REPORT ON THE ASSESSMENT OF A MODIFICATION PURSUANT TO SECTION 75W OF THE *ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979*

APPLICATION BY DELTA ELECTRICITY
TO MODIFY THE BAMARANG GAS FIRED STATION CONCEPT PLAN AND STAGE 1 APPROVALS (MP 06_0029) TO PURSUE THE OPTION OF DEVELOPING A 330 KILOVOLT TRANSMISSION LINE BETWEEN THE APPROVED FACILITIES SITE AND THE EXISTING TRANSGRID 330 KILOVOLT TRANSMISSION NETWORK APPROXIMATELY FIVE KILOMETRES TO THE WEST, TO CONNECT THE ELECTRICITY GENERATED AT THE POWER STATION TO THE GRID.

September 2010

1 INTRODUCTION

Delta Electricity (the Proponent) is seeking approval to modify the Concept Plan and Stage 1 Approvals of 27 February 2007, for the construction and operation of the Bamarang Gas Fired Power Station and associated infrastructure. The Concept Plan approval for the gas-fired power station encompassed two stages of the project. The first stage comprises the construction and operation of an open cycle gas turbine facility, transmission line and natural gas pipeline (which was also granted project approval) and Stage two comprises the conversion of the open cycle facility to a combined cycle facility which required the construction and operation of a water pipeline. The gas-fired power station site is located within the Shoalhaven local government area.

The approved electricity transmission (132kV) line would connect the power station site to the Shoalhaven Terminal Station. It would consist of both aboveground and underground components. The aboveground component would run through an existing electricity transmission line corridor and along the Yalwal Road corridor, running underground east of Flat Rock Creek. The existing 11 kilovolt transmission line structures would be removed and this line would be attached to the proposed transmission line.

The modification, if approved, will allow an alternate and higher voltage transmission line connection for the project.

This report presents the environmental assessment of the modification proposal by the Department of Planning (the Department). The Department recommends approval of the modification to the Concept and Stage 1 Project Approvals, subject to modified conditions.

2 BACKGROUND

On 27 February 2007, the then Minister for Planning granted:

- concept plan approval (MP 06_0029) for the staged development of the Bamarang Gas-Fired Power Station located in the Shoalhaven Local Government Area; and
- project approval for Stage 1 of the concept plan (MP 06_0029), comprising the construction and operation of a 300 megawatt open-cycle facility for peak electricity generation, including ancillary gas pipeline and transmission line infrastructure.

The transmission infrastructure approved under the concept plan and Stage 1 approvals comprises of connection to the existing Integral Energy 132 kilovolt (kV) high voltage transmission network at the Shoalhaven substation located approximately 7.2 kilometres to the east of the site in West Nowra. The transmission line would follow existing disturbed 11kV and 33kV transmission corridors replacing the existing transmission infrastructure with a new 132 kV overhead line between the site and Flat Rock Creek. The new line would be undergrounded between Flat Rock Creek and the Shoalhaven substation.

Project approval for Stage 2 of the concept plan was granted by the Minister on 29 October 2008, for the conversion of the Stage 1 facility (if already built) or outright construction and operation of an approximately 400 megawatt combined-cycle facility for base-load electricity generation including the use of the gas pipeline and transmission line infrastructure approved as part of the Stage 1 project. The approved Bamarang Gas Fired Power Station project is shown in **Figure 1**.

On 1 June 2010, the then Director of Infrastructure Projects, under delegated authority, approved a modification request by Delta Electricity, under section 75W of the *Environmental Planning and Assessment Act 1979.* The modification permits the expansion of the capacity of the Stage 2 Bamarang Gas Power Combined Cycle Facility from 400 to 450 megawatts (MW). It is to be noted that the higher voltage option proposed under the subject modification would not pose a constraint to the future expansion of the power station, as approved on 1 June 2010. This is because the shortfall (5% constraint, which is discussed in the justification section) applies to both the originally approved 400 MW and the recently approved expanded 450 MW generating capacity.

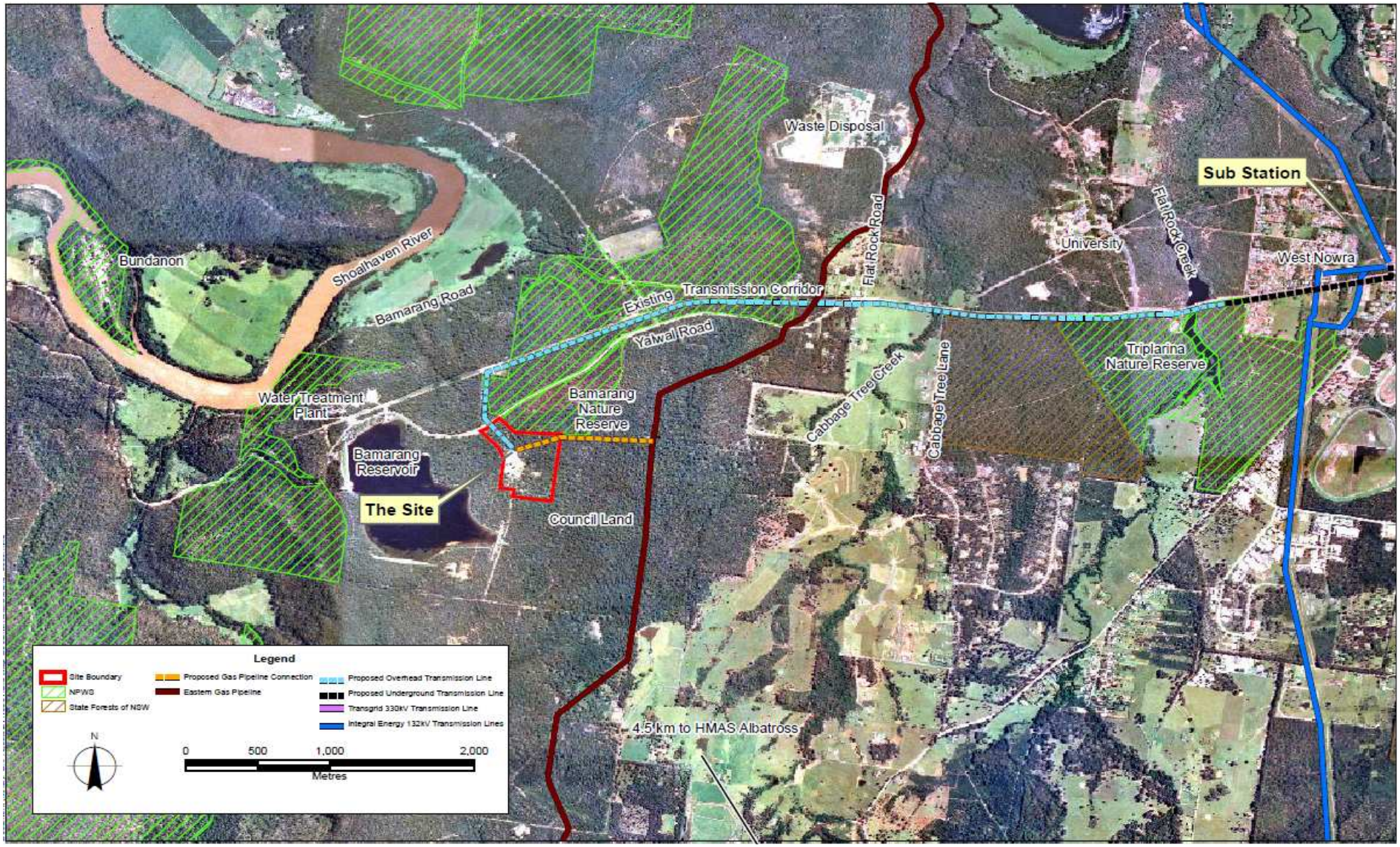

Figure 1: The approved Bamarang Gas Fired Power Station project

3 THE MODIFICATION PROPOSAL

Detailed network constraint analysis since the Stage 1 and 2 approvals, has identified that under certain demand conditions, connection via the Integral Energy 132 kV network could restrict the output of the power station to around 320-360 megawatts or as low as 250 megawatts at worst case during contingencies (i.e. when one of the power lines are out of service) or low load conditions. This is due to the fact that since the Bamarang Power Station connects into the 132kV South Coast network via the Shoalhaven substation, the exportable capacity is limited by the south coast network and the thermal ratings of the two transmission lines running north from Shoalhaven via Mt Terry to Dapto. When the South Coast demand is low, capacity from the plant cannot be "absorbed" by this load and consequently needs to be exported north to Dapto and the main grid. As such, the ratings of the two transmission lines north are important in determining whether the Bamarang power plant can export all its capacity.

