GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3401/1
Permit Holder:	Electricity Generation Corporation t/a Verve Energy
Duration of Permit:	17 January 2010 – 17 January 2015

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of constructing the Milyeannup Wind Farm.

2. **Land on which clearing is to be done**
   Lot 704 on Plan 231019, Scott River East 6275
   Lot 14 on Diagram 69527, Scott River East 6275
   Lot 499 on Plan 122169, Scott River East 6275
   Lot 3 on Diagram 31769, Scott River East 6275
   Lot 921 on Plan 132962, Scott River East 6275

3. **Area of Clearing**
   The Permit Holder must not clear more than 42 hectares of native vegetation within the area hatched yellow on attached Plan 3401/1.

4. **Clearing not authorised**
   The Permit Holder shall not clear any native vegetation within the Permit area as identified within the report: *Flora and Vegetation Survey of the Proposed Milyeannup Wind Farm (Biota Environmental Sciences 2009)* and described as:
   (a) *Corymbia calophylla* (Marri) open forest over *Agonis flexuosa* low open forest over *Spyridium globulosum* tall open shrubland (CcaAGfSPYg).
   (b) *Eucalyptus marginata, E.megacarpa, Corymbia calophylla* open forest over *Banksia attenuata* low woodland over *Bossiaea linophylla, Hibbertia furfuracea* tall open scrub (containing *Eucalyptus cornuta* (Yate)) (EmEMeCcaBAaBOlHif);
   (c) as described in Figure 4.1 of *Flora and Vegetation Survey of the Proposed Milyeannup Wind Farm (Biota Environmental Sciences 2009)*, page 26.

5. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

6. **Type of clearing authorised**
   This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the power to clear native vegetation for those activities under the *Energy Operators (Powers) Act 1979* or any other written law.

7. Compliance with Assessment Sequence and Management Procedures
Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

8. Avoid, minimise etc clearing
In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:
(a) avoid the clearing of native vegetation;
(b) minimise the amount of native vegetation to be cleared; and
(c) reduce the impact of clearing on any environmental value.

9. Flora management
(a) Prior to undertaking any clearing authorised under this Permit, the site shall be inspected by a *flora specialist* for the presence of the following *priority flora taxa*:
  (i) *Hydrocotyle hamelinensis*;
  (ii) *Caladenia abbreviata.*

(b) Where *priority flora taxa* are identified in relation to condition 9(a) of this Permit, the Permit Holder shall ensure that:
  (i) all records of *priority flora taxa* are submitted to the CEO; and
  (ii) no clearing occurs within 10 metres of identified *priority flora taxa*, unless approved by the CEO.

10. Vegetation management
The Permit Holder shall not clear native vegetation within 100 metres of the *riparian vegetation* of any *wetland* within or surrounding the area cross-hatched yellow on Plan 3401/1.

11. Fauna management – habitat/habitat trees
(a) Prior to undertaking any clearing authorised under this Permit, the area(s) shall be inspected by a *fauna specialist* who shall identify habitat/*habitat tree(s)* suitable to be utilised by fauna species listed below:
  (i) Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*)
  (ii) Baudin's Black Cockatoo (*Calymptorhynchus baudinii*)
  (iii) Western False Pipistrelle (*Falsistrellus mackenziei*)
  (iv) Western Ringtail Possum (*Pseudocheirus occidentalis*)
  (v) Chuditch (*Dasyurus geoffroii*)
  (vi) Forest Red-Tailed Black Cockatoo (*Calyptorhynchus banksii naso*)
  (vii) Quenda (*Isoodon obesulus fusciventer*)

(b) Prior to clearing, any habitat/*habitat tree(s)* identified by condition 11(a) shall be inspected by a *fauna specialist* for the presence of fauna listed in condition 11(a).

(c) Prior to clearing, the Permit Holder shall ensure that any fauna identified by condition 11(b) shall be removed and relocated by a *fauna clearing person*, in accordance with a licence issued by the Department.

12. Fauna Management – Rainbow Bee-eater
(a) Prior to clearing pursuant to this Permit during the months of September through to February the areas shall be inspected by a fauna specialist who shall identify the presence of *Merops ornatus* (Rainbow Bee-eater) or their nesting burrows.

(b) The Permit Holder shall not clear during the months of September through to February if *Merops ornatus* (Rainbow Bee-eater) or their nesting burrows are identified under condition 12(a).

13. Dieback and weed control

(a) When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

(i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

(ii) shall not move soils in wet conditions;

(iii) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and

(iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

(b) At least once in each 12 month period for the *term* of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

14. Retain vegetative material and topsoil, revegetation and rehabilitation

(a) The Permit Holder shall retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material in an area that has already been cleared.

