



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3975/1
Permit Holder:	Regional Power Corporation TA Horizon Power
Duration of Permit:	22 March 2011 – 22 March 2016

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 a power station.

2. Land on which clearing is to be done

Lot 501 on Deposited Plan 68451

3. Area of Clearing

The Permit Holder must not clear more than 9.3 hectares of native vegetation within the area hatched yellow on attached Plan 3975/1.

4. 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.

5. 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.

6. 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

7. 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:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

8. Weed control

- 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*:

- (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
 - (iii) 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.

9. Wind erosion management

The Permit Holder shall not clear native vegetation unless constructing a power station begins within three months of the clearing being undertaken.

PART III - RECORD KEEPING AND REPORTING

10. Records must be kept

The Permit Holder must maintain the following records for activities in relation to the clearing of native vegetation authorised under this Permit:

- (a) the species composition, structure and density of the cleared area;
- (b) 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;
- (c) the date that the area was cleared; and
- (d) the size of the area cleared (in hectares).

11. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
 - (i) of records required under condition 10 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 28 December 2015 the Permit Holder must provide to the CEO a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 11(a) of this Permit.

Definitions

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

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

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;

weeds 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*.



Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

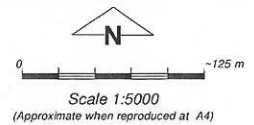
1 March 2011

Plan 3975/1



LEGEND

- Road Centrelines
- Local Government Authorities
- Clearing Instruments
- Areas Approved to Clear
- Carnarvon 1.4m Orthomosaic - Landgate 2002
- Cadastre for labelling



Geocentric Datum Australia 1994
 Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

K Faulkner Date 1/13/11

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 acknowledged by the agency acronym in the legend.



1. Application details

1.1. Permit application details

Permit application No.: 3975/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Regional Power Corporation TA Horizon Power

1.3. Property details

Property: LOT 287 ON PLAN 210981 (BROWN RANGE 6701)
Local Government Area: Shire of Carnarvon
Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 1 March 2011

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
Shepherd (2009) describes vegetation association 205 as Shrublands; Acacia sclerosperma & bowgada scrub and vegetation association 308 as Mosaic: Shrublands; Acacia sclerosperma sparse scrub / Succulent steppe; saltbush & bluebush	Vegetation comprises open growth of irregular, scattered, domed shrubs such as Acacia ramulosa, A. sclerosperma, A. tetragonophylla, Eremophila forrestii and Scaevola tomentosa and a ground layer of herbaceous, small woody plants such as sida spp, Indigofera spp. and Tephrosia spp (Astron 2010)	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation condition was Poor/Partially Degraded due to the tussock grassland being dominated by Cenchrus ciliaris. Also signs of disturbance such as vehicle tracks, dumped rubbish and horse riders (Astron 2010)
see above	see above	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	see above

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 not likely to be at variance to this Principle

The proposal involves clearing 9.3 hectares of native vegetation for the purpose of constructing a power station. The vegetation comprises of an open growth of Acacia ramulosa, A. sclerosperma, A. tetragonophylla, Eremophila forrestii and Scaevola tomentosa and a ground cover of herbaceous, small woody plants (Astron 2010). The vegetation condition is considered to be in a 'good' to 'degraded' (Keighery 1994) condition.

The area proposed to be cleared consists of Beard Vegetation Association 308 & 205, of which there is approximately 99.5% of the Pre-European extent remaining (Shepherd 2009). The ground cover is dominated by weed species such as Cenchrus ciliaris (Buffel grass) and there are numerous vehicular tracks within the application area. Weed conditions will mitigate the spread of weeds in and out of the application area.

A flora and vegetation survey (Astron 2010) identified 15 priority flora species previously recorded in the local area. Seven of these species have the potential to occur within the application area based on habitat preferences of the flora, and soil within the survey area. Of these seven species, five are perennial shrubs and it is likely they would have been recorded during the survey if present (Astron 2010).

Given that surrounding areas contain vegetation in better condition than that of the applied area, the vegetation under application is not likely to be representative of an area high in biodiversity on a local or regional scale.

