A

Appendix A Director-General's Requirements, Director-General Environmental Assessment Requirements Responses, Supplementary Director-General's Requirements, Supplementary Director-General's Requirements Responses, EPBC Referral

NSW GOVERNMENT | Planning

Contact: Anna Timbrell
Phone: (02) 9228 6345
Fax: (02) 9228 6366
Email: anna.timbrell@planning.nsw.gov.au

Our ref: S09/0666
Your ref:

Mr Denis Novakovic
Project Manager – Capital Programme Delivery
TransGrid
PO Box A1000
SYDNEY SOUTH NSW 1235

Dear Mr Novakovic

Proposed Dumaresq to Lismore 330 kV Transmission Line – Inverell, Tenterfield, Kyogle, Richmond Valley and Lismore Local Government Areas - (Application Reference: 09_0150)

The Department has received your major project application and request for Director-General's Requirements (DGRs) for the above mentioned proposal.

The Director-General's Environmental Assessment Requirements are attached, pursuant to section 75F(2) of the *Environmental Planning and Assessment Act 1979*. These requirements are based on the information provided to date, including the Planning Focus Meeting held on 24 August 2009 and through consultation with relevant government agencies. Under section 75F(3) of the Act, the Director-General may alter or supplement these requirements if necessary and in light of any additional information that may be provided prior to the Proponent seeking approval for the project.

Please contact the Department at least two weeks before you propose to submit the Environmental Assessment for the project to determine:

- the fees applicable to the application;
- relevant land owner notification requirements;
- consultation and public exhibition arrangements that will apply;
- options available in publishing the Environmental Assessment via the Internet; and
- number and format (hard-copy or CD-ROM) of the Environmental Assessment that will be required.

Prior to exhibiting the Environmental Assessment, the Department will review the document to determine if it adequately addresses the DGRs. The Department may consult with other relevant government agencies in making this decision. If the Director-General considers that the Environmental Assessment does not adequately address the DGRs, the Director-General may require the Proponent to revise the Environmental Assessment to address the matters notified to the Proponent. Following this review period the Environmental Assessment will be made publicly available for a minimum period of 30 days.

If your project includes any actions that could have a significant impact on matters of National Environmental Significance, it will require an additional approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This approval would be in addition to any approvals required under NSW legislation and it is your

responsibility to contact the Department of the Environment, Water, Heritage and the Arts to determine if an approval under the EPBC Act is required for your project (6274 1111 or http://www.environment.gov.au).

Please note that the Commonwealth Government has accredited the NSW environmental assessment process for assessing impacts on matters of National Environmental Significance. As a result, if it is determined that an approval is required under the EPBC Act, please contact the Department immediately as supplementary Director-General's requirements will need to be issued.

If you have any enquiries about these requirements, please contact Ms Anna Timbrell, Environmental Planning Officer, Major Infrastructure Assessments on 02 9228 6345 or via email (anna.timbrell@planning.nsw.gov.au).

Yours sincerely

11.9.09

Chris Wilson
Executive Director
Major Project Assessments
as delegate of the Director-General

Director-General's Requirements

Section 75F of the *Environmental Planning and Assessment Act 1979*

DUMARESQ TO LISMORE 330 kV TRANSMISSION LINE – INVERELL, TENTERFIELD, KYOGLE, RICHMOND VALLEY AND LISMORE LOCAL GOVERNMENT AREAS

ENVIRONMENTAL ASSESSMENT REQUIREMENTS UNDER PART 3A OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Project	Construction of 330 kV transmission line, between Dumaresq substation near Bonshaw and Lismore substation and associated works. The transmission line will be approximately 220 km in length and is divided into two sections: Study Area East – Lismore to Tenterfield – approximately 130 km in length, utilising the existing 132 kV transmission line easement wherever possible (the easement would be widened from 45 metres to 60 metres), and; Study Area West – Tenterfield to Dumaresq – approximately 90 km in length requiring a new 60 metre wide easement. The project includes: • site preparation and steel tower foundation work; • construction of 35-40 metre high steel towers at 250-300 metre intervals, and up to 400 metres over gullies; • decommissioning and removal of the existing 132 kV transmission line between Lismore and Tenterfield; • pre-construction activities; • access track upgrading and/or construction as required; • vegetation clearing along the 60 metre wide easement as required for access and safety clearance purposes; • conductor and earth wire stringing between each of the erected towers; • upgrade of the Lismore and Dumaresq substations including new 330 kV line switchbays and electrical equipment installed within switchyards; • other substation works; • possible upgrade works to other substations.
Site	Transmission easements and properties between Dumaresq and Lismore.
Proponent	TransGrid
Date of Issue	11 September 2009
Date of Expiration	11 September 2011
General Requirements	The Environmental Assessment must be prepared to a high technical and scientific standard and must include: • an **executive summary**. • a **detailed description** of the project clearly defining the proposal corridor including construction, staging, operation and the construction of access roads; • consideration of any **relevant statutory provisions** including the consistency of the project with the objects of the *Environmental Planning and Assessment Act 1979*; • an **assessment of the key issues** outlined below, during construction, operation and decommissioning; • a draft **Statement of Commitments** detailing measures for environmental mitigation, management and monitoring for the project; • a **conclusion justifying the project** taking into consideration the environmental social and economic impacts of the project, the suitability of the site, and the public interest; and • **certification by the author** of the Environmental Assessment that the information contained in the Assessment is neither false nor misleading.

Key Assessment Requirements	The Environmental Assessment (EA) must include assessment of the following key issues: • **Strategic Planning and Project Justification** – the Environmental Assessment must provide a strategic assessment for the project, including justification of the need, scale, scope and location of the project in relation to predicted electricity demand and reliability requirements, predicted transmission constraints, alternative strategies, and the strategic direction of the region and the State regarding the State electricity supply and demand and electricity generation technologies. Particular reference should be made to the outcomes of any Regulatory Test under the National Electricity rules, TransGrid's Annual Planning Review process and any non-network options proposed for the relief of identified transmission constraints. • **Land Use Planning Impacts** – the Environmental Assessment must provide an analysis of the suitability of the proposed transmission route with respect to potential land use conflicts with existing and future surrounding land uses including urban growth areas, agricultural uses, State forests/timber resources, highway upgrades, conservation areas including Special Management Zones in State forests, and areas of significant scenic or visual value. The EA must also include an assessment of the potential impacts of the project to influence changes to future land use character in proximity of the site. Reference should be made to the Far North Coast Regional Strategy. • **Ecological Impacts** – the Environmental Assessment must include a justified and tiered assessment approach for impacts of the project on native vegetation, threatened species, populations, ecological communities and their habitats for each bioregion (including both terrestrial and aquatic ecology, and all groundwater dependent ecosystems likely to be impacted). The Environmental Assessment must: ° identify bioregions that will be or may be impacted by the project; ° demonstrate a design philosophy of impact avoidance on ecological values, and in particular, ecological values of high significance; ° for each identified bioregion, include a screening of species, populations, ecological communities and habitats based on ecological significance and the potential for impact as a consequence of the project; ° for species, populations, ecological communities and habitats with high ecological significance and significant potential for impact, include sufficient information to demonstrate the likely impacts, consistent with *Guidelines for Threatened Species Assessment* (DEC & DPI, July 2005) ° for other species, populations, ecological communities and habitats, a general bioregion-based assessment of ecological impacts associated with the project; ° consider region-based ecological outcomes, including habitat connectivity and distribution of species, and how these may be impacted by the project; ° detail measures to avoid or mitigate impacts, including any proposed compensatory habitat or off-set strategy, that describes the scale, scope and timing of implementation; • **Heritage Impacts** – the Environmental Assessment must include sufficient information to demonstrate the likely impacts on Aboriginal heritage values/items and outline proposed mitigation measures in accordance with the Draft *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC, 2005). The Environmental Assessment must demonstrate effective consultation with Aboriginal communities has been undertaken in determining and assessing impacts, developing options and selecting options and mitigation measures. • **Human Amenity Impacts** – the Environmental Assessment must include a justified and tiered assessment approach for impacts on human amenity, including noise and vibration, air quality (dust and odour) and traffic impacts during construction and operation of the project. The Environmental Assessment must: ° identify human receptors that will be or may be impacted by the project; ° characterise potentially impacted human receptors in terms of receptor type

	(e.g. isolated receptors, receptor areas (such as residential zones) and sensitive receptors (such as schools, hospitals etc.)); ◦ identify those receptors and receptor types likely to be significantly impacted by the project; ◦ include a framework for the mitigation, management and monitoring of noise and air quality impacts during construction of the project, particularly with respect to receptors and receptor types likely to be significantly impacted by the project and with specific reference to noise- and vibration-intensive construction works/ activities (drilling, blasting, bulk excavation, heavy vehicle movements etc.) around receptors and major centres. • **Hazards and Risk Impacts** – the Environmental Assessment must include a screening of potential hazards on site to determine the potential for off site impacts, particularly at the substations, and any requirement for a Preliminary Hazard Analysis (PHA). The Environmental Assessment must include an identification of any contaminated land affected by the proposal. The Environmental Assessment must also include an assessment of the risk to human health from Electric and Magnetic Fields (EMFs) associated with the project, with reference to Australian Radiation Protection and Nuclear Safety Agency standards. The Environmental Assessment should demonstrate the application of the principles of Prudent Avoidance in relation to EMFs. The Environmental Assessment shall specifically consider on-going maintenance and safety management of the project, including potential impacts on and from bushfires and floods. • **Noise Impacts** – the Environmental Assessment must include an assessment of the noise impacts of new and/or upgraded substations, in accordance with the *NSW Industrial Noise Policy* (EPA, 2000). • **Visual Amenity Impacts** – the Environmental Assessment must include an assessment of the visual impacts associated with the proposal, including the impact on local and regional views by transmission lines and substations. Impacts on the values of adjacent wilderness areas should be considered. Alternative pole designs should be presented and assessed and the potential for undergrounding in sensitive locations should also be assessed. • **Construction-related Impacts** – the Environmental Assessment must include details of construction-related impacts associated with the proposal, including noise impacts against the criteria provided in *Interim Construction Noise Guideline* (DECC, July 2009), water quality impacts, weed management and soil and erosion implications. The Environmental Assessment must also indicate how these impacts would be mitigated and managed, consistent with best environmental practice. • **Traffic and Transport Impacts** – the Environmental Assessment must address the construction and operational traffic impacts of the project including proposed routes, timing and traffic volumes. **General Environmental Risk Analysis** – notwithstanding the above key assessment requirements, the EA must include an environmental risk analysis to identify potential environmental impacts associated with the project (construction and operation), proposed mitigation measures and potentially significant residual environmental impacts after the application of proposed mitigation measures. Where additional key environmental impacts are identified through this environmental risk analysis, an appropriately detailed impact assessment of these additional key environmental impacts must be included in the EA.
Consultation Requirements	You must undertake an appropriate and justified level of consultation with the following parties during the preparation of the EA: • NSW Department of Environment, Climate Change and Water • NSW Department of Industry and Investment • NSW Roads and Traffic Authority and Australian Rail Track Corporation • NSW Health • NSW Rural Fire Service • Land and Property Management Authority • Livestock, Health and Pest Authorities (Rural Lands Protection Board)

	• Inverell Shire Council • Tenterfield Shire Council • Kyogle Council • Richmond Valley Council • Lismore City Council • NSW Aboriginal Land Councils/NSW Native Title Service • Local Aboriginal Land Council • each landowner and land occupier within and adjacent to the corridor of the proposed development sites and transmission route, and • the local community The Environmental Assessment must clearly indicate issues raised by stakeholders during consultation, and how those matters have been addressed in the Environmental Assessment.

NSW GOVERNMENT | Planning

Contact: Anna Timbrell
Phone: (02) 9228 6345
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Our ref: S09/00666

Mr Denis Novakovic
Project Manager – Capital Programme Delivery
TransGrid
PO Box A1000
SYDNEY SOUTH NSW 1235

Dear Mr Novakovic

Proposed Dumaresq to Lismore Transmission Line – Inverell, Tenterfield, Kyogle, Richmond Valley and Lismore Local Government Areas – (MP 09_0150)

For your information and reference during the preparation of the Environmental Assessment, please find attached copies of letters sent to the Department during the preparation of the Director-General environmental assessment requirements for the above project.

Response was received by the Office of Water, Department of Environment, Climate Change and Water, Department of Industry & Investment, Land and Property Management Authority, Inverell Shire Council and Kyogle Council

If you have any queries regarding the above, please contact Anna Timbrell, on the above contact details.

Yours sincerely

Neville Osborne 11/9/09

Neville Osborne
Team Leader – Water and Energy
Major Infrastructure Assessments

Your reference : S09/00666
Our reference : FIL07/123-02 DOC09/42147
Contact : Peter A. Ekert, 66402514 peter.ekert@environment.nsw.gov.au

Neville Osborne
Manager – Water and Energy
Major Infrastructure Assessments
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Attention: Anna Trimbell

- 9 SEP 2009

Dear Ms Trimbell

RE: Proposed Dumaresq to Lismore 330kV Transmission Line – Inverell, Tenterfield, Kyogle, Richmond Valley and Lismore Local Government Areas (MP 09_0150)

I refer to your request for the Department of Environment, Climate Change and Water (DECCW) requirements for the environmental assessment (EA) in regard to the above proposal received by DECCW on 28 August 2009.

DECCW has considered the details of the project as provided by the Applicant and has identified the information it requires to assess the project concept plan in Attachment A. The proponent should ensure that the EA is sufficiently comprehensive and detailed to determine the extent of the impact of the proposal.

In summary, DECCW's recommended key information requirements for the project are:

1. the impacts on local surface water quality;
2. the impacts of the project on threatened species and their habitat;
3. the impacts of the project on Aboriginal cultural heritage values;
4. an assessment of any land contamination; and
5. the actions that will be taken to avoid or mitigate impacts or compensate to prevent unavoidable impacts identified in 1-4 above.

Should you require any further information please contact Peter A. Ekert 66402514.

Yours sincerely

JON KEATS
Head, Industry and Waste Unit North Coast
Environment Protection and Regulation Group

Att: Attachment A DECCW EA Requirements
Attachment B Guidance Material

PO Box 498, Grafton NSW 2460
NSW Government Offices,
49 Victoria Street, Grafton NSW
Tel: (02) 6640 2500 Fax: (02) 6642 7743
ABN 30 841 387 271
www.environment.nsw.gov.au

Attachment A – Department of Environment, Climate Change and Water's Environmental Assessment Requirements

Environmental impacts of the Project

1. The following environmental impacts of the project need to be assessed, quantified and reported on:
   - Water quality
   - Contaminated Land
   - Noise
   - Threatened Species
   - Aboriginal cultural heritage

2. These should be assessed in accordance with the relevant guidelines listed in Attachment B.

3. Describe mitigation and management options that will be used to prevent, control, abate or mitigate identified environmental impacts associated with the project and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

4. Based on the information provided to the Department of Environment, Climate Change and Water (DECCW), the applicant will not require an Environment Protection Licence because the activity is not scheduled under the *Protection of the Environment Operations Act 1997*.

Water Quality

The environmental outcomes for the project in relation to water should be:
- There is no pollution of waters during the construction and operational phases of the development;
- There is no inconsistency with any relevant Statement of Joint Intent established by the Healthy Rivers Commission; and
- It is acceptable in terms of the achievement or protection of the River Flow Objectives and Water Quality Objectives.

The Environmental Assessment (EA) should document the measures that will achieve the above outcomes.

Contaminated Land

The EA must document the identification, assessment and management of any land contamination to ensure that the land is not allowed to be put to a use that is inappropriate because of the presence of contamination. Under the *Contaminated Land Management Act 1997* there is a responsibility to notify the DECCW of sites that pose a significant risk of harm to human health or the environment.

Noise

The environmental outcomes should include the following:
- The proposal must be designed, constructed, operated and maintained so that there are no adverse impacts from noise (including traffic noise).

Impacts of the project on threatened species and their habitat

Vegetation Clearing

The vegetation on site has the potential to support a wide range of threatened flora and fauna species. Any identified threatened species should be discussed in detail.

The EA will need to include a comprehensive assessment of the following:

1. A field survey of the site should be conducted and documented in accordance with the draft "Guideline for threatened species assessment' and "Threatened Biodiversity and Threatened Species Assessment – Guideline For Developments and Activities".

2. Likely impacts on threatened species and their habitat need to be assessed, evaluated and reported on. The assessment should specifically report on the considerations listed in Step 3 of the draft guideline.

3. Describe the actions that will be taken to avoid or mitigate impacts or compensate to prevent unavoidable impacts of the project on threatened species and their habitat. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

4. The EA needs to clearly state whether it meets each of the key thresholds set out in Step 5 of the draft guideline.

Impacts of the project on Aboriginal cultural heritage values

Standard requirements

1. The Environmental Assessment (EA) should address and document the information requirements set out in the draft "Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation' (Department of Environment and Conservation 2005) and the 'Part 3A EP&A Act Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation' (Department of Planning and DEC 2007). These documents are available from the Department of Environment, Climate Change and Water (DECCW) and the Department of Planning upon request.

2. The EA should include surveys by suitably qualified archaeological consultants and include evidence of consultation with traditional Aboriginal custodians.

3. The EA should identify the nature and extent of impacts on Aboriginal Cultural Heritage values across the project area and the strategies employed to avoid / minimise these impacts. If impacts are proposed as part of the final development, clear justification for such impacts should be provided.

4. The EA should assess the archaeological and Aboriginal significance of the site's Aboriginal Cultural Heritage values.

5. Describe the actions that will be taken to avoid or mitigate impacts of the project on Aboriginal Cultural Heritage values. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

6. The EA needs to clearly demonstrate that effective community consultation with Aboriginal communities has been undertaken in assessing impacts, developing options and making final recommendations. The Department of Environment, Climate Change and Water (DECCW)

supports broad-based Aboriginal community consultation and as a guide the 'Interim Community Consultation Requirements for Applicants (DECC 2005)' provides a useful model to follow.

