



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Purpose Permit Number: 3016 / 1
File Number: A0378/200901
Duration of Permit: From 20 February 2010 to 19 March 2014

PERMIT HOLDER

ARC Energy Limited

LAND ON WHICH CLEARING IS TO BE DONE

Petroleum Production Licence L4 R1
Petroleum Production Licence L5 R1

PURPOSE FOR WHICH THE CLEARING MAY BE DONE

1. Clearing for the purposes of petroleum production.

CONDITIONS

Type of clearing authorised

1. The Permit Holder shall not clear more than 3 hectares of native vegetation within the areas cross-hatched yellow on attached Plan 3016/1.

Avoid, minimise etc clearing

2. 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.

Dieback and weed control

3. 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.

Retention, and revegetation and rehabilitation

4. (a) The Permit Holder shall retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
4. (b) Within 12 months of the area no longer being required for petroleum production, the Permit Holder must *revegetate* and *rehabilitate* the area cross-hatched yellow on attached Plan 3016/1 by:
 - (i) laying the vegetative material and topsoil retained under condition 4a on the cleared area;
 - (ii) deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area; and

- (iii) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.
4. (c) Within twelve months of undertaking *revegetation* and *rehabilitation* in accordance with Condition 4(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 4(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 additional *planting* or *direct seeding* of native vegetation in accordance with the requirements of Condition 4(b)(ii) and (iii) of this Permit.

Offsets

5. If part or all of the clearing to be done is or may be at variance with one or more of the clearing principles, then the Permit Holder must implement an *offset* in accordance with Conditions 5a and 5b of this Permit with respect to that clearing.
- (a) Determination of offsets:
- (i) If required by Condition 5(a)(iii) of this Permit, the Permit Holder must develop an *offset proposal* and implement an *offset* in accordance with Conditions 5(b)(i) to 5(b)(xii) of this Permit with respect to that clearing.
 - (ii) 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 comply with to the offset principles contained in condition 5(b) of this Permit.
 - (iii) Each *offset proposal* shall include a *direct offset*, timing for implementation of the *offset*, criteria for determining success of the *offset*, remedial actions to ensure success of the *offset*, and may additionally include *contributing offsets*.
 - (iv) Once the Permit Holder has developed an *offset proposal*, the Permit Holder must provide that *offset proposal* to the Director, Environment Division, Department of Mines and Petroleum for the Director's approval in accordance with Condition 5(a)(ii) of this Permit, prior to undertaking any clearing to which the *offset* related, and prior to implementing the *offset*.
 - (v) The Permit Holder shall implement an *offset* in accordance with an *offset proposal* approved under Condition 5(a)(ii) and 5(a)(iv) of this Permit.
- (b) Offset principles
- For the purpose of this Part, 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*.

- (c) Duration of offsets
 - (i) The Permit Holder must ensure that an *offset* implemented under this Permit continues to be implemented for the *term* of this Permit.
 - (ii) If for any reason an *offset* is not continually implemented for the *term* of this Permit, the Permit Holder must:
 - i implement the *offset* again within 12 months of becoming aware that the *offset* is not being maintained; and
 - ii if necessary, modify the *offset* in a manner that increases the likelihood that the *offset* will be implemented for the *term* of this Permit.

Records to be kept:

6. The Permit Holder must maintain the following records for activities done pursuant to this Permit
- (a) 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;
 - (iii) the size of the area cleared (in hectares); and
 - (iv) purpose for which clearing was undertaken.
 - (b) In relation to the revegetation and rehabilitation of areas pursuant to condition 4 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; and
 - (iii) the size of the area revegetated and rehabilitated (in hectares).

Reporting

7. (a) The Permit Holder shall provide a report to the Director, Environment Division, Department of Mines and Petroleum by 31 December each year for the life of this permit, demonstrating adherence to all conditions of this permit, and setting out the records required under Condition 6 of this permit in relation to clearing carried out between 1 December and 30 November of the previous financial year.
7. (b) Prior to 19 March 2014, the Permit Holder must provide to the Director, Environment Division, Department of Mines and Petroleum a written report of records required under Condition 6 of this Permit where these records have not already been provided under Condition 7(a) of this Permit.

Definitions

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

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;

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;

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;

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;

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

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 #1 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 5 of this Permit;

offset proposal means an *offset* determined by the Permit Holder in accordance with Condition 5 of this Permit;

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

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;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area;

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*;



Phil Gorey
DIRECTOR
ENVIRONMENT DIVISION
DEPARTMENT OF MINES AND PETROLEUM
Officer with delegated authority under Section 20
of the Environmental Protection Act 1986

21 January 2010