# APPENDIX 1

# THE DIRECTOR-GENERAL'S REQUIREMENTS FOR A SPECIES IMPACT STATEMENT

BHPBilliton Illawarra Coal
(Attention: Mr Andrew Gray)
PO Box 514
UNANDERRA NSW 2526

Dear Sir

DIRECTOR-GENERAL'S REQUIREMENTS FOR A SPECIES IMPACT STATEMENT FOR THE STAGE 3 COAL WASH EMPLACEMENT SITE AT WESTCLIFF COLLIERY

We are writing in reply to your letter dated the 2 February 2006 requesting the Department of Environment and Conservation (DECs) requirements for the development of a new Species Impact Statement (SIS) for the above proposal.

The Dendrobium Underground Mine Development was subject to a Commission Of Inquiry (COI) following which it was approved in 2001 by the Minister of Planning as a staged development subject to conditions. As part of this consent an assessment process for a possible Stage 3 Emplacement Area at West Cliff Colliery was identified as subject to a separate approval from the Minister for Planning. The consent required BHP Billiton to explore alternatives to the emplacement of coal wash and undertake further environmental assessment and develop a financial security. We understand BHP Billiton has requested a meeting with DoP and DEC to clarify the approval process and associated assessment requirements.

The DEC has agreed to provide BHP Billiton these SIS requirements (attached) to assist in undertaking additional flora and fauna survey work. However the SIS requirements should not be considered in isolation but form part of an overall and integrated assessment of the proposal in accordance with the above consent requirements.

We also consider that some of the elements of the consent condition which relate to matters such as the preparation of vegetation removal plans, vegetation linkages to support Koala habitats, compensatory packages and water quality assessments are also elements for consideration in the development of an SIS. We also consider that in providing a contextual assessment of the site that it should not be limited to the area bounded by the red line in the submitted information but should also examine the entire lease area. This should also include off site areas to understand the sites linkages to the surrounding area to provide contextual information.

A flora and fauna assessment should also be undertaken to assess any potential impacts to threatened species, populations, endangered ecological communities (EEC) or their habitats as listed under the Threatened Species Conservation Act 1995 (TSC Act) for the entire area which could potentially be impacted (directly or indirectly) by the proposed development. In this regard a full species profile should be prepared for each affected threatened species, population or ecological community. As a minimum requirement, the species profiles should encompass all aspects of an assessment of significance..
While the original flora and fauna assessment undertaken for the Dendrobium Coal Mine

development could be used to assist as background information in the development of an SIS,the information and outcomes provided in the COI must also be considered.

In addition to the above matters please find attached the Director Generals requirements for the development of an SIS.

Should you require any further information on these requirements please contact Paul Wearne on 4224 4100.

Yours sincerely

TREVOR JONES
Manager Illawarra
Environment and Protection and Regulation Division
Department of Environment and Conservation
(N\Threatened Species\DGRs Westcliff Colliery.doc)
Att:

## ATTACHMENT

## DIRECTOR-GENERAL'S REQUIREMENTS FOR A SPECIES IMPACT STATEMENT (SIS) FOR THE PROPOSED STAGE 3 EMPLACEMENT AREA WEST CLIFF COLLIERY

The purpose of a SIS is to:

- allow the applicant or proponent to identify threatened species issues and provide appropriate amelioration for adverse impacts resulting from the proposal;
- assist consent and determining authorities in the assessment of a development application under Part 4 or request for Part 5 approval under the Environmental Planning and Assessment Act 1979 (EP&A Act);
- assist the Director-General of the DEC in deciding whether or not concurrence should be granted for the purposes of Parts 4 or 5 of the EP&A Act;
- assist the Director-General of the DEC or the Minister for the Environment when consulted for the purposes of Parts 4 or 5 of the EP&A Act; and
- assist the Director-General of the DEC in the assessment of Section 91 Licence applications lodged under the TSC Act.