7. If impacts on Aboriginal cultural values are proposed as part of the final development, an assessment of the regional significance of the values to be impacted, the extent to which these values are protected elsewhere in the landscape and consideration of the proposed impacts in the context of 'inter generational equity' should be undertaken.

Note: If the EA is relying on past surveys it is critical to confirm that the surveys are consistent with the requirements of the above Part 3A guidelines. Furthermore, if any new sites or objects are located, they should be recorded on NPWS site cards and registered on the Aboriginal Heritage Information Management System (AHIMS). AHIMS contact details: Phone: (02) 9585 6470, address: Lvl 6, 43 Bridge Street, Hurstville, NSW, 2220, e-mail: ahims@environment.nsw.gov.au.

Attachment B - Guidance Material

Water Quality

- National Water Quality Management Strategy: Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000)
- NWQMS Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC 2000)
- Healthy Rivers Commission Report into Coastal Lakes and Statement of Joint Intent
- The relevant targets within the State Water Management Outcomes Plan

Wastewater

- National Water Quality Management Strategy: Guidelines for Sewerage Systems - Effluent Management (ARMCANZ/ANZECC 1997)
- National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC 2000)
- Environmental Guidelines for the Utilisation of Treated Effluent by Irrigation (NSW DEC 2004)
- Environment and Health Protection Guidelines: 'Onsite Sewage Management for Single Households', February 1998 (Silver Book).

Stormwater

(Note: some of these documents will be revised in 2006)

- Managing Urban Stormwater: Soils and Construction (NSW Landcom, 2004)
- Managing Urban Stormwater: Source Control (EPA 1998)
- Managing Urban Stormwater: Treatment Techniques (EPA 1998).

Contaminated Land

- Managing Land Contamination: Planning Guidelines - SEPP55 - Remediation of Land, Department of Urban Affairs and Planning and NSW EPA, 1998:
- Contaminated Sites – Guidelines for Consultants Reporting on Contaminated Sites (Environment Protection Authority (EPA) 1997);
- Contaminated Sites – Guidelines on Significant Risk of Harm and Duty to Report (EPA, 1999).

Noise and Vibration

- NSW Industrial Noise Policy (EPA, 1999)
- NSW Environmental Criteria for Road Traffic Noise (EPA, 1999)
- Chapter 171 Noise Control Guideline, *Construction Site Noise, Environmental Noise Control Manual, 1994.*

Threatened Species Impacts

- Threatened Biodiversity and Threatened Species Assessment – Guideline For Developments and Activities – Working Draft 2004. Available from DECCW.
- Draft Guidelines For Threatened Species Assessment - Available from Department of Planning.

Assessing Aboriginal Cultural Heritage Impacts

- Draft Guidelines For Aboriginal Cultural Heritage Impact Assessment and Community Consultation - Available from Dept of Planning
- Interim Community Consultation Requirements for Applicants
- Aboriginal Cultural Heritage Standards and Guidelines Kit - Available shortly on-line through DECCW's webpage.

http://www3.environment.nsw.gov.au/npws.nsf/Content/Protecting+Aboriginal+objects+and+places

NSW GOVERNMENT | Office of Water

Department of Planning
Anna Timbrell
GPO Box 39
Sydney NSW 2001

1 September 2009

Contact: Christie Jackson
Phone: 02 6701 9652
Fax: 02 6701 9682
Email: christie.jackson@dnr.nsw.gov.au

Dear Ms Timbrell,

Subject: Request for Director-General's Requirements Dumaresq to Lismore 330kv Transmission Line

Thank you for your email dated the 27 August 2009, seeking the NSW Office of Water's (NOW) Director-General's Requirements (DGR's) for the proposed Dumaresq to Lismore 330kv Transmission Line. The Department has reviewed the information provided and our specific requirements to be included in the DGR's are outlined as follows and were also mentioned via telephone during the planning focus meeting on the 24 August 2009. I have attached the Departments general requirements for major project developments.

Riparian Management: Whilst a controlled activity approval is not required under the *Water Management Act 2000* for Part 3A developments, any works within riparian areas should be consistent with the Department of Water and Energy's Controlled Activity Guidelines (2008) and State policies. The environmental assessment (EA) should outline all works affecting riparian areas including any clearing, creek crossings, roads and tracks etc. The EA should also outline any mitigation and management measures such as erosion and sediment control. The EA should also outline all creeks and rivers affected by the proposal and how each will be managed, in particular major rivers or creeks that require specific management measures.

Water Issues: It is unclear from the planning focus meeting if water is required for the development. The EA should outline all water requirements for the development (ie during construction and post construction) and where the water will be sourced ie groundwater or surface water. All water required for the development must be accounted for and appropriately licenced with the Department. Any monitoring bores associated with the development will need to be licenced. If all proposed sources are identified early, the Department is able to provide accurate advice regarding our requirements.

Dewatering of tower footings may become an issue in low lying areas particularly towards the coast. If groundwater is likely to be intercepted as a result of the works then a dewatering licence in required, which must be obtained prior to groundwater interception.

At present, both the *Water Act 1912* and *Water Management Act 2000* are active with water sharing plans guiding the management of water in some areas. If the proposal is within a gazetted water sharing plan area the assessment is required to demonstrate consistency with the rules of the water sharing plan. The development route may also be affected by current embargoes for new water licences, however further information can be provided on this if required.

The EA will need to include an assessment of the potential effects of the development on groundwater and surface water quality and quantity, surface water hydrology, other groundwater and surface water users, acid sulphate soils and groundwater dependent ecosystems.

Acid Sulphate Soils: The environmental assessment must identify all areas of acid sulphate soils and identify mitigation and management options in accordance with the ASSMAC guidelines. The Department has concerns about the potential effects of ASS on groundwater quality.

Farm Dams Policy: Any dams, ponds or sediment basins to be constructed as part of the proposed development must be consistent with the NSW Farms Dam Policy.

Flooding Issues: The EA should discuss any flooding issues associated with the development and any impacts on landholders.

If you require clarification on any of the above please don't hesitate to contact me on (02) 6701 9652.

Yours sincerely,

Christie Jackson
Planning and Assessment Coordinator

NSW Office of Water

General Assessment Requirements for Major Project Proposals Under Part 3A of *Environmental Planning & Assessment Act 1979*

The NSW Office of Water (NOW) provides the following advice for consideration:

Relevant Legislation

The assessment is required to take into account the requirements of the following legislation (administered by NOW), as applicable:

- *Water Act 1912*
- *Water Management Act 2000 (WMA)*

In particular, proposals and management plans should be consistent with the Objects (s.3) and Water Management Principles (s.5) of the *WMA*.

Water Sharing Plans

Gazetted Water Sharing Plans (WSPs) prepared under the provisions of the *WMA* establish rules for access to, and the sharing of water between the environmental needs of the surface or groundwater source and water users. If the proposal is within a gazetted WSP area the assessment is required to demonstrate consistency with the rules of the WSP.

Refer to: *http://www.dnr.nsw.gov.au/water/plans.shtml*

Relevant Policies

The assessment is required to take into account the following NSW Government policies, as applicable:

- *NSW Groundwater Policy Framework Document - General*
- *NSW Groundwater Quantity Management Policy*
- *NSW Groundwater Quality Protection Policy*
- *NSW State Groundwater Dependent Ecosystem Policy*
- *NSW State Rivers and Estuaries Policy*
- *NSW Sand and Gravel Extraction Policy for Non-Tidal Rivers*
- *NSW Wetlands Management Policy*
- *NSW Farm Dams Policy*
- *NSW Weirs Policy*
- *NSW Coastal Policy*

In addition assessments should consider the following strategies:

- *NSW Salinity Strategy*
- *NSW Water Conservation Strategy*

The majority of these documents can be found at:
http://www.dnr.nsw.gov.au/water/legislation.shtml

Guidelines

The assessment is required to take into account the following former Department of Water and Energy's Guidelines for Controlled Activities (February 2008), as applicable:

_ Riparian corridors (and associated Vegetation Management Plans)
_ Watercourse crossings
_ Laying pipes and cables in watercourses
_ Outlet structures
_ In-stream works

Refer to: *http://www.dnr.nsw.gov.au/water/controlled_activity.shtml*

Groundwater

NOW is responsible for the management of groundwater resources so they can sustain environmental, social and economic uses for the people of New South Wales.

Groundwater Source

The assessment is required to identify groundwater issues and potential degradation to the groundwater source and provide the following:

- Details of the predicted highest groundwater table at the development site.
- Details of any works likely to intercept, connect with or infiltrate the groundwater sources.
- Details of any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.
- Describe the flow directions and rates and the physical and chemical characteristics of the groundwater source.
- Details of the predicted impacts of any final landform on the groundwater regime.
- Details of the existing groundwater users within the area (including the environment) and include details of any potential impacts on these users.
- Assessment of the quality of the groundwater for the local groundwater catchment.
- Details of how the proposed development will not potentially diminish the current quality of groundwater, both in the short and long term.
- Details on preventing groundwater pollution so that remediation is not required.
- Details on protective measures for any groundwater dependent ecosystems (GDEs).
- Details of proposed methods of the disposal of waste water and approval from the relevant authority.
- Assessment of the need for an Acid Sulphate Management Plan (prepared in accordance with ASSMAC guidelines).
- Assessment of the potential for saline intrusion of the groundwater and measures to prevent such intrusion into the groundwater aquifer.
- Details of the results of any models or predictive tools used.

Where potential impact/s are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:

- Details of any proposed monitoring programs, including water levels and quality data.
- Reporting procedures for any monitoring program including mechanism for transfer of information.

- An assessment of any groundwater source/aquifer that may be sterilised as a consequence of the proposal.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
- Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.

Licensing

All proposed groundwater works, including bores for the purpose of investigation, extraction, dewatering, testing or monitoring must be identified in the proposal and an approval obtained from NOW prior to their installation.

Groundwater Dependent Ecosystems (GDEs)

The assessment is required to identify any impacts on GDEs. GDEs are ecosystems which have their species composition and natural ecological processes wholly or partially determined by groundwater. GDEs represent a vital component of the natural environment. GDEs can vary dramatically in how they depend on groundwater from having occasional or no apparent dependence through to being entirely dependent. GDEs occur across both the surface and subsurface landscapes ranging in area from a few metres to many kilometres. Increasingly, it is being recognised that surface and groundwaters are often interlinked and aquatic ecosystems may have a dependence on both.

Ecosystems that can depend on groundwater and that may support threatened or endangered species, communities and populations, include:

- Terrestrial vegetation that show seasonal or episodic reliance on groundwater.
- River base flow systems which are aquatic and riparian ecosystems in or adjacent to streams/rivers dependent on the input of groundwater to base flows.
- Aquifer and cave ecosystems.
- Wetlands.
- Estuarine and near-shore marine discharge ecosystems.
- Fauna which directly depend on groundwater as a source of drinking water or that live within water which provide a source.

The *NSW Groundwater Dependent Ecosystem Policy* provides guidance on the protection and management of GDEs. It sets out management objectives and principles to:

- Ensure the most vulnerable and valuable ecosystems are protected.
- Manage groundwater extraction within defined limits thereby providing flow sufficient to sustain ecological processes and maintain biodiversity.
- Ensure sufficient groundwater of suitable quality is available to ecosystems when needed.
- Ensure the *precautionary principle* is applied to protect GDEs, particularly the dynamics of flow and availability and the species reliant on these attributes.

A number of gazetted WSP list and map priority GDEs and set out the management strategies and actions for sharing and protecting groundwater quality, quantity and dependent ecosystems.

Surface Water

NOW is responsible for the sustainable management of rivers, estuaries, wetlands and adjacent riverine plains.

Watercourse/Riparian

The assessment is required to consider the impact of the proposal on the watercourses and associated riparian vegetation within the site and provide the following:

- Identify the sources of surface water.
- Details of stream order (using the Strahler System).
- Details of any proposed surface water extraction, including purpose, location of existing pumps, dams, diversions, cuttings and levees.
- Detailed description of any proposed development or diversion works including all construction, clearing, draining, excavation and filling.
- An evaluation of the proposed methods of excavation, construction and material placement.
- A detailed description of all potential environmental impacts of any proposed development in terms of vegetation, sediment movement, water quality and hydraulic regime.
- A description of the design features and measures to be incorporated into any proposed development to guard against long term actual and potential environmental disturbances, particularly in respect of maintaining the natural hydrological regime and sediment movement patterns and the identification of riparian buffers. (See note below)
- Details of the impact on water quality and remedial measures proposed to address any possible adverse effects.

The *Rivers and Foreshores Improvement Act 1948 (RFIA)* has now been repealed and the controlled activity provisions in the *WMA* have commenced. The provisions relating to controlled activities replaced the *RFIA* from 4 February 2008. Riparian corridors form a transition zone between terrestrial and aquatic environments and perform a range of important environmental functions. The protection or restoration of vegetated riparian areas is important to maintain or improve the geomorphic form and ecological functions of watercourses through a range of hydrologic conditions in normal seasons and also in extreme events.

Although Part 3A Major Projects are exempt from requiring a controlled activity approval (s91 of *WMA*), the assessment is required to take into account the objectives and provisions of relevant legislation and guidelines.

Note: Recommended Core Riparian Zones (as applicable):

_ Minimum of 10m for any intermittently flowing 1st order watercourse;

_ 20m for any permanently flowing 1st order watercourse or any 2nd order watercourse;

_ 20m – 40m (merit based assessment) for any 3rd order or greater watercourse.

[Refer to DWE Guidelines for Controlled Activities (February 2008) – Riparian Corridors available via: *http://www.naturalresources.nsw.gov.au/water/controlled_activity.shtml*]

Water Management Structures/Dams

NOW is responsible for the management and licensing of these structures under water legislation. If the proposal includes existing or proposed water management structures/dams, the assessment is required to provide information on the following:

- Date of construction (for existing structure/s).
- Details of the legal status/approval for existing structure/s.
- Details of any proposal to change the purpose of existing structure/s.
- Details if any remedial work is required to maintain the integrity of the existing structure/s.
- Clarification if the structure/s is on a watercourse.
- Details of the purpose, location and design specifications for the structure/s.
- Size and storage capacity of the structure/s.
- Calculation of the Maximum Harvestable Right Dam Capacity (MHRDC).
- Details if the structure/s is affected by flood flows.
- Details of any proposal for shared use, rights and entitlement of the structure/s.
- Details if the proposed development/subdivision has the potential to bisect the structure/s.

DWE's Farm Dams Assessment Guide provides details on harvestable rights and the calculation of the MHRDC. Refer to: *http://www.dnr.nsw.gov.au/water/dams.shtml*

Basic Landholder Rights

The *WMA* identifies Basic Landholder Rights (BLRs) for access to water whereby landholders over an aquifer or with river or lake frontage can access water for domestic (household) purposes or to water stock without the need for a water licence (although a works approval may still be required). This has the potential to impact inequitably on existing licensed water users (under a WSP) in the case where riparian frontage continues to be subdivided, creating new basic rights for water extraction. If this is an issue for the proposal the assessment should identify any potential for creation of new BLRs along the frontage to major waterways or over any sensitive aquifers. For those subdivisions fronting rivers/lakes, innovative subdivision design which allows the creation of additional lots without direct river/lake frontage or utilises collective or community title to manage the use of any existing BLR could provide a satisfactory way of managing this issue whilst still allowing for subdivision. Subdivisions over a sensitive aquifer however, may be more limited in using this approach.

Sustainable Water Supply

Many gazetted WSPs to-date have identified particular surface and groundwater systems that are currently over-allocated (that is, water licence volumes issued to landholders operating in these catchments exceed the sustainable volumes/flows within these systems). In the case of over-allocation, the systems have subsequently been embargoed and no new water licences are to be issued within these catchments. Any new or expanded development within such catchments will therefore be unable to obtain any new water entitlements directly and will have to enter the water trading market (if available within that catchment) to seek additional water. Therefore, there can be no guarantees of obtaining additional water via this mechanism and there is the potential of restrictions on further development within such catchments. Whilst there is provision in the *WMA* to allow for limited growth in Town Water Supplies (TWS) this could still impact subsequently on other water users.

The assessment is required to address the issue of provision of a sustainable water supply for any project proposal. The assessment should include Water Management Plans detailing how a sustainable and efficient water supply can be sourced and implemented with minimal reliance on accessing valuable surface and groundwater resources. Through the implementation of BASIX, Integrated Water Cycle Management and Water Sensitive Urban Design, any proposed development must also be able to exhibit high water use efficiency. Access to information on sustainability can be found via: *http://www.deus.nsw.gov.au/business_industry.asp*

Land and Property Management Authority

Neville Osborne
Manager – Water and Energy
Major Infrastructure Assessments
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Crown Lands Division
Far North Coast
Level 1, 76 Victoria Street
PO Box 272
GRAFTON 2460
T (02) 6640 3400
F (02) 6642 5375
www.lands.nsw.gov.au

Our reference: **09/08672, 09/08665, 09/08669**
Your reference: **S09/00666**

04 September 2009

Attention: Anna Timbrell

Dear Ms Timbrell

Re: Proposed Dumaresq to Lismore 330kV Transmission Line – Inverell, Tenterfield, Kyogle, Richmond Valley and Lismore Local Government Areas (MP 09_0150)

I refer to your letter dated 26 August 2009 seeking key issues and assessment requirements from the Land and Property Management Authority (LPMA) additional to the Draft Director-General's Environmental Assessment Requirements (DGRs) for a proposal by TransGrid (the Proponent) to construct and operate a 220 km 330 kV transmission line between Dumaresq and Lismore.

In providing this preliminary assessment, the LPMA has relied upon shapefiles of the proposed transmission line corridor provided by URS Australia Pty Ltd on 19 August 2009. It is understood the DGRs with inform the development of an environmental impact assessment (EIA) for the proposed development. Please note the review of the EIA by the LPMA may be subject to applicable fees and charges.