The Proponent has identified the limiting factor to be the thermal rating of the existing Integral Energy 132 kV lines between Shoalhaven and Mt Terry which may become overloaded during periods of low demand in the Shoalhaven/South Coast region and high generation feed-in into the Shoalhaven substation.

The capacity limitation of the existing approved 132 kV network would effectively mean that the project would not be able to reliably operate at full capacity, particularly in Stage 2, for approximately 5% of the year. The Proponent has stated that this approximate 5% shortfall is economically significant. This is because an electricity generator may earn a large percentage of its annual revenue in such a small period in circumstances where there are grid system problems (line outages) impacting on supply. For example, in the competitive electricity market (the National Electricity Market), the price can move quickly from an average of $30/MWh to up to $10,000/MWh in particular circumstances. As such, should the operation of the power station be unconstrained for approximately 5% the year, the maximum amount of electricity that could be exported from the power station (450MW) would be limited (to 250MW) and therefore impact upon the economic feasibility of the power station.

To overcome capacity constraints, the Proponent has proposed an alternate higher voltage connection option involving connection to the existing TransGrid 330 kV network located approximately five kilometres to the west (refer to Figure 2). The proposed alternate western connection would involve construction and operation of a new 330 kV substation at the power station facility site and a new approximately 5.2 kilometre length 330 kV transmission line connection (47 metre pole heights and 60 metre wide easement) to the existing 330 kV transmission network to the west.

The Proponent has sought a modification to the concept plan approval and Stage 1 approvals (MP 06_0029) to enable the development of the alternate transmission line option. Modification is not sought to the Stage 2 approval, as this approval already provides for the use of any ancillary infrastructure approved (and therefore modified) under the Stage 1 approval for the Stage 2 facility.

The Proponent has also sought to retain its existing approval (as part of the concept plan and Stage 1) for the 132 kV connection option to the east to retain maximum flexibility during detailed design, noting that only one transmission line option would eventually be constructed.

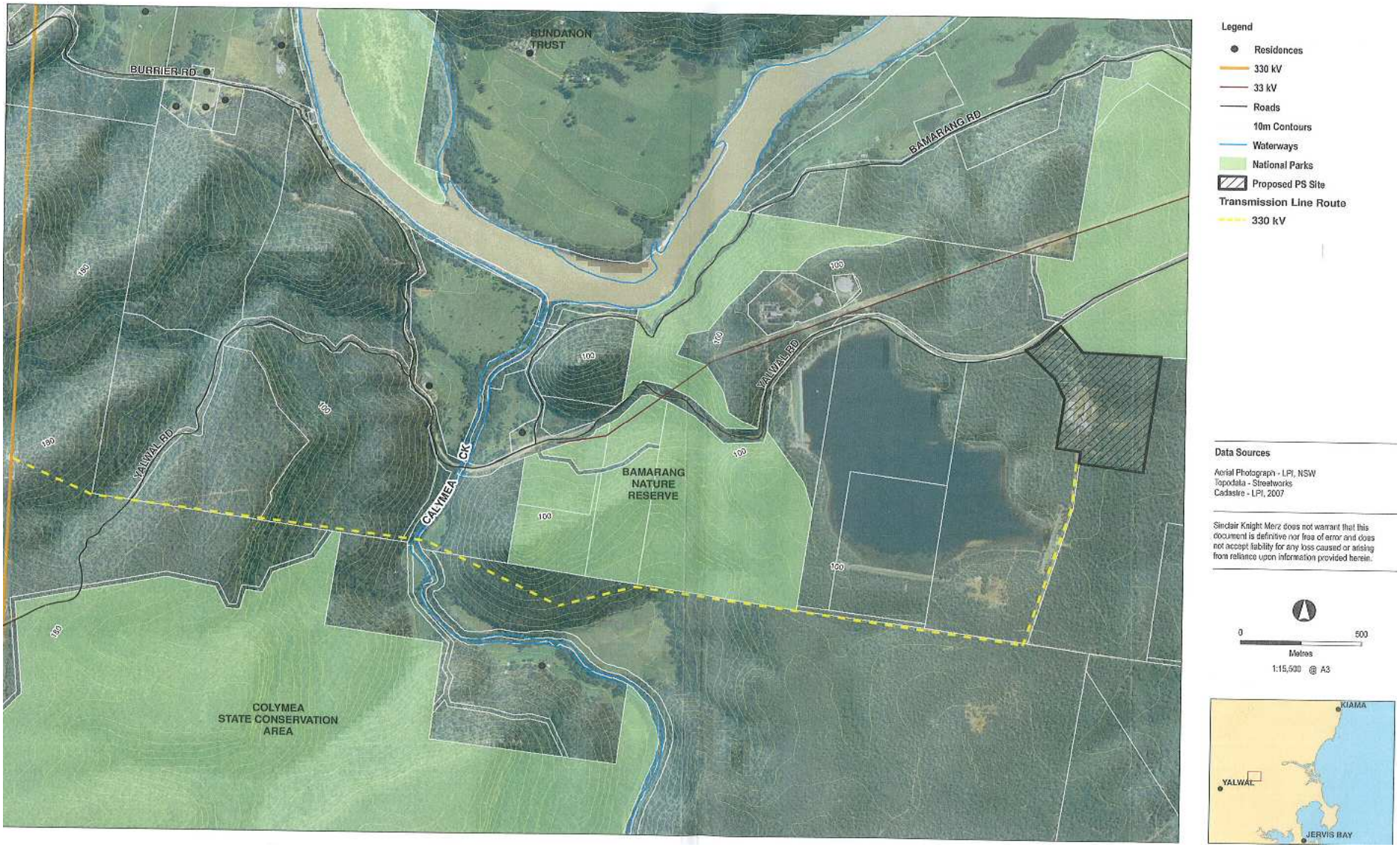

Figure 2: Proposed higher voltage connection option

4 STATUTORY PLANNING FRAMEWORK

The Minister for Planning is the approval authority for modification requests under section 75W of the EP&A Act. On 25 January 2010, the Minister delegated his powers and functions under 75W of the EP&A Act to the Directors in the Major Projects Assessment Division, in cases where there are fewer than 10 objecting public submissions in respect of the project.

The subject modification request complies with the above criteria. Consequently, the Director of Infrastructure Projects, Major Projects Assessment, may determine the modification request under delegated authority.

5 CONSIDERATION OF ISSUES RAISED IN SUBMISSIONS

Under section 75W of the EP&A Act, a request for modification is not required to be publicly exhibited. Notwithstanding, the proposal was publicly exhibited from 7 August 2009 to 21 August 2009 and referred to relevant agencies for comment. Furthermore, in accordance with the requirements of section 75X of the EP&A Act, the Department made the modification request publicly available on the Department's website.

Submissions were received from the following agencies: the Department of Defence, Civil Aviation Safety Authority, Department of Environment, Climate Change and Water (DECCW) including the NSW Office of Water, the Roads and Traffic Authority (RTA), NSW Rural Fire Service (RFS), Southern Rivers Catchment Management Authority (SRCMA) and Shoalhaven City Council (Council). No public submissions were received.

None of the submitters objected to the proposal however raised matters for the Department's assessment. In its submission, the DECCW stated that the location of the proposed 330kV transmission line is undesirable due to the existing high quality intact native vegetation within the area. The DECCW recommended consideration of alternative route options which would avoid impacts to significant vegetation. Along with the SRCMA and Council, DECCW also raised concerns regarding the adequacy of survey effort and the offsets proposed as well as raising concerns regarding potential impacts to DECCW estate. The Department has assessed the flora and fauna impacts of the project below.

The Department of Defence noted that the proposed heights of the transmission line would not pose an aviation hazard to the nearby HMAS Albatross aerodrome and along with CASA recommended ongoing consultation during detailed design in relation to the final heights of structures. The RFS did not raise any issues of concern and the Office of Water and the RTA recommended conditions of approval with respect to surface water management (including protection of waterways at creek crossings and erosion and sediment control) and traffic management, respectively. With respect to indigenous heritage impacts, DECCW expressed satisfaction that the assessment (including consultation) had been undertaken consistent with established guidelines and supported the Proponent's commitment to avoid the three items of low significance identified on site and recommended conditions in this regard. Where not already covered by existing conditions, the Department has incorporated agency recommendations into recommended conditions of modification.

6 CONSIDERATION OF ISSUES

After considering the Proponent's Environmental Assessment, Submissions Report, Statement of Commitments and the submissions received on the proposal, the Department considers the key issues associated with the project are: project need and justification, flora and fauna impacts, cultural heritage impacts and visual amenity impacts. All other issues are considered to be addressed by the Proponent's Statement of Commitments.