### DEFINITIONS

The definitions given below are relevant to these requirements:

***development*** has the same meaning as in the EP&A Act.
***activity*** has the same meaning as in the EP&A Act.
***proposal*** is the development, activity or action proposed.
***subject site*** means the area directly affected by the proposal.
***study area*** is the subject site and any additional areas that are likely to be affected by the proposal, either directly or indirectly.
***locality*** is the area within a 5 km radius of the subject site.
***subject species*** means those threatened species that are known or considered likely to occur in the study area.

All other definitions are the same as those contained in the TSC Act.

### MATTERS WHICH HAVE BEEN LIMITED OR MODIFIED

We consider that the following Section 110 matters need not be addressed by your SIS:

- Section 110(2)(e). This section is a replication of Section 110(2)(a);
- Section 110(2)(g) and 110(3)(d). The matters raised in these sections of the TSC Act have been clarified by the requirements below.

We consider that Section 110 matters in relation to any threat abatement plans or recovery plans need only be addressed where relevant. In relation to key threatening processes the following is relevant to this proposal:

- Alteration to natural flow regimes of rivers and streams and their floodplains and wetlands;
- Bushrock removal;
- High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition;

• Clearing of native vegetation (as defined and described in the final determaination of the Scientific Committee to list the key threatening process)

All reference to critical habitat. At the time of printing, the areas of declared critical habitat are not relevant to this proposal.

The proponent should be aware that recovery plans may be approved, critical habitat may be declared and key threatening processes may be listed between the issue of these requirements and the granting of consent. If this occurs, these additional matters will need to be addressed in the SIS and considered by the consent, determining or concurrence authority.

**MATTERS TO BE ADDRESSED**

The TSC Act provides that the SIS must meet all the matters specified in Sections 109 and 110 of the TSC Act with the exception of those matters limited above. The requirements outlined in Sections 109 and 110 (excluding the matters limited above) have been repeated below (italics) along with the specific Director-General's Requirements for your proposal.

**1 FORM OF THE SPECIES IMPACT STATEMENT**

1.1 A species impact statement must be in writing (Section 109 (1)).
1.2 A species impact statement must be signed by the principal author of the statement and by:
(a) the applicant for the licence, or
(b) if the species impact statement is prepared for the purposes of the Environmental Planning and Assessment Act 1979, the applicant for development consent or the proponent of the activity proposed to be carried out (as the case requires)
Section 109(2)).

The applicant or proponent must sign the following declaration:
"I…[insert name], of ..[address], being the applicant for the development consent…[insert DA number, Lot & DP numbers, street, suburb and Local Government Area (LGA) names] have read and understood this species impact statement. I understand the implications of the recommendations made in the statement and accept that they may be placed as conditions of consent or concurrence for the proposal"

**2. CONTEXTUAL INFORMATION**

2.1 Description of proposal, subject site and study area

A species impact statement must include a full description of the action proposed, including its nature, extent, location, timing and layout (Section 110 (1)).

A full description of the action includes a description of all associated actions, including, but not restricted to: installation and maintenance of utilities; fire protection zones; access and egress routes; and changes in surface water flows. These actions may occur on or off the subject land.

2.2 Provision of relevant plans and maps

A plan of the subject area, including the scale of the plan. An aerial photograph (preferably colour) of the locality (or reproduction of such a photograph) shall be provided, if possible. This aerial photograph should clearly show the subject site and the scale of the photograph.

A topographic map of the site and immediate surrounds at a scale of 1:25000 should be provided. This map should detail the location of the proposal and location of works on site. The map should also show forested and cleared areas in the immediate area and current activities/usage of this land including mining, rural and agricultural.

A map of the locality, showing any locally significant areas for threatened species such as parks and reserves, and areas of high human activity such as townships, regional centres and major roads will also be provided. The location, size and dimensions of study area shall be provided.

### 2.3 Land tenure information

Information about the land tenure across the study area. Any limitations to sampling across the study area (for example, denied access to private land) shall be noted.

## 3 INITIAL ASSESSMENT

A general description of the threatened species or populations known or likely to be present in the area that is the subject of the action and in any area that is likely to be affected by the action (Section 110 (2)(a)).