(b) Within six months of the construction of the wind farm, the Permit Holder must *revegetate* and *rehabilitate* areas no longer required by:

(i) deliberately laying vegetative material and topsoil that has been retained under Condition 14(a) of this permit, that have *comparable vegetation types, comparable soil types* and *comparable soil disease status* to pre-clearing vegetation types in that area.;

(ii) ensuring that *comparable soil disease status* types of uninterpretable, not interpreted or infested soils are re-distributed to infested soils only;

(c) Within twelve months of undertaking *revegetation* and *rehabilitation* in accordance with condition 14(b) of this Permit, the Permit Holder must:

(i) determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and

(ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 14(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, the Permit Holder must undertake *planting* or *direct seeding* of native vegetation using only *local provenance* seeds and propagating material.

15. Offsets

As the clearing to be done is at variance with (a) and (b) of the clearing principles, the Permit Holder must implement an *offset* in accordance with conditions 15(a) and 15(b) of this Permit with respect to that clearing.

(a) Determination of *offsets*:

(i) in determining the *offset* to be implemented with respect to a particular area of native vegetation proposed to be cleared under this Permit, the Permit Holder must have regard to the *offset* principles contained in condition 15(b) of this Permit;

(ii) once the Permit Holder has developed an *offset proposal*, the Permit Holder must provide that *offset proposal* to the CEO for the CEO's approval prior to undertaking any clearing to which the *offset* relates, and prior to implementing the *offset*;

(iii) clearing may not commence until and unless the CEO has approved the *offset proposal* to which the clearing relates;

(iv) the Permit Holder shall implement the *offset proposal* approved under condition 15(a)(iii); and

(v) each *offset proposal* shall include a *direct offset*, timing for implementation of the *offset proposal* and may additionally include *contributing offsets*.

(b) For the purpose of this condition, the *offset* principles are as follows:
  (i) *direct offsets* should directly counterbalance the loss of the native vegetation;
  (ii) *contributing offsets* should complement and enhance the *direct offset*;
  (iii) *offsets* are implemented only once all avenues to avoid, minimise, rectify or reduce environmental impacts have been exhausted;
  (iv) the environmental values, habitat, species, *ecological community*, physical area, ecosystem, landscape, and hydrology of the *offset* should be the same as, or better than, that of the area of native vegetation being *offset*;
  (v) a ratio greater than 1:1 should be applied to the size of the area of native vegetation that is offset to compensate for the risk that the *offset* may fail;
  (vi) *offsets* must entail a robust and consistent assessment process;
  (vii) in determining an appropriate *offset*, consideration should be given to ecosystem function, rarity and type of *ecological community*, vegetation *condition*, habitat quality and area of native vegetation cleared;
  (viii) the *offset* should either result in no net loss of native vegetation, or lead to a net gain in native vegetation and improve the *condition* of the natural environment;
  (ix) *offsets* must satisfy all statutory requirements;
  (x) *offsets* must be clearly defined, documented and audited;
  (xi) *offsets* must ensure a long-term (10-30 year) benefit; and
  (xii) an *environmental specialist* must be involved in the design, assessment and monitoring of *offsets*.

PART III - RECORD KEEPING AND REPORTING

16. Records must be kept

(a) The Permit Holder must maintain the following records for activities done pursuant to this Permit in relation to the clearing of native vegetation authorised under this Permit:
  (i) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  (ii) the date that the area was cleared; and
  (iii) the size of the area cleared (in hectares).

(b) In relation to flora management pursuant to condition 9 of this Permit:
  (i) the location of each *priority flora taxa* recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; and
  (ii) the species of each *priority flora taxa* identified.

(c) In relation to fauna management pursuant to condition 11 and 12 of this Permit:
  (i) the location of each habitat or habitat tree identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  (ii) the species name of fauna reasonably likely to utilise, or that have been observed utilising, the habitat/habitat tree(s); and
  (iii) the location and date where relocated fauna was released, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings.

(d) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 14 of this Permit:
  (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
  (iii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
  (iv) the species composition, structure and density of *revegetation* and *rehabilitation*

(e) In relation to the offset of areas pursuant to condition 15:
  (i) the location of any area of *offsets* recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  (ii) a description of the *offset* activities undertaken; and
  (iii) the size of the *offset* area (in hectares).

17. Reporting

(a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 16 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.

(b) Prior to 17 October 2014 the Permit Holder must provide to the CEO a written report of records required under condition 16 of this Permit where these records have not already been provided under condition 17(a) of this Permit.