6.1 Need and Justification

The Bamarang Gas-Fired Power Station as originally approved would be connected to Integral Energy's 132kV South Coast network via a double circuit 132kV feeder to Integral Energy's Shoalhaven substation.

The Proponent's current modelling has found that there is a potential for the power station's output to be reduced to as low as 250 megawatts during contingencies (i.e. when one of the power lines are out of service) or low load conditions. This is due to the fact that since the Bamarang Power Station connects into the 132kV South Coast network via the Shoalhaven substation, the exportable capacity is limited by the South Coast network and the thermal ratings of the two transmission lines running north from Shoalhaven via Mount Terry to Dapto. When the South Coast demand is low, capacity from the plant cannot be "absorbed" by this load and consequentially needs to be exported north to Dapto and the main grid. As such, the ratings of the two transmission lines north are important in determining whether the Bamarang power plant can export all its capacity. The feed-in capacity into the 132kV South Coast network, based on an N-1 rating has been previously investigated by the Proponent's consultants. An N-1 rating is known as a "firm" rating which is when any one power network element such as a transmission line or transformer can be out of service during a contingency event, without reducing the design capacity of the network. The investigation findings are that the feed-in capacity into the 132kV South Coast network with all network elements in service is limited to approximately 400 to 450 megawatts and may be as low as 250 megawatts (firm capacity, N-1) during contingencies and low load conditions on the South Coast.

Due to the above transmission line constraints, the power station's total export capacity can only be achieved with the project's approved transmission line infrastructure for 95% of the plant's operating time. Consequently, the Proponent has lodged this modification application for the construction and operation of a new 330kV transmission line to connect the proposed facility to TransGrid's Line 6, located to the west of the project to increase the transmission capacity of the power station.

The 330 kV transmission line option would traverse highly vegetated and undisturbed land including skirting the boundaries of the Bamarang Nature Reserve and Colymea State Conservation Area. The transmission line will also involve a single major waterway crossing (Calmea Creek), through the spanning of lines across the creek (with the poles placed on either side of the stream bank rather than involving direct stream disturbance).

The 330 kV transmission option has the potential for significantly greater ecological impacts than the approved 132 kV transmission option, which traverses existing disturbed infrastructure corridors (i.e. 27 hectares of vegetation loss compared to 2.7 hectares). Given the potential for significantly greater impacts, the Department considers that it must be satisfied of the need for the alternate transmission option compared to the already approved option.

In this regard, the Department sought additional advice from the Proponent on whether any alternate options exist for alleviating capacity issues within the existing 132 kV system, which would enable utilisation of the already approved 132 kV connection up to the maximum output of the power station.

The Proponent identified that there would be two main options for alleviating capacity issues within the existing Integral Energy 132 kV system. These involve:

- replacement of the approximately 46 kilometre long Shoalhaven to Mt Terry line with a line of higher capacity (the responsibility of Integral Energy). Due to the power supply requirements of the South Coast, it is likely that this option would entail construction of a new line before the existing line can be decommissioned, involving significant cost implications and land clearing to expand the power line easement; or
- creation of a new bulk supply point for the South Coast Region (that is connection between the TransGrid 330 kV network to the west and the Integral Energy 132 kV network to the east at some point along the South Coast), which would be the joint responsibility of TransGrid and Integral Energy. Given the nature of the existing landscape in the South Coast, it is expected that any option for east-west connection in this area (some 10-13 kilometres in length) is likely to be constrained at some point by undisturbed vegetation of a

similar nature to that located to the west of the Bamarang power station. Notwithstanding, this option is considered most likely to be pursued by the network operators, given that it would provide a long-term solution for supply security and capacity issues in the South Coast. The Proponent has stated that TransGrid and Integral Energy have commenced investigation into connection points, with a location at Tomerong (approximately 15 kilometres south of Bamarang) identified as the preferred connection point to date, although not yet subject to any planning approval.

The Proponent has stated that as the Tomerong bulk supply point option is at the very preliminary stages of the planning process, there is no certainty that it would be delivered in time for the development of the Bamarang power station and therefore the Proponent would need to pursue its own connection to the 330 kV network as proposed to ensure certainty for the project. Conversely, the Proponent has suggested that should the 330 kV connection from the Bamarang site be approved and developed as proposed prior to a new connection at Tomerong, it is unlikely that the network operators would pursue a duplicate connection at Tomerong (and thereby potentially double vegetation impacts), but rather would pursue connection to the Integral Energy 132 kV network via the Bamarang power station (which would already be connected to the 330 kV system) as this would provide similar outcomes as an entirely new bulk supply connection between the two networks.

Notwithstanding the above, in the case that the Tomerong bulk supply point is developed in time for the power station, the Proponent has committed to ensure connection via the Integral Energy 132 kV network, which would no longer pose capacity limitations on power station output (even under a future expansion scenario), in lieu of its own 330kV connection to the west. On this basis, the Proponent has sought to retain its existing approval for the 132 kV connection option, such that this option may be developed in preference to the 330 kV option if capacity issues in the Integral Energy system are resolved by the time of the power station development. To ensure that this occurs, the Department recommends a new limiting condition be inserted in the Stage 1 Project Approval, which states that should construction of the Tomerong 132/330kV substation commence prior to the 330kV transmission line, the Proponent shall not construct the 330kV transmission line and shall utilise the 132kV connection option for the project (new condition 1.6A of modified Project Approval).

Furthermore, the Proponent has identified that notwithstanding the capacity issues in the existing Integral Energy 132 kV network, market demand may dictate that the power station is only developed up to its Stage 1 capacity, therefore favouring a 132 kV connection over a 330 kV connection (i.e. the frequency of time that the existing network would restrict the output of Stage 1 below its maximum capacity may be low enough so as to not warrant the additional capital cost of a higher voltage transmission connection). For this reason as well, the Proponent has sought to retain its existing approval for a 132 kV connection for development if required.

The shortfall of total export capacity (up to 5% in one year) is potentially significant with respect to the economic feasibility of the power station. A generator may earn a large percentage of its annual revenue in such a small period in circumstances where there are grid system problems (line outages) impacting on supply. The Proponent has explained that in the competitive electricity market (National Electricity Market), the price can move quickly from, for example, an average of $30/MWh to up to $10,000/MWh. A generator, which can maintain supply to the grid at times when there are otherwise transmission or generator supply problems, will be able to potentially make substantial earnings due to abnormally high prices, even over short periods. However, the likelihood of constraints occurring at the same time as high prices is not known.

Based on the above issues, the Department is satisfied that the Proponent has established the need for a connection option to the TransGrid 330 kV network, based on existing capacity constraints of the Integral Energy 132 kV network and uncertainties associated with the timing of measures to alleviate these capacity constraints. In these circumstances, sole dependence on the one approved transmission connection option (without option for higher voltage connection) has the potential to impact on the commercial viability and operations of the power station for up to 5% of the plant's operating time in a given year.

Notwithstanding the above point, the Department considers that depending on circumstances the already approved 132 kV option may prove the preferred connection option and therefore considers that there is justification for both options to be included in the project approvals (on the basis that only one option would eventually be constructed and operated), to provide maximum flexibility during detailed design and development.

Nevertheless, the Department has recommended conditions of approval to ensure that the potentially higher impact 330 kV option is not developed in the case where circumstances provide that the objectives of the project can be feasibly achieved by the 132 kV option as with the 330 kV option (new condition 1.6A and 1.6B of the Stage 1 Project Approval).

6.2 Flora and Fauna Impacts

Description of the site

The Proponent reviewed available ecological data pertaining to the study area and also conducted field surveys along the proposed preferred transmission line route (the transmission line route). From the data reviewed, the Proponent found that there are 22 threatened flora species with potential to occur in the study area (refer to Table 1 below). From the data reviewed, 41 threatened fauna species have the potential to occur in the study area (refer to Table 2 below).

The review of the EPBC Act 'Protected Matters' database search indicated that there are 18 listed migratory species that could potentially occur within the study area. Four of these species (the Regent Honeyeater, Swift Parrot, Orange-bellied parrot and Painted snipe) are all listed as threatened under the EPBC Act and/or TSC Act. The Proponent has advised the Department that it has not at this stage made a referral to the Department of Environment, Water, Heritage and the Arts, regarding potential Controlled Action status under the EPBC Act. The Department notes that it is the Proponent's responsibility to refer the proposal to the Department of Environment, Water, Heritage and the Arts for consideration of potential Controlled Action status.

The search of the State and Commonwealth critical habitat registers found that there is currently no registered critical habitat that is likely to be impacted by the proposed transmission line.