Potentially affected Crown parcels

Preliminary investigations by the LPMA suggest the proposed transmission line will impact upon a number of Crown parcels (that is, Crown lands under the *Crown Lands Act 1989* and Crown public roads under the *Roads Act 1993*), and that some or all of these Crown parcels may be held under a tenure from the LPMA. The Proponent will be required to apply to the LPMA for a land status search to identify the specific Crown parcels affected. The land status search will be subject to applicable fees and charges, and can be requested in writing from the Grafton LPMA Office for the entirely of the study area.

Once the results of the status search have been provided, the Proponent will be responsible for communicating with all affected Crown tenure holders, reserve trusts and land managers in relation to the proposed development.

The LPMA encourages the restoration of existing levels of public access to Crown parcels adjoining the proposed transmission line corridor upon completion of all construction operations (with asset protection and public health and safety issues afforded due consideration).

Where the Proponent proposes works that are not of a minor repair nature (that is, involving alterations to the natural terrain through cutting, filling or drainage) to facilitate access across Crown public roads to the transmission line, the Proponent will be required to obtain the concurrence of the relevant local councils to ownership of the roads being transferred to such councils, as per s.151 of the *Roads Act 1993*. This concurrence is to be included in the EIS.

Where the councils provide concurrence to the transfer of ownership and the LPMA does not object to the councils granting approval to construct or upgrade the roads, action will then to be taken in terms of s.151 to transfer ownership of the roads to the councils. The councils will then set the standards for road construction and any other requirements on the basis they will become the roads authorities under the *Roads Act 1993* in respect of the roads.

Please note, Crown public roads along the proposed transmission line corridor may be subject to current road closing and purchasing applications. Similarly, Crown land held under leasehold tenure may be subject to current freeholding actions. Road closures and tenure conversions may proceed whilst the EIS is under development, with the result the Proponent will end up negotiating directly with individual landholders in relation to the affected parcels rather than with the LPMA. The aforementioned land status search will identify such Crown parcels.

With respect to Crown parcels falling outside the proposed transmission line corridor, the Proponent may not:

- encroach upon the parcels;
- remove any vegetation from the parcels; or
- stockpile any materials or store any equipment, machinery or plant on the parcels, without the prior approval of the LPMA.

Additional DDRs

The LPMA requests the following additional key issues and assessment requirements also form part of the DGRs for the proposal:

- Detailed plans and drawings should cover the full development footprint and indicate the locations of towers and other electricity transmission infrastructure.
- Plans and drawings should also indicate the locations of new waterway crossings and access roads *as well as* existing crossings and roads expected to be upgraded as part of the development.
- Crossings across Crown waterways are to be constructed, upgraded and maintained to permit or maintain fish passage (as per: '*Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings*'[1]).
- The types of conductors proposed to be used should be specified, and the implications of the use of such for local wildlife, including flying mammals, should be addressed in the EIA.
- The EIA should incorporate, or provide for the development of, detailed vegetation management and erosion and sediment control plans for the proposed transmission line corridor.
- Descriptions of the staging of the development should include anticipated sequencing of activities, such as the acquisition of any interests in land.

Acquisition of interests in land

The Proponent will be required to acquire an easement to accommodate the proposed transmission line corridor over sections of Crown lands affected by the corridor, pursuant

[1] Fairfull, S. And Witheridge, G. (2003) Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings. NSW Fisheries, Cronulla, 16 pp.

to s.29 of the *Land Acquisition (Just Terms Compensation) Act 1991* (LA (JTC) Act). The Proponent will require the concurrence of the LPMA to acquire the easement, and the acquisition shall be subject to applicable fees and charges, as well as compensation payable under s.39 of the LA (JTC) Act to an amount assessed by a registered valuer at the date of gazettal of the acquisition. Additionally, a plan of survey will need to be lodged with the Land and Property Information Unit of the LPMA.

Please note that the Minister for Lands may not be the only owner of Crown lands along the proposed transmission line corridor for the purposes of obtaining agreement under s.30 of the LA (JTC) Act. Crown lands may be subject to land claims under the *Aboriginal Land Rights Act 1983* and native title claims under the *Commonwealth Native Title Act 1993*. The land status search will identify any such claims.

The Proponent may have an obligation under s.24MD of the *Commonwealth Native Title Act 1993* to accord potential native title holders with certain procedural rights in relation to the acquisition. In particular, s.24MD requires notice of the acquisition to be given to any representative Aboriginal and Torres Strait Islander bodies for the area concerned, as well as any registered native title claimants in relation to land or waters in the area affected.

Accordingly, in NSW, a notice should be sent to both the NSW Aboriginal Land Council (formerly appointed as the representative Aboriginal body) and NSW Native Title Services Limited (the entity that currently performs the functions of the Aboriginal representative body but which has not been formally recognised).

Notices to the NSW Aboriginal Land Council should be addressed as follows:
Manager Legal Division
NSW Aboriginal Land Council
33 Argyle Street
PARRAMATTA NSW 2150

Notices to NSW Native Title Services Limited should be addressed as follows:
Manager
NSW Native Title Services Ltd
Suite 15
245 Chalmers Street
REDFERN NSW 2016

Please feel free to contact Ian Hanson on 6640 3436 or Ian.Hanson@lpma.nsw.gov.au, or Rodney O'Brien on 67703101 or Rodney.OBrien@lpma.nsw.gov.au, if you have any questions or concerns in relation to Study Area East or Study Area West respectively.

Yours sincerely,

Ian Hanson
Senior Environmental Officer
Crown Lands Division
For Study Area East

Rodney O'Brien
Program Manager Land Management
Crown Lands Division
For Study Area West

INVERELL SHIRE COUNCIL

File: S10.19.1
Author: K J Clydsdale, Development Control Officer
Your file: S09/00666

7 September 2009

Ms. Anna Timbrell
Major Infrastructure Assessments
NSW Department of Planning
GPO Box 39
SYDNEY NSW 2001

Dear Ms. Timbrell,

RE: PROPOSED DUMARESQ TO LISMORE 330kV TRANMISSION LINE – INVERELL, TENTERFIELD, KYOGLE, RICHMOND VALLEY AND LISMORE LOCAL GOVERNMENT AREAS (MP 09_0150)

I refer to the above and wish to thank you for providing Council with the opportunity to comment on the draft environmental assessment requirements which have been prepared for the proposal.

Council wishes to advise that we agree with the requirements outlined in the draft assessment and do not have any further matters/issues to be included within the requirements.

Please contact Council's Development Control Officer Mr. Kendall Clydsdale on 02 67288 281 if you have any further queries.

Yours faithfully,

BRETT McINNES
DIRECTOR CIVIL & ENVIRONMENTAL SERVICES

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THE GENERAL MANAGER
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NSW 2474
AUSTRALIA

ADMINISTRATION OFFICE
Stratheden Street
Kyogle NSW 2474 AUSTRALIA
Phone 02 6632 1611
Fax 02 6632 2228
International Code (+ 61 2)
Email council@kyogle.nsw.gov.au
Website www.kyogle.nsw.gov.au

John Hession

FOR FURTHER INFORMATION

PLEASE QUOTE THIS REFERENCE

8 September, 2009

The Manager – Water and Energy
NSW Government Department of Planning
GPO Box 39
SYDNEY NSW 2001

Dear Sir

PROPOSED DUMARESQ TO LISMORE 330Kv Transmission Line

With reference to the above and in response to your correspondence on this matter dated 26 August, 2009 I advise as follows.

Kyogle Council has reviewed the draft environmental assessment requirements and requests that the following additional requirements be included in the criteria/terms of reference for the applicant:-

i) All access tracks which join roads under the control of Kyogle Council will require vehicular accesses to be constructed to Council's requirements;
ii) Any Council roads to be used for transport of heavy equipment or materials for the project are to be assessed for their ability to carry anticipated loads without damage to road pavements or bridges;
iii) Minimum clearances above roads from overhead cables and from road centreline for structures to be observed and provision made for possible future realignments where applicable;
iv) Ecological impacts – preservation of roadside vegetation as far as possible and protection of known wildlife corridors which may cross the easement.

Thank you for the opportunity to provide input into this process.

Yours sincerely

John Hession
Director Planning and Environmental Services

NSW GOVERNMENT | Industry & Investment

Our Ref: TRIM09/6136 Inw09/14755

Director, Major Infrastructure Assessment
Department of Planning
GPO Box 39
SYDNEY NSW 2001

8 September 2009

Attention: Ms Anna Trimbell

Dear Ms Trimbell

Re: Key Issues and Assessment Requirements MP09/0150
Dumaresq to Lismore 330kV Transmission Line – Inverell, Tenterfield, Kyogle, Richmond Valley and Lismore LGAs

Thank you for your letter of 26 August 2009 requesting Industry & Investment NSW (I&I NSW) outline assessment requirements for the above mentioned project application.

I&I NSW has both statutory and advisory responsibilities in relation to development and land use planning matters. I&I NSW is an advocate of sustainable development and profitable and sustainable primary industries through appropriate access to and wise management of natural resources. Through Forests NSW, I&I NSW also has a commercial and operational interest in land use planning matters including land within the study corridor.

Agricultural, Forestry and Fisheries divisions within I&I NSW will have an ongoing interest in this proposal. If appropriate further information may be sent indicating the degree of ongoing interest from the Minerals Division.

Forestry issues
The draft requirements generally address the key issues of concern to Forests NSW. These relate to land use particularly in relation to impacts on State forest and timber resources on State forest and other Crown-timber lands, ecological and environmental impacts from the clearing and track and trail maintenance and possible construction and ongoing maintenance and safety risks on and from bushfires. It is suggested that the reference to conservation areas under land use planning impacts could be amended to specifically also include the impact on Special Management Zones on State forest. For further information on Forestry issues please call Planning Manager, North East Region, Forests NSW, Mr John Murray on 6650 5125.

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ABN 51 734 124 190 www.industry.nsw.gov.au

Fisheries issues

The proposal, particularly provision of access points over waterways during construction and for maintenance of the transmission line could have direct and significant impacts on populations of two threatened fish species, the Eastern Freshwater Cod (which is also listed under the Clth *Environmental Protection and Biodiversity Conservation Act* 1999) and the Purple Spotted Gudgeon. Installation of the transmission line may also necessitate ongoing management (thinning / clearing) of riparian vegetation which is identified as a key threatening process because of the importance of healthy riparian vegetation for aquatic communities and consequently recreational fishing activities.

To ensure the environmental assessment incorporates investigations that will adequately facilitate assessment of the proposal I&I NSW's Aquatic Habitat Protection Unit seek that the Director General's Requirements be broadened to encompass the following matters:

Fish Friendly Watercourse Crossings: The EA should identify the location of proposed permanent and temporary watercourse crossings necessitated by the proposal and justify these against alternate access routes. Where crossings are to be installed a brief assessment of the waterway and a description or draft design of the proposed crossing is required. Waterway assessments and design of crossings should be consistent with fish friendly guidelines and information available at:

http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0003/202692/Fish-friendly-waterway-crossings-Policy-and-guidelines.pdf

http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0004/202693/Why-do-fish-need-to-cross-the-road_booklet.pdf

Where existing crossings can be used but require upgrading the EA should outlined the scope of works and whether the works will exacerbate and prolong the life of an existing barrier to fish passage.

Riparian Vegetation Management: The likely height of transmission lines at waterway crossings should also be indicated with reference to existing riparian vegetation and endemic riparian vegetation. The EA should outline where ongoing management of riparian vegetation will be required and outline the regularity and scale of these works.

For further information on fisheries issues please contact Fisheries Conservation Manager (North) Patrick Dwyer on 6626 1397.

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Agricultural issues

Industry & Investment NSW (I&I NSW) is developing a guideline outlining the typical agricultural issues that infrastructure development should address. The issues and comments identified below are based on this guideline.

I&I NSW recommends the following guiding principles to minimise the impacts of infrastructure development proposals on agricultural resources and enterprises.

- New infrastructure is located within existing infrastructure corridors where ever possible.
- Land use conflicts are minimised, and the expectations of local communities are managed.
- Issues such as weeds, pest animals, biosecurity risks and soil erosion are addressed and not made any worse by the development proposal.
- Development proposals contain sufficient information to identify suitable impact mitigation responses for all likely agricultural impacts.

Infrastructure issues of particular significance for sustainable agriculture are:

- avoidance of resource loss and fragmentation,
- changes to access arrangements for rural properties,
- weed and pest management,
- biosecurity and emergency impacts,
- land rehabilitation.

I&I NSW recommends that infrastructure proposals consider:

- existing infrastructure corridors and co-locates infrastructure within existing corridors (eg road or rail reserves or existing easements) where ever possible,
- the location and distribution primary industry resources and agricultural operations,
- minimising the footprint of infrastructure development,
- identifying and avoid important agricultural resources and farm infrastructure,
- minimising resource fragmentation and avoiding significant changes to agricultural resource access,
- burying of pipelines and cables where feasible, with due protection of the environment and land users,
- negotiations with landholders with respect to property access during development and the service life of the infrastructure,
- measures to mitigate the spread of weeds eg Parthenium weed, Serrated Tussock, Chilean Needle Grass, Giant Parramatta Grass, Coolatai weed, Giant Rat Tail Grass (further information may be found at http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds),

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- any agricultural bio-security risks that may require special operating procedures, eg, horse flue, foot rot, fire ants, generically modified crops, Phylloxera, Panama disease.

In addition to the above issues, there should be an assessment of agricultural airstrips in the vicinity of the proposed transmission line as well as an assessment of the extent of aircraft use by farms within the study area. The proposed transmission line should be assessed for impacts on agricultural aerial activates and air safety. The use of suspended markers on long stretches of transmission lines across gullies or near flight paths or rural airstrips should be considered. The environmental assessment should also consider areas in which the power line may affect the movement of agricultural machinery under the line. It is assumed that the transmission line will have substantial ground clearance. However it would still be beneficial for impacts on the safe use of farm machinery and routine farm activities be considered as part of the environmental assessment.

Changes to access arrangements for rural properties
Agricultural businesses rely on access to the road and transport network for markets, supplies, employees and specialist support services. Access to infrastructure such as power, communication and water can also be critical for business survival and animal welfare.

Reliable, effective access to the road network is particularly critical for dairies, horticultural and vegetable production and during peak harvesting or selling periods. Internal access to water, pastures and key farm infrastructure (eg dairies, feed and machinery storage areas) can also be vital for animal welfare and sustainable farming. Infrastructure proposals should:

- avoid, or mitigate any adverse changes in access to the road network and critical infrastructure on or off farm,
- locate infrastructure developments parallel to or immediately adjoining to existing farm infrastructure (eg fence lines or irrigation lines) where ever possible,
- consider temporary fencing and /or temporary access routes of an appropriate standard,

Where the proposal will inevitably divide existing farm operations or properties the development should include measures to ensure ongoing access between each section of the farm using appropriate design standards to support ongoing agricultural use and should be developed in consultation with the landholder.

Weed and pest management
The spread of weeds is of a particular risk for infrastructure developments that involve the movement of vehicles and equipment across multiple properties and between areas with weeds and areas with few weed issues.

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A Weed and Pest Management Plan can be useful in identifying the notifiable and problematic environmental weeds and pests for the locality that may affect farm productivity. The plan should include weeds that exist on site and those likely to be transported to the facility from surrounding areas. Weed suppression, management and containment strategies for all disturbed areas should be identified. Weed germination and invasion is stimulated by land disturbance. Weed and pest management should include measures:

- to limit the site spread of weeds via vehicles and machinery (eg via segregation, wash down or monitoring provisions),
- targeting soil stockpiles, roadsides and any other disturbed areas (weed germination and invasion is stimulated by disturbance),
- recommend measures include cleaning of vehicle tyres before leaving a property, cleaning of footwear and minimising and monitoring soil movement between locations,
- monitoring programs for noxious and problematic weeds and pests on site and in the surrounding areas,
- measures to mitigate noxious and problematic weeds and pests should they be found,

Bio-security and Emergency Impacts
Infrastructure developments typically result in a significant increase in vehicle movements on and off farming properties over which the farm manager may have no effective capacity to control or monitor.
The additional vehicle movement and development activities may also increase the risk of bushfires.
To protect biosecurity and enable tracing of potential disease spread, infrastructure development proposals should identify and complete risk assessment of:

- potential bio-security risks such as pest and diseases,
- risk of contact with animal or plant diseases.

Work sites can be separated from the wider farm to limit the movement of vehicles onto and across private property. Monitoring and record keeping of vehicles and contractors that access the properties is desirable for biosecurity purposes. The relationship of the proposed infrastructure to bushfire risk and response to emergencies should be identified and discussed.

Site Rehabilitation
Rehabilitation is important to manage soil erosion risk, limit weed germination, avoid the sedimentation of waterways and restore productive land use options.

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I&I NSW recommends that proponents commit to preparing a rehabilitation management plan that;

- clearly documents, environmental policies and rehabilitation objectives,
- comprehensively reviews the relevant issues and rehabilitation risks,
- identifies mitigation measures to prevent excessive dust, soil erosion and the sedimentation of waterways,
- documents the proposed monitoring program,
- describes the proposed future land use options and justifies any permanent impacts on agricultural or other primary industries.

In particular, rehabilitation plans should document:

- priority land uses of the site and plan to re-establish these as soon as practical,
- project staging and the timeframes for site rehabilitation.

Progressive site rehabilitation is encouraged. Temporary or permanent water diversion and erosion structures and erosion control practices to protect catchment values and productive capacity should be considered. Top soil is a resource and rehabilitation should aim to make best use of this resource and maximise rehabilitation and revegetation efforts. I&I NSW supports the removal of topsoil before disturbing sub-soils or erecting permanent structures and the immediate reuse of topsoil. If this is not feasible, topsoils should be temporarily stored in accordance with current best practice. Soils should be stored and stockpiled in a manner to maintain soil health and the vigour of native seed, limit weed germination, and avoid soil loss and catchment impacts which can give rise to conflicts and complaints.