Definitions

The following meanings are given to terms used in this Permit:

comparable vegetation types means those current and pre-European vegetation types and extents as published in "Native Vegetation in Western Australia. Technical Report 249", Shepherd, D.P., Beetson, G.P., and Hopkins, A.J.M. (2002). Department of Agriculture, Western Australia.

comparable soil types means those soil categories as detailed in the publication "Atlas of Australian Soils, Sheets 1 to 10, with explanatory data". Northcote, K. H. with Beckmann, G. G., Bettenay, E., Churchward, H. M., van Dijk, D. C., Dimmock, G. M., Hubble, G. D., Isbell, R. F., McArthur, W. M., Murtha, G. G., Nicolls, K. D., Paton T. R., Thompson, C. H., Webb, A. A. and Wright, M. J. (1960-68). CSIRO and Melbourne University Press: Melbourne.

comparable soil disease status means soils types that are either infested, not infested, uninterpretable or not interpreted.

condition means the rating given to native vegetation using the *Keighery scale* and refers to the degree of change in the structure, density and species present in the particular vegetation in comparison to undisturbed vegetation of the same type;

contributing offset/s has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9: Environmental Offsets*, January 2006;

direct offset/s has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9: Environmental Offsets*, January 2006;

dieback means the effect of *Phytophthora* species on native vegetation;

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

ecological community/ies means a naturally occurring biological assemblage that occurs in a particular type of habitat (English and Blythe, 1997; 1999);

environmental specialist means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

fauna clearing person means a person who has obtained a licence from the *Department*, issued pursuant to the *Wildlife Conservation Regulations 1970* authorising them to take fauna;

fauna specialist means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;

fill means material used to increase the ground level, or fill a hollow;

flora specialist means a person with specific training and/or experience in the ecology and taxonomy of Western Australian flora;

habitat tree(s) means trees that have a diameter, at average adult human chest height, of greater than 70cm, healthy but with dead limbs and broken crowns that are likely to contain hollows and roosts suitable for native fauna, or where these are not present then healthy but with the potential to contain hollows and roosts;

Keighery scale means the vegetation condition scale described in *Bushland Plant Survey: A Guide to Plant Community Survey for the Community (1994)* as developed by B.J. Keighery and published by the Wildflower Society of WA (Inc). Nedlands, Western Australia;

local provenance means native vegetation seeds and propagating material from natural sources within 50 kilometres of the area cleared.

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

offset/s means an offset required to be implemented under condition 15 of this Permit;

offset proposal means an *offset* determined by the Permit Holder in accordance with condition 15of this Permit;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

priority flora taxa means those plant taxa that described as priority flora classes 1, 2, 3 or 4 in the *Department*'s *Declared Rare and Priority Flora List for Western Australia* (as amended);

regenerate/ed/ion means *revegetation* that can be established from in situ seed banks contained either within the topsoil or seed-bearing *mulch*;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

riparian vegetation has the meaning given to it in Regulation 3 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004;

term means the duration of this Permit, including as amended or renewed;

watercourse has the meaning given to it in section 3 of the *Rights in Water and Irrigation Act 1914*;

weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

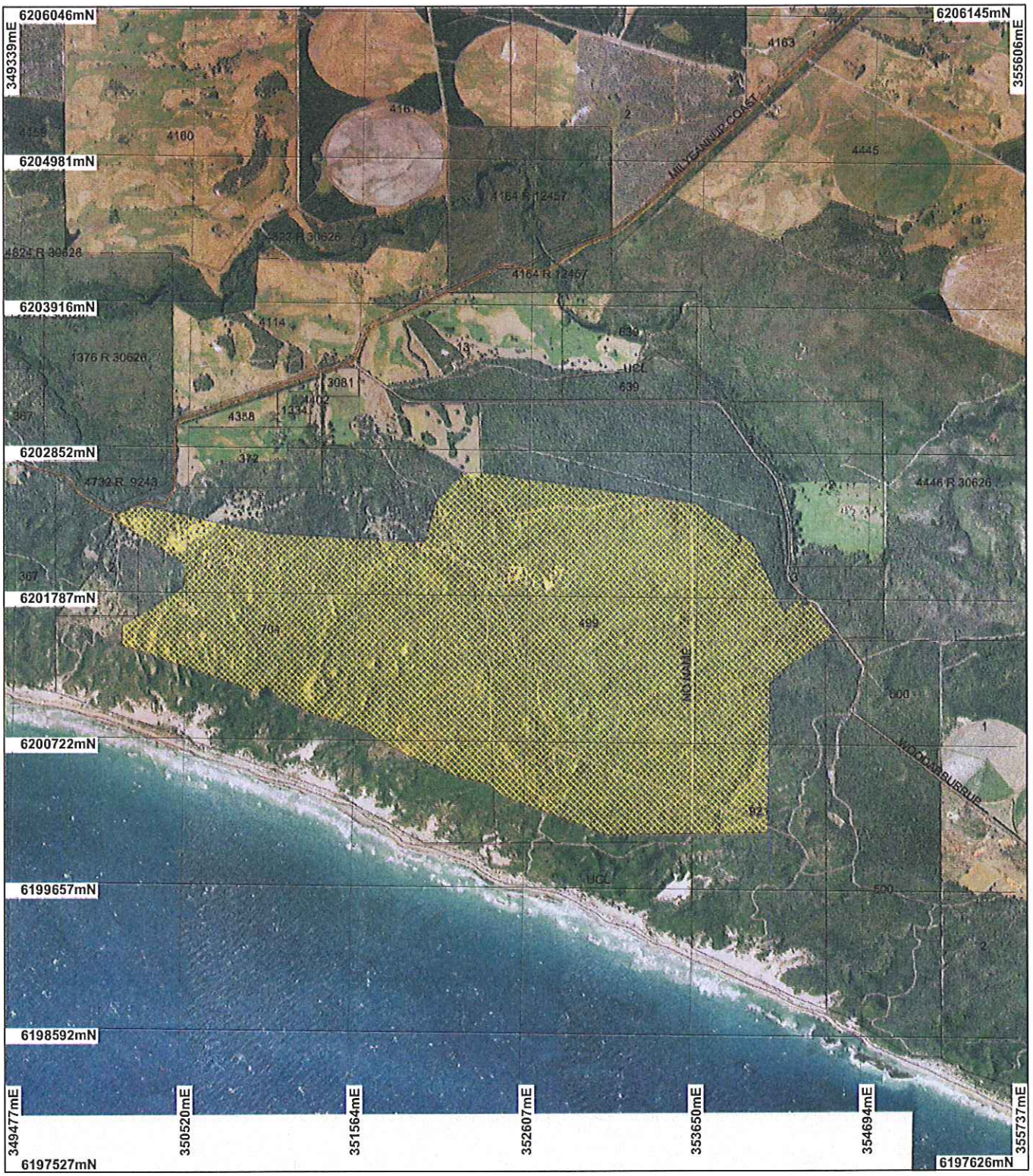
wetland/s means an area of seasonally, intermittently or permanently waterlogged or inundated land, whether natural or otherwise, and includes a lake, swamp, marsh, spring, dampland, tidal flat or estuary.

Keith Claymore
A/ ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

Officer delegated under Section 20
of the Environmental Protection Act 1986

17 December 2009

Plan 3401/1



LEGEND

- Cadastre for labelling
- Road Centrelines
- FW
- HY
- LRD (cont)
- LRS
- MR
- N
- TR

Leeuwin 50cm Orthomosaic * Landgate 2004

Clearing Instruments

- Areas Approved to Clear

N

0 ~1 km

Scale 1:37331
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

K. Claymore Date 12/12/07

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowleged by the agency acronym in the legend.

Department of Environment and Conservation

Our environment, our future

* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.

Department of
Environment and Conservation
Our environment, our future

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3401/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Electricity Generation Corporation ta Verve Energy**

1.3. Property details

Property:
LOT 704 ON PLAN 231019 (SCOTT RIVER EAST 6275)
LOT 704 ON PLAN 231019 (SCOTT RIVER EAST 6275)
LOT 704 ON PLAN 231019 (SCOTT RIVER EAST 6275)
LOT 14 ON DIAGRAM 69527 (SCOTT RIVER EAST 6275)
LOT 499 ON PLAN 122169 (SCOTT RIVER EAST 6275)
LOT 3 ON DIAGRAM 31767 (SCOTT RIVER EAST 6275)
LOT 921 ON PLAN 132962 (SCOTT RIVER EAST 6275)

Local Government Area:
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
42		Mechanical Removal	Building or Structure

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard Vegetation Associations: 22-Low woodland; Agonis flexuosa 129- Bare areas; drift sand 990 - Low forest: peppermint (Agonis flexuosa) 1108 - Medium open woodland; marri 1109 - Medium woodland; marri & river gum Shepherd (2007)	The proposal is to clear 42 ha within a ~720 ha area for the purpose of constructing the Milyeannup wind farm including access roads, hardstands, wind turbines, electricity substation and buildings and a tourist car park. Ten vegetation units were identified during a spring survey of the applied area (Biota Environmental Sciences 2009). The vegetation within the applied area mainly consists of Agonis flexuosa tall open shrubland to low woodland over Acacia littorea open heath and Agonis flexuosa low open forest over Spyridium globulosum, Acacia littorea tall open scrub in an excellent condition. These vegetation units occur on the secondary dunes in shelter swales and crests. Scaevola nitida, Acacia littorea closed low heath to heath occurred on the costal sand dunes in the southern portion of the applied area in an excellent condition. Agonis flexuosa low woodland over Acacia littorea, Dryandra (Banksia) sessilis tall shrubland occurs on crest of the secondary dunes in an excellent. Eucalyptus marginata, E. megacarpa, Corymbia calophylla open forest over	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation condition was determined from vegetation survey reports (Biota Environmental Sciences 2009a).