Bamarang Nature Reserve and Colymea State Conservation Area are the two protected conservation areas within the study area. These two areas have been gazetted under the *National Parks and Wildlife Act 1974* and fall under the jurisdiction of DECCW. Both reserves are located in close proximity to the proposal area and presented constraints to the route selection process.

The site surveys conducted by the Proponent found that the majority of the proposed transmission line easement is situated within un-disturbed landscape, comprising naturally vegetated lands with little disturbance from agriculture, weed invasion or development.

Eight native vegetation associations and two modified associations were identified along the proposed easement, these are shown in Figure 3 below.

Table 1: Threatened Flora Species of the Study Area

Threatened Flora	**Conservation Status**	
	EPBC Act	TSC Act
Acacia bynoeana	V	E
Caladenia tesselata	V	E
Crytostylis hunteriana	V	V
Cynanchum elegans	E	E
Eucalyptus langleyi	V	V
Eucalyptus sturgissiana	-	V
Galium australe	V	V
Genoplesium baureri	-	V
Irenepharsus trypherus	E	E
Melaleuca biconvexa	V	V
Melaleuca deanei	V	V

Pomaderris cotoneaser	E	E
Prasophyllum affine	E	E
Prostanthera densa	E	E
Pterostylis gibbosa	E	E
Rhizanthella slateri	-	V
Solanum celatum	-	E
Syzgium paniculatum	V	V
Thesium australe	V	V
Triplarina nowraensis	E	E
Wilsonia backhousei	-	V
Zieria baeuerlenii	E	E

Table 2: Threatened Fauna Species of the Study Area

Threatened Fauna	**Conservation Status**	
	EPBC Act	TSC Act
Botaurus poiciloptilus (Australian Bittern)	-	V
Ninox connivens (Barking Owl)	-	V
Ixobrychus flavicollis (Black Bittern)	-	V
Hoplocephalus bungaroides (Broad-headed snake)	V	E
Petrogale penicillata (Brush-tailed Rock Wallaby)	E1	E1
Burhinus grallarius (Bush Stone-Curlew)	V	E1
Miniopterus schreibersii oceanenis (Eastern Bent-Wing Bat)	-	V
Falsistrellus tasmaniensis (Eastern False Pipistrelle)	-	V
Mormopterus norfolkensis (Eastern Freetail-Bat)	-	V
Cercartetus nanus (Eastern Pigmy-possum)	-	V
Stictonetta naevosa (Freckled Duck)	-	V
Callocephalon fimbriatum (Gang Gang Cockotoo)	-	V
Heleioporus australiacus (Giant burrowing frog)	V	V
Calyptorhynchus lathami (Glossy Black-Cockatoo)	-	V
Scoteanax rueppellii (Greater Broad-Nosed Bat)	-	V
Litoria aurea (Green and Golden Frog)	E1	E1
Pteropus poliocephalus (Grey-headed Flying-Fox)	V	V
Thinornis rubricollis (Hooded Plover)	-	E
Phascolarctos cinereus (Koala)	-	V
Chalinolobus dwyeri (Large-eared Pied Bat)	-	V
Myotis adversus (Large-footed Myotis)	-	V
Miniopterus australis (Little Bentwing-Bat)	-	V
Litoria littlejohni (Littlejohn's Tree Frog)	V	V
Potorous tridactylus (Long-nosed Potoroo)	V	V
Tyto novaehollandiae (Masked Owl)	-	V
Neophema chrysogaster (Orange-bellied Parrot)	CE	E
Rostratula benghalensis	-	E
Macropus parma	-	V
Ninox strenua (Powerful Owl)	-	V
Xanthomyza Phrygia (Regent Honeyeater)	E1	E1
Rosenberg's Goanna (Varanus rosenbergi)	-	V
Tyto tenebricosa (Sooty Owl)	-	V
Isoodon obesulus obesulus (Southern Brown Bandicoot)	E1	E
Dasyurus maculates (Spotted-tailed Quoll)	-	V
Lophoictinia isura (Square-tailed Kite)	-	V
Mixophyes balbus (Stuttering Grog)	V	E1
Lathamus discolor (Swift Parrot)	E1	E1
Neophema pulchella (Turquoise Parrot)	-	V
Sminthopsis leucopus (White-footed Dunnart)	-	V
Petaurus australis (Yellow-bellied Glider)	-	V
Saccolaimus flaviventris (Yellow-bellied Sheathtail-Bat)	-	V

E1 = endangered species
CE = critically Endangered species
V = vulnerable species

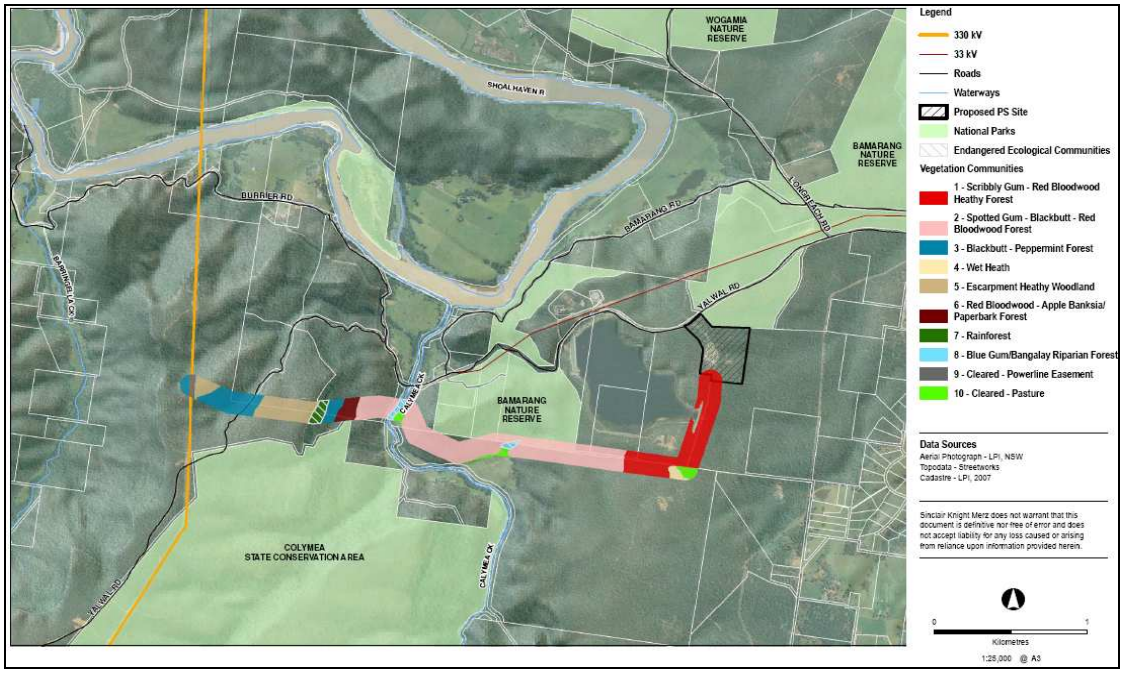

Figure 3: Vegetation Communities in Study Area

The naturally vegetated areas likely to be affected by the proposal comprise open dry and wet sclerophyll forest habitats with a range of topographic variation from river flat floodplain to steep sandstone escarpment. The habitats support a diversity of fauna due to the expansive areas of intact vegetation and presence of mature hollow-bearing trees. The Proponent's assessment identified the presence of threatened fauna and habitat for threatened species, in particular: Grey-headed flying–fox; Yellow-bellied Glider; Forest Owls; Glossy Black Cockatoo; Broad-headed Snake; Large-eared Pied Bat; and Tree-roosting bats.

The proposed easement has potential to cause a degree of fragmentation to the large expanse of connective habitat, which may impact on small ground-dwelling fauna. Hollow-bearing trees are present across the majority of the study area corridor and mostly represented in Scribbly Gums with hollows also present in Grey Gum and Red Bloodwood trees.

<u>The Potential Impacts</u>

The proposed transmission line route easement comprises 30 hectares of remnant vegetation, of which approximately 27 hectares will be disturbed (i.e. partial removal/modification), based on the establishment of a 60 metres wide easement and the substation site in the power station lands. The total amount of vegetation within the easement is shown in Table 3 below.

Table 3: Potential removal/modification of vegetation communities

Map Unit	Community	Potential Removal/Modification (ha)
1	Scribbly Gum – Red Bloodwood Heathy Forest	6.6
2	Spotted Gum – Red Bloodwood Forest	13.57
3	Blackbutt – Peppermint Forest	3.25
4	Wet Heath	0.38
5	Escarpment Heathy Woodland	3.58
6	Red Bloodwood – Apple Banksia/Paperbark Forest	0.97
7	Rainforest (EEC)	0.67
8	Blue Gum/Bangalay Riparian Forest (EEC)	0.98
Total		**30 ha**

The Proponent identified in its Environmental Assessment that the removal of vegetation could be limited by the placement of the pole structures and access points at strategic locations. However, the

exact amount and therefore type of vegetation to be removed in practice is yet to be determined by the Proponent.

