



**Australian Government**

**Department of Sustainability, Environment, Water, Population and Communities**

## Referral of proposed action

### What is a referral?

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) provides for the protection of the environment, especially matters of national environmental significance (NES). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the matters of NES without approval from the Australian Government Environment Minister or the Minister's delegate. (Further references to 'the Minister' in this form include references to the Minister's delegate.) To obtain approval from the Environment Minister, a proposed action should be referred. The purpose of a referral is to obtain a decision on whether your proposed action will need formal assessment and approval under the EPBC Act.

Your referral will be the principal basis for the Minister's decision as to whether approval is necessary and, if so, the type of assessment that will be undertaken. These decisions are made within 20 business days, provided that sufficient information is provided in the referral.

### Who can make a referral?

Referrals may be made by or on behalf of a person proposing to take an action, the Commonwealth or a Commonwealth agency, a state or territory government, or agency, provided that the relevant government or agency has administrative responsibilities relating to the action.

### When do I need to make a referral?

A referral must be made for actions that are likely to have a significant impact on the following matters protected by Part 3 of the EPBC Act:

- World Heritage properties (sections 12 and 15A)
- National Heritage places (sections 15B and 15C)
- Wetlands of international importance (sections 16 and 17B)
- Listed threatened species and communities (sections 18 and 18A)
- Listed migratory species (sections 20 and 20A)
- Protection of the environment from nuclear actions (sections 21 and 22A)
- Commonwealth marine environment (sections 23 and 24A)
- Great Barrier Reef Marine Park (sections 24B and 24C)
- The environment, if the action involves Commonwealth land (sections 26 and 27A), including:
  - actions that are likely to have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land);
  - actions taken on Commonwealth land that may have a significant impact on the environment generally;
- The environment, if the action is taken by the Commonwealth (section 28)
- Commonwealth Heritage places outside the Australian jurisdiction (sections 27B and 27C)

You may still make a referral if you believe your action is not going to have a significant impact, or if you are unsure. This will provide a greater level of certainty that Commonwealth assessment requirements have been met.

To help you decide whether or not your proposed action requires approval (and therefore, if you should make a referral), the following guidance is available from:

- the Policy Statement titled Significant Impact Guidelines 1.1 – Matters of National Environmental Significance. Additional sectoral guidelines are also available.
- the Policy Statement titled Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies.

- the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location).

### **Can I refer part of a larger action?**

In certain circumstances, the Minister may not accept a referral for an action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act). If you wish to make a referral for a staged or component referral, read 'Fact Sheet 6 Staged Developments/Split Referrals' and contact the Referral Business Entry Point (1800 803 772).

### **Do I need a permit?**

Some activities may also require a permit under other sections of the EPBC Act or another law of the Commonwealth. Information is available on the Department's web site.

### **Is your action in the Great Barrier Reef Marine Park?**

If your action is in the Great Barrier Reef Marine Park it may require permission under the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act). If a permission is required, referral of the action under the EPBC Act is deemed to be an application under the GBRMP Act (see section 37AB, GBRMP Act). This referral will be forwarded to the Great Barrier Reef Marine Park Authority (the Authority) for the Authority to commence its permit processes as required under the Great Barrier Reef Marine Park Regulations 1983. If a permission is not required under the GBRMP Act, no approval under the EPBC Act is required (see section 43, EPBC Act). The Authority can provide advice on relevant permission requirements applying to activities in the Marine Park.

The Authority is responsible for assessing applications for permissions under the GBRMP Act, GBRMP Regulations and Zoning Plan. Where assessment and approval is also required under the EPBC Act, a single integrated assessment for the purposes of both Acts will apply in most cases. Further information on environmental approval requirements applying to actions in the Great Barrier Reef Marine Park is available from <http://www.gbrmpa.gov.au/> or by contacting GBRMPA's Environmental Assessment and Management Section on (07) 4750 0700.

The Authority may require a permit application assessment fee to be paid in relation to the assessment of applications for permissions required under the GBRMP Act, even if the permission is made as a referral under the EPBC Act. Further information on this is available from the Authority:

Great Barrier Reef Marine Park Authority

2-68 Flinders Street PO Box 1379  
Townsville QLD 4810  
AUSTRALIA

Phone: + 61 7 4750 0700

Fax: + 61 7 4772 6093

[www.gbrmpa.gov.au](http://www.gbrmpa.gov.au)

### **What information do I need to provide?**

Completing all parts of this form will ensure that you submit the required information and will also assist the Department to process your referral efficiently.

You can complete your referral by entering your information into this Word file.

#### **Instructions**

Instructions are provided in green text throughout the form.

#### **Attachments/supporting information**

The referral form should contain sufficient information to provide an adequate basis for a decision on the likely impacts of the proposed action. You should also provide supporting documentation, such as environmental reports or surveys, as attachments.

Coloured maps, figures or photographs to help explain the project and its location should also be submitted with your referral. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents.

Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

**Please ensure any attachments are below two megabytes (2mb) as they will be published on the Department's website for public comment. To minimise file size, enclose maps and figures as separate files if necessary. If unsure, contact the Referral Business Entry Point for advice. Attachments larger than two megabytes (2mb) may delay processing of your referral.**

**Note: the Minister may decide not to publish information that the Minister is satisfied is commercial-in-confidence.**

## How do I submit a referral?

Referrals may be submitted by mail, fax or email.

### Mail to:

Referral Business Entry Point  
Environment Assessment Branch  
Department of Sustainability, Environment, Water, Population and Communities  
GPO Box 787  
CANBERRA ACT 2601

- If submitting via mail, electronic copies of documentation (on CD/DVD or by email) are appreciated.

### Fax to: 02 6274 1789

- Faxed documents must be of sufficiently clear quality to be scanned into electronic format.
- Address the fax to the mailing address, and clearly mark it as a 'Referral under the EPBC Act'.
- Follow up with a mailed hardcopy including copies of any attachments or supporting reports.

### Email to: [epbc.referrals@environment.gov.au](mailto:epbc.referrals@environment.gov.au)

- Clearly mark the email as a 'Referral under the EPBC Act'.
- Attach the referral as a Microsoft Word file and, if possible, a PDF file.
- Follow up with a mailed hardcopy including copies of any attachments or supporting reports.

## What happens next?

Following receipt of a valid referral (containing all required information) you will be advised of the next steps in the process, and the referral and attachments will be published on the Department's web site for public comment.

The Department will write to you within 20 business days to advise you of the outcome of your referral and whether or not formal assessment and approval under the EPBC Act is required. There are a number of possible decisions regarding your referral:

### **The proposed action is NOT LIKELY to have a significant impact and does NOT NEED approval**

No further consideration is required under the environmental assessment provisions of the EPBC Act and the action can proceed (subject to any other Commonwealth, state or local government requirements).

### **The proposed action is NOT LIKELY to have a significant impact IF undertaken in a particular manner**

The action can proceed if undertaken in a particular manner (subject to any other Commonwealth, state or local government requirements). The particular manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the particular manner to the Department.

### **The proposed action is LIKELY to have a significant impact and does NEED approval**

If the action is likely to have a significant impact a decision will be made that it is a *controlled action*. The particular matters upon which the action may have a significant impact (such as World Heritage values or threatened species) are known as the *controlling provisions*.

The controlled action is subject to a public assessment process before a final decision can be made about whether to approve it. The assessment approach will usually be decided at the same time as the controlled action decision. (Further information about the levels of assessment and basis for deciding the approach are available on the Department's web site.)

**The proposed action would have UNACCEPTABLE impacts and CANNOT proceed**

The Minister may decide, on the basis of the information in the referral, that a referred action would have clearly unacceptable impacts on a protected matter and cannot proceed.

**Compliance audits**

If a decision is made to approve a project, the Department may audit it at any time to ensure that it is completed in accordance with the approval decision or the information provided in the referral. If the project changes, such that the likelihood of significant impacts could vary, you should write to the Department to advise of the changes. If your project is in the Great Barrier Reef Marine Park and a decision is made to approve it, the Authority may also audit it. (See "*Is your action in the Great Barrier Reef Marine Park*," p.2, for more details).

**For more information**

- call the Department of Sustainability, Environment, Water, Populations and Communities Community Information Unit on 1800 803 772 or
- visit the web site [www.environment.gov.au/epbc](http://www.environment.gov.au/epbc)

All the information you need to make a referral, including documents referenced in this form, can be accessed from the above web site.

# Referral of proposed action

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**Project title: Mt Arthur Coal Extension Project**

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## 1 Summary of proposed action

**NOTE:** You must also attach a map/plan(s) showing the location and approximate boundaries of the area in which the project is to occur. Maps in A4 size are preferred. You must also attach a map(s)/plan(s) showing the location and boundaries of the project area in respect to any features identified in 3.1 & 3.2, as well as the extent of any freehold, leasehold or other tenure identified in 3.3(i).

### 1.1 Short description

Use 2 or 3 sentences to uniquely identify the proposed action and its location.

Hunter Valley Energy Coal Pty Ltd (**HVEC**) operates the Mt Arthur Coal Complex located approximately 5 kilometres south west of Muswellbrook, in the Upper Hunter Valley of New South Wales (**NSW**) (see **Figure 1**). Mining has been carried out at the Mt Arthur Coal Complex since the 1960s.

#### **Mt Arthur Coal Complex**

The Mt Arthur Coal Complex comprises:

- (a) the open cut mining operations of the Mt Arthur North mine, the Bayswater No. 3 mine (incorporating the Bayswater No. 2 operational area), the South Pit Extension and the development of five new open cut mine extension areas to uncover additional coal reserves, each approved as part of the Mt Arthur Coal Consolidation Project (**MACCP**) (the **Open Cut Operations**); and
- (b) the yet to be commenced **Underground Operations** of the Mt Arthur Underground project, including such operations approved as part of the MACCP.

The Open Cut Operations and the Underground Operations have planning approvals under the NSW *Environmental Planning and Assessment Act 1979* (**EP&A Act**). The disturbance areas associated with the Open Cut Operations (the **Open Cut Disturbance Boundary**) is shown on **Figure 2**.

#### **Proposed Action**

The **Proposed Action** the subject of this Referral is part of the Mt Arthur Coal Complex.

The **Proposed Action Area** is shown on **Figure 3**. It is within the Open Cut Disturbance Boundary.

The Proposed Action does not include:

- (a) The current active operational mining areas and additional operational areas which will become active prior to the end of 2012 (the **Active Operational Areas**). The originally approved Bayswater No. 3 mine (the **Original Bayswater No. 3 Area** identified on **Figure 2**) comprises part of the Active Operational Areas. It is noted that in addition to comprising part of the Active Operational Areas, the Original Bayswater No. 3 Area is "grandfathered" under section 43A of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**);

- (b) The Underground Operations. This part of the Mt Arthur Coal Complex is not yet operational, and will be referred separately if required; and
- (c) Any exploration activities, monitoring works and construction and use of linear infrastructure within the Proposed Action Area necessary to support the Active Operational Areas.

1.2 **Latitude and longitude**  
 Latitude and longitude details are used to accurately map the boundary of the proposed action. If these coordinates are inaccurate or insufficient it may delay the processing of your referral.

The reference coordinates for the Mt Arthur Coal Complex are shown on **Figure 4A** and the reference coordinates for the Active Operational Areas are shown on **Figures 4B and 4C**.

The reference coordinates as shown on **Figures 4A – 4C** are reproduced in the tables below.

The Interactive Mapping Tool may provide assistance in determining the coordinates for your project area.

If area less than 5 hectares, provide the location as a single pair of latitude and longitude references. If area greater than 5 hectares, provide bounding location points.

If the proposed action is linear (eg. a road or pipeline), provide coordinates for each turning point.

Do not use AMG coordinates.

**Figure 4A Reference Co-ords**

Point	Latitude	Longitude
1.	32°17'11"	150°52'11"
2.	32°17'12"	150°52'12"
3.	32°17'13"	150°52'13"
4.	32°17'18"	150°52'18"
5.	32°17'21"	150°52'21"
6.	32°17'25"	150°52'25"
7.	32°17'26"	150°52'26"
8.	32°18'31"	150°52'31"
9.	32°18'33"	150°52'33"
10.	32°18'44"	150°52'44"
11.	32°18'52"	150°52'52"
12.	32°19'02"	150°53'02"
13.	32°19'05"	150°53'05"
14.	32°19'09"	150°53'09"
15.	32°19'10"	150°53'10"
16.	32°19'13"	150°53'13"
17.	32°19'18"	150°53'18"
18.	32°19'23"	150°53'23"
19.	32°19'28"	150°53'28"
20.	32°19'32"	150°53'32"
21.	32°19'36"	150°53'36"
22.	32°19'41"	150°53'41"
23.	32°19'44"	150°53'44"
24.	32°19'46"	150°53'46"
25.	32°19'49"	150°53'49"
26.	32°19'59"	150°53'59"
27.	32°20'54"	150°54'02"
28.	32°20'05"	150°54'05"
29.	32°20'07"	150°54'07"
30.	32°20'09"	150°54'09"
31.	32°20'12"	150°54'12"
32.	32°20'16"	150°54'16"
33.	32°20'21"	150°54'21"
34.	32°20'27"	150°54'27"
35.	32°20'34"	150°54'34"
36.	32°20'34"	150°54'34"
37.	32°20'34"	150°54'34"
38.	32°20'32"	150°54'32"

**Figure 4B Reference Co-ords**

Point	Latitude	Longitude
1.	32°17'46"	150°51'53"
2.	32°17'54"	150°51'53"
3.	32°18'05"	150°51'58"
4.	32°18'12"	150°51'59"
5.	32°18'13"	150°52'01"
6.	32°18'17"	150°52'01"
7.	32°18'26"	150°52'01"
8.	32°18'26"	150°52'05"
9.	32°18'32"	150°52'15"
10.	32°18'36"	150°52'22"
11.	32°18'39"	150°52'26"
12.	32°18'39"	150°52'26"
13.	32°18'52"	150°52'33"
14.	32°18'52"	150°52'33"
15.	32°18'53"	150°52'33"
16.	32°18'53"	150°52'33"
17.	32°18'54"	150°52'34"
18.	32°18'55"	150°52'34"
19.	32°18'55"	150°52'34"
20.	32°18'56"	150°52'35"
21.	32°18'57"	150°52'35"
22.	32°18'57"	150°52'35"
23.	32°18'58"	150°52'35"
24.	32°18'59"	150°52'36"
25.	32°18'59"	150°52'36"
26.	32°19'04"	150°52'41"
27.	32°19'05"	150°52'42"
28.	32°19'08"	150°52'44"
29.	32°19'24"	150°52'49"
30.	32°19'28"	150°52'54"
31.	32°19'31"	150°52'53"
32.	32°19'36"	150°52'52"
33.	32°19'36"	150°52'52"
34.	32°19'40"	150°52'58"
35.	32°19'40"	150°53'01"
36.	32°19'43"	150°53'06"
37.	32°19'30"	150°52'53"
38.	32°19'43"	150°53'06"