To assist with vegetation and pasture re-establishment, I&I NSW recommends:

- ripping or aeration of areas traversed by heavy machinery to encourage plant growth and minimise run off,
- sowing of cover crops or pastures to stabilise disturbed sites and reduce weed growth,
- use of species suitable for the proposed end use and locality with priority given to the use of clean seed and species with a low risk of contributing to weed problems.
- consideration of seasonal conditions and timing revegetation efforts to maximise success.
- weed and pest management control should accord with existing state, regional or local management plans or requirements,
- monitoring proposals to asses the effectiveness of rehabilitation efforts and repair as required.

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- the responsible body for site management and remediation when construction activities cease.

Additional issues

I&I NSW recommends that proponents consult with relevant agencies such as local weed authorities, Livestock Health and Pest Authorities and catchment management authorities on the design, construction and operation of the proposed infrastructure.

Consultation with the owners and/or managers of affected lands and adjoining agricultural operations should be undertaken in a timely and appropriate manner and include the sharing of information and knowledge about the proposal, the likely impacts and suitable mitigation measures or compensation.

The environmental assessment should provide sufficient documentation to demonstrate that all significant impacts on agricultural developments and resources have been identified and can be reasonably avoided or adequately mitigated.

Further information

I&I NSW has additional web based information on pastures, weeds, soils, biosecurity and the management and minimising conflict risks with adjoining agricultural land uses available for download at www.dpi.nsw.gov.au.

Please contact Rik Whitehead at Wollongbar on 6626 1349 or rik.whitehead@industry.nsw.gov.au should you require any further information with regard agricultural issues.

Yours sincerely

Patrick Dwyer
Fisheries Conservation Manager (North)

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Department of Planning (DoP) – Director-Generals Requirements (DGRs): Biodiversity Cross Reference Table

Biodiversity Impacts		
Government Authority	**Director-Generals Requirements**	**Relevant Sections of the Biodiversity Report**
Department of Environment, Climate Change and Water (DECCW) (11/09/2009)	The EA must include a justified and tiered assessment approach for impacts of the Project on native vegetation, threatened species, populations, ecological communities and their habitats for each bioregion (including both terrestrial and aquatic ecology, and all groundwater dependent ecosystems likely to be impacted) The EA must:	**Introduction** (summary) and **Section 4** and **7** of the Biodiversity Report.
	• identify bioregions that will be or may be impacted by the Project;	**Section 3.1** of the Biodiversity Report.
	• demonstrate a design philosophy of impact avoidance on ecological values, and in particular, ecological values of high significance;	**Section 7** of the Biodiversity Report and **Chapter 2** of the EA.
	• for each identified bioregion, include a screening of species, populations, ecological communities and habitats based on ecological significance and the potential for impact as a consequence of the project;	**Sections 4**, **5** and **6** of the Biodiversity Report. **Appendix B**, **C**, **D**, **E**, **F** and **I** of the Biodiversity Report.
	• for species, populations, ecological communities and habitats with high ecological significance and significant potential for impact, include sufficient information to demonstrate the likely impacts, consistent with *Guidelines for Threatened Species Assessment* (DEC & DPI, July 2005);	**Section 5** and **6** of the Biodiversity Report. **Appendix E, F, I** and **J** of the Biodiversity Report.
	• for other species, populations ecological communities and a general bioregion-based assessment of ecological impacts associated with the project;	**Section 5** and **6** of the Biodiversity Report. **Appendix D**, **E** and **F** of the Biodiversity Report.
	• consider region-based ecological outcomes, including habitat connectivity and distribution of species, and how these may be impacted by the project; and	**Section 6.1.8** of the Biodiversity Report. **Appendix F**, **I** and **J** of the Biodiversity Report.
	• detail measures to avoid or mitigate impacts, including any proposed compensatory habitat or offset strategy, that describes the scale, scope and timing of implementation.	**Sections 7.1**, **7.2** and **7.3** of the Biodiversity Report.
Kyogle Council (08/09/2009)	• Preservation of roadside vegetation as far as possible and protection of known wildlife corridors which may cross the easement.	**Section 6.1.8** and **Section 7** of the Biodiversity Report.
Border Rivers-Gwydir Catchment Management Authority (BRG-CMA) (16/09/2009)	The EA should include the following: • Any proposed mitigation measures involving offsets for loss of native vegetation should be calculated using the Department of Environment. Climate Change and Water (DECCW) BioBanking method.	To be undertaken once offsetting arrangements are determined.
	• Impacted areas identified as ecologically significant should be mapped at a suitable scale. This should include GPS reference points for significant species.	**Figures 8** and **9** of the Biodiversity Report. GIS layers and co-ordinates can be provided if requested.
	• An assessment of matters listed under the Environment Protection and Biodiversity Conservation Act (1999) should also be undertaken.	**Sections 4**, **5**, and **6** of the Biodiversity Report. **Appendix C**, **F** and **J** of the Biodiversity Report.

Biodiversity Impacts		
Government Authority	**Director-Generals Requirements**	**Relevant Sections of the Biodiversity Report**
	• The BRG-CMA is also concerned with the ongoing potential spread of weeds and likely soil erosion issues during the construction and maintenance phases for this type of development. Any proposed mitigation measures proposed should be best practice and have detailed procedures for how this information will be disseminated to all contractors etc.	**Section 7.2.1** of the Biodiversity Report. **Appendix L** of the Biodiversity Report.
Industry & Investment NSW (I&I NSW) (17/09/2009)	**Forestry Issues**	
	I&I NSW have suggested that the reference to conservation areas under land use planning impacts be amended to specifically also include the impact on Special Management Zones on State forest.	**Section 7.2.1** and Section **7.2.2** of the Biodiversity Report.
	Fisheries Issues	
	• The EA should identify the location of proposed permanent and temporary watercourse crossings necessitated by the proposal and justify these against alternate access routes. Where crossings are to be installed a brief assessment of the waterway and a description or draft design of the proposed crossing is required. Waterway assessments and design of crossings should be consistent with fish friendly guidelines.	**Sections 1.4.2**, **5.2.1**, and **7** of the Biodiversity Report. **Chapter 8** of the EA.
	• Where existing crossings can be used but require upgrading the EA should outlined the scope of works and whether the works will exacerbate and prolong the life of an existing barrier to fish passage.	**Sections 1.4.2**, and **7** of the Biodiversity Report. **Chapter 8** of the EA.
	Agricultural	
	• Issues such as weeds, pest animals, biosecurity risks and soil erosion are addressed and not made any worse by the development proposal.	**Sections 6** and **7** of the Biodiversity Report.
	Weed and Pest Management	
	Weed and pest management measures should include: • to limit the site spread of weeds via vehicles and machinery (e.g. via segregation, wash down or monitoring provisions);	**Sections 6** and **7** of the Biodiversity Report.
	• targeting soil stockpiles, roadsides and any other disturbed areas (weed germination and invasion is stimulated by disturbance);	**Sections 6** and **7** of the Biodiversity Report.
	• recommend measures include cleaning of vehicle tyres before leaving a property, cleaning of foot wear and minimising and monitoring soil movement between locations;	**Sections 6** and **7** of the Biodiversity Report.
	• monitoring programs for noxious and problematic weeds and pests on site and in the surrounding areas; and	**Sections 6** and **7** of the Biodiversity Report.
	• measures to mitigate noxious and problematic weeds and pests should they be found.	**Sections 6** and **7** of the Biodiversity Report.
	Biosecurity and Emergency Impacts	
	To protect biosecurity and enable tracing of potential disease spread, the EA should identify and complete risk assessment of: • potential bio-security risks such as pest and diseases; and	**Sections 6** and **7** of the Biodiversity Report.
	• risk of contact with animal or plant diseases.	**Sections 7** of the Biodiversity Report.

NSW GOVERNMENT | Planning

Contact: Anna Timbrell
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Fax: (02) 9228 6355
Email: anna.timbrell@planning.nsw.gov.au

Our ref: S09/0666
Your ref:

Mr Denis Novakovic
Project Manager – Capital Programme Delivery
TransGrid
PO Box A1000
SYDNEY SOUTH NSW 1235

Dear Mr Novakovic

Dumaresq to Lismore 330 kV Transmission Line – (Application Reference: 09_0150) – Supplement to the Director-General's Requirements

I refer to the Director-General's requirements issued for the above project on 11 September 2009.

As you are aware, the project was declared a Controlled Action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 18 February 2010, for likely impacts on listed threatened species and ecological communities. In accordance with section 75F(3) of the NSW *Environmental Planning & Assessment Act 1979*, I have enclosed the Commonwealth's requirements for the assessment.

I also confirm that the interim administrative procedures in relation to the accredited assessment process will apply to the assessment of this project under the EPBC Act, so that the Department can undertake an environmental impact assessment of the project to satisfy the requirements of both NSW and Commonwealth legislation.

You must ensure that the Environmental Assessment adequately addresses the Director-General's requirements issued on 11 September 2009, and the supplementary requirements attached to this letter.

If you have any enquiries about these requirements, please do not hesitate to contact Ms Anna Timbrell, Environmental Planning Officer, Infrastructure Projects on 02 9228 6345 or via email (anna.timbrell@planning.nsw.gov.au).

Yours sincerely

16/03/10

Scott Jeffries
Director – Infrastructure Projects
as delegate for the Director-General

Department of the Environment, Water, Heritage and the Arts – requirements for environmental assessment EPBC 2010/5326

Section 75F(3) of the *Environmental Planning and Assessment Act 1979*

The Commonwealth Minister for the Environment, Heritage and the Arts has declared the TransGrid Dumaresq to Lismore 330kV Transmission Line project (EPBC 2010/5326) to be a controlled action under section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The project encompasses the construction, operation and maintenance of a new 330 kilovolt transmission line and 60 metre-wide easement from Dumaresq substation east to Tenterfield and the upgrade of the existing 132kV transmission line (known as '96L') from Tenterfield substation east to Lismore substation, including widening the current easement to 60 metres.

The controlled action is likely to have a significant impact on the EPBC Act listed critically endangered *White Box-Yellow Box-Blakeley's Red Gum grassy woodlands and derived grasslands ecological community*. Significant impacts are also considered possible for numerous other species and ecological communities protected by the EPBC Act including, but not limited to, those listed in Appendix A.

In accordance with the one-off accredited assessment process for this project, the environmental assessment of the impacts of the controlled action must be assessed under Part 3A of the *Environmental Planning and Assessment Act 1979* (the EP&A Act). Pursuant to section 75F(3) of part 3A of the EP&A Act the Director-General is required to notify the proponent of these requirements.

The assessment should include enough information about the controlled action and its relevant impacts to allow the Commonwealth Minister for the Environment, Heritage and the Arts to make an informed decision whether or not to approve the controlled action under the EPBC Act.

These requirements are to be integrated into the assessment required for Part 3A of the EP&A Act. The following matters in the EPBC Act and schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000* should be considered.

1. General information

The background of the action including:

a. the title of the action;
b. the full name and postal address of the designated proponent;
c. a clear outline of the objective of the action;
d. the location of the action;
e. the background to the development of the action;
f. how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action;
g. the current status of the action; and
h. the consequences of not proceeding with the action.

2. Description of the controlled action

A description of the action, including:

a. all the components of the action;
b. the precise location and area in hectares of any works to be undertaken, structures to be built or elements of the action that may have relevant impacts;
c. how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts;
d. the timing and duration of the works to be undertaken; and
e. to the extent reasonably practicable, a description of any feasible alternatives to the controlled action that have been identified through the assessment, and their likely impact, including:
    i. if relevant, the alternative of taking no action;
    ii. a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action; and
    iii. sufficient detail to clarify why any alternative is preferred to another.

3. Description of the existing environment

A description of the existing environment of the proposal location and the surrounding areas that may be affected by the action, including:

a. surveys using accepted methodology for targeting listed threatened species, ecological communities and their respective habitat, including but not limited to DECC's *Survey and assessment guidelines* (2009), available at: http://www.environment.nsw.gov.au/threatenedspecies/surveymethodsfauna.htm

In addition to the requirements outlined in DECCW's *Survey and assessment guidelines* (2009), the following must also be included:

c. a description of the distribution and abundance of threatened species and ecological communities, as well as suitable habitat (including breeding, foraging, roosting habitat, habitat critical to the survival of threatened species) within the site and in surrounding areas that may be impacted by the proposal; and
d. the regional distribution and abundance of suitable and potential habitat surrounding the site.

4. A description of the relevant impacts of the controlled action

a. An assessment of all relevant impacts with reference to the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines Matters of National Environmental Significance (2009)* that the controlled action has, will have or is likely to have on:

    i. threatened species and threatened ecological communities potentially present and listed under sections 18 and 18A of the EPBC Act, including, but not limited to, the EPBC listed species outlined on page one and Appendix A of these requirements; and
    ii. the composition, extent and location of vegetation and suitable habitat on site and in adjacent areas potentially impacted.

b. Information on impacts must include:

i. a description and detailed assessment of the nature, location and extent of the likely short-term and long-term impacts of the action on matters of national environmental significance. This must include a description of direct, indirect, and cumulative impacts, for both the construction and operation phase of the project;
ii. a statement whether any impacts are likely to be uncertain or irreversible;
iii. analysis of the scale of the impacts; and
iv. any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

5. Proposed safeguards, mitigation and offset measures

Safeguards and Mitigation

a. any changes to the controlled action which prevent or minimise relevant impacts on listed threatened species and communities;
b. a description of the mitigation measures that will be undertaken to prevent or minimise the relevant impacts of the action. These mitigation measure should be substantiated and based on best available practices;
c. an assessment of the expected or predicted effectiveness of the mitigation measures including the effect on abundance and condition of species, suitable habitat and ecological communities;
d. any statutory or policy basis for the mitigation measures;
e. the cost of the mitigation measures;
f. an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs (including any relevant thresholds for corrective actions) for the relevant impacts of the action. Include the person or agency responsible for implementing these programs and the effectiveness of all mitigation measures, including any provisions for independent environmental auditing;
g. the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program;
h. identification of mitigation measures proposed to be undertaken by State governments, local governments or the proponent;

Offsets

i. In the event that impacts cannot be avoided or mitigated, describe any offsets to compensate for any predicted or potential residual impacts on threatened species and ecological communities (ie. the direct removal of suitable habitat). Reference should be made to the Department's draft policy statement at : http://www.environment.gov.au/epbc/publications/draft-environmental-offsets.html
j. the description of any offset package should include how the offset compensates for the residual impacts, when the offset will be delivered and how the offset will be managed;
k. an assessment of the impact of the offsets on other matters of environmental, economic, or social significance; and
l. analysis of cost, both financial and other, related to offsets.

6. Other approvals and conditions

Any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. Information must include:

a. details of any local or State government planning scheme, system or policy that covers the proposed action, including:

   i. what environmental assessment of the proposed action has been, is being, or will be carried out under the scheme, plan or policy; and
   ii. how the scheme provides for the prevention, minimisation and management of any relevant impacts;

b. a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the EPBC Act), including any associated conditions that apply to the action;
c. a statement identifying any additional approval that is required; and
d. a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

7. Economic and social matters

A description of long-term and short-term economic and social considerations regarding the project.

8. Environmental record of person proposing to take the action

a. Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

   i. the proponent; and
   ii. for an action for which a person has applied for a permit, the person making the application.

b. Details of the proponent's environmental policy and planning framework.

9. Information sources

For information given in the environment assessment for this project, the document must state:

a. the source of the information;
b. how recent the information is;
c. how the reliability of the information was tested; and
d. what uncertainties (if any) are in the information.

10. Consultation

a. Any consultation undertaken in relation to the action, including:

   i. any consultation that has already taken place;
   ii. proposed consultation about relevant impacts of the action; and
   iii. if there has been consultation about the proposed action — any documented response to, or result of, the consultation.

b. identification of affected parties, including a statement describing any communities that may be affected and their views on the proposed action.