Clearing would be required to establish the proposed easement along the boundary of the Bamarang Nature Reserve. Therefore, edge effects in this reserve have the potential of occurring. The Proponent states that this would not be significant due to the lack of weed invasion prevalent in this area. The Proponent states that it would implement weed management mitigation measures to ensure weeds are not spread along the proposed easement. No impacts on the Colymea State Conservation Area are anticipated, as the proposed easement would not traverse the boundary of this conservation area.

The Proponent undertook an assessment of the impacts of this modified proposal on species, populations and ecological communities listed under Schedule 1 and 2 of the TSC Act. This impact assessment was undertaken in accordance with the Draft Guidelines for Threatened Species Assessment (DEC, 2005).

The assessment has concluded that the proposed project is unlikely to result in 'significant impact' on local populations of threatened species, endangered communities or their habitats as listed under the TSC Act, provided the recommendations of the Proponent's report are adequately implemented.

This conclusion is based on the premise that the proposed project would not significantly reduce the area of land currently occupied by Endangered Ecological Communities and threatened species in the local area, given its narrow linear footprint. The high conservation value of remnant vegetation in the area has been recognised and the proposed infrastructure associated with the project has been located where possible to minimise impacts on native vegetation, including threatened flora, fauna and ecological communities.

The Proponent's assessment of threatened species listed under the EPBC Act concluded that the proposed project is unlikely to result in a 'significant impact' on local populations of national threatened species or their habitats as listed under this Act, provided the recommendations of the Proponent's report are adequately implemented. In regards to the migratory species, the areas proposed for the transmission line do not provide unique or critical habitat, preferred habitat, or habitat of significance for any of these species, and there will be minimal impact on native vegetation resulting from the project. The Proponent also found that construction of the proposed works would not affect the visitation rates and behaviours of these migratory species in the region.

The Proponent has proposed a range of management and mitigation measures to minimise the impacts identified (e.g. utilising existing trails and disturbed areas for access to power pole locations, pruning of tree branches rather than removing the entire canopy and implementing weed and pathogen management measures).

To offset the impacts of vegetation clearance, the Proponent had stated that it will investigate compensatory habitat offset options in compliance with condition 2.31 of the Stage 1 Project Approval (major project application: 06_0029) and condition 2.27 of the Stage 2 Project Approval (major project application: 08_0021). The Proponent has stated that the compensatory habitat package would consist of no fewer than two hectares of compensatory habitat for each hectare of vegetation removed (2:1 ratio), as part of the project or as otherwise agreed by the DECCW. The Proponent also stated that specifications for the compensatory habitat would be determined in consultation with DECCW.

Issues Raised and Consideration

On 4 September 2009, the Department required the Proponent to respond to a range of issues the Department had identified regarding the Environmental Assessment. With regards to ecological issues, the Department required a justification for the offset ratio of 2:1, given that the land proposed to be cleared in the modification is highly intact, whilst the approved 132kV transmission line route would pass through disturbed vegetation. Specifically, the Department sought clarification on why the same offset ratio for the approved line is proposed for the modified line, given the scale of impact is not the same. The Department also required the Proponent to demonstrate how the project would

maintain or improve biodiversity outcomes and also required a more detailed discussion of the availability and feasibility of options to offset the biodiversity impacts of the project. The Department also required the Proponent to further quantify the amount of vegetation to be impacted.

The DECCW, in its submission on the project, stated that the proposed transmission line location is undesirable, based on the following main reasons:

- the need for clearing of high quality native vegetation;
- potential impacts from the construction of access roads;
- direct and indirect impacts on Endangered Ecological Communities including areas of rainforest;
- inadequate survey effort for ground-dwelling fauna and threatened orchid species;
- the amount, size and location of hollow-bearing trees impacted has not been well documented;
- potential impacts to Bamarang Nature Reserve; and
- the offset proposal does not meet the maintain or improve test for environmental outcomes.

Shoalhaven City Council (Council) also stated that the survey effort was inadequate for the purposes of determining specific impacts. Council requested that the Proponent be required to complete a flora and fauna assessment, in accordance with relevant guidelines developed by DECC.

The Southern Rivers Catchment Management Authority (Southern Rivers CMA) also did not state a clear position on the project. The Southern Rivers CMA stated the removal of dead native vegetation and hollow-bearing trees should be kept to a minimum as these activities have been identified as Key Threatening Processes. The Southern Rivers CMA supported the view in the Proponent's assessment that the option to utilise the existing topography to span the transmission line across the EECs above the canopy is preferable to native vegetation removal. It also stated that where possible, the Proponent should retain the shrub layer within the easement to minimise biodiversity impacts.

On 16 December 2009 the Proponent submitted a response to the issues raised by the Department. To address issues raised by agencies, the Proponent also lodged a Submissions Report (as was required by the Department).

On 8 February 2010, the Department wrote to the Proponent, stating it did not consider that the information provided by the Proponent, had adequately addressed the issues that were raised by the Department. The Department required information that clarified the impacts on biodiversity, the offset proposed and route options for the project.

On 20 April 2010, the Proponent provided a letter from its consultants (Sinclair Knight Merz) and two reports, one responding to the Department's concerns and the other letter included an assessment of the biodiversity offset options available for the project.

The Proponent stated that the estimated vegetation clearance of 30 hectares is based on the entire easement being cleared, however in practice the vegetation clearing would be less (as detailed design, which would include minimising the area impact, is yet to be undertaken). This maximum area is based on the requirement of clearing 50m x 50m at each pole/pylon site (21 sites) and a 20 metre wide track between pole/pylon sites to allow for construction works and maintenance access. This area totals approximately 14 hectares. The other 16 hectares would comprise approximately 13 hectares subject to tall tree removal only, where groundcover and vegetation up to 20 metres high would be untouched, and 3 hectares which would be unaffected. As such, the Department recognises that the full extent of clearing would be approximately 27 hectares and notes that further detailed survey work is required to quantify the amount and type of vegetation to be removed.

The Department notes that the Proponent has committed to undertaking detailed flora and fauna surveys during the detailed design phase of the modified project to minimise impacts on flora and fauna. However, the Department considers that this commitment has not adequately addressed how the surveys would be conducted and what specific ecological outcomes will the surveys be aiming to achieve. For this reason, the Department has recommended (in consultation with the DECCW), that

a new condition be inserted in the modified Approval, to require the Proponent to (should the 330kV transmission line option be selected rather than the approved 132kV line):

- undertake detailed flora and fauna field surveys (in accordance with the *Draft Guidelines for Threatened Species Assessment,* DEC 2005) along the proposed 330kV transmission line easement route, to comprehensively quantify impacts on threatened species, Endangered Ecological Communities and their habitat;
- make allowances (as far as possible) on finer route selection and pole/tower locations/selections to minimise impacts on sensitive species and ecological communities identified by the field surveys;
- map, survey and where possible retain key habitats (e.g. hollow-bearing trees, Endangered Ecological Communities) along the proposed easement; and
- avoid clearing in riparian areas and waterways to minimise impacts.

  The Proponent is also required to present the information and findings (including determined mitigation measures) of the above in the Construction Environmental Management Plan for the Project, which is required under existing condition 5.1 of the Approval.

The Department has also recommended a new condition, which requires the Proponent to develop and submit for the approval of the Director-General, a Biodiversity Offset Package. This Package is to be developed in consultation with DECCW, to offset the biodiversity values of the proposed transmission line option in perpetuity, consistent with the principles of improving and maintaining biodiversity values. The further survey work required will inform an appropriate offset ratio, which is to be included in the Package.

The further information lodged by the Proponent to the Department also clarified the route selection process undertaken by the Proponent (which led to its selected preferred route based on the route option constraints). A discussion of the route selection process and the Department's consideration of the preferred route (with particular reference to impacts to ecology) are presented in the immediate section below. The section which then follows considers the biodiversity offsets proposed by the Proponent.

Transmission Line Route Options

In the Environmental Assessment, the Proponent identified four potential routes that could be used for the installation of the transmission line (refer to Figure 4). Two of these routes are located in the narrow corridor of land dissecting Bamarang Nature Reserve to the west of the Bamarang off-river water supply storage reservoir, which coincides with an existing 33 kV transmission line and Yalwal Road (these two routes are referred as the northern corridor). The other two routes are within a corridor of land located between the southern boundary of Bamarang Nature Reserve and the northern boundary of Colymea State Conservation Area (these two routes are referred as the southern corridor).