**Figure 4C Reference Co-ords**

Point	Latitude	Longitude
1.	32°20'13"	150°49'02"
2.	32°20'22"	150°49'37"
3.	32°20'39"	150°50'02"
4.	32°21'58"	150°50'28"
5.	32°21'03"	150°50'32"
6.	32°21'09"	150°50'37"
7.	32°21'12"	150°50'40"
8.	32°21'16"	150°50'41"
9.	32°21'19"	150°50'43"
10.	32°21'23"	150°50'43"
11.	32°21'32"	150°50'44"
12.	32°21'42"	150°50'45"
13.	32°21'48"	150°50'46"
14.	32°22'52"	150°50'49"
15.	32°22'03"	150°50'49"
16.	32°22'03"	150°50'50"
17.	32°22'06"	150°50'51"
18.	32°22'06"	150°50'52"
19.	32°22'08"	150°50'53"
20.	32°22'09"	150°50'56"
21.	32°22'08"	150°50'58"
22.	32°22'09"	150°51'03"
23.	32°22'05"	150°51'05"
24.	32°22'02"	150°51'12"
25.	32°22'02"	150°51'22"
26.	32°22'02"	150°51'34"
27.	32°22'02"	150°51'38"
28.	32°22'02"	150°51'41"
29.	32°22'02"	150°51'46"
30.	32°22'02"	150°51'48"
31.	32°22'03"	150°51'49"
32.	32°22'03"	150°51'51"
33.	32°22'04"	150°51'52"
34.	32°22'05"	150°51'56"
35.	32°22'07"	150°52'01"
36.	32°22'08"	150°52'08"
37.	32°22'11"	150°52'09"
38.	32°22'13"	150°52'11"

39.	32°20'31"	150°54'31"
40.	32°20'41"	150°54'41"
41.	32°20'41"	150°54'41"
42.	32°20'34"	150°54'34"
43.	32°20'32"	150°54'32"
44.	32°20'40"	150°54'40"
45.	32°21'42"	150°54'42"
46.	32°21'41"	150°54'41"
47.	32°21'39"	150°54'39"
48.	32°21'38"	150°54'38"
49.	32°21'37"	150°54'37"
50.	32°21'36"	150°54'36"
51.	32°22'34"	150°54'34"
52.	32°22'17"	150°54'17"
53.	32°22'60"	150°53'60"
54.	32°22'30"	150°53'30"
55.	32°22'01"	150°53'01"
56.	32°23'01"	150°53'01"
57.	32°23'42"	150°52'42"
58.	32°23'42"	150°52'42"
59.	32°24'42"	150°52'42"
60.	32°24'17"	150°50'17"
61.	32°24'26"	150°47'26"
62.	32°23'15"	150°47'15"
63.	32°23'03"	150°47'03"
64.	32°23'18"	150°47'18"
65.	32°22'20"	150°47'20"
66.	32°22'13"	150°47'13"
67.	32°22'13"	150°47'13"
68.	32°22'02"	150°47'02"
69.	32°22'01"	150°47'01"
70.	32°22'59"	150°46'59"
71.	32°20'11"	150°46'11"
72.	32°20'54"	150°46'54"
73.	32°20'07"	150°47'07"
74.	32°20'34"	150°47'34"
75.	32°20'38"	150°47'38"
76.	32°20'38"	150°47'38"
77.	32°20'38"	150°47'38"
78.	32°20'43"	150°47'43"
79.	32°20'49"	150°47'49"
80.	32°20'46"	150°47'46"
81.	32°19'40"	150°47'40"
82.	32°19'38"	150°47'38"
83.	32°19'38"	150°47'38"
84.	32°19'42"	150°47'42"
85.	32°19'46"	150°47'46"
86.	32°19'51"	150°47'51"
87.	32°19'54"	150°47'54"
88.	32°19'59"	150°47'59"
89.	32°19'03"	150°48'03"
90.	32°19'08"	150°48'08"
91.	32°18'05"	150°48'05"
92.	32°18'06"	150°48'06"
93.	32°18'06"	150°48'06"
94.	32°18'07"	150°48'07"
95.	32°18'08"	150°48'08"
96.	32°18'10"	150°48'10"
97.	32°18'15"	150°48'15"
98.	32°18'17"	150°48'17"
99.	32°18'18"	150°48'18"
100.	32°18'22"	150°48'22"
101.	32°18'24"	150°48'24"
102.	32°18'24"	150°48'24"
103.	32°18'25"	150°48'25"
104.	32°18'27"	150°48'27"
105.	32°18'28"	150°48'28"
106.	32°18'28"	150°48'28"
107.	32°18'28"	150°48'28"
108.	32°18'28"	150°48'28"
109.	32°18'29"	150°48'29"
110.	32°18'30"	150°48'30"
111.	32°18'31"	150°48'31"
112.	32°18'32"	150°48'32"
113.	32°18'33"	150°48'33"

39.	32°19'47"	150°53'06"
40.	32°19'50"	150°53'06"
41.	32°19'50"	150°53'08"
42.	32°19'47"	150°53'14"
43.	32°19'44"	150°53'24"
44.	32°19'42"	150°53'29"
45.	32°19'42"	150°53'34"
46.	32°19'42"	150°53'39"
47.	32°19'43"	150°53'42"
48.	32°19'43"	150°53'43"
49.	32°19'43"	150°53'47"
50.	32°19'49"	150°53'49"
51.	32°19'59"	150°53'59"
52.	32°19'02"	150°54'02"
53.	32°20'05"	150°54'05"
54.	32°20'07"	150°54'07"
55.	32°20'09"	150°54'09"
56.	32°20'12"	150°54'12"
57.	32°20'16"	150°54'16"
58.	32°20'21"	150°54'21"
59.	32°20'27"	150°54'27"
60.	32°20'34"	150°54'34"
61.	32°20'34"	150°54'34"
62.	32°20'34"	150°54'34"
63.	32°20'32"	150°54'32"
64.	32°20'31"	150°54'31"
65.	32°20'41"	150°54'41"
66.	32°20'41"	150°54'41"
67.	32°20'34"	150°54'34"
68.	32°20'32"	150°54'32"
69.	32°20'40"	150°54'40"
70.	32°21'42"	150°54'42"
71.	32°21'41"	150°54'41"
72.	32°21'39"	150°54'39"
73.	32°21'38"	150°54'38"
74.	32°21'37"	150°54'37"
75.	32°21'48"	150°54'37"
76.	32°21'59"	150°54'36"
77.	32°22'11"	150°54'35"
78.	32°22'22"	150°54'34"
79.	32°22'24"	150°54'30"
80.	32°22'17"	150°54'17"
81.	32°22'60"	150°53'60"
82.	32°22'30"	150°53'30"
83.	32°22'38"	150°53'09"
84.	32°22'36"	150°53'08"
85.	32°22'24"	150°53'13"
86.	32°22'18"	150°53'15"
87.	32°22'00"	150°53'16"
88.	32°21'52"	150°53'12"
89.	32°22'03"	150°52'53"
90.	32°22'22"	150°52'52"
91.	32°22'31"	150°52'49"
92.	32°22'40"	150°52'43"
93.	32°22'44"	150°52'37"
94.	32°22'42"	150°52'33"
95.	32°22'17"	150°52'29"
96.	32°22'09"	150°52'28"
97.	32°22'00"	150°52'30"
98.	32°21'59"	150°52'29"
99.	32°21'59"	150°52'28"
100.	32°21'59"	150°52'26"
101.	32°21'55"	150°52'25"
102.	32°21'51"	150°52'24"
103.	32°21'45"	150°52'24"
104.	32°21'43"	150°52'24"
105.	32°21'41"	150°52'23"
106.	32°21'36"	150°52'27"
107.	32°21'35"	150°52'27"
108.	32°21'34"	150°52'26"
109.	32°21'33"	150°52'05"
110.	32°21'21"	150°51'52"
111.	32°21'16"	150°51'49"
112.	32°21'04"	150°51'40"
113.	32°20'56"	150°51'34"

39.	32°22'14"	150°52'10"
40.	32°22'19"	150°52'13"
41.	32°22'24"	150°52'17"
42.	32°22'36"	150°52'20"
43.	32°22'46"	150°52'22"
44.	32°22'47"	150°52'13"
45.	32°22'46"	150°52'02"
46.	32°22'49"	150°52'02"
47.	32°22'49"	150°52'05"
48.	32°23'54"	150°52'05"
49.	32°23'57"	150°52'08"
50.	32°23'02"	150°52'15"
51.	32°23'04"	150°52'13"
52.	32°23'05"	150°52'12"
53.	32°23'10"	150°52'14"
54.	32°23'11"	150°52'14"
55.	32°23'14"	150°52'13"
56.	32°23'17"	150°52'12"
57.	32°23'20"	150°52'13"
58.	32°23'28"	150°52'12"
59.	32°23'31"	150°52'11"
60.	32°23'32"	150°52'01"
61.	32°23'31"	150°51'59"
62.	32°23'23"	150°51'54"
63.	32°23'43"	150°51'18"
64.	32°22'34"	150°50'20"
65.	32°22'33"	150°50'17"
66.	32°22'34"	150°50'16"
67.	32°22'33"	150°50'12"
68.	32°22'32"	150°50'09"
69.	32°22'34"	150°50'07"
70.	32°22'33"	150°50'05"
71.	32°22'35"	150°50'04"
72.	32°22'35"	150°50'04"
73.	32°22'38"	150°50'05"
74.	32°22'40"	150°50'98"
75.	32°22'48"	150°50'14"
76.	32°23'50"	150°50'14"
77.	32°23'51"	150°50'12"
78.	32°22'51"	150°50'10"
79.	32°22'54"	150°50'05"
80.	32°22'52"	150°50'04"
81.	32°22'55"	150°50'03"
82.	32°23'59"	150°50'02"
83.	32°23'03"	150°49'60"
84.	32°23'06"	150°49'54"
85.	32°23'06"	150°49'48"
86.	32°23'02"	150°49'43"
87.	32°23'57"	150°49'40"
88.	32°22'54"	150°49'38"
89.	32°22'46"	150°49'39"
90.	32°22'39"	150°49'42"
91.	32°22'36"	150°49'46"
92.	32°22'33"	150°49'47"
93.	32°22'32"	150°49'41"
94.	32°22'32"	150°49'29"
95.	32°22'28"	150°49'25"
96.	32°22'28"	150°49'24"
97.	32°22'25"	150°49'25"
98.	32°22'20"	150°49'29"
99.	32°22'16"	150°49'26"
100.	32°22'13"	150°49'22"
101.	32°22'12"	150°49'19"
102.	32°22'13"	150°49'13"
103.	32°22'14"	150°49'08"
104.	32°22'13"	150°49'04"
105.	32°22'59"	150°48'58"
106.	32°22'52"	150°48'59"
107.	32°22'51"	150°48'57"
108.	32°21'35"	150°49'00"
109.	32°21'35"	150°48'58"
110.	32°21'27"	150°48'59"
111.	32°21'12"	150°48'55"
112.	32°21'10"	150°48'48"
113.	32°21'51"	150°48'29"

114.	32°18'34"	150°48'34"
115.	32°18'35"	150°48'35"
116.	32°18'37"	150°48'37"
117.	32°18'40"	150°48'40"
118.	32°18'42"	150°48'42"
119.	32°18'44"	150°48'44"
120.	32°18'46"	150°48'46"
121.	32°18'49"	150°48'49"
122.	32°18'50"	150°48'50"
123.	32°18'51"	150°48'51"
124.	32°18'58"	150°48'58"
125.	32°18'05"	150°49'05"
126.	32°18'10"	150°49'10"
127.	32°18'24"	150°49'24"
128.	32°18'34"	150°49'34"
129.	32°18'47"	150°49'47"
130.	32°18'06"	150°50'06"
131.	32°18'24"	150°50'24"
132.	32°18'39"	150°50'39"
133.	32°17'53"	150°50'53"
134.	32°17'39"	150°50'39"
135.	32°17'41"	150°50'41"
136.	32°17'42"	150°50'42"
137.	32°17'44"	150°50'44"
138.	32°17'45"	150°50'45"
139.	32°17'46"	150°50'46"
140.	32°17'48"	150°50'48"
141.	32°17'49"	150°50'49"
142.	32°17'10"	150°51'10"
143.	32°17'13"	150°51'13"
144.	32°17'25"	150°51'25"
145.	32°17'37"	150°51'37"
146.	32°17'46"	150°51'46"
147.	32°17'01"	150°52'01"
148.	32°17'05"	150°52'05"
149.	32°17'06"	150°52'06"
150.	32°17'09"	150°52'09"

114.	32°20'43"	150°51'17"
115.	32°20'28"	150°51'06"
116.	32°20'19"	150°50'49"
117.	32°20'10"	150°50'33"
118.	32°20'05"	150°50'28"
119.	32°19'54"	150°50'10"
120.	32°19'54"	150°49'57"
121.	32°19'42"	150°49'44"
122.	32°19'37"	150°49'44"
123.	32°19'38"	150°49'43"
124.	32°19'37"	150°49'40"
125.	32°19'39"	150°49'37"
126.	32°19'42"	150°49'33"
127.	32°19'49"	150°49'25"
128.	32°19'51"	150°49'22"
129.	32°19'51"	150°49'21"
130.	32°19'38"	150°49'19"
131.	32°19'38"	150°49'19"
132.	32°19'21"	150°49'15"
133.	32°19'18"	150°49'14"
134.	32°19'18"	150°49'14"
135.	32°19'10"	150°49'12"
136.	32°18'58"	150°49'08"
137.	32°18'55"	150°49'11"
138.	32°18'53"	150°49'12"
139.	32°18'51"	150°49'12"
140.	32°18'49"	150°49'15"
141.	32°18'47"	150°49'17"
142.	32°18'53"	150°49'21"
143.	32°19'08"	150°49'31"
144.	32°19'12"	150°49'33"
145.	32°19'17"	150°49'35"
146.	32°19'20"	150°49'35"
147.	32°19'25"	150°49'36"
148.	32°19'27"	150°49'39"
149.	32°19'30"	150°49'43"
150.	32°18'49"	150°49'37"
151.	32°18'39"	150°49'54"
152.	32°18'30"	150°49'53"
153.	32°18'19"	150°49'59"
154.	32°18'17"	150°50'00"
155.	32°18'14"	150°50'06"
156.	32°18'11"	150°50'14"
157.	32°18'12"	150°50'15"
158.	32°18'08"	150°50'25"
159.	32°18'14"	150°50'33"
160.	32°18'18"	150°50'37"
161.	32°18'19"	150°51'26"
162.	32°18'23"	150°51'40"
163.	32°18'25"	150°51'48"
164.	32°18'24"	150°51'59"
165.	32°18'20"	150°52'00"
166.	32°18'14"	150°51'57"
167.	32°18'12"	150°51'54"
168.	32°18'07"	150°51'49"
169.	32°17'58"	150°51'44"
170.	32°17'53"	150°51'38"
171.	32°17'50"	150°51'33"
172.	32°17'49"	150°51'29"
173.	32°17'45"	150°51'38"
174.	32°17'43"	150°51'44"

114.	32°20'43"	150°48'39"
115.	32°20'43"	150°48'39"
116.	32°20'43"	150°48'40"
117.	32°20'46"	150°48'41"
118.	32°21'50"	150°48'39"
119.	32°21'52"	150°48'40"
120.	32°21'52"	150°48'44"
121.	32°21'53"	150°48'45"
122.	32°21'53"	150°48'55"
123.	32°21'55"	150°48'57"
124.	32°21'00"	150°48'54"
125.	32°21'04"	150°48'52"
126.	32°21'04"	150°48'57"
127.	32°21'06"	150°48'60"
128.	32°21'04"	150°49'01"
129.	32°21'05"	150°49'03"
130.	32°21'03"	150°49'04"
131.	32°21'05"	150°49'20"
132.	32°21'04"	150°49'21"
133.	32°21'02"	150°49'19"
134.	32°21'01"	150°49'16"
135.	32°21'58"	150°49'15"
136.	32°20'55"	150°49'17"
137.	32°20'54"	150°49'17"
138.	32°20'51"	150°49'21"
139.	32°20'45"	150°49'30"
140.	32°20'42"	150°49'31"
141.	32°20'40"	150°49'28"
142.	32°20'39"	150°49'27"
143.	32°20'37"	150°49'29"
144.	32°20'36"	150°49'29"
145.	32°20'31"	150°49'19"
146.	32°20'30"	150°49'19"
147.	32°20'27"	150°49'22"

1.3 **Locality and property description**

Provide a brief physical description of the property on which the proposed action will take place and the project location (eg. proximity to major towns, or for off-shore projects, shortest distance to mainland).