Methodology Astron (2010)
 Keighery (1994)
 Shepherd (2009)
 GIS Database:
 - SAC Bio Datasets - accessed October 2010
 - Carnarvon 1.4m ORTHOMOSAIC Landgate 2002

(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 not likely to be at variance to this Principle**
 Fauna habitats within the proposed area to be cleared are well represented elsewhere within the local (40km radius) and regional area. The area to be cleared does not represent a fauna corridor and therefore the clearing will not remove an ecological linkage that is necessary for the maintenance of fauna.

Nine species of conservation significance were recorded within the application area (Astron 2010). Of the species known to the local area, many are migratory birds which are not likely to use the vegetation within the application area as primary habitat (Astron 2008).

The majority of the vegetation in the Carnarvon area is in excellent (Keighery, 1994) condition. Given the proposed clearing (9.3ha) consists of good to degraded vegetation (Keighery 1994); it is unlikely that the proposed clearing will have any impact on significant habitat for fauna indigenous to Western Australia.

Methodology Astron (2010)
 Keighery (1994)
 GIS Database:
 - SAC Bio Datasets - Accessed October 2010
 - Carnarvon 1.4m ORTHOMOSAIC Landgate 2002

(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**
 There are no records of rare flora species within a 40km radius of the application area. Therefore, it is unlikely that the proposal is at variance to this principle.

Methodology GIS Databases
 - Sac bio datasets - accessed October 2010

(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**
 There are no recorded occurrences of Threatened Ecological Communities (TEC's) within the local area (40km radius). Therefore, it is unlikely that the clearing as proposed is part of, or could be considered necessary for the maintenance of a TEC.

Methodology GIS Databases
 - Sac bio datasets - accessed October 2010

(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**
 Approximately 99% of the Pre-European vegetation remains in the IBRA Carnarvon Bioregion and Beard Vegetation Association 308 and 205, within which this proposal is located (Shepherd 2009).

Given the high vegetation representation within the local (40km radius) and regional area, it is not likely that the vegetation within the application area is considered to be a significant remnant of native vegetation within an extensively cleared area.

	Pre-European (ha)	Current extent (ha)	Remaining (%)
IBRA Bioregions*			

Carnarvon	8 382 609.05	8 349 861.39	99.61
Shire*			
Carnarvon	4 638 089.56	4 623 097.86	99.68
Beard Vegetation Association*			
308	446 976.57	446 962.29	100
Beard Vegetation Association within Bioregion*			
308	as above		
Beard Vegetation Association*			
205	294 656.35	294 656.19	100
Beard Vegetation Association within Bioregion*			
205	280 844.15	280 843.99	100

*(Shepherd 2009)

Methodology References
 Shepherd (2009)
 GIS Database:
 - IBRA bioregions
 - Pre European Vegetation

(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

There are no watercourses or wetlands within the application area. Approximately 700m east of the proposed clearing area is an ANCA wetland, McNeill Claypan System and a minor non-perennial watercourse was located 1km west of the application area.

Clearing within the application area may add to the pressures (i.e. grazing), already experienced by the ANCA wetland, McNeill Claypan System (ANRA 2010). A stage clearing condition will mitigate wind erosion impacts on the ANCA wetland.

Given the above, the proposal may be at variance to this principle.

Methodology ANRA (2010)
 GIS Databases:
 - Hydrography, linear (hierarchy) -
 - ANCA Wetlands

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

Comments Proposal may be at variance to this Principle

The topography of the proposed clearing is of low relief, and is situated on rocks of low permeability. The site is described as isolated sand dunes aligned along the coast. Chief soils are red earthy sands (Northcote et al. 1960-1968).

Rainfall and evapotranspiration rates for the local area (40km radius) are both 300mm per annum, suggesting that there is a low risk of water logging within the proposed clearing area.

As the surrounding area has a similar level of topography it is likely that during earth works, soil erosion may occur. Clearing should therefore occur after the wet season to ensure sedimentary runoff is minimised.

