypus - Black Wallaby - Kangaroos - Echidna - Possum - Golden Sun Moth. 	11	<p>No impacts are expected to fauna habitats along Mount Emu Creek and all WEF infrastructure noted has been sited within areas devoid of ecological values.</p>

Outline of Submission relevant to biodiversity	Submission Number	Response
Increase in native vegetation clearing from 5.28 hectares to 38.26 hectares. Unclear if new locations of turbines have been subject to habitat hectare assessment as was completed for the original locations.	18	<p>The previous habitat hectare assessment undertaken to inform the original permit application WEF footprint (BLA 2009) identified that 5.28 hectares of remnant native vegetation was proposed to be removed, with an associated offset target of 3.09 habitat hectares under the Net Gain policy (NRE 2002). These figures are specified in the Permit, whereby Condition 6(f) of the Permit states that as part of the native vegetation management plan must include ‘a clear extent of the 5.28 ha (3.09 habitat hectares) of native vegetation to be removed’.</p> <p>While the total extent of remnant native vegetation proposed to be removed associated with the amended WEF footprint is greater than the area outlined in the former assessment (BL&A 2009), given the highly modified nature (species poor) of the patches of vegetation and the subsequent low habitat score (i.e. the majority of patches have a habitat score of 0.23 or less), along with the low Strategic Biodiversity Score (i.e. 0.296) this has led to a very similar offset requirement for the amended WEF footprint.</p> <p>Areas supporting modified remnant native vegetation will also be avoided, where possible, during the construction stages of the project through the implementation of a Construction Environmental Management Plan.</p>
Whether flora and fauna surveys were completed at an appropriate time of year.	18	<p>Targeted searches for threatened flora and fauna species were conducted in accordance with the following published guidelines:</p> <ul style="list-style-type: none"> • <i>Environment Protection and Biodiversity Conservation Act 1999</i> referral guidelines for the vulnerable Striped Legless Lizard, <i>Delma impar</i> (Department of Sustainability, Environment, Water, Population and Communities 2011) • Significant impact guidelines for the critically endangered golden sun moth (<i>Synemon plana</i>) (Department of the Environment, Water, Heritage and the Arts, 2009) • Significant impact guidelines for the critically endangered Spiny Rice-flower (<i>Pimelea spinescens</i> subsp. <i>spinescens</i>) (Department of the Environment, Water, Heritage and the Arts, 2009). <p>As such, potentially suitable habitat for these species were adequately surveyed, and therefore the likely impacts to significant species associated with the proposed development have been adequately assessed.</p>
Vegetation removal.	22 and 34	Impacts to areas of remnant native vegetation (particularly high quality remnants) have been avoided or minimised through sensitive planning and infrastructure design. The proposed removal of remnant native vegetation will be undertaken in accordance with the State Guidelines, and the required biodiversity offsets for the project under the Guidelines can be adequately met.
Increase in native vegetation clearing from 5.28 hectares to 38.26 hectares.	23	Response outlined in Submission 18 above.
Increase in native vegetation clearing from 5.28 hectares to 38.26 hectares.	25 and 27	Response outlined in Submission 18 above.
Increase in native vegetation clearing from 5.28 hectares to 38.26 hectares.	26	Response outlined in Submission 18 above.

Outline of Submission relevant to biodiversity	Submission Number	Response
Vegetation removal	28	Impacts to areas of remnant native vegetation (particularly high quality remnants) have been avoided or minimised through sensitive planning and infrastructure design. The proposed removal of remnant native vegetation will be undertaken in accordance with the State Guidelines, and the required biodiversity offsets for the project under the Guidelines can be adequately met.
Removal of Plains Grassland from unused road within Lot 1 on TP318115X (Biosis 2012). Suggests relocating overhead powerline further west to avoid impact.	36	A total of 0.0237 ha of Plains Grassland was identified within the powerline corridor along Football Road. A range of mitigation measures have been proposed to avoid, minimise and offset impacts to Plains Grassland and other remnant vegetation patches. As such, Plains Grassland is not proposed to be significantly impacted by the project.
<p>Preclusion of burning grassland under high tension powerlines due to risk of electrical discharge to the ground.</p> <p>Larger area of grassland impacted than directly under powerline.</p>	36	SHWPL have avoided and minimised the proposed removal of remnant native vegetation, and also areas supporting EPBC Act-listed species and communities. Impacts to areas of ecological value will be further minimised through the implementation of an Environment Management Plan (EMP).