The Mt Arthur Coal Complex is located on Thomas Mitchell Drive, west of the New England Highway, north west of the Bayswater and Liddell Power Stations in the Muswellbrook Shire Council Local Government Area.

It is approximately 5 kilometres south west of Muswellbrook and approximately 130 kilometres north west of Newcastle, within the Hunter River catchment in the Upper Hunter Valley of NSW.

1.4 **Size of the development footprint or work area (hectares)**

The external boundary of the Mt Arthur Coal Complex (see **Figure 3**) comprises an area of approximately 11,228 hectares.

The Open Cut Disturbance Boundary covers 6,452 hectares. The Active Operational Areas covers an area of 5,213 hectares. The Proposed Action Area totals 1,237 hectares (see **Figure 3**).

1.5 **Street address of the site**

Mt Arthur Coal, Thomas Mitchell Drive, Muswellbrook, NSW 2333

1.6 **Lot description**

Describe the lot numbers and title description, if known.

The land title particulars for the Mt Arthur Coal Complex are shown in **Table 1**:

**Table 1** Lot and DPs for the Mt Arthur Coal Complex.

Lot	DP	Lot	DP	Lot	DP	Lot	DP
1	27346*	1	956112*	10	26211*	3	249536
1	113689*	1	1004725*	10	29950*	3	387021
1	249536*	2	34397*	10	632691*	4	247064
1	503827*	4	6090*	10	793428*	4	249536
1	843634*	6	843635*	11	27346*	4	843634
2	27346*	11	29950*	11	632691*	5	27346
2	29950*	11	526344*	12	27346*	5	113689
2	573259*	21	1018587*	12	29950*	5	249536
2	601359*	30	787702*	13	27346*	6	27346
2	806149*	97	752441*	13	228159*	6	249536
2	843634*	102	752441*	14	27346*	7	27346
3	27346*	321	625513*	15	27346*	8	27346
3	29950*	1	372862*	16	27346*	9	655749
3	48776*	7	843635*	63	752449*	20	550431
3	843634*	9	843635*	66	850818*	49	752500
3	1090735*	64	850818*	85	752500*	68	752500
4	27346*	65	850818*	110	727767*	69	752500
4	29950*	1	29950	111	246348*	70	752500
4	48776*	1	101142	112	246348*	71	752500
4	204369*	1	133634	113	246348*	83	752500
4	390143*	1	308136	114	246348*	98	752441
4	843634*	1	385720	121	575515*	111	514759
5	48776*	1	403081	122	575515*	111	633293
5	1090735*	1	515936	123	575515*	112	514759
6	29950*	1	573259	124	575515*	112	633293
6	48776*	1	806149	154	752500*	113	1078759
7	29950*	2	133634	201	842045*	159	722249
7	48776*	2	249536	604	802124*	160	722249
8	26211*	2	385720	607	802124*	166	752503
8	29950*	2	387021	1	34397*	7003	93323
9	26211*	2	515936	1	752441*		
9	29950*	3	113689				

\* Lot and DP falls partly within the Mt Arthur Coal Complex

1.7 **Local Government Area and Council contact (if known)**

If the project is subject to local government planning approval, provide the name of the relevant council contact officer.

The Proposed Action is located within the Muswellbrook Shire Council Local Government Area.

The Proposed Action is not subject to local government planning approval.

1.8 **Time frame**

Specify the time frame in which the action will be taken including the estimated start date of construction/operation.

Current state planning approvals facilitate open cut coal mining at the Mt Arthur Coal Complex until 2022.

The Active Operational Areas comprise the current active operational mining areas and additional operational areas which will become active prior to the end of 2012.

Mining operations within the Active Operational Areas do not and will not impact on any matter of national environmental significance. In the interest of maintaining mining operations while this Referral is being processed, the Active Operational Areas have been specifically excluded from the Proposed Action.

1.9	<b>Alternatives to proposed action</b> Were any feasible alternatives to taking the proposed action (including not taking the action) considered but are not proposed?	<input checked="" type="checkbox"/>	No
		<input type="checkbox"/>	Yes, you must also complete section 2.2
1.10	<b>Alternative time frames etc</b> Does the proposed action include alternative time frames, locations or activities?	<input checked="" type="checkbox"/>	No
		<input type="checkbox"/>	Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3.3 (where relevant).
1.11	<b>State assessment</b> Is the action subject to a state or territory environmental impact assessment?	<input type="checkbox"/>	No
		<input checked="" type="checkbox"/>	Yes, you must also complete Section 2.5
1.12	<b>Component of larger action</b> Is the proposed action a component of a larger action?	<input type="checkbox"/>	No
		<input checked="" type="checkbox"/>	Yes, you must also complete Section 2.7
1.13	<b>Related actions/proposals</b> Is the proposed action related to other actions or proposals in the region (if known)?	<input type="checkbox"/>	No
		<input checked="" type="checkbox"/>	Yes, provide details:  The Proposed Action is part of the Mt Arthur Coal Complex. No actions within the Mt Arthur Coal Complex have been referred under the EPBC Act by HVEC in the past.
1.14	<b>Australian Government funding</b> Has the person proposing to take the action received any Australian Government grant funding to undertake this project?	<input checked="" type="checkbox"/>	No
		<input type="checkbox"/>	Yes, provide details:
1.15	<b>Great Barrier Reef Marine Park</b> Is the proposed action inside the Great Barrier Reef Marine Park?	<input checked="" type="checkbox"/>	No
		<input type="checkbox"/>	Yes, you must also complete Section 3.1 (h), 3.2 (e)

## 2 Detailed description of proposed action

NOTE: It is important that the description is complete and includes all components and activities associated with the action. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in section 2.7.

### 2.1 Description of proposed action

This should be a detailed description outlining all activities and aspects of the proposed action and should reference figures and/or attachments, as appropriate.

The Mt Arthur Coal Complex comprises:

- (a) the **Open Cut Operations** of the Mt Arthur North mine, the Bayswater No. 3 mine (incorporating the Bayswater No. 2 operational area), the South Pit Extension and the development of five new open cut mine extension areas to uncover additional coal reserves, each approved as part of the Mt Arthur Coal Consolidation Project (**MACCP**); and
- (b) the approved (yet to be commenced) **Underground Operations** of the Mt Arthur Underground Project, including such operations approved as part of the MACCP.

The MACCP received Project Approval 09\_0062 under Part 3A of the EP&A Act from the NSW Minister for Planning on 24 September 2010. This Project Approval provides a single, contemporary planning approval which covers the existing open cut operations at the Mt Arthur Coal Complex and the extraction of an additional 100 Million tonnes of thermal coal from areas within the existing mining leases held by HVEC and its related entity, Mt Arthur Coal Pty Ltd.

### Proposed Action

The Proposed Action Area is shown on **Figure 3**.

The Proposed Action is within the Open Cut Disturbance Boundary. It does not include:

- (a) the current active operational mining areas and additional operational areas which will become active prior to the end of 2012 (the **Active Operational Areas**). The originally approved Bayswater No. 3 mine (the **Original Bayswater No. 3 Area** identified on **Figures 2 and 3**) comprises part of the Active Operational Areas. It is noted that in addition to comprising part of the Active Operational Areas, the Original Bayswater No. 3 Area is "grandfathered" under section 43A of the EPBC Act. The Active Operational Areas have been specifically excluded from the Proposed Action in order to maintain mining operations while this Referral is being processed. Due Diligence exercises have indicated that there is no need to refer the Active Operational Areas due to the absence of impacts on any matter of national environmental significance;
- (b) the Underground Operations. This part of the Mt Arthur Coal Complex is not yet operational, and will be referred separately if required; and
- (c) any exploration activities, monitoring works and construction and use of linear infrastructure within the Proposed Action Area necessary to support the Active Operational Areas. Due Diligence investigations will be undertaken to ensure that any such activities or works will have no impact on any matter of national environmental significance. Such due diligence investigations will entail verifying that exploration activities, monitoring works and the use of linear infrastructure will not have or will not be likely to have, a significant impact – directly or indirectly - upon known occurrences of any matters of national environmental significance, particularly listed endangered ecological communities.

The various components of the Proposed Action include:

1. the development of five new open cut extension areas to uncover additional coal reserves, approved under the EP&A Act as part of the MACCP;
2. the part of the approved Mt Arthur North mine which will become active after the end of 2012;
3. the part of the approved South Pit Extension which will become active after the end of 2012;
4. the relocation of a section of Edderton Road approved under MACCP; and
5. proposed associated infrastructure approved under MACCP, other than linear infrastructure which is needed to be constructed or used in the period to 2012 which is necessary to support the Active Operational Areas).

## **2.2 Alternatives to taking the proposed action**

This should be a detailed description outlining any feasible alternatives to taking the proposed action (including not taking the action) that were considered but are not proposed (note, this is distinct from any *proposed* alternatives relating to location, time frames, or activities – see section 2.3).

No alternatives to the Proposed Action are feasible, as the location of the Proposed Action is defined by the existing, approved mining operations and the location of the coal resource. The Proposed Action will utilise and enhance existing infrastructure so as to minimise land disturbance where possible.

During the planning stages of the MACCP Environmental Assessment, the mine plan was altered a number of times in order to minimise impacts. This included modifications to out-of-pit dumps in the south in order to avoid areas of Box Gum Woodland and Derived Native Grasslands CEEC listed under the EPBC Act, as well as changes to the mine plans designed to preserve areas with high cultural significance such as grinding groove sites.

The 'Do-nothing' approach would result in the sterilisation of over 100 Mt of thermal coal, the loss of up to 1,600 additional employment opportunities, the early loss of 1000 existing employment positions and significant socio-economic benefits and royalties to both the Australian and New South Wales governments.

## **2.3 Alternative locations, time frames or activities that form part of the referred action**

If you have identified that the proposed action includes alternative time frames, locations or activities (in section 1.10) you must complete this section. Describe any alternatives related to the physical location of the action, time frames within which the action is to be taken and alternative methods or activities for undertaking the action. For each alternative location, time frame or activity identified, you must also complete (where relevant) the details in sections 1.2-1.9, 2.4-2.7, 3.3 and 4. Please note, if the action that you propose to take is determined to be a controlled action, any alternative locations, time frames or activities that are identified here may be subject to environmental assessment and a decision on whether to approve the alternative.

No alternative locations, timeframes or activities for the Proposed Action have been identified as part of this referred action.

## **2.4 Context, planning framework and state/local government requirements**

Explain the context in which the action is proposed, including any relevant planning framework at the state and/or local government level (e.g. within scope of a management plan, planning initiative or policy framework). Describe any Commonwealth or state legislation or policies under which approvals are required or will be considered against.

Mining operations at the Mt Arthur Coal Complex are currently undertaken in accordance with:

- (a) the MACCP major projects planning approval;
- (b) the South Pit Extension major projects approval, which will ultimately be surrendered when these operations are undertaken pursuant to the MACCP planning approval;

- (c) development consents issued under the EP&A Act for the Mt Arthur North mine, the Bayswater No. 3 mine (incorporating the Bayswater No. 2 operational area) and the Bayswater Rail Loading Facility, which will ultimately be surrendered when these continued operations are undertaken pursuant to the MACCP planning approval; and
- (d) major projects planning approval for the (yet to commence) Underground Operations of the Mt Arthur Underground Project.

A detailed Environmental Assessment (EA) was prepared by Hansen Bailey Environmental Consultants to support the MACCP application, in accordance with the Environmental Assessment Requirements issued by the Director-General of the NSW Department of Planning (DoP) pursuant to section 75F of the EP&A Act and other relevant legislation, policies and guidelines.

The MACCP covers both the pre-existing operational areas of the open cut operations and associated infrastructure of the Mt Arthur Coal Complex, and additional land disturbance to facilitate development in five mine extension areas, additional associated infrastructure and the relocation of a section of Edderton Road. Accordingly, the MACCP EA, (discussed in section 2.5 of this Referral) includes a comprehensive assessment of the likely environmental impacts of the Proposed Action.

The Mt Arthur Coal Complex also operates an Environmental Management System certified to ISO14001, and has the requirement to operate under numerous environmental management plans approved by state government departments (further detail can be found within the planning approvals listed above).

HVEC and its related entity, Mt Arthur Coal Pty Ltd, currently hold 10 mining and exploration tenements under the NSW *Mining Act 1992* (Mining Act) over a total area of 12,414 hectares in which mining operations and exploration activities are undertaken at the Mt Arthur Coal Complex.

The Mt Arthur Coal Complex also operates in accordance with Environment Protection Licence 11457 issued by the NSW Department of Environment, Climate Change and Water (DECCW) under the *Protection of Environment Operations Act 1997* (NSW).