Banksia attenuata low woodland over Bossiaea linophylla, Hibbertia furfuracea tall open scrub, Eucalyptus marginata, Corymbia calophylla open forest over Agonis flexuosa low open forest over Bossiaea linophylla, Hibbertia furfuracea tall open scrub and Agonis flexuosa low open forest over Xanthorrhoea tall shrubland also occurs in an excellent condition.

Small areas, Agonis flexuosa low open forest over Lepidosperma gladiatum sedgeland occurring in moist sheltered swale areas and Corymbia calophylla open forest over Agonis flexuosa low open forest over Spyridium globulosum tall open shrubland occur in excellent condition.

Areas of degraded condition vegetation also occur and consist of cleared land and Agonis flexuosa parkland.

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposal is at variance to this Principle

Ten vegetation units were identified during a spring survey of the proposed clearing area (Biota Environmental Sciences 2009a). The vegetation types however are typical of those occurring in similar habitats in the locality. In addition, none of the vegetation types were identified as a Threatened Ecological Community or a Priority Ecological Community.

A total of 185 species of flora were recorded including Caladenia abbreviata (P2) which is endemic to the Warren bioregion, Hydrocotyle hamelinensis ms (P3) and Banksia (Dryandra) sessilis var. cordata (P4) (Biota Environmental Sciences 2009a). Caladenia abbreviata has been recorded from only a few locations between Margaret River and Walpole. A single individual was recorded in Peppermint woodland along the eastern edge of the study area (Biota Environmental Sciences 2009a). Hydrocotyle hamelinensis ms is only found in two locations, on Rottnest island and at Cape Naturaliste and was found within the applied area from one quadrate in the western section of the area under application. This recording extends the known distribution of this species by over 80 km south (Biota Environmental Sciences 2009a). Banksia (Dryandra) sessilis var. cordata is widespread through the applied area particularly throughout the northern half of the area. It is one of the dominant species in two of the vegetation units identified by the flora survey (Biota Environmental Sciences 2009a). This species occurs from Dunsborough to Denmark in the coastal zone. Its distribution and densities at the sites where it has been recorded suggest that the taking of plants on one property would not significantly affect the conservation status of this taxon (DEC 2009a).

To reduce the impact on biodiversity values, clearing of C. abbreviata and H. hamelinensis should not occur while the impact on B. sessilis var. cordata should be avoided whenever possible. To mitigate the impact of the proposed clearing on these species a flora management condition will be placed on the permit.

The mapped vegetation unit EmEmeCcaBAaBOIHIf: Eucalyptus marginata, Corymbia calophylla open forest over Banksia attenuata low woodland over Bossiaea linophylla, Hibbertia furfuracea tall open scrub (Biota Environmental Science 2009a) is very restricted in the local context and that impacts from the proposal on this community should be mitigated (EPA 2009a). Verve Energy will avoid all clearing within this restricted vegetation community (Verve Energy 2009). A condition will be placed on the permit to ensure that this vegetation type is not cleared.

The area under application contains five fauna habitat types and several conservation significant species, including the Western Ringtail Possum and Carnaby's Black Cockatoo occur within the applied area (Biota Environmental Sciences 2009b).

Given the above, it is considered that the proposed clearing is at variance to this Principle.

Methodology

References

-Biota Environmental Sciences (2009a)
-Biota Environmental Sciences (2009b)
-DEC (2009a)
-EPA (2009a)
-Verve (2009)

GIS databases

-SAC Biodatasets (17/11/09)

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments

Proposal is at variance to this Principle

Within the local area (~10 km radius) eleven species of conservation significant fauna have been recorded. The area under application is in an excellent condition and contains five habitat types as identified during a fauna survey of the applied area (Biota Environmental Sciences 2009b). During the fauna survey, 80 fauna species were recorded with 52 avifauna, 4 terrestrial mammals, 5 bats, 4 amphibians and 15 reptiles identified (Biota Environmental Sciences 2009b).