11 AUTHOR'S DECLARATION

I, Aaron Organ, have made all the inquiries that I believe are desirable and appropriate and that no matters of significance which I regard as relevant have to my knowledge been withheld from tribunal.



----- Date: 30/1/2017

APPENDIX A – QUALIFICATIONS AND EXPERIENCE

Aaron Organ is an expert ecologist, with skills in all the major ecological environments of south-eastern Australia. He has particular expertise in the workings of ecological systems, both under natural conditions and when affected by unnatural disturbance regimes such as weed invasion and impacts of development projects. He has also considerable experience in the application and practical implementation of current Commonwealth and State environmental legislation and Government Policy. He has worked extensively on large scale EESs, including several large infrastructure projects across south-eastern Australia (e.g. the previous Western Highway Sections).

Aaron has over 21 years' experience in the environmental field, including 16 years in an environmental consultant capacity. Aaron has also previously worked as a field ecologist in East Gippsland Victoria, and has worked as a ranger in Queensland and Victoria, having extensive experience in National Park and Reserve management throughout Australia.

He has broad and working knowledge of flora throughout Victoria and has either managed or played an important role in providing environmental advice on a number of large infrastructure projects such as proposed pipelines, and road and rail developments. He has also been a lead author and/or co-author for over 400 projects and has provided expert advice to a range of clients. Some of these projects include proposed wind farms in Victoria, South Australia and Tasmania, long-term flora and fauna monitoring throughout the Illawarra escarpment New South Wales, and various large commercial and industrial projects as well as small residential projects throughout Victoria, including throughout north eastern Melbourne.

Expert's Qualifications

- Masters of Social Science (Environment and Planning), RMIT University.
- Graduate Certificate in Applied Science (Natural Resource Management), Deakin University.
- Bachelor of Applied Science (Natural Resource Management), Deakin University.
- Associate Diploma in Applied Science (Natural Resource Management)

Professional Associations

- Australasian Bat Association - Member
- Society of Herpetologists - Member
- BirdLife Australia - Member
- Ecological Society of Australia - Member
- Environment Institute of Australia and New Zealand – Member
- Earthwatch Institute – Non-executive Director
- Urban Development Institute of Australia (Victoria) – EnviroDevelopment Advisory Board Member

Employment History and Achievements

- Director / Principal Ecologist, Ecology and Heritage Partners Pty Ltd, 2005 – Present (12 years)
- Consultant Zoologist / Project Manager, Biosis Research Pty Ltd, July 2000 – April 2005 (4 years 10 months) Melbourne, Australia
- Ranger, Parks Victoria, 1999 – 2000 (1 year). Mornington Peninsula National Park, Pines / Langwarrin Flora and Fauna Reserve
- Ranger - Marine Parks, Department of Environment and Heritage Protection, 1998 – 1999 (1 year). Whitsunday's National Park, Queensland
- Project Fire Fighter, Department of Sustainability and Environment, 1996 – 1999 (3 years). Grampians (hover exit), Mornington Peninsula, Westernport and northern parks
- Field Ecologist - East Gippsland Fox Baiting Research Project, Department of Sustainability and Environment, 1997 – 1998 (1 year). Keith Turnbull Research Institute

Expertise to make the Report

Aaron Organ has considerable knowledge of the native flora and fauna in south eastern Australia, including in areas throughout western Victoria. Relevant past experience includes:

- Completed over 400 flora and fauna investigations/assessments.
- Written many environmental reports and management plans for large scale wind farm projects throughout Victoria.

A selection of past VCAT and Panel appearances include:

- 2015: Amendment C187 to the Whittlesea Planning Scheme. Wollert Precinct Structure Plan (PSP 1070) (Panel).
- 2015: Yaringa Boat Harbour Expansion, Yaringa, Victoria – (Panel)
- 2015: Proposed residential development at 134-166 Aspinall Street, Golden Square, Victoria – (VCAT)
- 2015: Amended Permit Associated with the use and development of the land for the purpose of a Place of Worship – 171 – 197 Harkness Road, Melton West, Victoria – (VCAT).
- 2014: Proposed Development Plan Overlay and Planning Permit Applications for a Proposed Residential Development at 370A Riddell Road, Sunbury, Victoria – (VCAT).
- 2014: Kilmore – Wallan Bypass – (Panel).
- 2014. Proposed residential development at 107 Gipps Street, Port Fairy (VCAT)
- 2014: NBN Fixed Wireless Telecommunications Facility at 49D Eddy Avenue, Mt Helen, Victoria – (VCAT)
- 2014: Proposed residential development at 10 Fullarton Drive, Paynesville, Victoria – (VCAT)