Planning Instruments which may be relevant to the Proposed Action include:

- *Hunter Regional Environmental Plan 1989*;
- *Muswellbrook Local Environmental Plan 2009*; and
- *State Environmental Planning Policy (Mining, Petroleum Production & Extractive Industries) 2007*.

Other legislation which may be relevant to the Proposed Action includes:

- *Threatened Species Conservation Act 1995* (NSW); and
- *Water Management Act 2000* (NSW).

**Table 2** Regulatory approvals relevant to the Mt Arthur Coal Complex

Title	Issuing Authority	Issue Date	Expiry Date
<b>DEVELOPMENT CONSENTS / PLANNING APPROVALS</b>			
MACCP	DoP	24/09/10	30/05/22
Bayswater No. 3	DoP	12/09/94	11/09/15
Rail Loading Facility	DoP	02/11/00	01/11/25
Mt Arthur North	DoP	01/05/01	30/04/22
South Pit Extension	DoP	09/01/08	30/04/22
Exploration Adit	DoP	20/09/06	20/09/11
Mt Arthur Underground	DoP	02/12/08	31/12/30
<b>ENVIRONMENT PROTECTION LICENCE</b>			
EPL 11457	DECCW	09/10/01	Not specified
<b>MINING AND EXPLORATION TITLES</b>			
A171	I&I	27/10/04	25/11/10*
CCL 744	I&I	03/07/89	21/01/28
MPL 263	I&I	17/10/90	17/10/11*
CL 396	I&I	03/05/03	03/02/24
A437	I&I	04/03/91	04/03/15
ML 1358	I&I	21/09/94	20/09/15
EL 5965	I&I	15/07/02	14/07/12
ML 1593	I&I	30/04/07	29/04/28
ML 1487	I&I	13/06/01	12/06/22
ML 1548	I&I	31/05/04	30/05/25

\* Applications for renewal of these authorities have been lodged with I&I

## 2.5 Environmental impact assessments under Commonwealth, state or territory legislation

If you have identified that the proposed action will be or has been subject to a state or territory environmental impact statement (in section 1.11) you must complete this section. Describe any environmental assessment of the relevant impacts of the project that has been, is being, or will be carried out under state or territory legislation. Specify the type and nature of the assessment, the relevant legislation and the current status of any assessments or approvals. Where possible, provide contact details for the state/territory assessment contact officer.

Describe or summarise any public consultation undertaken, or to be undertaken, during the assessment. Attach copies of relevant assessment documentation and outcomes of public consultations (if available).

### **MACCP EA**

In April 2009, HVEC submitted an application to the NSW Department of Planning for planning approval under Part 3A of the EP&A Act for the MACCP. The application is supported by the *'Mt Arthur Coal Consolidation Project, Environmental Assessment, November 2009* prepared by Hansen Bailey Environmental Consultants and was approved by the NSW Minister for Planning in September 2010 (Project Approval 09\_0062).

The EA was prepared in accordance with the Environmental Assessment Requirements as determined by the Director-General of the NSW Department of Planning in accordance with the provisions of Part 3A of the EP&A Act.

The EA comprehensively assesses all potential environmental and socio-economic issues associated with the MACCP and was prepared to fulfil regulatory and stakeholder requirements.

A key component of the EA is the Social Impact Assessment and associated Stakeholder Engagement Program as undertaken by Coakes Consulting, which built upon existing relationships with key stakeholders, facilitated stakeholder feedback and ensured that stakeholder issues were adequately addressed through the Social Impact Assessment and EA.

Furthermore, the Ecological Impact Assessment prepared for the EA by Cumberland Ecology assessed all impacts on threatened species, endangered communities and matters of national environmental significance as provided in the Commonwealth EPBC Act and NSW *Threatened Species Conservation Act 1995* (TSC Act).

The determining authority for the application was the NSW Minister for Planning. The contact details for the relevant contact within the NSW Department of Planning, Mr David Kitto (Director of Major Projects), are:

Mr David Kitto  
NSW Department of Planning  
23-33 Bridge Street  
SYDNEY NSW 2001  
Tel: 02 9228 6298

In addition, extensive ecological surveys have been completed at the Mt Arthur Coal Complex during the last 15 years, including comprehensive field studies undertaken for the Bayswater No. 3 Environmental Impact Statement (EIS) (Resource Planning, 1993), Mt Arthur North Coal Project EIS (URS 2000), South Pit Extension EA (Umwelt, 2006) and the Mt Arthur Underground (MAU) EA (Umwelt, 2008). An annual ecological monitoring program has been in place at the Mt Arthur Coal Complex since 2003. These surveys and assessments provide extensive background information for the ecological assessment for the Proposed Action.

A brief discussion of the key assessments undertaken at the Mt Arthur Coal Complex prior to the MACCP is provided below.

### **Mt Arthur Underground EA**

HVEC was granted Project Approval 06\_0091 under Part 3A of the EP&A Act for the Mt Arthur Underground Project (MAU) on 2 December 2008. The MAU approval permits the extraction of up to 8 Mtpa of coal from underground operations. Project Approval 06\_0091 is supported by *Environmental Assessment, Proposed Mt Arthur Underground Project* prepared by Umwelt (Australia) Pty Limited in 2008. Comprehensive stakeholder and ecological assessments were conducted as part of the MAU EA.

### **South Pit Extension EA**

On 9 January 2008, HVEC was granted Project Approval 06\_0108 under Part 3A of the EP&A Act for the Mt Arthur Coal Mine – South Pit Extension Project. Project Approval 06\_0108 is supported by *Environmental Assessment, Proposed South Pit Extension Project*, prepared by Umwelt (Australia) Pty Limited in 2007. Comprehensive stakeholder and ecological assessments were conducted as part of the South Pit Extension EA.

### **Mt Arthur North EIS**

HVEC was granted DA 144-05-2000 under Part 4 of the EP&A Act for the "Development of Mt Arthur North open coal cut mine and construction and operation of associated surface facilities" on 1 May 2001. DA 144-05-2000 is supported by the *Mt Arthur North Coal Project, Environmental Impact Statement (MAN EIS)*.

The MAN EIS was prepared by Dames and Moore Pty Limited in 2000. Comprehensive stakeholder and ecological assessments were conducted as part of the MAN EIS.

Further details of these Environmental Assessments are available upon request.

### 2.6 Public consultation (including with Indigenous stakeholders)

Your referral must include a description of any public consultation that has been, or is being, undertaken. Where Indigenous stakeholders are likely to be affected by your proposed action, your referral should describe any consultations undertaken with Indigenous stakeholders. Identify the relevant stakeholders and the status of consultations at the time of the referral. Where appropriate include copies of documents recording the outcomes of any consultations.

HVEC has a demonstrated history of undertaking best practice stakeholder engagement, with that undertaken for the MACCP regarded as a continuation of ongoing dialogue with key community and government stakeholders as part of the progression of mining at the Mt Arthur Coal Complex.

HVEC has a strong commitment to undertaking best practice social assessment and stakeholder consultation. HVEC's community engagement has been strengthened over time since the approval of MAN with consistent effort and the substantial community engagement processes. These processes have always involved extensive engagement with regulators, local landholders and key stakeholders in the Muswellbrook area.

Given the approach adopted as part of the original assessment program and the subsequent commitment by HVEC in maintaining ongoing community relations, the past 10 years have seen effective relationships developed with a range of stakeholders and community members, particularly within the Muswellbrook locality.

The consultation process for the MACCP EA was undertaken with the aim of identifying stakeholders' issues regarding the project and ensuring that these issues were appropriately assessed and responded to by HVEC either directly or in the EA. A detailed Social Impact Assessment (SIA) and Stakeholder Engagement Program were developed by Coakes Consulting to support the MACCP EA.

A summary of identified stakeholders and the engagement methods used for the MACCP EA are presented in Table 2 below.

**Table 3** MACCP Stakeholders

Stakeholder	Engagement Method
<b>Community Stakeholders</b>	
Individual near neighbours	<ul style="list-style-type: none"> <li>• Offer of briefings (99 individual near neighbours),</li> <li>• Face to face briefings (48 individual near neighbours)</li> <li>• Community information sessions (8 and 9 May 2009)</li> <li>• Project information sheets</li> <li>• Community matters newsletters</li> <li>• Local media coverage</li> </ul>
Muswellbrook local community	<ul style="list-style-type: none"> <li>• <i>Community Matters</i> newsletter</li> <li>• Community information sessions</li> <li>• Local media coverage</li> </ul>
Aboriginal Community	<ul style="list-style-type: none"> <li>• Aboriginal Heritage Planning Meeting on 3 February 2009</li> <li>• Aboriginal Heritage Report Overview on 12 June 2009</li> <li>• Fieldwork on 2 March – 17 March 2009</li> <li>• Review of Draft Assessment</li> </ul>
Mt Arthur Coal Complex Employees	<ul style="list-style-type: none"> <li>• State of the Nation Presentations</li> <li>• Community Matters Newsletter</li> </ul>

	<ul style="list-style-type: none"> <li>Local media coverage</li> </ul>
Mt Arthur Coal Community Consultative Committee	<ul style="list-style-type: none"> <li>Project Briefings on 18 February 2009</li> <li>Project information sheets</li> <li>Community Matters Newsletters</li> </ul>
Relevant neighbouring mines, industry and service providers	<ul style="list-style-type: none"> <li>Offer of Briefings</li> <li>Project information sheets</li> <li>Face to face meetings</li> </ul>
<b>Regulatory Stakeholders</b>	
Department of Sustainability, Environment, Water, Population and Communities (SEWPAC)	<ul style="list-style-type: none"> <li>Project briefing on 15 May 2009</li> <li>Project information sheets</li> </ul>
NSW Department of Planning (DoP)	<ul style="list-style-type: none"> <li>Initial project briefing on 7 August 2008</li> <li>Planning Focus Meeting (PFM) on 19 February 2009</li> <li>Project Update Meeting on 19 March 2009</li> <li>Noise assessment meeting (with DECCW) on 15 April 2009</li> <li>Project Update Meeting on 10 June 2009</li> <li>Project information sheets</li> </ul>
Muswellbrook Shire Council Mayor, Councillors, Officers and Environment Committee	<ul style="list-style-type: none"> <li>Project briefing on 3 February 2009</li> <li>PFM on 19 February 2009</li> <li>Project update on 20 April 2009</li> <li>Project update on 25 June 2009</li> <li>Project information sheets</li> <li><i>Community Matters</i> newsletters</li> </ul>
Department of Environment, Climate Change and Water NSW (DECCW)	<ul style="list-style-type: none"> <li>PFM on 19 February 2009</li> <li>Noise assessment meeting (with DoP) on 15 April 2009</li> <li>Project information sheets</li> </ul>
Department of Water and Energy NSW (DWE)	<ul style="list-style-type: none"> <li>PFM on 19 February 2009</li> <li>Project update and overview of water assessment methodology on 29 April 2009</li> <li>Project information sheets</li> </ul>
Department of Industry & Investment (DII)	<ul style="list-style-type: none"> <li>Conceptual Mine Plan presentation on 30 January 2009</li> <li>PFM on 19 February 2009</li> <li>Project information sheets</li> </ul>
Catchment Management Authority (CMA)	<ul style="list-style-type: none"> <li>PFM on 19 February 2009</li> <li>Project information sheets</li> </ul>
Roads and Traffic Authority NSW (RTA)	<ul style="list-style-type: none"> <li>Offer of briefing</li> <li>Project information sheets</li> </ul>
Australian Rail Track Corporation (ARTC)	<ul style="list-style-type: none"> <li>Offer of briefing</li> <li>Project information sheets</li> </ul>
Relevant Members of Parliament	<ul style="list-style-type: none"> <li>Project briefing with George Souris, Member for the Upper Hunter on 2 February 2009</li> <li>Project briefing with Jodi McKay, Minister for Tourism, Minister for the Hunter, Minister for Science and Medical Research, and Minister Assisting the Minister for Health (Cancer) on 4 March 2009</li> <li>Project information sheets</li> </ul>

Consultation for the Aboriginal Archaeology and Cultural Heritage Impact Assessment for the MACCP was undertaken in accordance with the DECCW *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC, 2005) and *Interim Community Consultation Requirements for Applicants* (DEC, 2004)

Consultation with Indigenous Stakeholders undertaken for the purposes of the MACCP included the following:

- An advertisement was placed in the *Hunter Valley News* on 1 October 2008 and *Muswellbrook Chronicle* on 3 October 2008 calling for expressions of interest in the proposed Aboriginal Archaeology and Cultural Heritage assessment for the MACCP;
- Letters were sent to the registered Aboriginal stakeholder groups in the area, NSW Department of Environment, Climate Change and Water, Muswellbrook Shire Council, the Native Title Services and the NSW Department of Aboriginal Affairs requesting further advice on any other Aboriginal stakeholders who may also wish to be part of the MACCP;
- From the responses received an extensive list was compiled, consisting of the contact details for 36 known Aboriginal stakeholder groups in the Muswellbrook LGA and Hunter Valley Region;
- All groups were invited to participate in the initial project planning meeting held at the Mt Arthur Coal Complex on 3 February 2009. A total of 14 Aboriginal stakeholder groups were represented at the project planning meeting. A letter presenting the proposed survey methodology, requesting comments or acceptance of the proposed methodology and requesting formal expression of interest in field work was sent on 3 February 2009 to the remaining 22 known Aboriginal stakeholder groups not present at the initial planning meeting;
- A total of 26 Aboriginal stakeholder groups registered their acceptance of the survey methodology and indicated they would like to participate in the fieldwork component of the Aboriginal Archaeology and Cultural Heritage Assessment;
- Field work was conducted with all 26 Aboriginal stakeholder groups over a period of 12 working days from 2 March to 17 March 2009 within three survey areas;
- A hard copy of the draft Aboriginal Archaeology and Cultural Heritage Assessment was provided to all 26 registered groups on 12 June 2009;
- A meeting was also held at the Mt Arthur Coal Complex on 12 June 2009 to present an overview of the report findings, undertake a site inspection, provide a mechanism for questions to be raised and answered and outline the engagement process going forward. Eight Aboriginal stakeholder groups were present for the meeting and site tour, which was also attended by archaeologists from AECOM and representatives from Hansen Bailey and HVEC; and
- Over 26 follow-up phone calls were made and meeting invites were offered to all registered groups during June and July 2009 in order to seek views on the MACCP and alternative offset strategy. Three responses on the project and the proposed management measures were received from the Aboriginal community to the draft report as at 7 July 2009 which were incorporated into the final Archaeology and Cultural Heritage Report for the EA.

## 2.7 A staged development or component of a larger project

If you have identified that the proposed action is a component of a larger action (in section 1.12) you must complete this section. Provide information about the larger action and details of any interdependency between the stages/components and the larger action. You may also provide justification as to why you believe it is reasonable for the referred action to be considered separately from the larger proposal (eg. the referred action is 'stand-alone' and viable in its own right, there are separate responsibilities for component actions or approvals have been split in a similar way at the state or local government levels).