Appendix A

Threatened Ecological Communities

- White Box-Yellow Box-Blakely's Red Gum grassy woodlands and derived grasslands
- Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland

Threatened Flora

- *Callitris oblonga* (Pigmy Cypress-pine)
- *Eucalyptus caleyi* subsp. *ovendenii* (Ovenden's Ironbark)
- *Rapanea* sp. Richmond River (Purple-leaf Muttonwood)
- *Acacia macnuttiana* (McNutt's Wattle)
- *Acacia pubifolia*
- *Allocasuarina defungens* (Dwarf Heath Casuarina)
- *Astrotricha roddii*
- *Boronia granitica* (Granite Boronia)
- *Cadellia pentastylis* (Ooline)
- *Callistemon pungens*
- *Clematis fawcettii* (Stream Clematis)
- *Corchorus cunninghamii* (Native Jute)
- *Cryptostylis hunteriana* (Leafless Tongue-orchid)
- *Desmodium acanthocladum* (Thorny Pea)
- *Digitaria porrecta* (Finger Panic Grass)
- *Diuris pedunculata* (Small Snake Orchid)
- *Diuris sheaffiana* (Tricolour Diuris)
- *Eucalyptus glaucina* (Slaty Red Gum)
- *Eucalyptus mckieana* (McKie's Stringybark)
- *Eucalyptus nicholii* (Narrow-leaved Peppermint)
- *Gossia fragrantissima* (Sweet Myrtle)
- *Grevillea quadricauda*
- *Homopholis belsonii*
- *Lepidium peregrinum* (Wandering Pepper-cress)
- *Marsdenia longiloba* (Clear Milkvine)
- *Ochrosia moorei* (Southern Ochrosia)
- *Owenia cepiodora* (Onionwood)
- *Persicaria elatior* (Knotweed)
- *Pultenaea stuartiana*
- *Rutidosis heterogama* (Heath Wrinklewort)
- *Syzygium hodgkinsoniae* (Smooth-bark Rose Apple)
- *Taeniophyllum muelleri* (Minute Orchid)
- *Thesium australe* (Austral Toadflax)
- *Tinospora tinosporoides* (Arrow-head Vine)
- *Triplarina imbricata*
- *Tylophora linearis*
- *Tylophora woollsii*

Threatened Fauna

- *Anthochaera phrygia* (Regent Honeyeater)
- *Mixophyes fleayi* (Fleay's Frog)
- *Potorous tridactylus tridactylus* (Long-nosed Potoroo)
- *Pseudomys oralis* (Hastings River Mouse)
- *Cyclopsitta diophthalma coxeni* (Coxen's Fig-Parrot)
- *Dasyornis brachypterus* (Eastern Bristlebird)
- *Lathamus discolor* (Swift Parrot)
- *Neochmia ruficauda ruficauda* (Star Finch)

- *Rostratula australis* (Australian Painted Snipe)
- *Mixophyes balbus* (Stuttering Frog)
- *Mixophyes iteratus* (Southern Barred Frog)
- *Chalinolobus dwyeri* (Large-eared Pied Bat)
- *Dasyurus maculatus maculatus* (Spot-tailed Quoll)
- *Nyctophilus timoriensis* (Greater Long-eared Bat)
- *Petrogale penicillata* (Brush-tailed Rock-wallaby)
- *Pteropus poliocephalus* (Grey-headed Flying-fox)
- *Coeranoscincus reticulatus* (Three-toed Snake-tooth Skink)
- *Underwoodisaurus sphyrurus* (Border Thick-tailed Gecko)

Table -1 Supplementary Director General's Requirements: –Cross Reference Table

Supplementary DGR		Location in the Report
1. General Information: The background of the action including:		
a	the title of the action;	Title Page and Section 1 of the Biodiversity Report
b	the full name and postal address of the designated proponent;	Chapter 1 of the EA
c	a clear outline of the objective of the action;	Chapter 1 of the EA and Section 1 of the Biodiversity Report
d	the location of the action;	Section 3 of the Biodiversity Report
e	the background to the development of the action;	Chapter 1 and 4 of the EA Section 1 of Biodiversity Report
f	how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action;	Chapter 20 of the EA
g	the current status of the action; and	Chapter 4 of the EA
h	the consequences of not proceeding with the action.	Chapter 2 of the EA
2. Description of the controlled action: **A description of the action, including:**		
a	all the components of the action;	Chapter 1 and 4 of the EA Section 1 of Biodiversity Report
b	the precise location and area in hectares of any works to be undertaken, structures to be built or elements of the action that may have relevant impacts;	Chapter 4 of the EA and Section 1 of the Biodiversity Report
c	how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts;	Chapter 4 of the EA and Section 1 of the Biodiversity Report
d	the timing and duration of the works to be undertaken; and	Section 1.1 of the Biodiversity Report
e	to the extent reasonably practicable, a description of any feasible alternatives to the controlled action that have been identified through the assessment, and their likely impact, including: i. if relevant, the alternative of taking no action; ii. a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action; and iii. Sufficient detail to clarify why any alternative is preferred to another.	Chapter 2 of the EA Chapter 2 of the EA Chapter 2 of the EA Chapter 2 of the EA

Supplementary DGR		Location in the Report
3. Description of the existing environment: A description of the existing environment of the proposal location and the surrounding areas that may be affected by the action, including:		
a	surveys using accepted methodology for targeting listed threatened species, ecological communities and their respective habitat, including but not limited to DECCW's *Survey and assessment guidelines* (2009), available at: http://www.environment.nsw.gov.au/threatenedspecies/surveymethodsfauna.htm	Section 5 of the Biodiversity Report
b	In addition to the requirements outlined in DECCW's Survey and assessment guidelines(2009), the following must also be included:	-
c	a description of the distribution and abundance of threatened species and ecological communities, as well as suitable habitat (including breeding, foraging, roosting habitat, habitat critical to the survival of threatened species) within the site and in surrounding areas that may be impacted by the proposal; and.	Section 5 of the Biodiversity Report
d	the regional distribution and abundance of suitable and potential habitat surrounding the site	Section 5 of the Biodiversity Report
4. A description of the relevant impacts of the controlled action		
a	An assessment of all relevant impacts with reference to the *EPBC Act Policy Statement* 1.1 *Significant Impact Guidelines Matters of National Environmental Significance (2009)* that the controlled action has, will have or is likely to have on:	Section 6 of the Biodiversity Report
	i. threatened species and threatened ecological communities potentially present and listed under sections 18 and 18A **of** the EPBC Act, including, but not limited to, the EPBC listed species outlined on page one and Appendix A of these requirements; and	Section 6 of the Biodiversity Report
	ii. the composition, extent and location of vegetation and suitable habitat on site and in adjacent areas potentially impacted.	Section 6 of the Biodiversity Report
b	Information on impacts must include:	
	i. a description and detailed assessment of the nature, location and extent of the likely short-term and long-term impacts of the action on matters of national environmental significance. This must include a description of direct, indirect. and cumulative impacts, for both the construction and operation phase of the project;	Section 6 of the Biodiversity Report
	ii. a statement whether any impacts are likely to be uncertain or irreversible;	Section 6 of the Biodiversity Report
	iii. analysis of the scale of the impacts; and	Section 6 of the Biodiversity Report
	iv. any technical data and other information used or needed to make a detailed assessment of the relevant impacts.	Section 6 of the Biodiversity Report

Supplementary DGR		Location in the Report
5. Proposed safeguards, mitigation and offset measures		
Safeguards and Mitigation		
a	any changes to the controlled action which prevent or minimise relevant impacts on listed threatened species and communities;	Section 7 of the Biodiversity Report
b	a description of the mitigation measures that will be undertaken to prevent or minimise the relevant impacts of the action These mitigation measure should be substantiated and based on best available practices;	Section 7 of the Biodiversity Report
c	an assessment of the expected or predicted effectiveness of the mitigation measures including the effect on abundance and condition of species, suitable habitat and ecological communities;	Section 7 of the Biodiversity Report
d	any statutory or policy basis for the mitigation measures;	Section 3 and 7 of the Biodiversity Report
e	the cost of the mitigation measures;	As per communication on 7/10/2010 with Zarni Bear of SAWPAC (DEWHA) it was indicated that no costs were needed.
f	an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs (including any relevant thresholds for corrective actions) for the relevant impacts of the action. Include the person or agency responsible for implementing these programs and the effectiveness of all mitigation measures, including any provisions for independent environmental auditing;	Section 7, in particular Section 7.2.1 of the Biodiversity Report
g	the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program;	Section 7 of the Biodiversity Report
h	identification of mitigation measures proposed to be undertaken by State governments, local governments or the proponent	Section 7 of the Biodiversity Report
Offsets		
a	In the event that impacts cannot be avoided or mitigated, describe any offsets to compensate for any predicted or potential residual impacts on threatened species and ecological communities (i.e. the direct removal of suitable habitat) Reference should be made to the Department's draft policy statement at : http://www.environment.gov.au/epbc/publications/draft-environmentaloffsets.html	Section 7.3 of the Biodiversity Report
b	the description of any offset package should include how the offset compensates for the residual impacts, when the offset will be delivered and how the offset will be managed;	Section 7.3 of the Biodiversity Report
C	an assessment of the impact of the offsets on other matters of environmental, economic, or social significance; and	To be undertaken once the offset package is determined post Adequacy Review in collaboration with DECCW and SEWPAC.
d	analysis of cost, both financial and other, related to offsets	To be undertaken once the offset package is determined post Adequacy Review in collaboration with DECCW and SEWPAC.

Supplementary DGR		Location in the Report
6. Other approvals and conditions: Any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. Information must include:		
a	details of any local or State government planning scheme, system or policy that covers the proposed action, including:	-
	i what environmental assessment of the proposed action has been, is being, or will be carried out under the scheme, plan or policy; and	Chapter 5 of the EA and Section 2 of the Biodiversity Report
	ii how the scheme provides for the prevention, minimisation and management of any relevant impacts;	Chapter 4 of the EA and Section 3 and 7 of the Biodiversity Report
b	a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the EPBC Act), including any associated conditions that apply to the action;	Chapter 5 and Section 2 of the Biodiversity Report
c	a statement identifying any additional approval that is required; and	Chapter 5 of the EA and Section 2 and 7 of the Biodiversity Report
d	a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action	Chapter 5 of the EA and Section 2 and 7 of the Biodiversity Report
7. Economic and social matters:		
	A description of long-term and short-term economic and social considerations regarding the project.	Chapter 18 of the EA
8. Environmental record of person proposing to take the action		
a.	Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:	-
	i. the proponent; and	Appendix A of the Biodiversity Report (EPBC Referral- Section 6)
	ii. for an action for which a person has applied for a permit, the person making the application.	Appendix A of the Biodiversity Report (EPBC Referral
b.	Details of the proponent's environmental policy and planning framework.	Appendix A of the Biodiversity Report (EPBC Referral
9. Information sources: For information given in the environment assessment for this project, the document must state:		
a	the source of the information;	Chapter 1of the EA, All mapping and relevant sections for the EA and Technical reports
b.	how recent the information is;	Chapter 1of the EA, All mapping and relevant sections for the EA and Technical reports
c.	how the reliability of the information was tested; and	Chapter 1of the EA, All mapping and relevant sections for the EA and Technical reports
d.	what uncertainties (if any) are in the information.	Chapter 1of the EA, All mapping and relevant sections for the EA and Technical reports

Supplementary DGR		Location in the Report
10. Consultation		
A	Any consultation undertaken in relation to the action, including:	-
	i. any consultation that has already taken place;	Chapter 6 of the EA, Section 7 of the Biodiversity Report and Appendix L of the Biodiversity Report
	ii. proposed consultation about relevant impacts of the action; and	Chapter 6 of the EA, Section 7 of the Biodiversity Report and Appendix L of the Biodiversity Report
	iii. if there has been consultation about the proposed action – any documented response to, or result of, the consultation.	Chapter 6 of the EA, Section 7 of the Biodiversity Report and Appendix L of the Biodiversity Report
b	identification of affected parties, including a statement describing any communities that may be affected and their views on the proposed action.	Chapter 6 of the EA, Section 7 of the Biodiversity Report and Appendix L of the Biodiversity Report

Australian Government

Department of the Environment, Water, Heritage and the Arts

Referral of proposed action

What is a referral?

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

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

Who can make a referral?

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

When do I need to make a referral?

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

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

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

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

- the Policy Statement titled Significant Impact Guidelines 1.1 – Matters of National Environmental Significance. Additional sectoral guidelines are also available.
- the Policy Statement titled Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies.
- the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location).

Can I refer part of a larger action?

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

Do I need a permit?

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

What information do I need to provide?

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

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

Instructions

Instructions are provided in green text throughout the form.

Attachments/supporting information

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

Coloured maps, figures or photographs to help explain the project and its location should also be submitted with your referral. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents. Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

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

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

How do I submit a referral?

Referrals may be submitted by mail, fax or email.

Mail to:

Referral Business Entry Point
Environment Assessment Branch
Department of the Environment, Water, Heritage and the Arts
GPO Box 787
CANBERRA ACT 2601

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

Fax to: 02 6274 1789

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

Email to: epbc.referrals@environment.gov.au

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

What happens next?

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

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

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

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

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

The particular manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the particular manner to the Department.

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

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

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

The proposed action would have UNACCEPTABLE impacts and CANNOT proceed

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

Compliance audits

If a decision is made to approve a project, the Department may audit it at any time to ensure that it is completed in accordance with the approval decision or the information provided in the referral. If the project changes, such that the likelihood of significant impacts could vary, you should write to the Department to advise of the changes.

For more information

- call the Department of the Environment, Water, Heritage and the Arts Community Information Unit on 1800 803 772 or
- visit the web site www.environment.gov.au/epbc

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

Referral of proposed action

Project title:

1 Summary of proposed action

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

1.1 **Short description**

TransGrid is proposing to establish a 330 kV transmission line between Lismore and Dumaresq substation near Bonshaw, in northern New South Wales (**Figure 1**).The proposed alignment is approximately 215 km in length.

1.2 **Latitude and longitude**

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

	Latitude			Longitude		
location point	**degrees**	**minutes**	**seconds**	**degrees**	**minutes**	**seconds**
1	-28.75			153.231		
2	-28.7436			151.289		
3	-29.2643			151.275		
4	-29.2399			153.235		

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

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

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

Do not use AMG coordinates.

Latitude and Longitude have been detailed above as per the area investigated using the Interactive Mapping Tool. Please note that due to the liner nature of the proposal, this area is significantly larger than the proposed development footprint and the study area investigated.

1.3 **Locality**

Provide a brief physical description of the project location (eg. proximity to major towns, or for off-shore projects, shortest distance to mainland).

The proposed 330 kV transmission line would extend between Lismore substation and Dumaresq substation, near Bonshaw, in northern NSW (**Figure 1**) and is divided into two sections:

- Lismore to Tenterfield, approximately 130 km in length, where the proposal is to utilise the existing, but widened, 132 kV transmission line easement wherever possible (Study Area East) (**Figure 1**); and
- Tenterfield to Dumaresq, approximately 90 km in length, which continues from Tenterfield to the Dumaresq substation (Study Area West) (**Figure 1**). The proposed route generally follows the route of the Bruxner Highway from Tenterfield to the Dumaresq substation just south of Bonshaw, NSW.

1.4	**Size of the development footprint or work area (hectares)**	The development foot print will cover a 60 m easement along the 205 km line, totalling 1230 ha. Of this 585 ha is the existing 45 m easement between Lismore and Tenterfield, therefore in total there will be approximately 705 ha of new easement required. Where possible access tracks for construction and maintenance of the proposed line will use existing roads or be contained within the easement. However it is anticipated that there will be a requirement for additional off-easement access tracks or upgrades to existing roads. The extent of clearing required for off-easement access tracks and upgrades to existing roads is still unknown. During the detailed design phase of the project additional clearing requirements for access tracks will be determined.
1.5	**Street address of the site**	Not relevant.

1.6 **Lot description**

Describe the lot numbers and title description, if known.

TransGrid has identified 210 holdings that the proposed transmission line will pass through. These are shown in **Figure 2.**

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

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

N/A

The project is being assessed under Part 3A of the NSW Environment Planning & Assessment Act 1979 (EP&A Act) with the Minister for Planning as the consent authority for the purposes of this development. The corridor would traverse lands administered by the Lismore, Inverell, Tenterfield, Kyogle, and Richmond Valley Councils. These councils are key stakeholders and have been consulted in relation to the proposal and consultation would continue throughout the development of the project.

1.8 **Timeframe**

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

Pending approvals, construction would be expected to commence late in 2010, with completion of the project in 2011.

1.9	**Alternatives** Does the proposed action include alternative timeframes, locations or activities?		No
		X	Yes, you must also complete section 2.2
1.10	**State assessment** Is the action subject to a state or territory environmental impact assessment?		No
		X	Yes, you must also complete Section 2.4
1.11	**Component of larger action** Is the proposed action a component of a larger action?	**X**	No
			Yes, you must also complete Section 2.6
1.12	**Related actions/proposals** Is the proposed action related to other actions or proposals in the region (if known)?	**X**	No
			Yes, provide details:
1.13	**Australian Government funding** Has the person proposing to	**X**	No
			Yes, provide details:

take the action received any Australian Government grant funding to undertake this project?	

2 Detailed description of proposed action

NOTE: It is important that the description is complete and includes all components and activities associated with the action. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in section 2.6.

2.1 Description of proposed action

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

TransGrid propose to establish a 330 kV transmission line between Dumaresq substation near Bonshaw and Lismore substation together with associated substation works. The proposed alignment covers approximately 205 km in northern NSW (**Figure 1**).

The Project is to be assessed under Part 3A of the NSW EP&A Act as a major project with the Minster for Planning as the consent authority for the Project Application.

The project proposes to construct a new 330 kV transmission line from Dumaresq substation east to the town of Tenterfield, and to upgrade the existing 96L 132 kV transmission line that currently runs between Tenterfield substation and Lismore substation in the east. The proposed transmission line would require an easement of 60 m in width (30 m either side of the centre line). This would require the widening of the existing easement that accompanies the 132 kV transmission line between Tenterfield and Lismore substations from the current width of 45 m (22.5 m either side of the centre line) to 60 m.

An easement along the length of the transmission corridor would be maintained to allow TransGrid to access the line for ongoing routine maintenance. In addition to this there will be the requirement for off-easement access tracks for construction and to provide access for ongoing maintenance. Where possible off-easement access tracks will use existing roads, however some new tracks are anticipated.

Construction impacts on vegetation will include:

- *temporary* disturbance to the ground layer at laydown areas and where construction vehicles are parked;
- *permanent* disturbance to the ground layer where access roads for construction and maintenance access is required.
- *permanent* removal of groundcover at each structure to allow construction of structure footings;
- *permanent* clearing of the canopy and shrub layer surrounding each structure, and;
- *permanent* clearing of the canopy and shrub layer around conductors.

TransGrid has a statutory responsibility to maintain adequate clearance between transmission line conductors and vegetation (**Appendix A**)**.** Impacts on vegetation will include pruning and clearing of canopy trees and shrubs that grow in the required safety clearance zones around conductors and poles/towers. This will most commonly mean occasional slashing of the shrub layer beneath conductors within the easement (as per standard practice for bush fire management).

Detailed vegetation mapping has been undertaken across the corridor (**Figure 2**), and it is estimated that of the vegetation likely to be disturbed by the proposal:

- 36 ha is categorised as white box, yellow box, Blakely's red gum woodland (Box Gum Woodland) as per the Threatened Species Conservation Act 1995 (NSW) (TSC Act definition;
- 26 ha of the TSC Act Box Gum Woodland listed above is categorised as white box - yellow box – Blakely's red gum grassy woodland and derived native grassland as listed under the EPBC Act;
- 10 ha is categorised as Inland Grey Box Woodland as per the TSC Act definition;
- 5.17 ha is categorised as Sub-tropical Coastal Floodplain Forest as per the TSC Act definition; and
- 1 ha is categorised as Swamp Sclerophyll Forest as per the TSC Act definition.

The remaining vegetation that will be disturbed has been mapped as one of thirty-three vegetation communities as shown on **Figure 2.** Whilst these communities are not listed under State or Commonwealth legislation they may provide potential habitat for EPBC listed species.

These calculations have been generated assuming clearing of the full 60 m easement in the western study area and an additional 15 m along the existing easement in the eastern study area to reach a full 60 m easement. However clearing of the full 60 m easement is unlikely to be required for the entire length of the line.