It is considered that the proposed clearing for access tracks and construction of the Milyeannup wind farm will open up the ~720ha area and increase the occurrence of feral animals such as foxes. This may impact local and conservation significant fauna that occur within the site (DEC 2009).

The conservation significant Carnaby's Black Cockatoo and Baudin's Black Cockatoo were recorded within the area under application (Biota Environmental Sciences 2009b). It is considered that the area under application provides significant feeding and foraging habitat for the Carnaby's Black Cockatoo and the Baudin's Black Cockatoo (DEC 2009a) and may provide nesting habitat within the Marri woodland occurring in the centre of the applied area (Biota Environmental Sciences 2009b). However, Verve Energy will avoid all clearing within the Marri Woodland to ensure that no breeding habitat trees for Black Cockatoos are disturbed. A condition will be place on the permit to ensure that the Marri woodland is not cleared and offset condition will be placed on the permit to mitigate the impact on Black Cockatoo feeding habitat.

The Rainbow Bee-eater (Merops ornatus) was also recorded and is considered a routine visitor to the area (Biota Environmental Sciences 2009b). A condition will be placed on the permit to mitigate the impact of the clearing on this conservation significant species.

The conservation significant Western Ring-tail Possum was also recorded within the applied area with 6 dreys identified. No individuals were trapped or observed during the survey and it is assumed that the species is only present at widespread and relatively low density within the applied area (Biota Environmental Sciences 2009b). However, as 42 ha of peppermint woodland is proposed to be cleared it is considered that the area under application is significant feeding and breeding habitat for this conservation significant species. It is recommended that during construction phase the South West Region DEC protocols for Western Ringtail Possums area adopted and a rehabilitation plan for Agonis flexuosa is established (DEC 2009). Additionally, a fauna management condition will be placed on the permit to mitigate the impact of the proposed clearing on this species.

The conservation significant Western False Pipistrelle (Falsistrellus mackenziei) was also identified within the Marri woodland located in the middle of the applied area (Biota Environmental Sciences 2009b). This species is known to roost in tree hollows and Marri woodland occurring within the centre of the site. This area will be avoided to reduce the impact of the proposed clearing on this species.

In addition, the area under application has been identified as part of a core linkage within a regionally significant linkage in the South West Regional Ecological Linkages Project (Molloy et al 2009, EPA 2009b) and facilitates movement of fauna between the west and eastern portions of the Gingilup Swamp Nature Reserve. The proposed clearing throughout this core vegetation will significantly decrease the effectiveness of this linkage as the constriction of tracks and small cleared sites throughout the 720 ha area will cause fragmentation.

Given the diversity of habitats present, the utilisation of the 720ha area for habitat for several conservation significant and other fauna species and the potential of the vegetation as a significant linkage especially between conservation areas, it is considered that the vegetation is a significant habitat for native fauna. The proposed clearing of 42 ha within this habitat will also cause fragmentation. Therefore, it is considered that the proposed clearing is at variance to this Principle.

Methodology

References
-Biota Environmental Sciences (2009b)
-Molley et al (2009)
-DEC (2009)
-DEC (2009b)
-EPA (2009b)
GIS databases
-SAC Biodatasets (17/11/09)
-DEC Tenure

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments

Proposal is not likely to be at variance to this Principle

Five rare flora species were identified within the local area (10 km radius) including Lambertia orbifolia subsp. Scott River Plains occurring 1.2 km northwest, Grevillea brachystylis subsp. australia, Darwinia ferricola occurring 8.2 km northwest, Verticordia plumosa var. vassensis occurring 10 km west and Sphenotoma drummondii occurring 10km north of the area under application.

A flora survey carried out by Biota Environmental Sciences in September 2008 did not identify any rare flora species (Biota Environmental Sciences 2009a). Given this, the proposed clearing is not at variance to this Principle.

Methodology

References
-Biota Environmental Sciences (2009a)
GIS databases
-SAC Biodatasets (17/11/09)

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments

Proposal is not likely to be at variance to this Principle

A threatened ecological community (TEC) is known to exist 5.2km east of the application area and is known as the Scott River Ironstone Association. This TEC occurs within a different vegetation type than the proposed clearing and occurs outside the buffer area.

A site inspection of the area under application indicated that the preferred habitat to support this TEC do not occur within the application area (DEC 2009).

In addition, the flora survey conducted within the application area identified no threatened or priority ecological communities present (Biota Environmental Sciences 2009a) and the area under application consists of leached and calcareous sands which are not favoured by this TEC (Northcote et al. 1960-68).

As a result, the vegetation under application is not likely to be necessary for the maintenance of or consists of this threatened ecological community. As such the proposal is not likely to be at variance to this principle.