- 2013: Statement of Expert Evidence: 1 Hobbs Road Wyndham Vale, Victoria. Amendment C171 - Ballan Road Precinct Structure Plan (PSP 40)
- 2013: Statement of Expert Evidence: Review of time stamped data for Amendment C172 - Ballan Road, Wyndham Vale (PSP 92)
- 2013: Statement of Expert Evidence: 305-315 Craigieburn Road East, Wollert, Victoria. Wollert Developments Pty Ltd. (VCAT)
- 2013: Proposed Planning Scheme Amendment C164 - 275 Racecourse Road, Sunbury – Hume City Council (Panel).
- 2013: Western Highway Duplication - Section 3, Ararat to Stawell, Victoria – (Panel).
- 2013: Cherry Tree Wind Farm, Trawool, Victoria (VCAT)
- 2013: Lots 11 and 12 Boyes Road, Baranduda - Amendment C94 to the Wodonga Planning Scheme (Panel)
- 2012: Western Highway Duplication - Section 2, Beaufort to Ararat, Victoria - (Panel)
- 2012: Proposed Peninsula Link Freeway Service Centres, 83 Sages Road Baxter, Victoria – (VCAT)
- 2011: Old Warrandyte Road, flora and fauna review and Panel hearing, Donvale – (Panel)
- 2010: Marquands Road and Leakes Road (Lot 9), Truganina, Truganina South Precinct Structure Plan – (Panel)
- 2010: Proposed Eastern Golf Course relocation to ‘Windsor Park’, 215–217 Victoria Road, Yering, Victoria – (VCAT)
- 2010: Truganina South Community Precinct Structure Plan – (Panel)
- 2010: Craigieburn R2 Precinct Structure Plan – (Panel)
- 2010: Proposed Mortlake Wind Farm – (Panel)
- 2009: Grenda Vehicle Storage Depot, Springvale Road, Keysborough - (VCAT)
- 2009: 1280 Boneo Road, Cape Schanck, development a proposed barn – (VCAT)
- 2009: Melton Planning Scheme Amendment C65 – 489-555 Robinsons Road South Precinct, Truganina (Panel)
- 2008: Donald Mineral Sands Panel and associated works. Donald Mineral Sands project (Panel)
- 2008: Amendment C88 to the Bass Coast Shire Planning Scheme - Silverleaves, Phillip Island (Panel)
- 2008: proposed residential subdivision at 30-80 Seymour Road, Viewbank – (VCAT)
- 2008: Residential development at 2 Rowe Street, Alphington – (VCAT)
- 2008: Officer Service Centres, Officer – (VCAT)
- 2007: Anglesea Golf Club proposed Amendment C32 – (Panel)
- 2005: Dollar Wind Farm, Gippsland – for Freehills Lawyers (Panel).

APPENDIX B – INSTRUCTIONS TO PREPARE REPORT

Expert Witness Statement

The following were the instructions provided to me by Herbert Smith Freehills (now White and Case):

We would like you to prepare a witness statement in accordance with Planning Panel Victoria’s Guide to Expert Evidence (Guide) which prescribes the content and form of expert witness statements. We enclose a copy of the Guide for your reference. You are required to review and understand the Guide and to ensure your witness statement addresses all matters set out in the Guide, in particular those matters listed under the heading ‘Content and Form of Experts Report’. Please contact us if there is anything in this Guide which you do not understand, or if you have questions in relation to it. Your witness statement should include matters required as set out in the Guide such as:

- a) A reference to any technical report or reports that you rely upon;*
- b) A statement to the effect that you adopt the findings in reports you helped to prepare and were submitted as part of the amendment application and identifying any departure from the findings and opinions you express in those reports;*
- c) Any key assumptions made in preparing your witness statement.*

A small number of submissions have been received by Stockyard Hill as at today’s date. We will forward you those that are relevant to your area of expertise we request you consider those submissions (and any further relevant submissions that arise during the remainder of the notice period) and respond to any relevant matters in your witness statement.

We have prepared a template to assist you to prepare and order your expert witness statement. You should treat the template as an aid and should not consider yourself constrained by it if you would prefer to structure your statement differently.