The Proposed Action is a discrete component of the Mt Arthur Coal Complex and could therefore be deemed as being part of a larger project.

The Mt Arthur Coal Complex is not a new large scale mining project, but rather, is a coal mine where mining has occurred since the 1960s, where active mining is currently underway in accordance with existing NSW planning approvals and which has recently obtained the MACCP planning approval, which amongst other things, approves the development of new open cut extension areas. Accordingly, the scope of the Proposed Action has been designed to incorporate as much of the Open Cut Operations of the Mt Arthur Coal Complex as possible, including the recently approved extension areas, while facilitating continued production and maintenance of the flexibility required to operate the mine in a safe, sustainable and profitable manner.

The Proposed Action is part of the Mt Arthur Coal Complex. It does not include:

- the current active operational areas and the additional operational areas which will become active prior to the end of 2012 (**Active Operational Areas**). This is to ensure that mining can continue whilst the referral is processed, without impacting upon the continued operation of the mine, and the associated employment and production commitments accompanying the ongoing operations. Due diligence exercises have indicated that there is no need to refer the Active Operational Areas due to the absence of impacts on any matter of national environmental significance;
- the Underground Operations, as this part of the Mt Arthur Coal Complex is not yet operational, and will be referred separately if required; and
- any exploration activities, monitoring works and construction and use of linear infrastructure within the Proposed Action Area necessary to support the Active Operational Areas. Due Diligence investigations will be undertaken to ensure that any such activities or works will have no significant impact on any matter of national environmental significance.

The Proposed Action can be reasonably regarded as discrete from the above aspects of the "larger project".

## 3 Description of environment & likely impacts

### 3.1 Matters of national environmental significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest.

Your assessment of likely impacts should refer to the following resources (available from the Department's web site):

- specific values of individual World Heritage properties and National Heritage places and the ecological character of Ramsar wetlands;
- profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance*; and
- associated sectoral and species policy statements available on the web site, as relevant.

**Note that even if your proposal will not be taken in a World Heritage area, Ramsar wetland, Commonwealth marine area, the Great Barrier Reef Marine Park or on Commonwealth land, it could still impact upon these areas (for example, through downstream impacts). Consideration of likely impacts should include both direct and indirect impacts.**

#### 3.1 (a) World Heritage Properties

##### Description

There are no World Heritage Properties to be impacted by the Proposed Action. The nearest World Heritage Property is Wollemi National Park, which is part of the Greater Blue Mountains World Heritage Area. The Wollemi National Park is approximately 10 kilometres south west of the Proposed Action Area and will not be directly impacted by the Proposed Action. No indirect impacts are likely to be caused by downstream effects.

Given the distance of the Proposed Action from any World Heritage Properties it is unlikely that the Proposed Action will impact on the World Heritage values of any World Heritage Properties. In this regard, there is no real chance or possibility that the Proposed Action will cause:

- one or more of the World Heritage values of a World Heritage Property to be lost;
- one or more of the World Heritage values of a World Heritage Property to be degraded or damaged; or
- one or more of the World Heritage values of a World Heritage Property to be notably altered, modified, obscured or diminished.

##### Nature and extent of likely impact

Address any impacts on the World Heritage values of any World Heritage property.

Not applicable.

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#### 3.1 (b) National Heritage Places

##### Description

There are no National Heritage Places to be impacted by the Proposed Action. The nearest National Heritage Property is Wollemi National Park, which is part of the Greater Blue Mountains World Heritage Area. The Wollemi National Park is approximately 10 kilometres south west of the Proposed Action Area and will not be directly impacted by the Proposed Action. No indirect impacts are likely to be caused by downstream effects.

Given the distance of the Proposed Action from any National Heritage Place, it is unlikely that the Proposed Action will have a significant impact on the National Heritage values of any National Heritage Places. In this regard, there is no real chance or possibility that the Proposed Action will cause:

- one or more of the National Heritage values of a National Heritage Place to be lost;
- one or more of the National Heritage values of a National Heritage Place to be degraded or damaged;  
or
- one or more of the National Heritage values of a National Heritage Place to be notably altered, modified, obscured or diminished.

**Nature and extent of likely impact**

Address any impacts on the National Heritage values of any National Heritage place.

Not applicable.

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**3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)**

**Description**

There are no wetlands of international importance to be impacted by the Proposed Action. The Hunter Estuary Wetlands Ramsar sites, which include the Hunter Wetlands National Park and the Shortland Wetlands, are approximately 122 kilometres south east of the Proposed Action Area and will neither be directly nor indirectly impacted by the Proposed Action.

Given the distance of the Proposed Action from any Wetlands of International Importance, it is unlikely that the Proposed Action will have a significant impact on the ecological character of any Wetlands of International Importance. In this regard, there is no real chance or possibility that the Proposed Action will result in:

- areas of any Wetland of International Importance being destroyed or substantially modified;
- a substantial and measurable change in the hydrological regime of any Wetland of International Importance,
- the habitat or lifecycle of native species dependent upon a Wetland of International Importance being seriously affected;
- a substantial and measurable change in the water quality of any Wetland of International Importance; or
- an invasive species that is harmful to the ecological character of any Wetland of International Importance being established (or an existing invasive species being spread) in such a wetland.

**Nature and extent of likely impact**

Address any impacts on the ecological character of any Ramsar wetlands.

Not applicable.

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**3.1 (d) Listed threatened species and ecological communities**

## Description

Approximately 187 hectares of the Critically Endangered Ecological Community (CEEC) White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland (referred to hereafter as “Box Gum Woodland and Derived Grassland”) occurs in parts of the Mt Arthur Coal Complex. As shown on **Figure 5**, the parts of the Mt Arthur Coal Complex in which this CEEC occurs are the Conservation Areas at Saddlers Creek and Mount Arthur, the Conservation Area north of the Mt Arthur Coal access road and a small area to the south west of the Original Bayswater No. 3 Area, where mine plans were modified to avoid clearing of this area. HVEC does not propose to clear any of these areas, nor is the clearing of any of these areas permitted under state planning approvals.

The Box Gum Woodland and Derived Grassland CEEC does not occur within the Proposed Action Area.

As shown on **Figure 5**, one vulnerable plant species has previously been found within the Proposed Action Area, namely *Bothriochloa biloba* (Lobed Blue-grass)<sup>12</sup>.

Other threatened species, which have not previously been detected by surveys but are potentially present as indicated by the EPBC protected matters search tool<sup>5</sup>, are summarised below.

**Table 4:** Listed threatened species and ecological communities potentially present as indicated by the EPBC protected matters search tool

Species	EPBC Act Status	Likelihood of Occurrence
<b>Flora:</b>		
<i>Prasophyllum sp</i> Wybong	Critically Endangered	Not detected in four previous flora surveys or in the annual flora monitoring. Has potential to occur in the Proposed Action Area and in its vicinity but potential is low.
<i>Digitaria porrecta</i> (Finger Panic Grass)	Endangered	Not detected in four previous flora surveys or in the annual flora monitoring. Has potential to occur in the Proposed Action Area and in its vicinity but potential is low.
<i>Eucalyptus glaucina</i> (Slaty Red Gum)	Vulnerable	Not detected in four previous flora surveys or in the annual flora monitoring. Has potential to occur in the Proposed Action Area and in its vicinity but potential is very low.
<i>Thesium australe</i> (Austral toadflax)	Vulnerable	Not known from the western Hunter Valley. Not detected in four previous flora surveys or in the annual flora monitoring. Has potential to occur in the Proposed Action Area and in its vicinity but potential is low.
<i>Tylophora linearis</i>	Endangered	Not detected in four previous flora surveys or in the annual flora monitoring. Has potential to occur in the Proposed Action Area and in its vicinity but potential is low.

<i>Pterostylis gibbosa</i> (Illawarra Greenhood, Rufa Greenhood, Pouched Greenhood)	Endangered	Not detected in four previous flora surveys or in the annual flora monitoring. Has potential to occur in the Proposed Action Area and in its vicinity but potential is low.
<b>Amphibians:</b>		
<i>Litoria booroolongensis</i> (Booroolong Frog)	Endangered	Not detected in four previous fauna surveys or in the annual fauna monitoring. Not known from nearby sites. Very low potential to occur. Inhabits rocky, flowing streams in woodland and cleared land. Streams may not be permanent but must have pools which maintain water long enough for tadpoles to complete metamorphosis, generally about three months. Normally found in areas above 200 metres in altitude.
<b>Aves:</b>		
<i>Lathamus discolor</i> (Swift Parrot)	Endangered; Listed - overfly marine area	Not detected in four previous fauna surveys or in the annual fauna monitoring surveys. This species migrates from Tasmania, where it breeds, to various locations on the south eastern mainland, following flowering of eucalypts.  The locations that it visits on the mainland vary with changing annual conditions. It has potential to occur on occasion within the forests and woodlands within the Proposed Action Area and its vicinity, but has never been identified within the Proposed Action Area.
<i>Rostratula australis</i> (Australian Painted Snipe)	Vulnerable	No suitable habitat occurs for this species within the Proposed Action Area.
<i>Anthochaera phrygia</i> (Regent Honeyeater)	Endangered; Migratory	Not detected in four previous fauna surveys or in the annual fauna monitoring. This species is migratory and its movements vary with flowering of favoured tree species. It therefore has potential to occur on occasion within the forests and woodlands within the Proposed Action Area, which may provide occasional forage during heavy blossoming periods. Recorded within 10 kilometres of site, most recent record in 1999 <sup>3</sup> .  It has potential to occur on occasion within the forests and woodlands within the Proposed Action Area and its vicinity, but has never been identified within the Proposed Action Area.
<b>Mammals:</b>		
<i>Chalinolobus dwyeri</i> (Large-eared Pied Bat)	Vulnerable	Not detected in four previous fauna surveys or in the annual fauna monitoring.

		Has potential to forage on occasion within the forests and woodlands in the Proposed Action Area and its vicinity. However, this is a cave roosting species of bat and no caves are to be disturbed by the Proposed Action.
<i>Dasyurus maculatus maculatus</i> (Spotted-tail Quoll, Tiger Quoll; south-eastern mainland population)	Vulnerable	This species has been detected previously on one occasion in the annual fauna monitoring. Has potential to occur on occasion within the forests and woodlands in the Proposed Action Area and its vicinity.
<i>Nyctophilus timoriensis</i> (Eastern Long-eared Bat; south-eastern form)	Vulnerable	Not detected in four previous fauna surveys or in the annual fauna monitoring. Has potential to forage on occasion within the forests and woodlands in the Proposed Action Area and its vicinity.
<i>Petrogale penicillata</i> (Brush-tailed Rock Wallaby)	Vulnerable	Not detected. No suitable habitat within the proposed disturbance areas. May have occurred historically on Mount Arthur but now does not occur within the Proposed Action Area.
<i>Pteropus poliocephalus</i> (Grey-headed Flying Fox)	Vulnerable	Not detected in four previous fauna surveys or in the annual fauna monitoring. May forage to a minor degree over the Proposed Action Area and its vicinity but does not have camps on the area. Therefore, there is unlikely to be a significant impact on this species as a result of the Proposed Action.

## Nature and extent of likely impact

Address any impacts on the members of any listed threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat.

### Critically Endangered Ecological Communities

#### Box Gum Woodland and Derived Native Grassland:

The critically endangered ecological community (CEEC) called White Box – Yellow Box – Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands was listed under the EPBC Act by an instrument made under section 181 of the EPBC Act, and this CEEC comprises that which is defined in that instrument. For convenience this vegetation is referred to hereafter as "Box Gum Woodland and Derived Native Grasslands". This CEEC is a broad vegetation formation that actually includes a suite of plant communities. SEWPAC has issued guidelines for the identification of this CEEC in accordance with the statutory instrument. The guidelines are:

Department of Environment and Heritage (2004) White Box – Yellow Box – Blakely's Red Gum grassy woodlands and Derived Native Grasslands. Australian Government, Department of Environment and Heritage, Canberra.

The guidelines were followed when examining the woodland types in the Proposed Action Area to determine whether or not they constituted examples of the CEEC. According to the guidelines, for woodland to be considered as the CEEC, it needs to be as follows:

- Dominated, or once have been dominated, by White Box (*Eucalyptus albens*), Yellow Box (*E. melliodora*) and/or Blakely's Red Gum;
- Contain a ground stratum dominated by native perennial grasses; and
- Within samples of 1,000 metres square, contain at least 12 native herbs including at least one important herb from a list of species attached to the guidelines.

Within the western half of the Hunter Valley intergrades between White Box and Coastal Grey Box (*E. moluccana*) predominate. Pure White Box is essentially absent. On the Proposed Action Area samples of Box trees were collected and sent to the Royal Botanic Gardens for identification and all were identified as Intergrades, with most being regarded as more akin to Coastal Grey Box than White Box.

On the Active Operational Areas there are no areas that are dominated by White Box, Yellow Box and/or Blakely's Red Gum. Also, there is no evidence from scattered remaining trees that any areas of grassland in the Active Operational Areas were originally dominated by one or more of these species.

Approximately 187 hectares of Box Gum Woodland and Derived Native Grasslands occur in parts of the Mt Arthur Coal Complex. The mine plans approved by the state government for the MACCP were specifically designed to avoid impacts to the Box Gum Woodland and Derived Grassland, as shown in **Figure 5**. In other words, this CEEC will not be cleared when carrying out the Proposed Action.

While the Proposed Action will involve the clearance of areas of woodland and grassland, based upon the latest survey data from Cumberland Ecology and supported by previous survey results, none of the areas intended to be cleared for the purpose of the Proposed Action belong to the Box Gum Woodland and Derived Native Grasslands CEEC.

## **Vulnerable Species**

### **Lobed Blue-grass:**

As shown on **Figure 5**, verified occurrences of *Bothriochloa biloba* (Lobed Blue-grass) have been recorded within the Mt Arthur Coal Complex. Three of the six known occurrences of Lobed Blue-grass within the Mt Arthur Coal Complex will not be impacted by the Proposed Action, and extensive grassland areas and potential habitat within the Mt Arthur Coal Complex for this species will remain undisturbed.

This native perennial grass was recorded within the Mt Arthur Coal Complex during past surveys for the proposed Underground Operations. The grass species has many known occurrences in the Upper Hunter Valley and the species has been delisted from the *Threatened Species Conservation Act 1995* as a threatened species in New South Wales. Surveys undertaken as part of the MACCP EA were conducted in favourable seasons, and did not identify any further occurrences of this species within the Proposed Action Area.

### **SEWPAC Impact Assessment Guidelines:**

An assessment according to the SEWPAC impact assessment guidelines is provided below for Lobed Blue-grass. For Vulnerable species, an important population is a population that is necessary for a species' long-term survival and recovery. This may include populations that are:

- key source populations either for breeding or dispersal; or
- populations that are necessary for maintaining genetic diversity; and/or
- populations that are near the limit of the species range.