### 3.1 Identifying subject species

#### 3.1.1 Assessment of available information

In determining these species (the subject species), consideration shall be given to the habitat types present within the study area, recent records of threatened species or populations in the locality and the known distribution of threatened species.

We also consider that some of the conditions of the Dendrobium Coal Mine Development Consent (DA) which relate to matters such as the preparation of vegetation removal plans, vegetation linkages to support Koala habitats, compensatory packages and water quality assessments are also important elements for consideration in the development of the SIS. We also consider that in providing a contextual assessment of the site that it should not be limited to the area bounded by the red line in the submitted information but should also examine the entire lease area. This should also include off site areas to understand the sites linkages to the surrounding area to provide contextual information.

While an original flora and fauna assessment and Species Impact Statement were prepared for the Dendrobium Coal Mine development we consider that this information could be used to assist as background information in the development of the new SIS for the proposed Stage 3 site. We would also require the information and outcomes provided in the COI relating to ecological matters to be addressed in the SIS.

Databases such as the DEC Atlas of NSW Wildlife, Australian Museum and Royal Botanic Gardens should be consulted to assist in compiling the list. It should be noted that if the DEC Atlas is the only database that is referred to, due to data exchange agreements, the data provided by the DEC will only include that which the DEC is a custodian for. In many cases, this may only be a small subset of the data available. Other databases must also be consulted to create a comprehensive list of subject species.

The following species shall be considered for inclusion in the list of subject species:

**Threatened Flora Species**

| Scientific Name | Common Name | Status |
|---|---|---|
| *Acacia bynoeana* | Bynoe's Wattle | E |
| *Acacia baueri* ssp *aspera* | | V |
| *Acacia rivalis* | Creek Wattle | E |
| *Astrotricha crassifolia* | Thick-leaf Stair-hair | V |
| *Boronia deanei* | Deane's Boronia | V |
| *Cynanchum elegans* | White Flowered Wax Plant | E |
| *Daphnandra* sp"C" (Illawarra) | Illawarra Socket Wood | E* |
| *Darwinia peduncularus* | Darwinia peduncularus | V |
| *Epacris purpurascens* var *purpurascens* | | V |
| *Eucalyptus camfieldii* | Camfield's Stringbark | V |
| *Grevillea obtusiflora* | | E* |
| *Gyrostemon thesioides* | | E |
| *Leucopogon exolasius* | Woronora Beard-heath | V |
| *Melaleuca deanei* | Deanes Paperbark | V |
| *Persoonia bargoensis* | Bargo Geebung | E |
| *Persoonia glaucescens* | Mittagong Geebung | E |
| *Persoonia hirsuta* | Hairy Geebung | E* |
| *Pimelia spicata* | Spiked Rice-flower | E* |
| *Plinthanthesis rodwayi* | Budawangs Wallaby Grass | E |
| *Pomaderris adnata* | Sublime Point Pomaderris | E |
| *Pomaderris brunnea* | Brown Pomaderris | V |
| *Pterostylus pulchella* | | V |
| *Pterostylus saxicola* | | E* |
| *Pultenaea aristata* | Prickly Bush-pea | V |
| *Senna acclinis* | Rainforest Cassia | E |
| *Syzigium paniculatum* | | V |
| *Thesium australe* | Austral Toadflax | V |

**Threatened Fauna Species**

| | | |
|---|---|---|
| *Heleioporus australiacus* | Giant Burrowing Frog | V |
| *Litoria aurea* | Green and Golden Bell Frog | E |
| *Litoria littlejohni* | Littlejohn's Tree Frog | V |
| *Mixophyes balbus* | Stuttering Barred Frog | E |
| *Pseudophryne australis* | Red-crowned Toadlet | V |
| *Botaurus poiciloptilus* | Australasian Bittern | V |
| *Burhinus grallarius* | Bush Stone – curlew | E |
| *Calyptorhynchus lathami* | Glossy Black-cockatoo | V |
| *Ixobrychus flavicollis* | Black Bittern | V |