Methodology

References
-Biota Environmental Sciences (2009a)
-DEC (2009)
-Northcote et al. (1960-68)
GIS Databases
-SAC Bio datasets (17/11/09)
-Soils, Statewide

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments

Proposal is not likely to be at variance to this Principle

The vegetation under application is described as Beard vegetation association 1109, 1108, 129, 990 and 22 of which there is 95.3%, 93.79%, 67.6%, 88.90% and 88.45% of pre-European extent remaining respectively (Shepherd 2007). The vegetation under application is also described as Mattiske vegetation complex Dd, Dd5, DE5 and D5 of which there is 95.31%, 99.84%, 96.77% and 97.60% of pre-European extent remaining respectively (Mattiske 1998).

The area under application is located within the Shire of Nannup, of which there is 84.95% of pre-European vegetation extent remaining. In addition, there is approximately 52.14% of native vegetation remaining in the local area (~10km radius).

The Beard and Mattiske vegetation association of the vegetation under application retains more than the EPA supported threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation within the Mallee Bioregion; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

In addition, the area under application is not a significant remnant in the local area due to its long linear shape (42 ha within 720 ha) and connectivity to surrounding bushland. Therefore, the proposal is not considered likely to be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining %
IBRA Bioregion			
Warren	835,925	675,836	80.8*

Shire of Nannup	293,322	249,185	84.9*
Local Area (~10km radius)	23,619	~12,316	52.1
Beard type in Bioregion			
1109	33,365	31,796	95.3
129	12,665	8,521.6	67.6
1108	8,767	8,222	93.8
990	15,022	13,354	88.9
22	3,334	2,948	88.4*
Mattiske			
Dd	6582.6	6274.2	95.3
Dd5	8190.0	8177.0	99.8
DE5	6941.8	6717.3	96.7
D5	2814.0	2746.0	97.6

* (Shepherd 2007)
(Mattiske 1998)

Methodology

References
-EPA (2000)
-Shepherd (2007)
-Mattiske (1998)
GIS Databases
-Interim Biogeographic Regionalisation of Australia
-NLWRA, Current Extent of Native Vegetation
-SAC Bio Datasets (17/11/09)

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments

Proposal may be at variance to this Principle

Numerous wetlands occur within the local area with the closest occurring less the 30 m north of the applied area and are part of the Gingilup Swamp System. This system is mostly encompassed within the Gingilup Swamps Nature Reserve to the north of the applied area. This wetland has been partially cleared but contains values characteristic of a conservation category wetland (Biota Environmental Sciences 2009a). The closest watercourse is Scott?s River occurring 1.6 km north of the area under application.

The proposed clearing occurs within the 50 m buffer of a significant wetland and therefore may include native vegetation growing in association with a wetland. As such the proposed clearing may be at variance to this Principle. In order to protect this significant wetland system, buffer conditions will be imposed on the permit.

Methodology

References
-Biota Environmental Sciences (2009a)
GIS Databases
-Hydrography, linear
-Hydrology, linear (hierarchy)

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposal is at variance to this Principle

The area under application can be described as consisting of coastal dunes and plains with chief soils of leached sands and calcareous sands (Northcote et al. 1960-68). There is a high possibility of wind erosion and water erosion of sandy soils, due to proximity to the coastline and topography.

All coastline vegetation should be retained and clearing of any vegetation within 500m of the coastline should be avoided (EPA 2009a). The vegetation complex (De5) as mapped by Mattiske (1998) is identified along the coastline within the area under application. This vegetation complex carries a severe to extreme wind erosion hazard if vegetation is cleared (EPA 2009a).

The EPA advised that a foreshore management boundary should be determined based upon land capability and criteria and where practicable, wind turbines should be located to avoid vegetation susceptible to erosion (EPA 2009a). The proposed clearing area is greater then 500m away from the coastline however numerous wind turbine locations, as outlined on the indicative development plan (Verve 2009), may occur within De5 vegetation unit.

In addition, the clearing of vegetation from the dune peaks for the turbines is expected to exacerbate wind erosion (DEC 2009). However, it is proposed by Verve Energy that the proposed cleared areas around the hardstands of the wind turbines will be rehabilitated when the areas are no longer in use.

Given this, the relatively large area proposed to be cleared and the sandy soils of the area under application, it is considered that the proposed clearing will cause appreciable land degradation through wind erosion. A revegetation and rehabilitation condition will be placed on the permit to mitigate this impact.

Methodology

References
-DEC (2009)
- EPA (2009a)
-Northcote et al. (1960-68)
-Mattiske (1998)
- Verve (2009)
GIS Databases
-Soils, Statewide
-Topographic contours, Statewide

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments

Proposal may be at variance to this Principle

The closest conservation area to the area under application is Gingilup Swamps Nature Reserve which occurs 330m northwest and 769 m northeast of the area under application.