Clearing of the easement (outside the direct impact footprint for the towers and access tracks) will be assessed on a case by case basis and will depend on the type of topography, vegetation and height of conductors. All clearing will be consistent with maintenance requirements of 330 kV lines (**Appendix A**) typical manifestations of these requirements (outside the direct impact footprint for the towers and access tracks) are listed below:

- All ground layer vegetation is retained;
- Some shrubs and trees can be maintained where they to do not exceed clearance requirements to overhead conductors;
- At spans where topography allows (i.e. gullies and escarpments) vegetation can be retained where conductor height is sufficient to make clearing unnecessary;
- In environmentally sensitive areas such as EECs, water courses and steeply sloping land vegetation clearing can be restricted, leaving some canopy and shrub species intact;
- Habitat features such as felled hollows and woody debris can be placed in areas where vegetation is retained to provide fauna corridors.

2.2 Alternative locations, time frames or activities that form part of the referred action

If you have identified that the proposed action includes alternative timeframes, locations or activities (in section 1.9) you must complete this section. Describe any alternatives related to the physical location of the action, time-frames within which the action is to be taken and alternative methods or activities for undertaking the action. Please note, if the action that you propose to take is determined to be a controlled action, any alternative locations, timeframes or activities that are identified here may be subject to environmental assessment and a decision on whether to approve the alternative.

TransGrid has undertaken an extensive route selection process and considered a number of alternative routes for the transmission line. The process undertaken to select the preferred corridor is documented in the attached constraints report prepared by URS in October 2009 for TransGrid (**Appendix B**). Constraints identified and considered as a part of TransGrid's investigation into the best corridor option included the position of existing substations, existing habitation, the location of National Parks, endangered ecological communities and threatened species habitats, Indigenous and non-Indigenous heritage sites, and commercial and recreational airstrips. The selection of the preferred corridor aimed to minimise the impacts to the identified constraints.

The preferred alignment that has been selected for the transmission line is shown in **Figure 1.**

2.3 Context, planning framework and state/local government requirements

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

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) forms the legal and policy platform for development assessment and approval in NSW and aims to, *inter alia*, 'encourage the proper management, development and conservation of natural and artificial resources'. The proposal is a Major Project according to *State Environmental Planning Policy (Major Projects) 2005* (SEPP MP) and as such, is to be assessed under the provisions of Part 3A of the EP&A Act, with the Minster for Planning as the Consent Authority for the Project. A detailed Environmental Assessment (EA) will be prepared for the project as required for Part 3A projects under the EP&A Act.

Section 5A of the EP&A Act lists seven factors that must be taken into account in the determination of the significance of potential impacts of a proposed development on 'threatened species, populations or ecological communities (or their habitats)' listed under the TSC Act. The so-called '7-part test' is used to determine whether a proposed development is 'likely' to impose 'a significant effect' on threatened biota.

Whilst there is no requirement for the consent authority to consider s.5A of the EP&A Act when determining a Project Application under Part 3A of the Act, seven part tests will be prepared as part of the Environmental

Assessment as a standard method for determining if the project will have a significant impact on threatened species, populations or communities listed under the TSC or EPBC Act.

Ecological assessment of the proposed transmission line will be consisted with DECCW *Draft threatened biodiversity survey and assessment: guidelines for developments and activities,* and *Draft Guidelines for threatened species assessment* for Part 3 A projects as detailed in the Requirements of the Director General (DGRs) (**Appendix C**).

Threatened Species Conservation Act 1995

The *Threatened Species Conservation Act 1995* (TSC Act) provides legal status for biota of conservation significance in NSW. The Act aims to, *inter alia,* 'conserve biological diversity and promote ecologically sustainable development'. It provides for:

- The listing of 'threatened species, populations and ecological communities', with endangered species, populations and communities listed under Schedule 1, 'critically endangered' species and communities listed under Schedule 1A, vulnerable species and communities listed under Schedule 2;
- The listing of 'Key Threatening Processes' (under Schedule 3);
- The preparation and implementation of Recovery Plans and Threat Abatement Plans; and
- Guidelines for the preparation of Species Impact Statements.

The TSC Act will be addressed in the EA prepared under the EP&A Act through retrieval of previous records of threatened species within the locality of the proposed development, targeted searches for threatened species and their habitats during field surveys and through assessment of impacts on threatened biota pursuant to s.5A of the EP&A Act.

Native Vegetation Act 2003

The *NSW Native Vegetation Act 2003* (NV Act) was established to prevent broad scale clearing, protect native vegetation of high conservation significance, improve the condition of existing native vegetation and encourage the regeneration of native vegetation in NSW. In assessing applications, consent authorities apply the 'maintain improve test', which means assessing how the proposal maintains or improves environmental values such as salinity, water, soils and biodiversity.

The NV Act requires approval from the relevant Council or Catchment Management Authorities (CMA) (in this case, the Northern Rivers and Border Rivers-Gwydir CMAs) for the clearing of native vegetation (with the exception of land listed in Schedule 1 of the Act). CMAs administer property vegetation plans under the NV Act.

According to s.75U(e) of the EP&A Act, an authorisation under section 12 of the NV Act to clear native vegetation or State protected land is not required for a project approved under Part 3A. Hence, the NV Act does not apply to the current project.

Noxious Weeds Act 1993

Under the NSW *Noxious Weeds Act 1993* (NW Act), all councils are responsible for the control of noxious weeds within their local government area (LGA). The NW Act provides for the declaration of noxious weeds by the Minister of Agriculture. Weeds may be considered noxious on a National, State, Regional or Local scale. All private landowners, occupiers, public authorities and councils are required to control noxious weeds on their land under Part 3 Division 1 of the NW Act. As such if present, noxious weeds in the study area will be addressed as part of the EA.

Fisheries Management Act 1994

The objects of the *Fisheries Management Act 1994* (FM Act) are to conserve, develop and share the fishery resources of the State for the benefit of present and future generations.

Section 7a and Section 220A of the Act provides for the conservation of all biological diversity of aquatic and marine vegetation. It also ensures that the impact of any 'action' affecting threatened species, populations or ecological communities is appropriately assessed.

Up to ten threatened aquatic species may occur within the study area, in addition to one endangered population and endangered ecological community listed under this Act that is known to be present within the vicinity of the study area:

- Olive Perchlet (*Ambassis agassizii*) endangered population; and
- the Aquatic ecological community in the natural drainage system of the lowland catchment of the Darling River.

The listing of the lowland Darling River aquatic ecological community states that all native fish and other aquatic animal life within its boundaries are considered endangered species and therefore protected by the FM Act.

The presence of this community within the vicinity of the study area triggers impact assessment requirements established under the TSC Act. The potential impacts to this community will be addressed as part of the EA, in accordance with the requirements under the FM and TSC Acts.

State Environmental Planning Policy 44 – Koala Habitat Protection

State Environmental Planning Policy No.44 Koala Habitat Protection (SEPP 44) aims to encourage the 'proper conservation and management of areas of natural vegetation that provide habitat for koalas'. SEPP 44 applies to local government areas (LGAs) listed under Schedule 1 of the Policy. The study area lies within the LGAs of Lismore, Kyogle, Richmond Valley (which was formed following the amalgamation of the Casino Shire council and Richmond River Councils), Tenterfield and Inverell. All of these LGAs are listed under Schedule 1 of SEPP 44.

SEPP 44 requires that consent authorities making determinations under Part 4 of the EP&A Act consider whether 'potential koala habitat' and 'core koala habitat' will be affected. Potential koala habitat is defined as 'an area of native vegetation where the trees of the types listed in Schedule 2 constitute at least 15 % of the total number of trees in the upper or lower strata of the tree component'. Core koala habitat, is defined as 'an area of land with a resident breeding population of koalas, evidenced by attributes such as breeding females and recent sightings and historical records of a population'. Where core koala habitat is found to occur, SEPP 44 requires that a site-specific Koala Plan of Management be prepared.

The principles of SEPP 44 will be addressed in the EA by conducting searches for koala habitat trees and signs of koala activity during field surveys. It is noted that projects assessed in accordance with Part 3A are not required to consider SEPP 44 (See s.75 2(2), s.75 l(2)(d) of the EP&A Act and **Appendix C**).

2.4 Environmental impact assessments under Commonwealth, state or territory legislation

If you have identified that the proposed action will be or has been subject to a state or territory environmental impact statement (in section 1.10) you must complete this section. Describe any environmental assessment of the relevant impacts of the project that has been, is being, or will be carried out under state or territory legislation. Specify the type and nature of the assessment, the relevant legislation and the current status of any assessments or approvals. Where possible, provide contact details for the state/territory assessment contact officer.

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

The proposed development will be assessed under Part 3A of the EP&A Act via an Environmental Assessment (EA). In accordance with the Part 3A process the NSW Department of Planning (DoP) have issued DGRs for the assessment (**Appendix C**) and the EA is being prepared in accordance with the Director Generals Requirements. The EA is currently being prepared by URS for TransGrid with the anticipated date of completion in February 2010. Heritage (Indigenous and Non- Indigenous), ecological, socio-economic, soil and geology, surface water, noise and visual specialist studies have been commissioned and are underway at present.

As part of the EA a detailed environmental assessment is being prepared, in accordance with the EP&A and TSC Act and DGRs (**Appendix C**). The Draft EA will be reviewed by the DoP prior to being placed on public exhibition. It is anticipated that the finalised EA will be submitted to the DoP in March 2010.

An integrated consultation and communications process was adopted to consider and reflect the potential issues and concerns of the community and diverse range of stakeholders affected by the proposed project. The attached constraints report details the preliminary public consultation which was initiated prior to determining the preferred transmission line route (**Appendix B**).

The stakeholder consultation and communication process aims to ensure that all key project stakeholders have an opportunity to participate in the project development.

As part of this process, TransGrid has placed advertisements in local newspapers, facilitated community consultation days, has established a toll-free information phone line, and has produced information displays for public viewing. A detailed description of the consultation process undertaken is outlined in the Constraints Report (**Appendix B,** Section 4). Meetings with individual landholders likely to be impacted by the proposal have been held, and public meetings have been held to invite the participation of the wider community.

In accordance with the requirement of Part 3A of the EP&A Act, the EA will be advertised and publicly exhibited for at least 30 days. During this time, submissions from the community or Government agencies can be made. Following receipt of submissions, TransGrid will consider all submissions and respond to any issues raised. If necessary, the EA will be reviewed and amended and a final EA issued to the Department of Planning for determination.

2.5 Consultation with Indigenous stakeholders

Where Indigenous stakeholders are likely to be affected by your proposed action, your referral should describe any consultations undertaken with Indigenous stakeholders. Identify the relevant stakeholders and the status of consultations at the time of the referral.

As part of the preliminary assessment phase, the NSW *DECC Interim Community Consultation Requirements* (ICCR's) were initiated. Advertisements seeking expressions of interest to become registered stakeholders were placed in the Tenterfield, Casino and Lismore local papers. Letters were also issued to Aboriginal groups or individuals known to have an interest in Indigenous heritage within the study area.

The impact of the project on Aboriginal cultural heritage values will be assessed in accordance with the NSE draft 'Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005) and the 'Part 3A EP&A act Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (DoP and DEC 2007).

The proposed route options fall within the boundaries of the Moombahlene, Jubullum, Casino and Ngullingah Local Aboriginal Land Councils. Letters regarding the project were provided to all Land Councils to determine whether cultural information (beyond the DECC AHIMS data) was available that may be relevant to the heritage assessment. All of these groups have been involved in the preliminary assessment of the route options.

Status of consultation at present: Fifteen groups/individuals are now identified as part of the Registered Stakeholder group. Registered stakeholders include:

- Ngulingah LALC;
- Bandjalang People # 2 (NT);
- Casino LALC;
- Jubullum LALC;
- Moombahlene LALC;
- Kwiembal Elders Indigenous Group;
- Kambuwal Aboriginal Corporation for Culture, Heritage & Land;
- Maree Aboriginal Corporation;
- Ron Connors (Aboriginal Individual);
- Ivan connors (Aboriginal Individual);
- Hilda Connors;
- Olivia Connors;
- Bill Glover; and
- Two Aboriginal elders.

There will be ongoing consultation with registered stakeholders ensuring they remain involved in the community participation and consultation process for the duration of the project.

2.6 A staged development or component of a larger project

If you have identified that the proposed action is a component of a larger action (in section 1.11) you must complete this section. Provide information about the larger action and details of any interdependency between the stages/components and the larger action. You may also provide justification as to why you believe it is reasonable for the referred action to be considered separately from the larger proposal (eg. the referred action is 'stand-alone' and viable in its own right, there are separate responsibilities for component actions or approvals have been split in a similar way at the state or local government levels).

N/A

3 Description of environment & likely impacts

3.1 Matters of national environmental significance

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

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

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

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

3.1 (a) World Heritage Properties

Two areas that qualify as part of the World Heritage CERRA properties are located in close proximity to the proposed development. These are Cambridge Plateau in Richmond Range National Park and Mallanganee National Park (**Figure 1a**).

Description

The Cambridge Plateau in Richmond Range National Park and Mallanagnee National Park represent natural heritage of international significance, particularly as a refuge of ancient rainforest communities with evolutionary links to Gondwana and a high diversity of plants and animals.

Nature and extent of likely impact

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

The Cambridge Plateau in Richmond Range National Park is located 25 km to the north of the existing easement (**Figure 1a**) and will not be impacted by the proposed transmission line.

Mallanagnee National Park is located to the south of the proposed development (**Figure 1a**). No vegetation within the park will be impacted as a result of the proposal, however approximately 0.5ha of vegetation that is adjacent to the Park and existing transmission line easement will be cleared (**Figure 2** vegetation community Dry Land Rainforest, this is not a listed Endangered Ecological Community (EEC)). This clearing will increase edge effects on adjacent vegetation and potentially further down into the National Park.

3.1 (b) National Heritage Places

Two areas that qualify as part of the World Heritage CERRA property are located in close proximity to the proposed development. These are Cambridge Plateau in Richmond Range National Park and Mallanganee National Park (**Figure 1a**).

Description

See the description and discussion in **Section 3.1.**

Nature and extent of likely impact

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

See the description and discussion in **Section 3.1.**

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

Little Llangothlin Nature Reserve is a Wetland of International importance located to the west of Ben Lomand in NSW. This reserve is more than 100km south of the proposed development and will not be directly or indirectly impacted by the project.

Description

Nature and extent of likely impact

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

3.1 (d) Listed threatened species and ecological communities

Searches of TSC Act and EPBC Act databases identified 110 threatened flora species that are known or predicted to occur within the easement. Detailed habitat assessments conducted following ecology field surveys identified potential habitat for 82 of these species within the easement. Sixty-four of these species are listed under the TSC Act and 71 are listed under the EPBC Act. A full list of species is given in **Table 3-1** below.

Eighteen of these threatened flora species are listed *only* under the EPBC Act, these are:

- *Bosistoa transversa* Three-leaved Bosistoa
- *Caladenia atroclavia*
- *Callistemon pungens* Prickly Bottlebrush
- *Davidsonia johnsonii* Smooth Davidsonia, Smooth Davidson's Plum
- *Desmodium acanthocladum* Thorny Pea
- *Eucalyptus scorparia* Wallangarra White Gum
- *Grevillea scortechinii subsp. scortechinii* Black Grevillea
- *Homopholis belsonii*
- *Homoranthus lunatus* Crescent-leaved homoranthus
- *Homoranthus montanus*
- *Hydrocharis dubia* Frogbit
- *Macrozamia machinii*
- *Macrozamia occidua*
- *Phebalium whitei*
- *Pultenaea stuartiana*
- *Sarcochilus hartmannii* Waxy Sarcochilus, Blue Knob Orchid
- *Taeniophyllum muelleri* Minute Orchid
- *Westringia parvifolia*

Searches of TSC Act and EPBC Act databases identified 99 threatened fauna species that are known or predicted to occur within the easement. Detailed habitat assessments conducted following ecology field surveys identified potential habitat for 86 of these species within the easement. All of these species are listed under the TSC Act and 32 are listed under the EPBC Act. A full list of species is given in **Table 3-2** below.

Five Endangered Ecological Communities have been mapped within the easement (**Figure 3**), all of these are listed under the TSC Act and one of these is listed under the EPBC Act **Table 3-3.**

Description

Threatened flora species that are assumed to occur within the easement are listed in **Table 3-1**.