| | | |
|---|---|---|
| *Lathamus discolour* | Swift Parrot | E |
| *Neophema pulchella* | Turquoise Parrot | V |
| *Ninox strenua* | Powerful Owl | V |
| *Pachycephala olivacea* | Olive Whistler | V |
| *Ptilinopus superbus* | Superb Fruit-dove | V |
| *Rostratula benghalensis* | Painted Snipe | E |
| *Tyto novaehollandiae* | Masked Owl | V |
| *Tyto tenebricosa* | Sooty Owl | V |
| *Xanthomyza Phrygia* | Regent Honeyeater | E* |
| *Chalinolobus dwyeri* | Large-eared Pied Bat | V* |
| *Dasyurus maculatus* | Spotted Tail Quoll | V |
| *Isoodon obesulus* | Sothern Brown Bandicoot | E |
| *Falsistrellus tasmaniensis* | Eastern False Pipistrelle | V |
| *Miniopterus schreibersii oceanensis* | Eastern Bent-wing Bat | V |
| *Mormopterus norfolkensis* | Eastern Freetail Bat | V |
| *Myotis adversus* | Large-footed Myotis | V |
| *Petaurus australis* | Yellow-bellied Glider | V |
| *Petaurus norfolcensis* | Squirrel Glider | V |
| *Petrogale penicillata* | Bush-tail Rock-wallaby | E* |
| *Phascolarctos cinereus* | Koala | V |
| *Potorous tridactylus* | Long-nosed Potoroo | V |
| *Scoteanax rueppellii* | Great Broad-nosed Bat | V |
| *Hoplocephalus bungaroides* | Broad Headed Snake | E |
| *Varanus rosenbergi* | Rosenberg's Goanna | V |
| *Pteropus poliocephalus* | Grey-headed Flying Fox | V |

**Endangered Ecological Communities**
O'Hares Creek Shale Forest

* indicates species that are listed on the Environment Protection and Biodiversity Conservation Act 1999.

(This list is not exhaustive. One of the roles of a SIS is to determine which species may be utilising a development site given the limitations of existing databases.)

# 4 SURVEY

## 4.1 Requirement to survey

A Fauna and Flora Survey is to be conducted in the study area. Targeted surveys shall be conducted for all subject species determined in accordance with Section 3 above. Previous surveys and assessments may be used to assist in addressing this requirement. Species of taxonomic uncertainty shall be confirmed by a recognised authority such as the Australian Museum or National Herbarium at the Royal Botanic Gardens, Sydney.

## 4.2 Documentation of survey effort and technique

### 4.2.1 Description of survey techniques and survey sites

Survey technique(s) should be described and a reference given, where available, outlining

the survey technique employed.

Survey site(s) should be identified on a clearly keyed map. The size, orientation and dimensions of quadrat or length of transect should be clearly noted for each type of survey technique undertaken. Full AMG grid references for the survey site(s) should be noted.

4.2.2 Documenting survey effort and results

Attachment 1 provides survey proformas for use by field staff when applying a range of standard fauna survey techniques. Digital copies of these proformas are available by electronic mail. Please contact the nominated contact officer below. These proformas should be used by field staff when undertaking fauna surveys and completed data sheets are to be included as an appendix to the SIS.

The time invested each time a survey technique is applied shall be summarised in the SIS, based on completed proformas. For example - Number of person hours/transect, duration of call playback, number of nights traps set.

It is not sufficient to aggregate all time spent on all survey techniques. Effort must be expressed each time a survey technique is applied.

Personnel details including name of surveyor(s) and contact phone number. The person who identified records (for example, anabat, hair tubes, scat analysis) should also be identified.

Environmental conditions during the survey should be noted at the commencement of each survey technique.

4.3 Specific survey requirements

Survey techniques and the timing of such surveys should be commensurate with the understanding of the biology/ecology of the relevant threatened species and undertaken such that the survey effort and timing will maximise the likelihood of detection. For example the Broad-headed Snake is more likely to be detected in their rocky retreats during the winter months whereas the Rosenberg Goanna is more readily detected, (unless trapping is employed), in Autumn when they begin to frequent the vicinity of their over-wintering refuges. Most frog species are of course more readily detected during the warmer months but after substantial rainfall.