None of the recorded or potentially occurring populations of *Bothriochloa biloba* identified within the Proposed Action Area are considered to comprise important populations, as defined above or as key populations for breeding or dispersal or for maintaining genetic diversity.

***An action has, will have, or is likely to have a significant impact on Vulnerable species if it does, will, or is likely to:***

a) *Lead to a long-term decrease in the size of an important population of a species; or*

Lobed Blue-grass does not have an important population within the Proposed Action Area. Some Lobed Blue-grass occurring within the Mt Arthur Coal Complex will remain undisturbed (see **Figure 5**). Extensive grassland areas and potential habitat for this species will remain in the Mt Arthur Coal Complex.

b) *Reduce the area of occupancy of an important population; or*

Lobed Blue-grass does not have an important population within the Proposed Action Area. Three known occurrences of Lobed Blue-grass will remain undisturbed within the Mt Arthur Coal Complex (see **Figure 5**). Extensive grassland areas and potential habitat for this species will remain in the Mt Arthur Coal Complex.

c) *Fragment an existing important population into two or more populations; or*

Lobed Blue-grass does not have an important population within the Proposed Action Area. The Proposed Action therefore will not lead to the fragmentation of an existing important population of Lobed Blue-grass into two or more populations.

*d) Adversely affect habitat critical to the survival of a species; or*

The habitats occurring within the Proposed Action Area are not critical habitat for the survival of Lobed Blue-grass.

*e) Disrupt the breeding cycle of an important population; or*

Lobed Blue-grass does not have an important population within the Proposed Action Area. Accordingly, the Proposed Action will not disrupt the breeding cycle of an important population of Lobed Blue-grass.

*f) Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline; or*

The Proposed Action is unlikely to result in a significant reduction in the availability or quality of habitat for Lobed Blue-grass such that the species is likely to decline. Significant areas of potentially suitable habitat that are not planned to be disturbed are located widely across the Mt Arthur Coal Complex.

*g) Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat; or*

The Proposed Action is not expected to result in the introduction of any invasive species which may be detrimental to Lobed Blue-grass or its habitat. HVEC will continue Mt Arthur Coal Complex's existing program to control the presence of invasive species.

*h) Interferes substantially with the recovery of the species.*

The Proposed Action will not result in the loss of important habitat for Lobed Blue-grass and is not expected to interfere with the recovery of the species.

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### 3.1 (e) Listed migratory species

#### Description

Very low numbers of two terrestrial migratory bird species - *Hirundapus caudacutus* (White-throated Needletail) and *Merops ornatus* (Rainbow Bee-eater)<sup>2,10,12</sup> – have previously been recorded in the Proposed Action Area .

These two migratory species, as well as other migratory species which have not been detected by previous surveys but are potentially present as indicated by the EPBC protected matters search tool<sup>5</sup>, are listed in the table below:

**Table 5:** Migratory species potentially present as indicated by the EPBC protected matters search tool

Species	EPBC Act Status	Likelihood of Occurrence
<b>Terrestrial Species:</b>		
<i>Haliaeetus leucogaster</i> (White-bellied Sea Eagle)	Migratory	Likely to overfly the Proposed Action Area infrequently. No suitable forage or nesting habitat within the Proposed Action Area. Suitable habitat occurs at nearby lakes and large dams. Multiple records within 10 kilometres of the site, most recently from 2006 <sup>3</sup> .
<i>Monarcha melanopsis</i> (Black-faced Monarch)	Migratory	Unlikely to occur within the Proposed Action Area. No suitable forage or nesting habitat.
<i>Myiagra cyanoleuca</i> (Satin Flycatcher)	Migratory	Potential to occur within the Proposed Action Area but not detected in previous fauna surveys or monitoring surveys within the Active Operational Areas. Recorded within 10 kilometres of the site, most recently in 1998 <sup>3</sup> .
<i>Anthochaera phrygia</i> (Regent Honeyeater)	Endangered; Migratory	See table in Section 3.1(d).
<i>Lathamus discolor</i> (Swift Parrot)	Endangered; Listed - overfly marine area	See table in Section 3.1(d).
<i>Merops ornatus</i> (Rainbow Bee-eater)	Migratory	Present within the Proposed Action Area. Occurs as a spring/summer migrant to the Proposed Action Area where it forages across woodland and open forest.
<i>Hirundapus caudacutus</i> (White- throated Needletail)	Migratory	Potential to forage over the Proposed Action Area.

Wetland Species:		
<i>Ardea alba</i> (Great Egret, White Egret)	Migratory	Likely to forage in dams within the Proposed Action Area. No suitable nesting habitat. Several records within 10 kilometres of the site, most recently in 2000 <sup>3</sup> .
<i>Ardea ibis</i> (Cattle Egret)	Migratory	Likely to forage occasionally within the Proposed Action Area. No suitable nesting habitat. Several records within 10 kilometres of the site, most recently in 2004 <sup>3</sup> .
<i>Gallinago hardwickii</i> (Latham's Snipe, Japanese Snipe)	Migratory	May forage infrequently near dams and inundated areas within the Proposed Action Area. Summer migrant only, breeds exclusively in the northern hemisphere.
<i>Rostratula benghalensis</i> <i>s. lat.</i> (Painted Snipe)	Migratory	Unlikely to occur within the Proposed Action Area. No suitable forage or breeding habitat.
<i>Apus pacificus</i> (Fork-tailed Swift)	Migratory	Likely to forage infrequently over the Proposed Action Area. Primarily aerial summer migrant, does not breed in Australia.

### Nature and extent of likely impact

Address any impacts on the members of any listed migratory species, or their habitat.

Of the migratory species listed in Table 5, two definitely occur on the Proposed Action Area and its vicinity. They are not likely to be significantly impacted by the Proposed Action.

White-throated Needletail and Rainbow Bee-eater can be found in many areas throughout NSW and currently do not have concentrated populations within the local area of the Proposed Action Area. Furthermore, neither species have been recorded in high numbers in the Proposed Action Area for the last 10 years<sup>2</sup>.

According to the Significant Impact Criteria in SEWPAC's guidelines an action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:

- substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species;
- result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species; or
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

The Proposed Action will not have such impacts<sup>10,12</sup>. Therefore the Proposed Action is unlikely to have a significant impact on any listed migratory species.

### 3.1 (f) Commonwealth marine area

(If the action is in the Commonwealth marine area, complete 3.2(c) instead. This section is for actions taken outside the Commonwealth marine area that may have impacts on that area.)

### **Description**

There are no Commonwealth marine areas within the Muswellbrook Shire Local Government Area. Consequently, there are no Commonwealth marine areas within the locality of the Proposed Action Area that will be directly or indirectly impacted by the Proposed Action.

Given the distance of the Proposed Action from any Commonwealth marine area, it is unlikely that the Proposed Action will have a significant impact on the environment in a Commonwealth marine area. In this regard, there is no real chance or possibility that the Proposed Action will:

- result in a known or potential pest species becoming established in a Commonwealth marine area;
- modify, destroy, fragment, isolate or disturb an important or substantial area of habitat such that an adverse impact on marine ecosystem functioning or integrity in a Commonwealth marine area results;
- have a substantial adverse effect on a population of a marine species or cetacean including its life cycle and spatial distribution;
- result in a substantial change in air quality or water quality which may adversely impact on biodiversity, ecological integrity; social amenity or human health;
- result in persistent organic chemicals, heavy metals, or other potentially harmful chemicals accumulating in the marine environment such that biodiversity, ecological integrity, social amenity or human health may be adversely affected; or
- have a substantial adverse impact on heritage values of a Commonwealth marine area, including damage or destruction of an historic shipwreck.

### **Nature and extent of likely impact**

Address any impacts on any part of the environment in the Commonwealth marine area.

Not applicable.

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### 3.1 (g) Commonwealth land

(If the action is on Commonwealth land, complete 3.2(d) instead. This section is for actions taken outside Commonwealth land that may have impacts on that land.)

#### Description

If the action will affect Commonwealth land also describe the more general environment. The Policy Statement titled *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* provides further details on the type of information needed. If applicable, identify any potential impacts from actions taken outside the Australian jurisdiction on the environment in a Commonwealth Heritage Place overseas.

The Proposed Action will not take place within Commonwealth lands, and no Commonwealth lands are located within close proximity to the Proposed Action Area. The Proposed Action will therefore not affect Commonwealth land.

#### Nature and extent of likely impact

Address any impacts on any part of the environment in the Commonwealth land. Your assessment of impacts should refer to the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* and specifically address impacts on:

- ecosystems and their constituent parts, including people and communities;
- natural and physical resources;
- the qualities and characteristics of locations, places and areas;
- the heritage values of places; and
- the social, economic and cultural aspects of the above things.

Not applicable.

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### 3.1 (h) The Great Barrier Reef Marine Park

#### Description

The Proposed Action will not take place within or within the vicinity of the Great Barrier Reef Marine Park.

#### Nature and extent of likely impact

Address any impacts on any part of the environment of the Great Barrier Reef Marine Park.

Note: If your action occurs in the Great Barrier Reef Marine Park you may also require permission under the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act). If so, section 37AB of the GBRMP Act provides that your referral under the EPBC Act is deemed to be an application under the GBRMP Act and Regulations for necessary permissions and a single integrated process will generally apply. Further information is available at [www.gbrmpa.gov.au](http://www.gbrmpa.gov.au)

Not applicable.

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### 3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

You must describe the nature and extent of likely impacts (both direct & indirect) on the whole environment if your project:

- is a nuclear action;
- will be taken by the Commonwealth or a Commonwealth agency;
- will be taken in a Commonwealth marine area;
- will be taken on Commonwealth land; or
- will be taken in the Great Barrier Reef marine Park.

Your assessment of impacts should refer to the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* and specifically address impacts on:

- ecosystems and their constituent parts, including people and communities;

- natural and physical resources;
- the qualities and characteristics of locations, places and areas;
- the heritage values of places; and
- the social, economic and cultural aspects of the above things.

3.2 (a)	Is the proposed action a nuclear action?	X	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment

3.2 (b)	Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?	X	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment

3.2 (c)	Is the proposed action to be taken in a Commonwealth marine area?	X	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))

3.2 (d)	Is the proposed action to be taken on Commonwealth land?	X	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(i))

3.2 (e)	Is the proposed action to be taken in the Great Barrier Reef Marine Park?	X	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(j))

### 3.3 Other important features of the environment

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed above). If at Section 2.3 you identified any alternative locations, time frames or activities for your proposed action, you must complete each of the details below (where relevant) for each alternative identified.

#### 3.3 (a) Flora and fauna

The Proposed Action Area supports a wide variety of woodland and open forest fauna and flora that are well-represented in the wider locality. Plant diversity is dominated by groundcover herbs and grasses, typically hardy, grazing-resistant species. The fauna assemblage is largely comprised of widespread and common bird species, exotic mammals, including livestock species, and macropods.

The flora and fauna of the Proposed Action Area are described in detail within Cumberland Ecology's Ecological Impact Assessment for the MACCP (2009) (see **Attachment A**).

### **3.3 (b) Hydrology, including water flows**

The Mt Arthur Coal Complex is located within the Hunter River catchment and is upstream of the town of Singleton and downstream of the Muswellbrook township. A number of sub-catchment areas cover the Mt Arthur Coal Complex, including Whites Creek, Fairford Creek, Saddlers Creek and some smaller, unnamed creeks in the north. The site generally drains from the south-east to the Hunter River, which is north-west of the Complex.

There are also a number of small dams present in the Mt Arthur Coal Complex, where low-intensity grazing currently occurs. There are a number of larger dams associated with the current mining operations, one of which is located to the north of the existing open mine pit.

### **3.3 (c) Soil and Vegetation characteristics**

The soils types occurring within the proposed action area are mapped on the Singleton 1:250,000 Soil Landscapes Map Sheet and described in Kovac and Lowrie (1991). Six soil landscapes occur within the mining lease with the Liddell, Bayswater and Brays Hill Soil Landscapes the dominant soil types and the remaining three present in only small areas. The majority of the mining area is covered by soils that have moderate to high susceptibility to erosion and poor fertility. There are also limited areas of land with fertile soils associated with Saddlers Creek in the southeast of the area. These more fertile soils typically have low to moderate erosion hazards.

### **3.3 (d) Outstanding natural features**

The dominant natural features of the Mt Arthur Coal Complex are Mount Arthur and Mount Ogilvie, which are located in the centre and to the south-west of the Complex, respectively.

### **3.3 (e) Remnant native vegetation**

The Hunter Valley landscape was settled by Europeans in the first half of the 19th century and the vegetation has been heavily cleared for pastoral usage. The Mt Arthur Coal Complex has been historically cleared, predominantly for grazing purposes and no old growth woodland or forest exists, although some large, old individual trees are scattered across the remaining woodland patches.

The vegetation across the Central Hunter Valley has been mapped by Peake 2006/ Hunter-Central Rivers Catchment Management Authority (CMA) and this mapping includes the Mt Arthur Coal Complex. Additional mapping studies have been conducted across the Mt Arthur Coal Complex as part of vegetation studies commissioned for environmental impact assessments of coal mining proposals at the Mt Arthur Coal Complex<sup>2,10,12</sup>.

The major vegetation communities that occur in the Mt Arthur Coal Complex are listed below and are listed in the following tables (**Table 6 & 7**) and are shown in **Figure 6**. Most of the names used to describe these communities follow those used in the Peake 2006 mapping study.