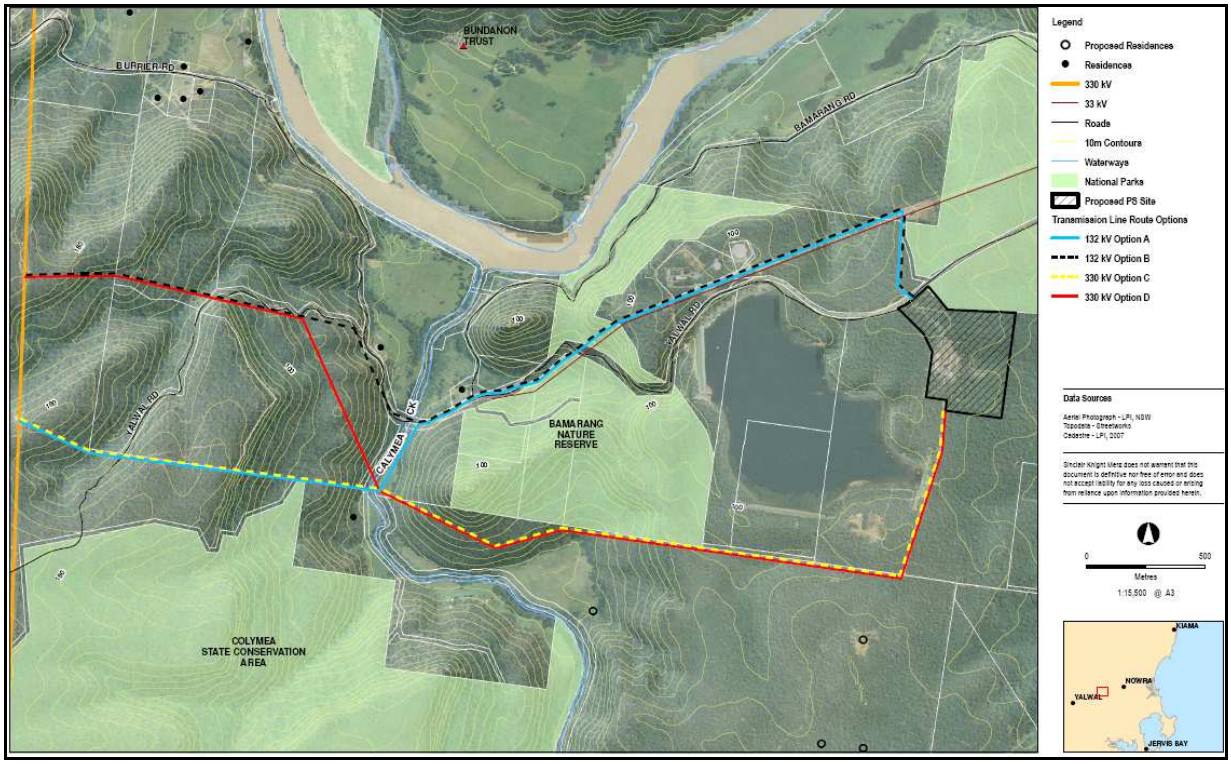

Figure 4: Transmission Line Route Options

Northern routes (options A and B):

- The northern two route options pass through a small section (approximately 180 metres in length) of the Bamarang Nature Reserve and run directly adjacent to the reserve for a further 600 metres. Both the northern routes also pass through the water catchment area of Bamarang Reservoir and therefore pose a potential risk to water quality during the construction stage.
- In terms of grid configuration, the size of a transmission line that could feasibly be installed along the existing 33kV transmission line alignment (which is present in the northern corridor), is limited to a 132kV line. This is because of the narrow northern corridor (due to the reserve). As such, a new 330/132kV substation and switching station would need to be constructed adjacent to Line 6 and the existing Line 6 easement would need to be extended to accommodate the substation and switchyard. Given the area adjacent to the Line 6 comprises of dense native vegetation, the construction of the substation and switchyard would entail removal of the vegetation to accommodate these facilities (in addition to the removal of vegetation required for the transmission line easement).
- The Department therefore considers that based on the grid configuration constraints and the potential impacts to ecology and water quality from the construction of either of the two northern transmission line routes, the northern corridor is not a feasible option.

Southern routes (Options C and D):

- The southern two routes options bisect private land holdings and crown land (as would the northern routes). However, they would avoid direct impacts to the Bamarang Nature Reserve. The southern route corridor options are suitable for either a 132kV or a 330kV line. However, a 132kV line would require the installation of a substation and therefore would require additional land-intake and vegetation clearing.
- The 132kV configuration option was found to be not feasible by the Proponent, based on additional land-take, increased vegetation clearing and increased construction costs.
- Based on the combined consideration of transmission line route and connection configuration constraints, six feasible 330kV transmission line alternatives were identified by the Proponent. These six alternatives were based on different connection configurations, however all were within the southern corridor.
- The Proponent determined configuration option 4 (turn-in/turn-out/330kV connection) (alternative 5) as the preferred route option. This is the 330kV – yellow coloured route shown in Figure 2.

The Department and DECCW had sought information from the Proponent on whether the northern corridor (the northern route options) could accommodate a 330kV line along the existing 33kV alignment, using single pole structures to minimise the easement width. The Proponent stated that a 330kV line would require a 60 metre wide easement regardless of whether poles or pylons are used. The Proponent has further stated that the 33kV line through the Bamarang Nature Reserve has been subject to clearing, but generally to no more than 20 metres. Therefore, further clearing and a formal easement would be required for the 330kV line to pass through the nature reserve at this location. The Proponent has also found that it is not practicable to align the 330kV line along Yalwal Road, east of Calymea Creek adjacent to the southern part of the Bamarang Nature Reserve. This is due to the need for incursions into private property on the northern side of the road or into the nature reserve on the southern side. The Proponent states that in both of these cases vegetation would be affected and it is unlikely that DECCW would allow any further clearing, nor provide approval for a new powerline easement within the Bamarang Nature Reserve. The DECCW has noted to the Department that all the route options would have the potential to cause impacts and therefore the route selected should reflect the balance of impacts that are considered manageable.

The Department sought information from the Proponent regarding other possible route options, apart from the four route options (A, B, C and D) already addressed. It was found that there is another possible route, located north of the Shoalhaven River (referred to as the 'north of the river option'). However this option was not considered feasible and appropriate by the Proponent in its Environmental Assessment due to the combination of the following findings:

- the clearing of 6 hectares of natural vegetation (1000 metres x 60 metres easement) from a private property south of Bamarang Road and approximately 2.5 hectares in that part of Bamarang Nature Reserve on the northern side of the river opposite Burrier Road;
- the crossing of agricultural land north of Bamarang Road (across the river) on land owned by the Bundanon Trust. Bundanon is listed on the Illawarra Regional Environmental Plan as of heritage significance and is on the register of the National Estate;
- Direct effects on 5 of the lots (including Bundanon) with residences located on these lots; and
- Significant visual effects (direct effects on views from nine residences and on the Bundanon scenic landscape).

The Department notes that the preferred transmission line route would also pass through private land (and Crown land) and would require the removal of more native vegetation than the 'north of the river option'. However, the 'north of the river option' would cause direct amenity impacts to the closest residences (closest is located approximately 31.25 metres from the route) from the construction and operation of the line (noise, visual and dust). Furthermore, the preferred route option would not pass through lots that are actively occupied by residences (compared to the 'north of the river option') and would not impact upon the Bundanon Trust. Based on these findings, the Department is satisfied that the 'north of the river option' is not feasible and supports the Proponent's decision of not further considering this option.

On balance, based on the consideration of the options available for the grid connection configurations and transmission line route options and their respective constraints, the Department supports the Proponent's preferred option (Option 4 – turn-in/turn-out, two single circuit 330kV). The Department is satisfied that all reasonable route options have been explored with respect to the 330kV connection to avoid vegetation impacts as far as reasonable and feasible.

Biodiversity Offsets

The Proponent's information on the biodiversity offsets (submitted on 20 April 2010) presented a desktop review of the ecological attributes of four properties surrounding the proposed power line easement, to assess their potential suitability to offset the impacts associated with vegetation removal. The likely ecological values at each of the offset sites were identified based on a review of available GIS vegetation data layers for the region and associated technical reports.

The area of native vegetation present on each of the sites is 49.59 hectares for site 1, 51.38 hectares for site 2, 96.58 hectares for site 3 and 6.5 hectares for site 4. The offset ratio for vegetation with conservation value for each of the offset sites 1 to 4 is approximately 1.65:1, 1.7:1, 3.2:1, and 0.2:1 respectively.