The survey methodology must also be consistent with:

a) The DEC Threatened Biodiversity Survey and Assessment: Guidelines for Developments Working Draft November 2004.

## 5 ASSESSMENT OF LIKELY IMPACTS ON THREATENED SPECIES AND POPULATIONS

Section 5 needs only be addressed if threatened species or endangered populations are likely to be affected.

Assessment of impacts MUST include the assessment of indirect impacts and those of associated activities, including, but not restricted to: installation and maintenance of

utilities; access and egress routes; and changes in surface water flows. These actions or impacts may occur on or off the subject land.

Assessment of impacts MUST also include an assessment of impacts from the provision of fire protection zones. If, as part of the development, there will be a requirement to provide fuel free and/or fuel reduced zones in retained bushland, the impacts of this on any threatened species and/or populations must be addressed as part of the impacts of the overall proposal. Proponents should also consider recommendations in 'Planning for Bushfire Protection' (PlanningNSW 2002) and consider the use of perimeter roads as an option in providing fuel free zones and reducing impacts on retained bushland.

From the information provided for this proposal, it would appear that impacts on threatened species from the proposed development are likely to particularly arise from:

- direct effects of transport route establishment and upgrading and the associated indirect impacts of dust and changes to water quality and water flow regimes;
- direct effects of large scale clearing of 65Ha for refuse emplacement; and
- indirect impacts on threatened species populations in the study area and locality generally due to loss of significant area of habitat.

### 5.1 Assessment of species likely to be affected

An assessment of which threatened species or population known or likely to be present in the area are likely to be affected by the action (Section 110(2)(c)).

This requirement is asking you to refine your list of subject species and populations (given the outcome of survey and analysis of likely impacts) in order to identify which threatened species or endangered populations may be affected and the nature of the impact.

The remaining requirements in this section need only be addressed for those species that are likely to be affected by the proposal.

### 5.2 Discussion of local and regional abundance

An estimate for the local and regional abundance of those species or populations (Section 110 (2)(d)).

#### 5.2.1 Discussion of other known local populations

A discussion of other known populations in the locality shall be provided. The long-term security of other habitats shall be examined as part of this discussion. The relative significance of the subject site for threatened species or endangered population in the locality shall be discussed.

Details specific to each affected threatened species must be incorporated into the individual threatened species profiles and cross referenced in section 5.2.1 of the SIS.

#### 5.2.2 Discussion of habitat utilisation

An estimate of the numbers of individuals utilising the area and how these individuals use the area (for example, residents, transients, adults, juveniles, nesting, foraging) and

discussion of the significance of these individuals to the viability of the threatened species or endangered population in the locality.

Details specific to each affected threatened species must be incorporated into the individual threatened species profiles and cross referenced in section 5.2.1 of the SIS.

### 5.2.3 Description of vegetation

The vegetation present within the study area and the area covered by each vegetation community should be mapped and described. Include reference to the vegetation classification system used (for example, Specht) AND the ecological communities determined as endangered by the Scientific Committee. Classification must have regard to both structural and floristic elements.

### 5.2.2 Discussion of corridors

If movement corridors for threatened species or endangered populations are present within the subject site, the impact of the proposal on these areas shall be discussed.

## 5.3 Assessment of habitat

A full description of the type, location, size and condition of the habitat (including critical habitat) of those species and populations and details of the distribution and condition of similar habitats in the region (Section 110 (2)(f)).

### 5.3.1 Description of habitat values

Specific habitat features shall be described (for example, frequency and location of stags, hollow bearing trees, culverts, rock shelters, rock outcrops, crevices, caves, drainage lines, soaks, etc) and the density of understorey vegetation and groundcover.

The condition of the habitat within the study area shall be discussed, including the prevalence of introduced species, species of weeds present and an estimate of the total weed cover as a percentage of each vegetation community, whether trampling or grazing is apparent, effects of erosion, prevalence of rubbish dumping, history of resource extraction or logging and proximity to roads.