**Table 6** Vegetation communities

COMMUNITY	Legal Status	
	EPBC Act	TSC Act
<b>Forest</b>		
Central Hunter Bul oak Forest Regeneration		
Central Hunter Ironbark - Spotted Gum - Grey Box Forest		
Mt Arthur Forest Complex	CEEC (part)	EEC
Spotted Gum Forest		
<b>Woodland</b>		
Central Hunter Box - Ironbark Woodland		
Blakely's Red Gum Woodland	CEEC	EEC
Hunter Floodplain Red Gum Woodland	CEEC	EEC
Hunter Floodplain Red Gum Woodland - Weedy Understory		
Narrabeen Foothills Slaty Box Woodland		
Upper Hunter Hills Exposed - Ironbark Woodland		
Upper Hunter White Box Grey Box Intergrade - Ironbark Grassy Woodland		EEC (part)
<b>Derived Grassland</b>		
Grassland (= semi-natural grassland formed by the clearing of non-listed forest and woodland)		
Derived Native Grassland	CEEC	EEC
<b>Exotic Grassland</b>		
Exotic Grassland		

*Acronyms: CEEC – Critically Endangered Ecological Community*

*EEC – Endangered Ecological Community*

**Table 7:** Vegetation Areas: Total Inside the Mount Arthur Coal Complex versus Areas to be Cleared within the Proposed Action Area

<b>Vegetation Communities</b>	<b>Areas (Ha)</b>	
<b><u>Not Listed</u></b>	<b>Inside the Mt Arthur Coal Complex (Total)</b>	<b>Vegetation to be Cleared within the Proposed Action Area</b>
<b>Woodland and Forest Communities</b>		
Narrabeen Foothills Slaty Box Woodland	37.9	37.4
Upper Hunter Hills Exposed - Ironbark Woodland	46.4	35.9
Central Hunter Ironbark - Spotted Gum - Grey Box Forest	5.2	5.2
Hunter Floodplain Red Gum Woodland - Weedy Understory	7	0
Upper Hunter White Box Grey Box Integrate - Ironbark Grassy Woodland	182.2	132.2
Spotted Gum Forest	35.3	31.2
Central Hunter Box - Ironbark Woodland	312.3	0
Central Hunter Bullock Forest Regeneration	72.1	57.9
<b>Subtotal (woodland/forest)</b>	<b>698.4</b>	<b>299.8</b>
<b>Grassland</b>		
<b>Grassland</b>	<b>4785</b>	<b>937.4</b>
<b><u>CEEC</u></b>		
<b>Woodland and Forest Communities</b>		
Mt Arthur Forest (Box Gum Woodland)	132.6	0
Hunter Floodplain Red Gum Community (Box Gum Woodland)	50.5	0
Blakely's Red Gum Woodland (Box Gum Woodland)	2.9	0
<b>Subtotal (woodland/forest)</b>	<b>186</b>	<b>0</b>
Derived Native Grassland	59.5	0

Some of the mapping units used by Peake 2006 incorporate areas of Box Gum Woodland CEEC as defined under Commonwealth and State environmental legislation. That is, the communities present within the Mt Arthur Coal Complex include several communities that, in part, conform to the CEEC listing for the Box Gum Woodland or Derived Native Grasslands. This is because the woodland and open forest communities named by the Peake 2006 mapping are dominated by a variety of tree species and vary in their composition from patch to patch. Some patches are dominated or co-dominated by tree species that define Box Gum Woodland, namely Yellow Box and Blakelys Red Gum. The majority of patches however are dominated by other tree species that are not mentioned as characteristic species within CEEC final determination.

Box Gum Woodland and Derived Grassland is a CEEC nationally listed by the EPBC Act. It is also listed as an endangered ecological community under the NSW TSC Act. The Box Gum Woodland and Derived Grassland CEEC is essentially a “super-community” that originally occurred across a vast area of VIC, ACT, NSW and Qld and includes several recognisable variants. The results of the most recent mapping study<sup>16</sup> indicate that the CEEC Box Gum Woodland and Derived Grassland is present on parts of the Mt Arthur Coal Complex. These areas will not be disturbed as part of the Proposed Action.

The predominant vegetation element within the Proposed Action Area is grassland that has been derived from the clearing of the original woodland and forest communities, none of which were Box Gum Woodland CEEC. Hence no Derived Native Grassland occurs within the area to be cleared. This is dominated by a variety of native grass and herb species but many exotic species are present as is typical of grazing lands.

Each of the plant communities that have been mapped as occurring within the Proposed Action Area is described in detail within Cumberland Ecology’s Ecological Impact Assessment for the Mt Arthur Coal Consolidation Project (2009) (see **Attachment A**).

### **3.3 (f) Gradient (or depth range if action is to be taken in a marine area)**

The terrain within the Mt Arthur Coal Complex comprises mainly of undulating to rolling low hilly lands with broadly rounded crestal areas and moderately inclined dissection sloped, up to approximately 10 percent slope gradient. Steeper, higher hilly lands occur in the southern and south-western sectors and also in the central north-western sectors of the site. These hilly lands have mostly narrow rounded ridge crests and moderately steep to steep hill and ridge slopes, mostly in the range of 1 percent to 20 percent slope gradient. Locally steeper slopes (>20percent) occur on the dissected middle lower slopes in the vicinity of Mount Arthur.

### **3.3 (g) Current state of the environment**

**Include information about the extent of erosion, whether the area is infested with weeds or feral animals and whether the area is covered by native vegetation or crops.**

The Proposed Action Area is predominantly cleared with scattered trees or low density woodland and the understorey vegetation is currently subjected to grazing.

The woodland and grassland areas across the Proposed Action Area are subjected to varying degrees of weed invasion.

### **3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values**

There are no Commonwealth Heritage Places or other places recognised as having significant heritage values within the Proposed Action Area.

### **3.3 (i) Indigenous heritage values**

The Mount Arthur Conservation Area (located centrally within the Mt Arthur Coal Complex) and the Saddlers Creek Conservation Area (located south of the Proposed Action Area) are sites of high cultural significance to the local Aboriginal community. Both of these areas are nominated as locations for the establishment of Conservation Areas under section 69 the *National Parks and Wildlife Act (1974)* (NSW) or other similar protection mechanism and will not be disturbed by the Proposed Action.

### **3.3 (j) Other important or unique values of the environment**

Describe any other key features of the environment affected by, or in proximity to the proposed action (for example, any national parks, conservation reserves, wetlands of national significance etc).

There are no national parks, conservation reserves or wetlands of national significance within proximity of the Mt Arthur Coal Complex. Two areas adjacent to the Mt Arthur Coal Complex have been previously nominated as locations for the establishment of Conservation Areas under section 69 of the NSW *National Parks and Wildlife Act (1974)* or other similar protection mechanism.

In addition to the Mount Arthur and Saddlers Creek Conservation Areas (as shown in **Figure 3**) additional Conservation Areas on both sides of Thomas Mitchell Drive will be established as part of the MACCP.

### **3.3 (k) Tenure of the action area (eg freehold, leasehold)**

The Proposed Action Area is located on freehold lands owned by HVEC. These lands are located within existing mining tenements which have been granted by the NSW Government to HVEC and its related entity, Mt Arthur Coal Pty Ltd, for the purpose of coal mining and mining related activities.

### **3.3 (l) Existing land/marine uses of area**

The Mt Arthur Coal Complex is utilised for open cut mining operations and low-intensity grazing or biodiversity values.

### **3.3 (m) Any proposed land/marine uses of area**

Other than the land uses associated with the Proposed Action, there are no currently proposed additional land uses for the area.

## 4 Measures to avoid or reduce impacts

Note: If you have identified alternatives in relation to location, time frames or activities for the proposed action at Section 2.3 you will need to complete this section in relation to each of the alternatives identified.

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

For any measures intended to avoid or mitigate significant impacts on matters protected under the EPBC Act, specify:

- what the measure is,
- how the measure is expected to be effective, and
- the time frame or workplan for the measure.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

Provide information about the level of commitment by the person proposing to take the action to implement the proposed mitigation measures. For example, if the measures are preliminary suggestions only that have not been fully researched, or are dependent on a third party's agreement (e.g. council or landowner), you should state that, that is the case.

Note, the Australian Government Environment Minister may decide that a proposed action is not likely to have significant impacts on a protected matter, as long as the action is taken in a particular manner (section 77A of the EPBC Act). The particular manner of taking the action may avoid or reduce certain impacts, in such a way that those impacts will not be 'significant'. More detail is provided on the Department's web site.

For the Minister to make such a decision (under section 77A), the proposed measures to avoid or reduce impacts must:

- clearly form part of the referred action (eg be identified in the referral and fall within the responsibility of the person proposing to take the action),
- be must be clear, unambiguous, and provide certainty in relation to reducing or avoiding impacts on the matters protected, and
- must be realistic and practical in terms of reporting, auditing and enforcement.

More general commitments (eg preparation of management plans or monitoring) and measures aimed at providing environmental offsets, compensation or off-site benefits CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, if your proposal proceeds to these stages).

### **Avoidance**

HVEC proposes to carry out its mining operations in a manner that will avoid, to the maximum extent practicable, any disturbance to the threatened species and CEECs known to occur in the Mt Arthur Coal Complex.

HVEC, through its expert consultants, has undertaken detailed environmental assessments of the Mt Arthur Coal Complex, and has designed its operations having regard to the findings of these assessments. In the few instances where risks of impacts to matters of national environmental significance have been identified, its operations have been designed to avoid, to the maximum extent practicable, any disturbance to these matters of national environmental significance. Certainty exists that disturbance of known occurrences of Box Gum Woodland and Derived Grassland CEEC and three known occurrences of Lobed Blue-grass will be avoided, as the existing State Government approval clearly shows mine plans avoiding these occurrences of Lobed Blue-grass and CEEC (together with conservation area establishment as conditions of approval).

HVEC's mine plans have been specifically designed to prevent the clearance of known occurrences of the Box Gum Woodland and Derived Grassland CEEC, as shown on **Figure 5**. It can be seen that most of this CEEC that is present is already within the Conservation Areas, and as such, disturbance of these areas by mining has been and will be avoided. New Conservation Areas have been established over time in areas of significance, thereby continuing to protect further areas of this CEEC and other woodland in the Mt Arthur Coal Complex.

This avoidance of known occurrences of the Box Gum Woodland and Derived Grassland CEEC includes the establishment of three Conservation Areas (known as the "Mount Arthur Conservation Area", the "Saddlers Creek Conservation Area" and the "Thomas Mitchell Drive Conservation Area" each shown on **Figure 5**), which comprise a total area of approximately 895 hectares. The Mount Arthur Conservation Area will protect, amongst other things, 74 hectares of the Box Gum Woodland and Derived Grassland CEEC. The Saddlers Creek Conservation Area will protect approximately 53 hectares of the Box Gum Woodland and Derived Grassland CEEC, the Thomas Mitchell Drive Conservation Area will protect approximately 2.9 ha of the Box Gum Woodland and Derived Native Grasslands CEEC.

The establishment of the Conservation Areas is a requirement of the conditions of the MACCP project approval granted by the NSW Minister for Planning under Part 3A of the EP&A Act on 24 September 2010 (**MACCP Part 3A Approval**). The establishment of the Conservation Areas will be implemented pursuant to the Biodiversity Management Plan required by the MACCP Part 3A Approval, which will include a program to monitor the effectiveness of these measures and their progress against specific performance and completion criteria. The MACCP Part 3A Approval requires HVEC to make suitable arrangements by the end of September 2012 to provide appropriate long term security for the Conservation Areas, to the satisfaction to the Director-General of the Department of Planning. HVEC intends to provide for the long term security of the Conservation Areas by way of a conservation agreement under the *National Parks and Wildlife Act 1974* (NSW) or similar protective mechanism.

Accordingly, the mine plans (which include establishment of the Conservation Areas) have a high degree of certainty in respect of HVEC's intention to avoid clearing known occurrences of the Box Gum Woodland and Derived Grassland CEEC, and actively conserve such areas onsite.

The MACCP Part 3A Approval also contains conditions to conserve the Mt Arthur, Saddlers Creek and Thomas Mitchell Drive offset areas using a Conservation Agreement or similar mechanism to provide for long term security of these ecologically valuable areas, and the rehabilitation of 500 hectares to native box gum woodland vegetation. Therefore there is a certainty that carrying out the proposed action will result in the conservation of the most valuable ecological communities within the Mt Arthur Coal Complex.

### **Management and Mitigation**

HVEC has an existing Environmental Management System (EMS) certified to ISO14001 that includes Flora and Fauna Management Plans. The EMS also incorporates the requirements of the development consents and other approvals and commitments for the Mt Arthur Coal Complex. In accordance with the requirements of this EMS, an ongoing monitoring program has been implemented. The objective of this monitoring program is to monitor and manage flora and fauna habitat within the Mt Arthur Coal Complex, and to provide management recommendations to improve ecological management<sup>1,7-9,11,15</sup>.

Procedures and management plans have been in place and utilised over the life of the operations. Ongoing management and mitigation measures detailed in management plans include the measures in the Table below. Further details about mitigation measures are provided within the attached Flora and Fauna Assessment by Cumberland Ecology.

**Table 8** Impact Mitigation Measures

Existing Mitigation Measures	General Ecological Benefits
Dust minimisation	Control of dust reduces the indirect impacts on vegetation condition and the habitat quality for all native species at Mt Arthur Coal.
Noise minimisation	Minimisation of noise benefits fauna by reducing the potential for disturbance of animals in habitat patches around the mine.
Weed control	Weed control helps to protect the integrity of native vegetation within the EA Boundary and maintains or improves the quality of habitat for plant and animal species.
Feral animal control	Feral animal control helps to control foxes, rabbits and other feral animals that are key threats to many wildlife species.
Rehabilitation of disturbed areas	Rehabilitation of disturbed areas restores forest and woodland cover to disturbed areas and adds habitat for flora and fauna in the long term.
Linkage and integration of rehabilitation areas with existing vegetated areas to improve ecological function and provide habitat	This measure increases the viability of the scattered patches of habitat that occur across the EA Boundary, connecting them and facilitating movement of native species between patches.
Creation of habitat corridors linking isolated remnant vegetation stands	As above.
Management of surface water, erosion and sedimentation	Protects the integrity of the landscape.
Ongoing monitoring and maintenance of all revegetation works and habitat enhancement activities	Maintains the viability of the rehabilitated areas in the long term and provides feedback data that can be used for adaptive management.
Pre-clearance inspections and tree felling procedures	Provides an opportunity to avoid impacts to arboreal fauna during clearing and/or enables relocation of fauna to secure areas of vegetation.
Relocation of salvaged tree hollows and (where required) the establishment of nest boxes in adjacent vegetation communities.	Makes efficient use of tree hollows that could otherwise be destroyed. Replaces tree hollows that are to be lost from clearing operations by establishing nest boxes within secure habitat. This maintains the number of tree hollows on site in the short to medium term.
Due diligence inspections for surface infrastructure	Provides data for ongoing adaptive management and protection of adjacent landscape areas if required.

Existing Mitigation Measures	General Ecological Benefits
Ongoing monitoring of native flora and fauna across the Mt Arthur Coal Complex	Provides data for ongoing adaptive management of threatened and regionally significant flora and fauna.

## 5 Conclusion on the likelihood of significant impacts

Identify whether or not you believe the action is a controlled action (ie. whether you think that significant impacts on the matters protected under Part 3 of the EPBC Act are likely) and the reasons why.

### 5.1 Do you THINK your proposed action is a controlled action?

- No, complete section 5.2  
 Yes, complete section 5.3

### 5.2 Proposed action IS NOT a controlled action.

Specify the key reasons why you think the proposed action is NOT LIKELY to have significant impacts on a matter protected under the EPBC Act.

The Proposed Action is unlikely to have a significant impact on any matters of national environmental significance identified in the EPBC Act.