The area under application is connected to the two portions of this nature reserve though continues vegetation. Aerial photography suggests that the area under application may provide an east west linkage between these two conservation areas.

In addition, the area under application has been identified as part of a core linkage within a regionally significant linkage in the South West Regional Ecological Linkages Project (Molloy et al 2009, EPA 2009b) and facilitates movement of fauna between the west and eastern portions of the Gingilup Swamp Nature Reserve. The proposed clearing throughout this core vegetation will significantly decrease the effectiveness of this linkage as the constriction of tracks and small cleared sites throughout the 720 ha area will cause fragmentation.

Given this, it is considered that the proposed clearing of 42 ha within this area may cause fragmentation of this linkage and impact on the environmental values of Gingilup Swamps Nature Reserve.

Methodology

References
-EPA (2009b)
- Molloy et al (2009)
GIS Databases
-DEC Tenure
- Leeuwin 50cm Orthomosaic - Landgate 2004

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments

Proposal is not likely to be at variance to this Principle

Numerous wetlands occur within the local area with the closest occurring less the 30 m north of the applied area and is part of the Gingilup swamp system. The closest watercourse is Scott's River occurring 1.6 km north of the area under application. A wetland management condition will be placed on the permit to prevent wetland vegetation from being cleared and resulting on deterioration of surface and groundwater water.

Given the long linear shape of the majority of the application area, low salinity risk and low groundwater salinity and that 42 ha is proposed to be cleared over a 720 ha area, it is not considered likely for the proposed clearing to cause deterioration in the quality of surface or underground water.

Methodology

GIS Databases
-Hydrography, linear
-Hydrology, linear (hierarchy)
-Salinity Risk
-Groundwater Salinity, Statewide

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments

Proposal is not likely to be at variance to this Principle

Numerous wetlands occur within the local area with the closest occurring less the 30 m north of the applied area and is part of the Gingilup swamp system. The closest watercourse is Scott's River occurring 1.6 km north of the area under application

Given the long linear shape of the proposed clearing, the sandy soils present and that 42 ha is proposed to be cleared over a 720 ha area, it is not considered likely for the proposed clearing to cause or exacerbate the incidence or intensity of flooding.

Methodology

References
-Northcote et al. (1960-68)
GIS Databases
- Hydrography, linear
-Hydrology, linear (hierarchy)
-Soils, Statewide

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

The proposal is to clear 42 ha within a ~720 ha area for the purpose of constructing the Milyeannup wind farm including access roads, hardstands, wind turbines, electricity substation and buildings and a tourist car park.

Verve Energy stated that they aim to minimise clearing by using any existing roads and cleared areas. The vegetation will be cleared through a process of slashing and blading, while not disturbing root stock except where it is necessary to do so for construction of permanent infrastructure (Verve 2009b). Topsoil and rootstock will be removed from the permanently cleared areas for rehabilitation of other areas. The vegetation cleared will be mulched and also used in rehabilitation and soil stabilization. After rehabilitation no more than 24 ha will remain permanently cleared following activities on site (Verve 2009b).

The area under application is zoned rural under the Town Planning Scheme.

In July 2009 a purpose permit was granted for geotechnical investigations for the proposed wind farm and the boundary of the area for this permit is the same for the current application. This permit is CPS 2775/2 and includes the conditions avoid and minimise, flora management, riparian vegetation management, fauna management, dieback and weed control, retain and spread vegetative material and recording and reporting conditions.

The proposal was referred to the Environmental Protection Authority (EPA) in May 2009 and received 'Not Assessed Managed under Part V of the EP Act (Clearing)' determination with public advice given on native vegetation, fauna and noise (EPA 2009).

The Shire of Nannup has granted planning approval (No. 010/09) under the local planning scheme No3 in October 2009 for this proposal with conditions (Shire of Nannup 2009).

Methodology

References
-EPA (2009)
- Shire of Nannup (2009)
-Verve (2009b)
GIS Databases
-Town Planning Scheme Zones

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is at variance to the clearing Principles (a), (b) and (g) and may be at variance to Principles (f) and (h).

5. References

Biota Environmental Sciences (2009a) A Flora and Vegetation Survey of the Proposed Milyeannup Wind Farm. Prepared for Verve Energy February 2009. TRIM Ref DOC75940

Biota Environmental Sciences (2009b) Milyeannup Wind Farm Terrestrial Fauna Survey. Prepared for Verve Energy, January 2009. TRIM Ref DOC75940