Details of the subject site's fire history (for example, frequency, time since last fire, intensity) and the source of fire history (for example, observation, local records), shall be provided.

## 5.4 Discussion of conservation status

For each species or population likely to be affected, details of its local, regional and State-wide conservation status,...[and]... its habitat requirements ... (Section 110(2)(c)).

Assessment should include reference to the threatening processes that are generally

accepted by the scientific community as affecting the species or population and are likely to be caused or exacerbated by the proposal. Assessment should also include reference to any approved or draft recovery plans (See Attachment 2) which may be relevant to the proposal.

Details specific to each affected threatened species must be incorporated into the individual threatened species profiles and cross referenced in section 5.2.1 of the SIS.

### 5.5 Description of feasible alternatives

A description of any feasible alternatives to the action that are likely to be of lesser effect and the reasons justifying the carrying out of the action in the manner proposed, having regard to the biophysical, economic and social considerations and the principles of ecologically sustainable development (Section 110(2)(h)).

Where a Statement of Environmental Effects (SEE), Environmental Impact Statement (EIS) or Review of Environmental Factors (REF) deals with these matters, the SIS may refer to the relevant section of the SEE, EIS or REF.

In relation to the proposal discussion should be provided on possible alternative locations for emplacement and whether the life of the existing emplacements can be extended with a view of avoiding or minimising impacts on threatened species.

## 6 ASSESSMENT OF LIKELY IMPACTS ON ENDANGERED ECOLOGICAL COMMUNITIES

Section 6 need only be addressed when EEC are likely to be affected.

Assessment of impacts MUST include the assessment of indirect impacts and those of associated activities, including, but not restricted to: installation and maintenance of utilities, access and egress routes; and changes in surface water flows. These actions or impacts may occur on or off the subject land.

Assessment of impacts MUST also include an assessment of impacts from the provision of fire protection zones. If, as part of the development, there will be a requirement to provide fuel free and/or fuel reduced zones in retained bushland, the impacts of this on any endangered ecological communities must be addressed as part of the impacts of the overall proposal. Proponents should also consider recommendations in ‘Planning for Bushfire Protection’ (planningNSW 2002) and consider the use of perimeter roads as an option in providing fuel free zones and reducing impacts on retained bushland.

### 6.1 Assessment of endangered ecological communities likely to be affected

A general description of the ecological community present in the area that is the subject of the action and in any area that is likely to be affected by the action (Section 110(3)(a))

This MUST include reference to the ecological community as described by the NSW Scientific Committee, including maps of the extent and condition of the community with particular reference to those parts of the community that may only be represented by soil

stored seed with no above ground components of the community present.

### 6.2 Assessment of habitat

A full description of the type, location, size and condition of the habitat of the ecological community and details of the distribution and condition of similar habitats in the region (Section 110 (3)(c)).

#### 6.2.1 Description of disturbance history

If the site shows signs of disturbance, details should be provided of the site's disturbance history and an assessment should be made of the ability of the ecological community to recover to a pre-disturbance condition.

#### 6.2.2 Extent of habitat removal

The location, nature and extent of habitat removal or modification which may result from the proposed action including the cumulative loss of habitat from the study area (including all proposed DAs and those areas in the subject area already with development consent or identified for development) and the impacts of this proposal on threatened species habitat or viability of any EEC in the locality.

This shall include an assessment of the proportion of the EEC to be affected by the proposal, in relation to the total extent of the EEC, and the impact of this on the viability of the EEC in the locality.

### 6.3 Discussion of conservation status

For each ecological community present, details of its local, regional and State-wide conservation status...[and]... its habitat requirements...(Section 110(3)(b)).

Assessment should include reference to the threatening processes that are generally accepted by the scientific community as affecting the endangered ecological community and are likely to be caused or exacerbated by the proposal. Assessment should also include reference to any approved or draft recovery plans (See Attachment 2) which may be relevant to the proposal.

#### 6.3.1 Significance within a local context

An assessment of the community on the subject site in relation to other sites in the study area and in the locality. The tenure and long term security of other localities shall be examined as part of this discussion.