Given the above, the proposal may be at variance to this principle

Methodology Northcote et al. (1960-68)
 GIS Database:
 - Topographic contours, statewide
 - Rainfall, Mean Annual
 - Evapotranspiration, Areal Actual

(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 is not likely to be at variance to this Principle

There are two conservation reserves within the local area (20km radius) of the application area. These are Shark Bay Marine Park (4.5km SW) and One tree point nature reserve (R28220) (7km nw).

McNeill Claypan system (ANCA Wetland - 800m east of the application area) falls within the Chargoo Island System (Nearly flats, saline alluvial plains with numerous drainage foci and swampy depressions).

All conservation reserves fall within land systems that differ from that found within the application area (Brown Land System - Gently undulating sand plains and occasional longitudinal dunes).

Given the above, it is not likely that the application is at variance to this principle.

Methodology GIS Layer:
- DEC Tenure
- ANCA Wetlands

(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 may be at variance to this Principle

The clearing of 9.3 hectares of vegetation is unlikely to have a significant impact on groundwater in the proposed clearing area given the average annual rainfall and evapotranspiration rate of the site is 300mm. Groundwater salinity is rated as 3000 - 7000mg/L which is saline.

Clearing within the application area may add to the pressures (i.e. grazing), already experienced by the ANCA wetland, McNeill Claypan System (700m east of the application area) (ANRA 2010). A soil management clearing condition will mitigate wind erosion impacts on the ANCA wetland.

Given the above, the proposal may be at variance to this principle.

Methodology ANRA (2010)
GIS Layer:
- Groundwater salinity Statewide
- RIWI Act, Groundwater Areas
- Rainfall, Mean Annual
- Evapotranspiration, Areal Actual

(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

The limited amount of clearing proposed (9.3 hectares) in comparison with the extent of vegetation within the Carnarvon bioregion, it is unlikely to result in an increase in peak flood height or flood peak duration.

Clearing of 9.3ha is unlikely to have a significant impact on quality or quantity of groundwater given the mean annual rainfall and an evapotranspiration rate for this site of 300mm per annum.

Given the above, it is unlikely that the proposed clearing will cause or exacerbate the incidence or intensity of flooding. Therefore the clearing is not likely to be at variance to this principle.

Methodology Shepherd (2009)
GIS Layers:
- Rainfall, Mean Annual
- Evapotranspiration, Areal Actual

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

Comments

Department of Regional Development and Lands (RDL) wrote a letter to DEC stating they have set aside Lot 501 on DP 68451 for Horizon Power to build a Power Station. The certificate of title will not be available for some time and in order for Horizon Power to ensure the continued supply of Power to the Carnarvon Region, RDL have asked that this letter be sufficient in lieu of certificate of title (Department of Regional Development and Lands 2011).

The Town Planning Scheme Zone is classified as Residential development.

The proposed area lies within the Gascoyne River and Tributaries Groundwater Area as proclaimed under the

Rights in Water and Irrigation Act 1914. Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water. Water requirements for the Horizon Power project will be met by the Carnarvon Town Water Supply scheme.

The proposal was referred to EPA, However , the overall environmental impact of the proposal is not so severe as to require assessment by the EPA, and the subsequent setting of formal conditions by the Minister for Environment (EPA 2010)

The applicant is applying for work approvals through DEC Industry Regulation Branch.

Methodology

References

EPA (2010)

GIS Layer:

- RIWI Act, Groundwater Areas

- Town Planning Schemes

4. References

- ANRA (2010) Australian Natural Resource Atlas. Australian Government. Cited 27 October 2010 at <http://www.anra.gov.au/topics/vegetation/assessment/wa/ibra-car-imp-wetlands.html>
- Astron (2010) Horizon Power Carnarvon Power Station, Gas pipeline Easement and Transmission Line Flora, Vegetation and Fauna Habitat Survey. October 2009. (DEC Ref: A333081)
- EPA (2010) Carnarvon Power Station - Not Assessed - No Advice Given (DEC ref: A338080)
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- 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): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Regional Development of Lands (2011) RE: Lot 501 on Deposited Plan 68451 - Carnarvon Power Station, Browns Range. DEC ref: A376659
- Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

5. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)