Table 3-1 Threatened Flora Assumed to Occur within the Easement

Scientific Name	Common Name	*TSC Act* status	*EPBC Act* Status
Acacia macnuttiana	MacNutt's Wattle	V	V
Acacia pycnostachya	Bolivia Wattle	V	V
Acalypha eremorum	Acalypha	E	

Scientific Name	Common Name	*TSC Act* status	*EPBC Act* Status
Almaleea cambagei	-	E	V
Amorphospermum whitei	Rusty Plum	V	
Angophora exul	Gibraltar Rock Apple	E	
Angophora robur	Sandstone Rough-barked Apple	V	V
Arthraxon hispidus	Hairy Joint Grass	V	V
Astrotricha roddii	Rod's Star Hair	E	E
Babingtonia graniticia	Granite Babingtonia	V	
Baloghia marmorata	Marbled Balogia, Jointed Baloghia	V	V
Boronia granitica	Granite Boronia	V	E
Boronia repanda	Repand Bornia, Border Bornia	E	E
Bosistoa selwynii	Heart-leaved Bosistoa	V	V
Bosistoa transversa	Three-leaved Bosistoa		V
Cadellia pentastylis	*Ooline*	V	V
Caladenia atroclavia	-		E
Callistemon pungens	Prickly Bottlebrush		V
Callitris oblonga	Pygmy Cypress-pine	V	V
Clematis fawcettii	Stream Clematis, Northern Clematis	V	V
Corchorus cunninghamii	Native Jute	E1	E
Corokia whiteana	-	V	V
Cryptostylis hunteriana	Leafless Tongue- Orchid	V	V
Davidsonia jerseyana	Davidson's Plum	E	E
Davidsonia johnsonii	Smooth Davidsonia, Smooth Davidson's Plum		E
Desmodium acanthocladum	Thorny Pea		V
Dichanthium setosum	Bluegrass	V	V
Digitaria porrecta	Finger Panic Grass	E	E
Diploglottis campbellii	Small-leaved Tamarind	E	E
Diuris pedunculata	Small Snake Orchid	E	E
Diuris sheaffiana/tricolor	Pine Donkey Orchid	V	V
Endiandra hayesii	Rusty Rose walnut	V	V
Eucalyptus caleyi subsp. ovendenii	Ovenden's Ironbark	V	V
Eucalyptus glaucina	Slaty Red Gum	V	V
Eucalyptus magnificata	Northern Blue Box	E	
Eucalyptus mckieana	McKie's Stringybark	V	V
Eucalyptus nicholii	Narrow-leaved Black Peppermint	V	V
Eucalyptus rubida subsp. barbigerorum	-	V	V
Eucalyptus scorparia	Wallangarra White Gum		V
Floydia praealta	Ball Nut, Possum Nut	V	V
Geijera paniculata	Axebreaker	E	
Gossia fragrantissima	Sweet Myrtle	E	E
Grevillea beadleana	Beadle's Grevillea	E	E
Grevillea masonii	Mason's Grevillea	E	E
Grevillea quadricauda	-	V	V
Grevillea scortechinii subsp. scortechinii	Black Grevillea		V
Haloragis exalata subsp. velutina	Tall Velvet Sea-berry	V	V
Hibbertia marginata	Bordered Guinea Flower	V	V
Homopholis belsonii	-		V
Homoranthus lunatus	Crescent-leaved homoranthus		V
Homoranthus montanus	-		V
Hydrocharis dubia	Frogbit		V
Isoglossa eranthemoides	Isoglossa	E	E

Scientific Name	Common Name	*TSC Act* status	*EPBC Act* Status
Lepidium peregrinium	Wandering Pepper-cress	E1	E
Leucopogon confertus	Torrington beard-heath	E	E
Macrozamia machinii	-		V
Macrozamia occidua	-		V
Marsdenia longiloba	Clear Milkvine, Clender Marsdenia	E	V
Ochrosia moorei	Southern Ochrosia	E1	E
Owenia cepiodora	Onion Cedar	V	V
Persicaria elatior	Tall Knotweed	V	V
Phaius australis	Lesser Swamp-orchid	E	E
Phebalium glandulosum subsp. eglandulosum	Rusty Desert Phebalium	E1	V
Phebalium whitei	-		V
Phyllanthus microcladus	Brush Sauropus	E1	
Plectranthus nitidus	Nightcap Plectranthus	E	E
Prostanthera staurophylla	Torrington Mint-Bush	E	V
Pultenaea stuartiana	-		V
Rhynchosia acuminatissima	Pointed Trefoil	V	
Rutidosis heterogama	Health Wrinklewort	V	V
Sarcochilus hartmannii	Waxy Sarcochilus, Blue Knob Orchid		V
Senna acclinis	Rainforest cassia	E1	
Sophora fraseri	Brush Sophora	V	V
Syzgium hodgkinsoniae	Smoothed-bark Rose Apple, Red Lilly Pilly	V	V
Taeniophyllum muelleri	Minute Orchid		V
Tarenna cameronii	Cameron's Tarenna	E1	
Thesium australe	Austral Toadflax	V	V
Tiniospora tinosporoides	Arrow-head Vine	V	V
Tiniospora smilacina	Tinospora Vine	E	
Triplarina imbricata	Creek Triplarina	E	E
Tylophora woollsii	Cryptic Forest Twiner	E	E
Westringia parvifolia	-		V

TSC Act = NSW Threatened Species Conservation Act 1995, EPBC Act = Commonwealth Environment Protection and Biodiversity Conservation Act 1999, E & E1 = Endangered, V = Vulnerable.

Threatened fauna species assumed to occur within the easement are listed in **Table 3-2.**

Table 3-2 Threatened Fauna Assumed to Occur within the Easement

Scientific Name	Common Name	TSC Act status	EPBC Act Status
AMPHIBIANS			
Assa darlington	Pouched Frog	V	
Crinia tinnula	Wallum Froglet	V	V
Litoria brevipalmata	Green-thighed Frog	V	
Lioria piperata	Peppered Frog	E4A	V
Litoria subglandulosa	Glandular Frog	V	
Mixophyes iteratus	Southern Barred Frog, Giant Barred Frog	E	E
Philoria kundagunan	Mountain Frog	E1	
Philoria loveridgei	Loveridge's Frog	E1	
Philoria pughi		E	
AVES			
Anseranas semipalmata	Magpie Goose	V	
Amauronis olivaceus	Bush-hen	V	
Atrichornis rufescens	Rufous Scrub-bird	V	
Botaurus poicilloptilus	Australasian Bittern	V	
Burhinus grallarius	Bush stone-curlew	E1	
Calyptorhynchus banksii	Red-tailed Black Cockatoo	V	
Climacteris picumnus and Climacteris picumnus victoriae	Brown Treecreeper and eastern subspecies	V	
Coracina lineata	Barred Cuckoo-shrike	V	
Cyclopsitta diophthalma coxeni	Coxen's Fig Parrot, Double-eyed Fig Parrot	E4A	E
Dasyornis brachypterus	Eastern Bristle Bird	E1	E
Ephippiorhynchus asiaticus	Black-necked Stork	E1	
Erythrotriorchis radiatus	Red Goshawk	E4A	
Geophaps scripta	Squatter Pigeon	E	V
Grantiella picta	Painted Honeyeater	V	
Grus rubicunda	Brolga	V	
Irediparra gallinacea	Comb-crested Jacana	V	
Lathamus discolor	Swift Parrot	E	E
Limosa limosa	Black-tailed Godwit	V	
Lophoictinia isura	Square-tailed Kite	V	
Melanodryas cucullata, and *Melanodryas cucullata cucullata*	Hooded Robin and south-eastern form	V	
Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	V	
Menura alberti	Albert's Lyrebird	V	
Monarcha leucotis	White-eared Monarch	V	
Neochima ruficauda ruficauda	Star Finch		E
Neophema pulchella	Turquoise Parrot	V	
Ninox connivens	Barking Owl	V	
Ninox strenua	Powerful Owl	V	
Podargus ocellatus	Marbled Frogmouth	V	

Scientific Name	Common Name	TSC Act status	EPBC Act Status
Polytelis swainsonii	Superb Parrot	V	V
Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)	V	
Ptilinopus magnificus	Wompoo Fruit-dove	V	
Ptilinopus regina	Rose-crowned Fruit-dove	V	
Ptilinopus superbus	Superb Fruit-Dove	V	
Pyrrholaemus saggitatus	Speckled Warbler	V	
Rostratula benghalensis australis	Australian Painted Snipe	E	V
Stagonopleura guttata	Diamond Firetail	V	
Stictonetta naevosa	Freckled Duck	V	
Turnis maculosa	Red-backed Button Quail	V	
Tyto capensis	Grass Owl	V	
Tyto novaehollandiae	Masked Owl	V	
Tyto tenebricosa	Sooty Owl	V	-
MAMMALS			
Aepyprymnus rufescens	Rufous Bettong	V	
Cercartetus nanus	Eastern Pygmy Possum	V	
Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat	V	V
Chalinolobus nigrogriseus	Hoary Wattled Bat	V	
Dasyurus maculatus	Spotted-tailed Quoll	V	E
Falsistrellus tasmaniensis	Eastern False Pipistrelle	V	
Kerivoula papuensis	Golden-tipped Bat	V	
Macropus dorsalis	Black-striped Wallaby	E	
Macropus parma	Parma Wallaby	V	
Miniopterus australis	Little Bentwing-bat	V	
Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	V	
Mormopterus beccarii	Beccari's Freetail-bat	V	
Mormopterus norfolkensis	Eastern Freetail-bat	V	
Myotis macropus (formally Myotis adversus)	Large-footed Myotis	V	
Nyctophilus bifax	Eastern Long-eared Bat	V	
Nyctophilus timoriensis	Greater Long-eared Bat (south eastern form)	V	V
Nyctimene robinsoni	Eastern Tube-nosed Bat	V	
Petaurus australis	Yellow-bellied Glider	V	
Petaurus norfolcensis	Squirrel Glider	V	
Petrogale penicillata	Brush-tailed Rock-wallaby	E	V
Phascogale tapoatafa	Brush-tailed Phascogale	V	
Phascolarctos cinereus	Koala	V	
Planigale maculata	Common Planigale	V	
Potorus tridactylus	Long-nosed Potoroo	V	
Pseudomys gracillicaudatus	Eastern Chestnut Mouse	V	
Pteropus poliocephalus	Grey-headed Flying-fox	V	V
Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	V	
Scoteanax rueppellii	Greater Broad-nosed Bat	V	
Syconycteris australis	Common Blossom-bat	V	
Thylogale stigmatica	Red-legged Pademelon	V	

Scientific Name	Common Name	TSC Act status	EPBC Act Status
Vespadelus troughtoni	Eastern Cave Bat	V	
REPTILES			
Coeranoscincus reticulatus	Three-toed Snake-tooth Skink	V	V
Hoplocephalus bitorquatus	Pale-headed Snake	V	
Hoplocephalus stephensii	Stephens' Banded Snake	V	
Underwoodisaurus sphyrurus	Border Thick-tailed Gecko	V	V

TSC Act = NSW Threatened Species Conservation Act 1995, EPBC Act = Commonwealth Environment Protection and Biodiversity Conservation Act 1999, E & E1 = Endangered, E4a -= Critically Endangered, V = Vulnerable.

Endangered Ecological Communities mapped within the study area, showing their listing and relevant extent within the 60 m easement are given in **Table 3-3.** The distribution of EECs within the easement is mapped on **Figure 3**.

Table 3-3 Endangered Ecological Communities that occur within the Easement including their Extent and Relevant Listing

Endangered Ecological Community	Listing	Area within 60m easement (ha)^
Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Briglow Belt South Bioregions	TSC Act	10.09
Sub-tropical coastal floodplain forest	TSC Act	5.17
Swamp Sclerophyll forest on coastal floodplains	TSC Act	0.63
White Box, Yellow Box, Blakely's Red Gum woodland	TSC Act, EPBC Act	36.09**
	Total	**51.99**

^ = *This refers to clearing of 7.5 m either side of the existing transmission line in the eastern Study Area and clearing a new 60m easement in the western Study Area from Tenterfield to Dumaresq.*

** *25.65 ha of this qualifies as TSC Act and EPBC Act listed Box Gum Woodland.*

Nature and extent of likely impact

Address any impacts on the members of any listened threatened species or any threatened ecological community, or their habitat.

The likely impact on vegetation will occur during construction and operation of the transmission line.

Construction impacts on vegetation will include:

- *temporary* disturbance to the ground layer at laydown areas and where construction vehicles are parked;
- *permanent* disturbance to the ground layer where access roads for construction and maintenance access is required.
- *permanent* removal of groundcover at each structure to allow construction of structure footings;
- *permanent* clearing of the canopy and shrub layer surrounding each structure, and;
- *permanent* clearing of the canopy and shrub layer around conductors.

Development of the proposed transmission line will involve clearing of potential habitat for threatened species and endangered ecological communities. **Table 3-4** shows clearing calculations for vegetation within the easement and the distribution of communities is shown on **Figure 2. Table 3-3** provides the estimated amount of clearing of endangered ecological communities within the easement.

These calculations have been generated assuming clearing of the full 60 m easement in the western study area and an additional 15 m along the existing easement in the eastern study area to reach a full 60 m easement. However clearing of the full 60 m easement is unlikely to be required for the entire length of the line.

Clearing of the easement (outside the direct impact footprint for the towers and access tracks) will be assessed on a case by case basis and will depend on the type of topography, vegetation and height of conductors. All clearing will be consistent with maintenance requirements of 330 kV lines (**Appendix A**) typical manifestations of these requirements (outside the direct impact footprint for the towers and access tracks) are listed below:

- All ground layer vegetation is retained;
- Some shrubs and trees can be maintained where they to do not exceed clearance requirements to overhead conductors;
- At spans where topography allows (i.e. gullies and escarpments) vegetation can be retained where conductor height is sufficient to make clearing unnecessary;
- In environmentally sensitive areas such as EECs, water courses and steeply sloping land vegetation clearing can be restricted, leaving some canopy and shrub species intact;
- Habitat features such as felled hollows and woody debris can be placed in areas where vegetation is retained to provide fauna corridors.

Table 3-4 Vegetation Communities that occur within the Easement including the Extent to which they will be impacted.

Stratification Unit	Vegetation Community	EEC^,#	Area within the 60m easement*
Dry Sclerophyll Forest (shrubby)	New England Peppermint Woodland		21.90
	Tumbledown Gum/Blakely's Red Gum/Pine Shrubby Open Forest		2.18
	Tumbledown Gum/Blakely's Red Gum/Pine Shrubby Open Forest (Disturbed Regrowth)		10.49
	Youman's Stringybark/Yellow box/Blakely's Red Gum		7.85

	Woodland (Intergrade)		
Dry Sclerophyll Forest (shrub/grass sub formation)	Forest Red Gum Grassy Open Forest		0.32
	Forest Red Gum/Broad-leaved Apple Dry Open Forest		1.49
	Forest Red Gum/Pink Bloodwood Open Forest		2.41
	Grey Gum/Grey Ironbark Open Forest		0.54
	Grey Ironbark/Grey Gum/New England Blackbutt Open Forest (Intergrade)		0.72
	Ironbark Wattle Woodland (Disturbed)		0.84
	Narrow-leaved Ironbark Dry Open Forest		3.21
	New England Stringybark Open Forest		0.41
	New England Stringybark/Peppermint/Grey Ironbark/Grey Gum Open Forest (Intergrade)		3.27
	Spotted Gum/Grey Box /Grey Ironbark Open Forest		1.24
	Spotted Gum/Grey Ironbark/Dry Open Forest		5.46
	Spotted Gum/Grey Ironbark/Narrow-leaved Ironbark Open Forest		1.30
	Spotted Gum/Grey Ironbark/Pink Bloodwood Open Forest		11.14
	Spotted Gum/Grey Ironbark/Thin-leaved Stringybark Dry Open Forest		1.39
	Thin-leaved Stringybark/Broad-leaved Apple Open Forest		0.01
Forested Wetland	River Red Gum Riverine Woodland		3.33
	River Red Gum Riverine Woodlands (Disturbed)		1.40
	Swamp Box Swamp Forest (Disturbed)	Swamp Sclerophyll Forest^	0.43
	Swamp Box/Swamp Mahogany Swamp Forest (Integrade)	Swamp Sclerophyll Forest^	0.20
Grassy Woodland	Blakely's Red Gum/Rough Barked Apple/Red Stringybark Grassy Open Forest		0.15
	Blakely's Red Gum/White Box Grassy Woodland	Box Gum Woodland^#	0.07
	Cabbage Gum Grassy Woodland		0.91
	Forest Red Gum/Swamp Box Open Forest (Disturbed)*	Sub-tropical Coastal Floodplain Forest^	0.23
	Forest Red Gum/Swamp Box Open Forest*	Sub-tropical Coastal Floodplain Forest^	4.94
	Inland Grey Box Woodland	Inland Greybox Woodland^	1.39
	Inland Greybox Woodland (Disturbed)	Inland Greybox Woodland^	8.70
	Red Mahogany/Fig/Thin leaved Stringybark Open Forest		0.94
	Rough-barked Apple riparian forb/grass open forest of the Nandewar Bioregion		10.09
	White Box Grassy Woodland (Disturbed)	Box Gum	10.44

		Woodland^	
	White Box Grassy Woodland	Box Gum Woodland^#	25.58
Rainforest	Dry Land Rainforest		0.27
Wet Sclerophyll Forest (shrubby formation)	Messmate/Brown Barrel Grassy Open Forest		1.16
	Spotted Gum/Brush Box Moist Forest		0.15
Semi Arid Woodlands (shrubby sub formation)	Silver-leaved Ironbark/White Cypress Pine Woodland		100.26
	Unknown		19.34
		Total	**266.15**

^ = *EEC listed under the NSW TSC Act, # = EEC Listed under the Commonwealth EPBC Act, * = This refers to clearing of 7.5 m either side of the existing transmission line in the eastern Study Area and clearing a new 60m easement in the western Study Area from Tenterfield to Dumaresq.*

The potential impact of the proposed works and mitigation measures for all affected species and communities listed under the EPBC Act and discussed above will be detailed further in the EA (prepared in accordance with the D-G requirements (**Appendix C**)). In addition to this as part of the EA currently being prepared by TransGrid an Assessment of Significance will be carried out for each of these species to identify the likelihood of the species being negatively impacted upon by the proposed alignment.

3.1 (e) Listed migratory species

Description

The Interactive Mapping Tool indicated the presence of 17 listed Migratory Species.

Migratory Terrestrial Species identified by the Interactive Mapping Tool are listed below. These species are listed as species likely to occur within the area, as species whose habitat is likely to occur in the area, or as species which may breed within the area.

- Coxen's Fig parrott (*Cyclopsitta diopphthalma coxeni*)
- White Bellied Sea Eagle (*Haliaeetus leucogaster*)
- White-throated Needle-tail (*Hirundapus caudacutus*)
- Rainbow Bee-eater (*Merops ornatus*)
- Black-faced Monarch (*Monarcha melanopsis*)
- Spectacled Monarch (*Myiagra cyanoleuca*)
- Rufous Fantail (*Rhipidura rufifrons*)
- Regent Honeyeater (*Xanthomyza Phrygia*).

Identified Migratory Wetland Species are detailed below. These species are listed as species likely to occur within the area, or as species whose habitat is likely to occur in the area.

- Great Egret (*Ardea alba*)
- Cattle Egret (*Ardea ibis*)
- Latham's Snipe, Japanes Snipe (*Gallinago hardwickii*)
- Painted Snipe (*Rostratula benghalenis s. lat*.)

Identified Migratory Marine Birds are detailed below. These species are listed as species likely to occur within the area, or as species whose habitat is likely to occur in the area.