Reports and Documents Relied Upon to Prepare Expert Witness Statement

The following reports were reviewed and relied upon as part of the preparation of this expert witness statement:

- Brett Lane and Associates 2009. Proposed Stockyard Hill Wind Farm – Flora and Fauna Assessment – Powerline Route Assessment. Report No. 7132 (5.14). Unpublished report for Origin Energy Pty Ltd.
- DELWP 2015. Biodiversity Assessment Handbook, Permitted clearing of native vegetation – Version 1.0. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DEPI 2013. Permitted clearing of native vegetation - Biodiversity assessment guidelines (the Guidelines). Victorian Department of Environment and Primary Industries.
- Ecology and Heritage Partners Pty. Ltd. 2011a. Preliminary Ecological Assessments for the Stockyard Hill Wind Farm, Stockyard Hill, Victoria. Unpublished report for Origin Energy Pty Ltd.

- Ecology and Heritage Partners Pty Ltd 2011b. Stockyard Hill Wind Farm, Natural Temperate Grassland of the Victorian Volcanic Plain and Targeted Flora Surveys. Unpublished report prepared for Origin Energy Pty Ltd
- Ecology and Heritage Partners Pty Ltd 2011c. Stockyard Hill Wind Farm targeted Spiny Rice-flower surveys. Unpublished report prepared for Origin Energy Pty Ltd
- Ecology and Heritage Partners Pty Ltd 2012a. Targeted Striped Legless Lizard *Delma impar* surveys of the Stockyard Hill Wind Farm, Stockyard Hill, Victoria. Unpublished report prepared for Origin Energy Pty Ltd.
- Ecology and Heritage Partners Pty Ltd 2012b. Targeted Golden Sun Moth *Synemon plana* surveys of the Stockyard Hill Wind Farm, Stockyard Hill, Victoria. Unpublished report prepared for Origin Energy Pty Ltd.
- Ecology and Heritage Partners Pty Ltd 2013a. Targeted Golden Sun Moth *Synemon plana* surveys (2012/13 flight season), of known habitat within the Stockyard Hill Wind Farm, Stockyard Hill, Victoria. Unpublished report prepared for Origin Energy Pty Ltd.
- Ecology and Heritage Partners Pty Ltd 2013b. Targeted Striped Legless Lizard surveys of proposed borrow pits within Stockyard Hill Wind Farm, Stockyard Hill, Victoria. Unpublished report prepared for Origin Energy Pty Ltd.
- Ecology and Heritage Partners Pty Ltd 2013c. Stockyard Hill Wind Farm: Detailed Flora and Fauna Surveys of the Proposed Quarry Site, Stockyard Hill. Unpublished report for Stockyard Hill Wind Farm Pty Ltd.
- Ecology and Heritage Partners Pty Ltd 2014a. Detailed Flora Investigations for the Stockyard Hill Wind Farm, Victoria. Unpublished report prepared for Origin Pty Ltd.
- Ecology and Heritage Partners Pty Ltd 2014b. Targeted Golden Sun Moth *Synemon plana* Surveys for 2011/12 and 2012/13 at Stockyard Hill Wind Farm, Stockyard Hill, Victoria. Unpublished report for Stockyard Hill Wind Farm Pty Ltd.
- Ecology and Heritage Partners Pty Ltd 2016a. Biodiversity Assessment to Accompany an Application to Amend Planning Permit No. PL-SP/05/0548, Stockyard Hill. Unpublished report for Stockyard Hill Wind Farm Pty Ltd.
- Ecology and Heritage Partners Pty Ltd 2016b. Biodiversity Assessment of the Roadsides and Intersection Upgrades, Stockyard Hill Wind Farm, Victoria. Unpublished report for Stockyard Hill Wind Farm Pty Ltd.
- Ecology and Heritage Partners Pty Ltd 2016c. Detailed Flora and Fauna Assessment of the Current Overhead Powerline Corridor, Stockyard Hill Wind Farm, Victoria. Unpublished report for Stockyard Hill Wind Farm Pty Ltd.
- Ecology and Heritage Partners Pty Ltd 2016d. Addendum Report *Planning and Environment Act 1987*: Detailed Flora and Fauna Assessment of the Current Overhead Powerline Corridor, Stockyard Hill Wind Farm, Victoria. Unpublished report for Stockyard Hill Wind Farm Pty Ltd.