The relative significance of the subject site for the EEC shall be discussed. The assessment of the community should be considered in terms of the following features, including, the size of the remnant, the quality of the habitat and the level of disturbance on this site in comparison to other sites in the locality.

#### 6.3.2 Discussion of corridor values

The potential of the proposal to increase fragmentation of the community and increase edge effects.

If corridors that allow connectivity between localities of EEC are present within the subject site, the impact of the proposal on these areas shall also be discussed.

6.4 Description of feasible alternatives

A description of any feasible alternatives to the action that are likely to be of lesser effect and the reasons justifying the carrying out of the action in the manner proposed having regard to the biophysical, economic and social considerations and the principles of ecologically sustainable development (Section 110(3)(e)).

Where a SEE, EIS or REF deals with these matters, the SIS may refer to the relevant section of the SEE, EIS or REF.

This condition MUST include details of the condition and use of other parts of the subject area and why these can or cannot be considered as feasible alternatives.

## 7 AMELIORATIVE MEASURES

7.1 Description of ameliorative measures

A full description and justification of the measures proposed to mitigate any adverse effect of the action on the species and populations and ecological community including a compilation (in a single section of the statement) of those measures (Section 110 (2)(i) and Section 110 (3)(f)).

7.1.1 Long term management strategies

Consideration shall be given to developing long term management strategies to protect areas within the study area which are of particular importance for the threatened species or endangered populations likely to be affected. This may include proposals to restore or improve habitat on site where possible.

7.1.2 Compensatory strategies

Where significant modification of the proposal to minimise impacts on threatened species or endangered communities is not possible, then compensatory strategies should be considered. These may include other offsite or local area proposals that contribute to long term conservation of the threatened species, population or EEC.

Condition 5.1 (e) of the Dendrobium Underground Coal mine consent in relation to the Stage 3 West Cliff area states in relation to further assessment requires details of compensatory measures at least a 2:1 ratio. In relation to offsets the DEC considers that:

- any offset should aim to result in a net improvement in biodiversity over time; and
- offsets should be agreed prior to the impact occurring .

The SIS will need to provide details of any proposed offset package. In addition while the consent condition specifies as a minimum a 2:1 ratio, this ratio maybe greater depending

on the biodiversity value on the off set site. For example in one instance the DEC agreed to an offset as high as 20:1 to obtain a similar biodiversity value to the proposed developed area.

Where such proposals involve other lands, or where involvement of community groups is envisaged in such proposals, such groups are to be consulted and proposals should contain evidence of support from these stakeholders and relevant land managers.

Compensatory benefits likely to result from such measures proposed for alternative sites are to be discussed and evaluated along with a discussion of mechanisms of how they might best occur.

### 7.1.3 Ongoing monitoring

Any proposed pre-construction monitoring plans or on-going monitoring of the effectiveness of the mitigation measures shall be outlined in detail, including the objectives of the monitoring program, method of monitoring, reporting framework, duration and frequency. Generally, ameliorative strategies which have not been proved effective should be undertaken under experimental design conditions and appropriately monitored.

### 7.1.4 Translocation

The DEC does not consider that translocation of threatened species, populations and ecological communities is an appropriate ameliorative strategy for the purposes of considering impacts of a particular development/activity. The DEC strongly supports the view that development proposals which may impact on a significant local population of threatened species, populations or ecological communities as determined by the SIS should aim to:

i. Minimise the impacts by considering all possible alternatives to the development, such that a significant impact is not likely; and

ii. Manage the remaining habitat (if any) to ensure that the local population continues to exist in the long term.

The translocation of threatened species, populations and ecological communities is only supported by the DEC in specific conservation programs (for example, recovery planning) but only as a last resort, and only when in-situ conservation options have been exhausted. Such programs should only be reconsidered following extensive investigation of a demonstrated long term financial commitment on behalf of the applicant.