HVEC, through its expert consultants, has undertaken detailed environmental assessments of the Mt Arthur Coal Complex, and has designed its mining operations having regard to the findings of these assessments. In the few instances where risks of impacts to matters of national environmental significance have been identified, the mine plans have been designed to avoid or minimise impacts on these matters of national environmental significance. Certainty exists that the disturbance of known occurrences of Box Gum Woodland and Derived Grassland CEEC and three known occurrences of Lobed Blue-grass will be avoided, as the mine plans the subject of the existing State Government approval avoid disturbance of these Lobed Blue-grass and CEEC occurrences, with the approval conditions requiring the establishment of Conservation Areas.

In this regard, the Proposed Action does not involve any clearing of known areas of Box Gum Woodland and Derived Grasslands CEEC. These communities occur within areas nominated to be preserved in Conservation Areas and other areas, but not within the Proposed Action Area. Minor occurrences of Lobed Blue-grass have been identified in six locations<sup>7</sup>, three of which may be impacted by the Proposed Action (**Figure 5**). These occurrences do not constitute an important population of this Vulnerable species. Moreover, known occurrences of Lobed Blue-grass and habitat for the grass will remain widespread within undisturbed areas of the Mt Arthur Coal Complex.

While some other threatened and migratory species have been previously recorded in the Mt Arthur Coal Complex such species make, at most, minor use of the area and as such, their populations are not likely to be significantly impacted by the Proposed Action. All of the mitigation measures described in Part 4 above are relevant to threatened and migratory species that could occur on the Mt Arthur Coal Complex and these will minimise the likelihood of significant impact to any such species.

### 5.3 Proposed action IS a controlled action

Type 'x' in the box for the matter(s) protected under the EPBC Act that you think are likely to be significantly impacted. (The 'sections' identified below are the relevant sections of the EPBC Act.)

#### Matters likely to be impacted

- World Heritage values (sections 12 and 15A)  
 National Heritage places (sections 15B and 15C)  
 Wetlands of international importance (sections 16 and 17B)

<input type="checkbox"/>	Listed threatened species and communities (sections 18 and 18A)
<input type="checkbox"/>	Listed migratory species (sections 20 and 20A)
<input type="checkbox"/>	Protection of the environment from nuclear actions (sections 21 and 22A)
<input type="checkbox"/>	Commonwealth marine environment (sections 23 and 24A)
<input type="checkbox"/>	Great Barrier Reef Marine Park (sections 24B and 24C)
<input type="checkbox"/>	Protection of the environment from actions involving Commonwealth land (sections 26 and 27A)
<input type="checkbox"/>	Protection of the environment from Commonwealth actions (section 28)
<input type="checkbox"/>	Commonwealth Heritage places overseas (sections 27B and 27C)

Specify the key reasons why you think the proposed action is likely to have a significant adverse impact on the matters identified above.

## 6 Environmental record of the responsible party

NOTE: If a decision is made that a proposal needs approval under the EPBC Act, the Environment Minister will also decide the assessment approach. The EPBC Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach.

	Yes	No
<p><b>6.1 Does the party taking the action have a satisfactory record of responsible environmental management?</b></p> <p><b>Provide details</b></p> <p>HVEC is the proud recipient of both the 2007 Energy Coal Sustainable Development Excellence Award and the prestigious BHP Billiton CEO's Sustainability Excellence Award.</p> <p>HVEC believes contributing to sustainable development by creating sustainable value for all stakeholders is paramount to the company's success. Central to this is HVEC's aspiration to achieve Zero Harm.</p> <p>Broadly, the systems and processes implemented at HVEC to manage this commitment in accordance with the CEO's Sustainable Development Excellence Award criteria include:</p> <ul style="list-style-type: none"> <li>• Comprehensive and adaptable management systems;</li> <li>• ISO14001 certification of the Environmental Management System;</li> <li>• Active and visible leadership across the areas of Health, Safety, Environment and Community (HSEC);</li> <li>• Strong and demonstrated workforce awareness of key HSEC risk areas;</li> <li>• Leading environmental practices and procedures maintained;</li> <li>• Global recognition of Business Excellence projects;</li> <li>• Entrenched reporting culture;</li> <li>• Effective and valued community engagement programs.</li> </ul> <p>HVEC is an expanding operation and has an absolute commitment to ensure HSEC systems and processes are included in all aspects of this growth.</p> <p>In addition to recognition within BHP Billiton, HVEC has also been recognised externally for its innovative environmental management in the fields of noise mitigation and grey water use.</p>	x	
<p><b>6.2 Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?</b></p>		x

<p><b>If yes, provide details</b></p>		
<p><b>6.3 If the party taking the action is a corporation, will the action be taken in accordance with the corporation’s environmental policy and planning framework?</b></p> <p><b>If yes, provide details of environmental policy and planning framework</b></p> <p>As a part of the BHP Billiton Group, HVEC operates under the BHP Billiton Charter and BHP Billiton Sustainable Development Policy. These documents provide the framework of the BHP Billiton operating model.</p> <p>HVEC’s own Sustainable Development Policy is consistent with the corporate Sustainable Development Policy and recognises the unique social and environmental contexts within which the mine operates.</p> <p>These three policy documents underpin HVECs Environmental Management System (EMS). The EMS is accredited to ISO14001, and operates through the Plan, Do, Check, Act system to achieve effective environmental controls and continual improvement onsite. The EMS has been accredited for over 5 years.</p>	<p>X</p>	
<p><b>6.4 Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?</b></p> <p><b>Provide name of proposal and EPBC reference number (if known)</b></p>		<p>X</p>

## 7 Information sources and attachments

(For the information provided above)

### 7.1 References

- List the references used in preparing the referral.
- Highlight documents that are available to the public, including web references if relevant.

1. Cumberland Ecology (2010) **Mt Arthur Coal 2010 Flora and Fauna Monitoring Program – draft Ecological Monitoring Report** Carlingford Court, NSW.
2. Cumberland Ecology (2009) **Mt Arthur Coal 2009 Flora and Fauna Monitoring Program – Ecological Monitoring Report** Carlingford Court, NSW.
3. Cumberland Ecology (2009) **Mt Arthur Coal 2008 Flora and Fauna Monitoring Program – Ecological Monitoring Report** Carlingford Court, NSW.
4. Dames & Moore (2000) **Mt Arthur North Coal Project - Flora and Fauna Report** Dames & Moore Pty. Ltd., Brisbane, QLD.
5. **DECCW (NSW) (2008) Atlas of NSW Wildlife**  
<http://wildlifeatlas.nationalparks.nsw.gov.au/wildlifeatlas/watlas.jsp>
6. Department of Environment and Climate Change (2005) **Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation** NSW Government, Hurstville, NSW.
7. Department of Environment and Heritage (2004) **White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived Native Grasslands**. Australian Government, Department of Environment and Heritage, Canberra.
8. **SEWPAC (2008) EPBC Protected Matters Search Tool**  
<http://www.environment.gov.au/erin/ert/epbc/index.html>
9. Peake, Travis C. (2006) **The Vegetation of the Central Hunter Valley, New South Wales. A Report on the Findings of the Hunter Remnant Vegetation Project. Final Draft**. Hunter-Central Rivers Catchment Management Authority, Paterson.
10. Umwelt Environmental Consultants (2003) **Mt Arthur Coal - Ecological Monitoring Report** Umwelt (Australia) Pty. Limited., Toronto.
11. Umwelt Environmental Consultants (2005) **Mt Arthur Coal - 2004 Ecological Monitoring Report** Umwelt (Australia) Pty. Limited., Toronto.
12. Umwelt Environmental Consultants (2006) **Mt Arthur Coal - 2005 Ecological Monitoring Report. DRAFT** Umwelt (Australia) Pty. Limited., Toronto.
13. Umwelt Environmental Consultants (2006) **Mt Arthur Coal - Ecological Assessment Proposed South Pit Extension** Umwelt (Australia) Pty. Ltd., Toronto, NSW.
14. Umwelt Environmental Consultants (2007) **2006 Ecological Monitoring Report - Mt Arthur Coal** Umwelt (Australia) Pty. Limited, Toronto, NSW.
15. Umwelt Environmental Consultants (2007) **Ecological Assessment - Proposed Mt Arthur Underground Project** Umwelt (Australia) Pty. Ltd. Toronto, NSW.
16. Umwelt Environmental Consultants (2008) **Plan of Management for the Painted Diuris (*Diuris tricolor*) at A171** Umwelt (Australia) Pty. Ltd., Toronto, NSW.

17. Umwelt Environmental Consultants (2008) **Draft Briefing Report on Spring 2008 Monitoring of Painted Diuris (*Diuris tricolor*) at A171 Mt Arthur Coal** Umwelt (Australia) Pty. Ltd., Toronto, NSW.
18. 1Wildthing Environmental Consultants (2008) **Draft 2007 Ecological Monitoring Report - Mt Arthur Coal** Wildthing Enterprises Pty. Ltd., Wallsend, NSW.
19. Cumberland Ecology (2009) **Mt Arthur Coal Consolidation Project – Ecological Assessment** Carlingford Court, NSW.

The references that are highlighted are available to the public.

## 7.2 Reliability and date of information

For information in section 3 specify:

- source of the information;
- how recent the information is;
- how the reliability of the information was tested; and
- any uncertainties in the information.

The flora and fauna of the Mt Arthur Coal Complex have been well investigated in recent years, as have the surrounding lands within the locality. The information in environmental reports and within the Department of Environment, Climate Change and Water Wildlife Atlas database provide an accurate indication of the matters of national environmental significance that are likely to be in the area.

Moreover, the vegetation surveys conducted by Cumberland Ecology in the latest study occurred in excellent seasonal conditions, during which a high proportion of the plant species were detectable and flowering. Overall, there is a high degree of certainty about the flora and fauna that could occur.

## 7.3 Attachments

Indicate the documents you have attached. All attachments must be less than two megabytes (2mb) so they can be published on the Department's website. Attachments larger than two megabytes (2mb) may delay the processing of your referral.

		✓ attached	Title of attachment(s)
<b>You must attach</b>	figures, maps or aerial photographs showing the project locality (section 1)	✓	Figure 1 – Regional Locality Figure 2 – Approved Open Cut Disturbance Areas under State Planning Approvals  Figure 3 – Proposed Action Area Figures 4A, 4B and 4C – latitude and longitude coordinates
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3)	✓	Figure 5 – EPBC matters of national environmental significance  Figure 6– Vegetation Communities
<b>If relevant, attach</b>	copies of any state or local government approvals and consent conditions (section 2.5)	✓	Mt Arthur Coal Consolidation Project Approval
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if	✓	Mt Arthur Coal Consolidation Project – Ecological Impact Assessment

available (section 2.6)		Mt Arthur Underground Ecology Assessment  Mt Arthur North Coal Project - Flora and Fauna Report
copies of any flora and fauna investigations and surveys (section 3)	✓	Mt Arthur Coal Ecological Monitoring Reports (2003-2010)
technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4)		
report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)		

## 8 Contacts, signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (s 489, EPBC Act).

Under the EPBC Act a referral can only be made by:

- the person proposing to take the action (which can include a person acting on their behalf); or
- a Commonwealth, state or territory government, or agency that is aware of a proposal by a person to take an action, and that has administrative responsibilities relating to the action<sup>1</sup>.

### Project title:

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#### 8.1 Person proposing to take action

This is the individual, government agency or company that will be principally responsible for, or who will carry out, the proposed action.

If the proposed action will be taken under a contract or other arrangement, this is:


- the person for whose benefit the action will be taken; or
- the person who procured the contract or other arrangement and who will have principal control and responsibility for the taking of the proposed action.

If the proposed action requires a permit under the Great Barrier Reef Marine Park Act<sup>2</sup>, this is the person requiring the grant of a GBRMP permission.

The Minister may also request relevant additional information from this person.

If further assessment and approval for the action is required, any approval which may be granted will be issued to the person proposing to take the action. This person will be responsible for complying with any conditions attached to the approval.

If the Minister decides that further assessment and approval is required, the Minister must designate a person as a proponent of the action. The proponent is responsible for meeting the requirements of the EPBC Act during the assessment process. The proponent will generally be the person proposing to take the action<sup>3</sup>.

Name	Ms Sarah Withell
Title	General Manager HSEC, NSW Energy Coal
Organisation	Hunter Valley Energy Coal Pty Ltd
ACN / ABN (if applicable)	062894464 / 39 062 894 464
Postal address	Mt Arthur Coal, Thomas Mitchell Drive, Muswellbrook, NSW 2333
Telephone	02 65424800
Email	Sarah.Withell@bhpbilliton.com
Declaration	I declare that the information contained in this form is, to my knowledge, true and not misleading. I agree to be the proponent for this action.
Signature	 Date 8/2/2011

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<sup>1</sup> If the proposed action is to be taken by a Commonwealth, state or territory government or agency, section 8.1 of this form should be completed. However, if the government or agency is aware of, and has administrative responsibilities relating to, a proposed action that is to be taken by another person which has not otherwise been referred, please contact the Referrals Business Entry Point (1800 803 772) to obtain an alternative contacts, signatures and declarations page.

<sup>2</sup> If your referred action, or a component of it, is to be taken in the Great Barrier Reef Marine Park the Minister is required to provide a copy of your referral to the Great Barrier Reef Marine Park Authority (GBRMPA) (see section 73A, EPBC Act). For information about how the GBRMPA may use your information, see [http://www.gbrmpa.gov.au/privacy/privacy\\_notice\\_for\\_permits](http://www.gbrmpa.gov.au/privacy/privacy_notice_for_permits).

<sup>3</sup> If a person other than the person proposing to take action is to be nominated as the proponent, please contact the Referrals Business Entry Point (1800 803 772) to obtain an alternative contacts, signatures and declarations page.

**8.2 Person preparing the referral information (if different from 8.1)**

Individual or organisation who has prepared the information contained in this referral form.

Name Dr David Robertson  
Title Director  
Organisation Cumberland Ecology Pty. Ltd.  
ACN / ABN (if applicable) 106 144 647 / 14 106 144 647  
Postal address PO Box 2474  
Carlingford Court  
NSW 2118  
Telephone (02) 9868 1933  
Email david.robertson@cumberlandecology.com.au  
Declaration  
Signature I declare that the information contained in this form is, to my knowledge, true and not misleading. Date 7/2/2011

*David Robertson*

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## REFERRAL CHECKLIST

**NOTE:** This checklist is to help ensure that all the relevant referral information has been provided. It is not a part of the referral form and does not need to be sent to the Department.

### HAVE YOU:

- Completed all required sections of the referral form?
- Included accurate coordinates (to allow the location of the proposed action to be mapped)?
- Provided a map showing the location and approximate boundaries of the project area?
- Provided a map/plan showing the location of the action in relation to any matters of NES?
- Provided complete contact details and signed the form?
- Provided copies of any documents referenced in the referral form?
- Ensured that all attachments are less than two megabytes (2mb)?
- Sent the referral to the Department (electronic and hard copy preferred)?