Of these four properties, the Proponent indicates that only one is to be used to offset the flora and fauna impacts. The Proponent has also stated that a maximum habitat offset ratio of approximately 3:1 could be achieved, based on the single largest site among the sites identified as potential offset sites. The Department notes that the proposed transmission line route contains suitable habitat for 70 threatened species and two Endangered Ecological Communities. As such, the Department has assumed (without the detailed survey work) that all of these species will occur within the areas to be cleared and therefore must be considered when determining the acceptability of a biodiversity offset proposal for the project. The Department and DECCW consider that only using one of the sites as the option to offset the flora and fauna impacts of the project is not adequate. This is because without the detailed flora and fauna field survey, the actual environmental impacts are yet to be quantified. As such, it would be inappropriate to limit the extent of the potential offset area at this stage. Forming such a 'worst case' offset option will reflect the 'worst case' impacts of the project (i.e. approximately 27 hectares).

The DECCW recommends that an area ratio of approximately 15:1 is required to compensate for the proposed project in such a high conservation value area with threatened species and Endangered Ecological Community habitat present. DECCW states that if sites 1 to 4 identified by the Proponent were offered together as the biodiversity offset, it would result in an area ratio of approximately 7.5:1 (i.e. 204 hectares offset: 27 hectares cleared). DECCW states it understands that acquisition of more than 200 hectares of land in the project area may increase the overall project cost, however in the absence of a more detailed, ground-truthed biodiversity assessment of the land proposed to be impacted, and the land proposed as a biodiversity offset, it is appropriate to take a precautionary approach. DECCW further states that it may be that with a complete field survey of flora and fauna, that the predicted impacts of the project are less than assumed (i.e. less than the 'worst case') in assessing this biodiversity offset proposal.

The Department notes that although the DECCW has stated that an offset ratio of 15:1 is required based on the worst case, an offset ratio should only be determined once the Proponent undertakes the detailed survey work of the transmission line route, to quantify the specific impacts. This detailed survey work has been recommended to be required as part of the modified Instrument of Approval (new condition 2.31A of the Project Approval). However, both the Department and DECCW consider that the final offset area can be suitably developed through appropriate conditions, to compensate for the ecological impacts of the proposed project.

The Department has recommended a condition to require the Proponent to prepare and implement an biodiversity offset package for the project, which includes offsetting impacts to the native vegetation, the two Endangered Ecological Communities (Rainforest and Blue Gum/Bangalay Riparian Forest) and habitat for threatened fauna species. This biodiversity offset package must include an offset for direct and indirect impacts of the proposal which maintains or improves biodiversity values and must be approved by the Director-General prior to the commencement of any construction works associated with the transmission line. This offset package is also recommended to be prepared in consultation with DECCW. The DECCW has stated that it is satisfied with this recommended condition. The DECCW has noted that whilst an offset ratio is not included as part of the condition, the condition requires the Proponent to ascertain in more detail, the nature of the impacts. Once this further information is obtained by the Proponent, the condition then allows for the consideration of an appropriate biodiversity offset (in consultation with DECCW), based on this more detailed information. The DECCW is satisfied with the approach taken, where the determination of the offset ratio would be based on the results of the further detailed survey work and development of the offset package. The Department has also recommended that the Proponent develop an ecological monitoring program prior to construction, for threatened species in and adjacent to the construction footprint. The purpose of this monitoring program is to target the effectiveness of the biodiversity offset measures formed under the biodiversity offset package. The Department is satisfied that these two recommended conditions will ensure that the offset for the project will be adequate in offsetting the impacts of the project. The Department is also satisfied that reasonable and feasible offset options exist to compensate for the impacts.

6.3 Cultural Heritage Impacts

The Proponent undertook an Indigenous cultural heritage assessment of the proposed 330kV transmission line, in accordance with DECCW's Interim Community Consultation Guidelines for Aboriginal consultation and involvement.

Along with a search of the AHIMS database, the Proponent conducted a field survey of most of the transmission line easement. The Proponent has noted that the small area unsurveyed due to topographical constraints, would need to be assessed prior to construction, along with proposed access tracks and compound sites, to ensure any sites identified would be able to be avoided in the design and construction works. The Proponent has committed to identifying and assessing these remaining project impacts prior to construction.

From the field survey conducted, one open site and two isolated finds were recorded. The open site (B-OS1) contains two artefacts and it is likely that more artefacts may occur in the surrounding area, though limited ground surface visibility prevents their discovery and thin topsoil makes subsurface deposits unlikely. The first isolated find (B-IF1) is located approximately 150 metres west of B-OS1 and may be considered associated. This isolated find is a siliceous rock (chert) broken flake with small platform development. The second isolated find (B-IF2) is a silcrete flake (which is a conglomerate of sand and gravel cemented by silica) and includes small platform development. The silcrete has a stone within the material.

Discussions held between the Proponent and representatives of the Nowra Local Aboriginal Land Council (LALC) determined that all site types are culturally significant to the Aboriginal community because they provide physical evidence of Aboriginal occupation of the local area. In this respect, all Aboriginal sites located from the survey are considered to be of high cultural significance.

As a result of its findings, the Proponent has committed to implementing the range of recommendations made by its heritage consultant. In summary, these include:

- all proposed works are to remain within the area assessed;
- all three recorded sites along the proposed alignment are to be avoided;
- development of management measures prior to construction;
- all members of the construction team be required to undergo site induction concerning cultural heritage issues; and
- should any previously unidentified Indigenous 'object' or other Aboriginal sites be uncovered during construction, work in that area would cease and the DECCW Regional Archaeologist (Queanbeyan Office) and the Nowra LALC would be contacted with regards to the management of these objects.

The DECCW noted in its submission to the Department that it supports the abovementioned recommendations and it noted that the Proponent's assessment meets the Interim Community Consultation Guidelines for Aboriginal consultation and involvement (DECCW).

The Department notes that the three recorded sites are located along the proposed transmission line easement, however have been recommended to be avoided in the Proponent's Environmental Assessment. The Department finds that given these sites are of high cultural significance, these sites must be avoided through the detailed design process of the transmission line. As such, the Department recommends a specific condition be included in the Stage 1 Project Approval, requiring the Proponent to avoid these three sites (new condition 2.35 recommended).

The Department also recommends a condition requiring the Proponent to develop an Indigenous Heritage Management Sub-Plan for the 330kV transmission line. The Plan has been recommended to be included within the required Construction Environmental Management for the project. This sub-plan must address (but not necessarily be limited to) section 4.4.8 of the Proponent's Environmental Assessment (new condition 5.2 c) recommended).

The Department is satisfied that the proposed 330kV transmission line would avoid impacts on culturally significant sites, subject to the implementation of the Department's recommended conditions.

6.4 Visual Amenity Impacts

In terms of visual impacts, the main constraints to transmission line route selection and design are the potential visibility of the line in or from:

- land classified as "Scenic Preservation Area" under the Shoalhaven Local Environmental Plan;
- the Bundanon Homestead and its surrounding landscape; and
- private dwellings, public recreation and public roads.

A heritage listed homestead (located at the Bundanon Trust area) and private dwellings are shown in Figure 5.