### 7.1.5 Informing Future Land Owners

Measures must be proposed identifying mechanisms which will be implemented to inform current and future land owners of threatened species, populations or ecological communities and their habitat located on the property. This should also include the identification of appropriate management strategies to manage the remaining habitat (if any) to ensure that the local population continues to exist in the long term.

## 8. ASSESSMENT OF SIGNIFICANCE OF LIKELY EFFECT OF PROPOSED ACTION

A detailed assessment which includes all relevant information which would normally be

included in an Assessment of Significance (Section 5A EP&A Act) (as a minimium) is to be incorporated into for each of the affected species (threatened species, populations or ecological communities) identified in the SIS, incorporating relevant information from Sections 5.1 to 7 of the SIS. On the basis of these assessments a conclusion is to be provided concerning whether, based on more detailed assessment through the SIS process and consideration of alternatives and/or ameliorative measures proposed in the SIS, the proposal is still considered likely to have a significant effect on threatened species, populations or ecological communities or their habitats.

# 9 ADDITIONAL INFORMATION

## 9.1 Qualifications and experience

A species impact statement must include details of the qualifications and experience in threatened species conservation of the person preparing the statement and of any other person who has conducted research or investigations relied on in preparing the statement (Section 110(4)).

## 9.2 Other approvals required for the development or activity

A list of any approvals that must be obtained under any other Act or law before the action may be lawfully carried out, including details of the conditions of any existing approvals that are relevant to the species or population or ecological community (Sections 110(2)(j) and 110(3)(g)))

In providing a list of other approvals the following shall be included:

- Where a consent is required under Part 4 of the EP&A Act, the name of the consent authority and the timing of the development application should be included; or
- Where an approval(s) is required under Part 5 of the EP&A Act, the name of the determining authority(ies), the basis for the approval and when these approvals are proposed to be obtained should be included.

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

An action will require the approval of the Federal Minister for the Environment (in addition to any State or Local Government approval or determination) if that action will have, or is likely to have, a significant impact on a matter of national environmental significance. Threatened species and communities listed in the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) are considered to be a matter of national environmental significance.

Many of the species and ecological communities listed in the TSC Act (NSW) are also listed in the Commonwealth EPBC Act. Further information regarding the operation of the EPBC Act (including Federally listed threatened species and communities) may be obtained from the Department of Environment and Heritage (DEH) website www.deh.gov.au or by contacting the DEH on 1800 803 772.

## 9.3 Licensing matters relating to the survey

Persons conducting flora and fauna surveys must have appropriate licences or approvals under relevant legislation. The relevant legislation and associated licences and approvals that may be required are listed below.

National Parks and Wildlife Act 1974:

- General Licence (Section 120) to harm or obtain protected fauna (this may include threatened fauna);
- Licence to pick protected native plants (Section 131);
- Scientific Licence (Section 132C) to authorise the carrying out of actions for scientific, educational or conservation purposes.

Threatened Species Conservation Act 1995:

- Licence to harm threatened animal species, and/or pick threatened plants and/or damage the habitat of a threatened species (Section 91).

Animal Research Act 1985:

- Animal Research Authority to undertake fauna surveys.

9.4 Section 110 (5) reports

Section 110(5) of the TSC Act 1995 has the effect of requiring the DEC to provide that information regarding the State-wide conservation status of the subject species as it has available, in order to satisfy Sections.110(2)&(3) of the Act. To this end, a number of publications have been produced:

a) The DEC has produced a set of profiles for a number of threatened species, populations and ecological communities and are available on the DEC website (www.nationalparks.nsw.gov.au). Some of these are relevant to the suggested list of subject species for this development.

b) Biodiversity Conservation Section Metropolitan Branch has also produced a number of profiles and environmental assessment guidelines for species, populations and ecological communities which can be obtained from the http://www.threatenedspecies.environment.nsw.gov.au/index.aspx.

Proponents and consultants should note that the DEC has no further published information available to satisfy Section 110(5) of the Act and that purchase or receipt and use of the above profiles can be taken to have satisfied the requirements of Sections110(2)&(3) in relation to the State-wide conservation status of the listed species, populations and ecological communities.