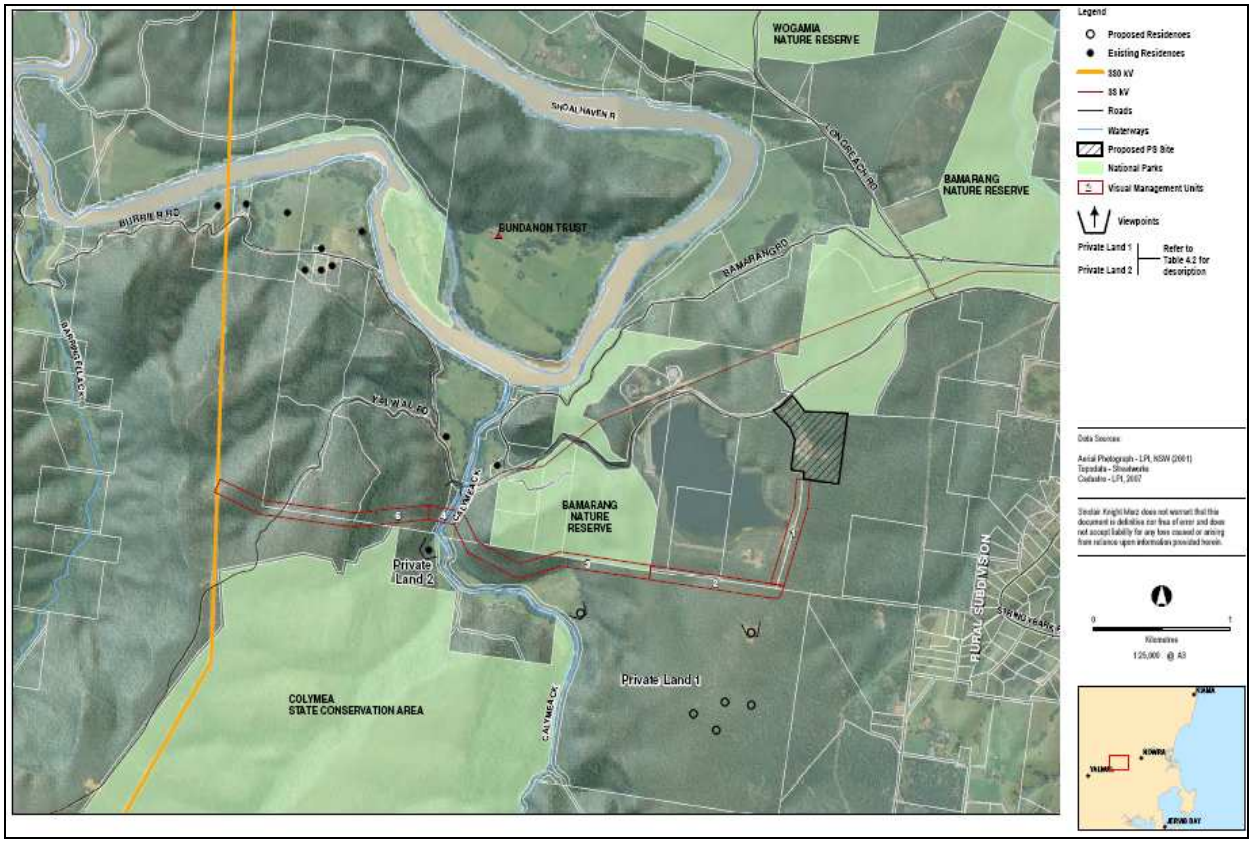

Figure 5: View Locations and Visual Management Units

The visual impact of the proposed transmission line has been determined by the Proponent by considering both the degree of visual modification (i.e. the visual interaction between the proposal and the existing visual environment along the proposed transmission line, e.g. the level of visual contrast of the proposal to the visual setting within which it is placed) and the visual sensitivity (i.e. the measure of how critically a change to the existing landscape would be viewed from various areas).

The proposed transmission line is predominantly surrounded by natural vegetation, conservation areas and rural residential lots (developed and undeveloped). The terrain over which the transmission line would be carried is undulating and, in some cases, quite steep. The nearest township is Nowra to the east, with its western outskirts comprising rural lots along Stringybark Road, approximately 1-2 kilometres to the east of the proposal. Figure 2 above shows the existing or proposed residences.

The site for the proposed transmission line has been divided into five visual management units (VMUs), which reflect areas where the landform, vegetation and land use are relatively consistent throughout the unit. Figure 5 above and Table 4 below describe these units.

Table 4: Visual Management Units (VMU)

VMU	Land Form	View Areas
1 – Line from Bamarang Power Station through Government land to corner of private property.	Elevation about 100m AHD. Flat land, adjacent to access track along eastern boundary of reservoir. Vegetation with Scribbly Gum Heathy Forest, canopy up to 12-15m high.	Possible views from Stringybark Road and rural subdivision.
2 – Line along northern boundary of private property (refer to Figure 6 for visual impression).	Elevation about 100m AHD. Flat land, adjacent to cleared boundary line along northern boundary of Lot 5 and Lot 4. Along Lot 5 vegetated with Scribbly Gum Heathy Forest, canopy up to 12-15m high. Along Lot 4 Spotted Gum Red Bloodwood Forest with canopy to 5-18m.	Possible view from new residential subdivision area, Lots 4 and 5. Possible view from Yalwal Road across reservoir.
3 – Line along northern boundary of private property and southern boundary of Bamarang Nature Reserve (refer to Figure 7 for visual impression).	Elevation drops from 100m to about 40m AHD. Passes along steep sloped land at 40m on southern slope of Calymea Trig Station. Vegetation Spotted Gum Red Bloodwood Forest Canopy up to 18m.	View from proposed house site at Lot 6 in new subdivision. View from existing house site in Lot 1 DP 1120147 (off Yalwal Road).
4 – Crossing Calymea Creek.	Crosses creek which is at 10m AHD. Vegetation is Blue Gum/Bangalay Riparian Forest up to 22m high. Pole locations at about 40m AHD on either side of creek, with Spotted Gum Red Bloodwood Forest in these areas.	Possible View from existing house site in Lot 1 DP 1120147 and from Yalwal Road.
5 – Ascent to existing transmission line.	Ascent from 40m to 170m AHD. Mixture of Eucalypt forest types, rainforest and heathy woodland (in high areas).	View from Yalwal Road.

Figure 6: Visual Impression of Transmission Line (View from Lot 5)

Figure 7: Visual Impression of Transmission Line (top impression shows view from Lot 6 and bottom impression shows view from Lot 1).

It has been found that a high visual impact would result to an existing residence on Private Land 1 and proposed residence in the subdivision in VMU3. This is because the proposed transmission line alignment passes in elevated view with limited opportunity for screening, given the tower height is of 45 metres and existing vegetation height in front of and below structures is approximately 18 metres.

However, the Department considers that opportunities are available for the planting of vegetation to screen the transmission line from sensitive viewpoints, in areas where topography currently does not conceal the proposed transmission line from surrounding areas.

The Proponent has specifically stated that in areas where the transmission line towers would be visible in the foreground (VMU3), the design of the structures will be modified to minimise the impacts. The use of poles instead of pylons and the ability to use dull surface and dark green structures as they are seen against the vegetation retained higher up the slope, will mean that the visual impacts will be reduced significantly.

The Department notes that existing conditions 2.32 to 2.34 of the Stage 1 Project Approval require the Proponent to maximise the use of building materials and treatments which visually complement the surrounding bushland. More importantly, existing condition 2.34 requires the Proponent to submit, prior to construction, urban design and landscaping details of the project to be implemented to minimise the visual impact of the project and associated infrastructure on relevant local and regional visual receptors. The design and landscaping has been required to be developed in consultation with Shoalhaven City Council.

From the consideration of the above, the Department is satisfied that should the existing conditions be implemented, the visual impacts associated with the transmission line will be reduced and managed to avoid high visual impacts occurring as a result of the transmission line. The Department is satisfied that the Proponent has the means to design the transmission line in a manner which allows it to be less distinct from the surrounding landscape. As such, the Department does not recommend any changes to the existing conditions of the Stage 1 Project Approval, relevant to visual impacts.

7 OTHER COMMENTS

A separate modification request by Delta Electricity for the Bamarang Gas-Fired Power Station Concept Plan Approval (MP 06_0029) and Stage 2 Project Approval (MP 08_0021) to expand the Stage 2 combined cycle (base load) power station from 400 to 450 megawatts, under section 75W of EP&A Act, was approved on 1 June 2010. As part of this approval, Condition 2.21 of the Stage 2 Project Approval, which requires the Proponent to appropriately manage the hazard and risks associated with the Stage 2 project during construction and operation in consultation with the Commonwealth Department of Defence, prior to the commencement of operation, was amended. The Department's amendment to this condition now requires the Proponent to also consult with the Civil Aviation Safety Authority and Air Services Australia, with respect to the management of aviation hazards.

The Stage 1 Project Approval, relevant to this transmission line modification, also requires a similar consultation process with the Department of Defence, prior to commissioning of Stage 1 (condition 2.24). Due to changes made to the Stage 2 project approval, described above, the Department considers that condition 2.24 of Stage 1 should also be modified to be consistent with the consultation requirements under the Stage 2 approval. This means the Proponent should now consult with the Civil Aviation Safety Authority and Air Services Australia, as well as the Department of Defence for Stage 1. To achieve this consistency, the Department recommends an amendment to existing condition 2.24 of the Stage 1 Project Approval, so that condition 2.24 of the Stage 1 approval may be consistent with condition 2.21 of the Stage 2 approval. The Department has drafted a modification to condition 2.24 of Stage 1 to achieve this amendment.

8 CONCLUSION

The Department is satisfied that the proposed modification is justified and would help deliver the benefits of the Bamarang Gas-Fired Power Station project. Based on its assessment, the Department is also satisfied that the potential impacts of the proposal can be managed to achieve acceptable environmental outcomes. Consequently, the Department considers that the proposed modification should be approved subject to the recommended modified conditions.

9 RECOMMENDATION

It is recommended that the Director of Infrastructure Projects, Major Projects Assessment, approve the modification request, subject to the modified conditions.