- Magpie Goose (*Anseranas semipalmata*)
- Fork-tailed Swift (*Apus pacificus*)
- Great Egret (*Ardea alba*)
- Cattle Egret (*Ardea ibis*)
- Swift Parrot (*Lathams discolor)*

Nature and extent of likely impact

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

It is unlikely that the proposed works will have a significant impact on any terrestrial migratory species listed under the EPBC Act as the proposal will only be permanently removing a comparatively small area of potential foraging habitat that is represented within the local area. Large continuous areas of potential habitat are found in state forests and national parks within the region (**Figure 1a**).

The project has the potential to impact on Migratory Wetland Species because there are a number of wetlands within the eastern section of the proposed easement (**Figure 1**). However as there is already an existing 45m easement within these areas the impact is considered insignificant. In most cases the line will span existing wetlands.

The project does not have the potential to impact on Migratory Marine Species are there are no marine areas within the preferred corridor that will be impacted by the proposed works.

The impact of the proposal on terrestrial and aquatic migratory species is anticipated to be insignificant.

Due to the linear nature of proposed clearing and the occurrence of similar habitat in nearby reserves, it is unlikely that there will be a significant impact on migratory species listed under the EPBC Act.

3.1 (f) Commonwealth marine area

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

Description

N/A

There are no Commonwealth Marine areas located within the proposed easement.

Nature and extent of likely impact

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

3.1 (g) Commonwealth land

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

Description

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

The proposed works cross over roads owned by the Crown.

Nature and extent of likely impact

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

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

It is unlikely that the proposed works will have any impact on the Commonwealth parcels identified above because they are already cleared roads.

3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, or actions taken on Commonwealth land

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

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

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

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

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

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

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

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

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

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

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

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

The proposed works will cross roads owned by The Crown. It is unlikely that the works will have any impact on the land because they are already cleared roads.

3.3 Other important features of the environment

Provide a description of the following features of the project area and the affected area, to the extent not otherwise addressed above.

3.3 (a) Soil and vegetation characteristics

The geology of the easement from Lismore to Casino consists of deep alluvial sediments – alluvium, clay and sand and fine-grained basaltic sediments predominate (Soil Landscapes of the Lismore to Ballina 1:100 000 Sheet).

Between Lismore and Tenterfield the easement lies within the North Coast bioregion and the New England Tableland Bioregion and it is part of the New England Fold Belt. Small bodies of granite have intruded the sedimentary rocks and there are three centres of tertiary basalt eruption.

Soils within the North Coast Bioregion are typically red, friable loams or clay loams with high fertility, good structure and excellent water-holding capacity, on the basalts. Whereas shallow yellow earths are found on hillcrests, yellow and brown texture contrast profiles are found on the slopes, and organic loams or sandy loams are found on the alluvial plains, on granites and most of the quartz rich sedimentary rocks.

The study area from Tenterfield to Dumaresq lies predominantly within the New England Tableland bioregion and is part of the New England Fold Belt. The geology of this region is described as consisting of several intrusions of granites each of slightly different composition. The soil type consists of siliceous sands amongst granite rock outcrops. Widespread mellow texture contrast soils of relatively low fertility and poor structure, prone to erosion.

Soil in basalt areas consists of shallow stony loams on the steep areas, and red brown to black, fertile, well-structured loams are found on the flatter slopes. In the valley floors soils are sometimes waterlogged. Siliceous sands and red earths occur on tertiary sands and gravels.

3.3 (b) Water flows, including rivers, creeks and impoundments

The Study Area is located within the Richmond River catchment and the Clarence River catchment within the larger Northern Rivers catchment area and Border Rivers-Gwydir catchment. There are a number of river systems around and throughout the Study Area (**Figure 4**). These include the Richmond River, Wilsons River in the vicinity of Lismore and Casino, the Clarence River in the vicinity of Tabulam and the Dumaresq River which creates the border between NSW and QLD near the Dumaresq substation.

There are also many smaller creeks and a number of rural dams within the Study Area.

Study Area East

The existing easement within the eastern section of the proposed transmission line lies partially within the Richmond River catchment which covers an area of 7,022 km^2 and includes the Wilsons River and the Richmond River, which ultimately discharge to the ocean at Ballina on the NSW north coast. The catchment coastal plain extends from Cape Byron in the north to Evans Head in the south with the Border Ranges National Park and the Richmond Ranges forming the northern and western limits of the catchment. The townships of Lismore, Ballina, Casino and Kyogle are located within this catchment.

The easement also lies partially within the Clarence catchment covering an area of 22,716 km^2. Included in this catchment is the Clarence River (**Figure 4**), which is the biggest river on the east coast of NSW, and discharges into the ocean at Yamba. The Clarence catchment extends from near Coffs Harbour to just north of Yamba in the east, inland to Maclean and Bonalbo, with Woodenbong and Stanthorpe forming the northern boundary along the McPherson Ranges. The western boundary runs from Stanthorpe to Tenterfield and Glen Innes along the Great Dividing Range. The catchment boundary then heads eastwards from north of Guyra to Ebor and Dorrigo in the south, along the Doughboy Ranges and Dorrigo Plateau.

Study Area West

The Tenterfield to Dumaresq section of the proposed transmission line lies within the Border Rivers – Gwydir catchment which covers an area of approximately 50,000 square kilometres. The main rivers that drain the eastern slopes of the eastern highlands are the Dumaresq, Severn and Macintyre (**Figure 4**). The Gwydir River is located to the south of the study area in the southern part of the overall catchment.

3.3 (c) Outstanding natural features, including caves

There are no outstanding natural features along the transmission line route. However the proposed transmission line is in close proximity to cliffs and escarpments in the western section of the easement.

3.3 (d) Gradient (or depth range if action to be taken in a marine area)

Lismore to Tenterfield (within the North Coast Bioregion)

Within the North Coast Bioregion, from the coastal lowlands in the east, the study area ranges from floodplains through to low foothills and ranges to the steep slopes and gorges of the Great Escarpment in the west.

Tenterfield to Dumaresq Substation (within the New England Tableland Bioregion)

West of the North Coast Bioregion, the study area traverses the New England Bioregion. Topography within this area is generally described as a "stepped plateau of hills and plains" with elevations ranging from 600 to 1500 m above sea level.

3.3 (e) Buildings or other infrastructure

Land use within the study area is comprised of several primary uses, including:

- agricultural - dairy and cattle farming, sheep farming and cropping;
- forestry activities - state forests and privately owned plantation forestry operations;
- conservation areas - national parks, nature reserves, Aboriginal areas, state conservation reserves and privately managed conservation areas;
- infrastructure - existing transmission line easements and associated access tracks, railway lines and roads; and
- urbanised areas - consisting of the regional centres of Tenterfield and Lismore, as well as numerous small towns and villages.

The transmission line easement will not traverse any existing buildings.

3.3 (f) Marine areas

N/A

3.3 (g) Kinds of fauna & flora

A summary of field work conducted within the study area by URS ecologists is provided in **Table 3-5**. Field surveys focused on mapping vegetation communities and identifying any threatened flora and fauna within and adjacent to the proposed easement. Due to the large size and extent of the proposed easement a full assessment of all areas was not feasible. Instead, surveys were undertaken in areas identified as being likely to be representative of the majority of the study area. Survey locations were also selected on the basis of likelihood of threatened species and communities, connectivity, landscape/topographic position and previous records.

Table 3-5 Summary of effort for URS field surveys

Survey Type	Survey Effort and Technique	Date (2009)	Season
Preliminary site visit	Site walk/drive over (5 days) Aerial photo interpretation (10 hrs) Ground truthing of existing mapping (5 days)	5 – 9 April 2009	Autumn
Vegetation community mapping	Site walk/drive over (5 days) Random meander (10 hrs) Aerial photo interpretation (5 hr)	5 – 9 April 2009 7 – 11 September 2009 22 – 25 September 2009 3 – 6 November 2009	Autumn Spring Spring Spring
Targeted flora survey	67 20m by 20m quadrats (67 hrs) Random meander threatened species searches (20 hrs) Targeted habitat assessment for threatened species (20 hrs)	5 – 9 April 2009 7 – 11 September 2009 22 – 25 September 2009 3 – 6 November 2009	Autumn Spring Spring Spring

Survey Type	Survey Effort and Technique	Date (2009)	Season
Targeted fauna survey	Anabat recording (1008 hrs over 8 nights) Spotlighting (32 hrs over 4 nights) Call playback (8 hrs over 8 nights) Diurnal bird survey (20 hrs over 10 days) General track and scat searches (30 hrs) Hair tube transect lines (170 tubes left over 5 days) Frogging (10 hours over 10 days and nights) Targeted habitat assessment for threatened species (40 hours) Targeted koala scat searches (10 hours over 10 days) Biophysical environment assessment (10 hours over 10 days)	7 – 11 September 2009 7 – 11 December 2009	Spring Summer

Field surveys were undertaken in accordance with the *Threatened Biodiversity and Assessment; Guidelines for Developments and Activities Working Draft* (DEC 2004).

Vegetation communities within the easement are provided in **Table 3-4.** Thirty-three vegetation communities have been mapped within the study area (**Figure 2**). Communities are based on DECCW biometric communities for the Northern Rivers CMA and Border Rivers Gwydir CMA, Keith (2004) *Ocean Shores to Desert Dunes* and state forest mapping. Four of these communities are mapped as intergrades and generally occur where two similar communities meet.

A full list of flora and fauna recorded during field surveys will be provided in the EA**.**

3.3 (h) Current state of the environment in the area

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

Large areas of the proposed easement have been cleared for grazing livestock and cropping and the existing transmission line from Lismore to Tenterfield. There are also large areas of intact native vegetation (**Figure 3**).

Land in the study area supports grain production, cattle grazing and other mixed farming activities.

3.3 (i) Other important or unique values of the environment

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

A number of national parks, wilderness areas and reserves occur in close proximity to the proposed development including:

- Richmond Range National Park
- Mallanganee National Park
- Bonalbo State Forest
- Girard State Forest
- Basket Swamp Nature Reserve
- Bald Rock National Park and Wilderness Area
- Donnybrook State Forest
- Torrington National Park and Wilderness Area.

These areas support potential habitat for a number of threatened species, populations and communities within the region. A number of these areas also combine to form parts of the 'Great Eastern Ranges Initiative'. The Great Eastern Ranges Initiative is a NSW State initiative to mitigate the potential impacts of climate change, land clearing and other environmental stresses across the mountains.

3.3 (j) Tenure of the action area (eg freehold, leasehold)

The 205km route between Lismore and Dumaresq traverses freehold, leasehold and Crown Land.

3.3 (k) Existing land/marine uses of area

N/A

3.3 (l) Any proposed land/marine uses of area

N/A

4 Measures to avoid or reduce impacts

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

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

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

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

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

Refer to the Guideline on Particular Manner Decisions under the EPBC Act available at the Department's web site.

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

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

In addition to establishing and maintaining the required 60 m wide easement along the length of the line, the environmental impact of an overhead transmission line, particularly impacts on flora, fauna, geology, and hydrology are restricted to individual pole/tower sites and access tracks to these sites. The Environmental Assessment currently being prepared will provide further detail on mitigation measures proposed for the project.

During the detailed design phase TransGrid will work closely with ecologists to identify and where technically possible, avoid the permanent removal of habitat for threatened species listed under both the EPBC Act and TSC Act. This will include further surveys to identify populations of threatened species within the footprint of poles/towers and new access tracks.

The following mitigation measure are proposed by TransGrid to reduce some of the impacts of vegetation clearing, edge effects and habitat fragmentation during construction and operation of the transmission line;

- restrict vegetation clearing to those areas where it is necessary
- where technically possible, hollow bearing trees in close proximity to the line would be selectively retained;
- areas identified for clearing would be clearly marked prior to construction to minimise unnecessary clearing;
- clearing of vegetation would follow best-practice methods for fauna rescue as identified by DECCW;
- a fauna management plan would be developed to avoid the mortality of animals during construction and to protect nesting resources;
- where possible habitat features such as logs, tree hollows and woody debris shall be relocated to adjacent woodland;
- species appropriate nest boxes or artificial bat roosts will be used to replace any nesting habitat that is removed;
- vegetation within the transmission line easement will be managed to reduce invasion of noxious weeds and a weed management strategy implemented;

- where practical restrictive clearing would be used to reduce the impact on EECs listed under the EPBC Act of TSC Act;
- works would minimise disturbance where ever possible to streams and creeks;
- where possible construction machinery would be contained on already cleared land;
- access would be restricted along the transmission line in areas that provide habitat for threatened species and communities; and
- where necessary locally indigenous species would be used for any landscape rehabilitation

All construction, management and maintenance activities will be controlled by an Environmental Management Plan prepared specifically for the Lismore to Dumaresq transmission line project. TransGrid will require the construction contractor to prepare and adhere to a Construction Environmental Management Plan (CEMP) during the construction process. The CEMP will include mitigation measures as required to address the following issues:

- Sediment control and soil stabilisation measures;
- Management of stormwater drainage;
- Refuelling and POL procedures;
- Waste minimisation, recycling, collection, storage and disposal protocols;
- Protection of trees to be retained;
- Weed protection and revegetation of disturbed areas post construction
- Relocation of native fauna consistent with NSW Government protocols;
- Construction site access and traffic management;
- Heritage artefact stop work procedures and notification protocols; and
- Fire risk procedures, including total fire ban work practices.

In addition to these mitigation measures, to offset the unavoidable loss of habitat as a result of the proposed transmission line an appropriate offset will be determined in consultation with DECCW.

5 Conclusion on the likelihood of significant impacts

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

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

	No, complete section 5.2
Yes	Yes, complete section 5.3

5.2 Proposed action IS NOT a controlled action.

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

5.3 Proposed action IS a controlled action

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

	Matters likely to be impacted
	World Heritage values (sections 12 and 15A)
	National Heritage places (sections 15B and 15C)
	Wetlands of international importance (sections 16 and 17B)
X	Listed threatened species and communities (sections 18 and 18A)
	Listed migratory species (sections 20 and 20A)
	Protection of the environment from nuclear actions (sections 21 and 22A)
	Commonwealth marine environment (sections 23 and 24A)
	Protection of the environment from actions involving Commonwealth land (sections 26 and 27A)
	Protection of the environment from Commonwealth actions (section 28)
	Commonwealth Heritage places overseas (sections 27B and 27C)

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

The proposal will require the clearing of 40 ha of an EPBC listed endangered ecological community and more than 290 ha of vegetation that provides potential habitat for 71 species of threatened flora and 32 species of threatened fauna listed under the Act.

These calculations have been generated assuming clearing of the full 60 m easement in the western study area and an additional 15 m along the existing easement in the eastern study area to reach a full 60 m easement. However clearing of the full 60 m easement is unlikely to be required for the entire length of the line.

Clearing of easement areas outside the lay-down footprint for poles/towers and access tracks will be assessed on a case by cause basis to allow the retention of vegetation. All clearing will be consistent with maintenance requirements of 330 kV lines (**Appendix A**), typical manifestations of these requirements outside the lay down-area for poles/towers and access tracks are listed below:

- All ground layer vegetation is retained;
- Some shrubs and trees can be maintained where they to do not exceed clearance requirements to overhead conductors;

- At spans where topography allows (i.e. gullies and escarpments) vegetation can be retained where conductor height is sufficient to make clearing unnecessary;
- In environmentally sensitive areas such as EECs, water courses and steeply sloping land vegetation clearing can be restricted, leaving some canopy and shrub species intact; and
- Habitat features such as felled hollows and woody debris can be placed in areas where vegetation is retained to provide fauna corridors.

6 Environmental history of the responsible party

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

		Yes	No
6.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** **Provide details** TransGrid has a consistent record of proactively seeking environmental approvals where required and ensuring that any commitments or conditions placed on activities as a result of these approval processes are adhered to.	X	
6.2	**Has the party taking the action ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?** **If yes, provide details** In 2001 TransGrid was subject to proceedings under State Environmental laws for over clearing vegetation in the vicinity of Transmission lines. TransGrid subsequently invested $5 million toward site rehabilitation. Since the 2001 incident, TransGrid has not been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources	X	
6.3	**If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?** **If yes, provide details of environmental policy and planning framework** Environment Policy – From TransGrid's Network Management Plan 2007 – 2011 http://www.transgrid.com.au/trim/trim211409.pdf TransGrid is committed to conducting its activities and services in a manner that minimises pollution and complies with relevant environmental legislation, industry standards and codes of practice. We aim to enhance our systems and processes in a manner that promotes continuous improvement in environmental management and which will lead to the achievement of industry best practice. In meeting these commitments, TransGrid: • Maintains an Environmental Management System that provides the framework for setting and reviewing our environmental objectives and targets, including the implementation, monitoring and review of these objectives and targets; • Continues to develop systems that recognise sensitive environmental and cultural sites on or near our infrastructure, and provides processes to manage and minimise our potential impacts; • Integrates environmental management considerations into the planning, design, siting, construction, maintenance, operation, decommissioning and disposal of all TransGrid assets; • Provides environmental training, assessment and authorisation under our Environmental Rules to employees and contractors to enable them to perform their duties in an environmentally sensitive manner; • Engages with the community, customers, employees, government and other stakeholders regarding potential environmental or cultural impacts associated with our plans and activities; and Pursues opportunities to maximise resource efficiencies and reduce the generation of waste through avoidance, reduction, reuse and recycling programs.	X	

6.4	**Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?** **Provide name of proposal and EPBC reference number (if known)** **Provide name of proposal and EPBC reference number (if known)** Transgrid/Transmission line between Parkes and Manildra Substations, NSW. Date Received: 17 Feburary 2009 Reference Number: 2009/4741 Transgrid/Energy generation and supply (non-renewable)/Block 1653, Williamsdale, Tuggeranong/ACT/New Electricity Substation and Access Road Date Received: 01 Dec 2008 Reference Number: 2008/4619 TransGrid/Telecommunications/Singleton Military Area, 3.5 km east of Broke/NSW/Singleton Military Area Vegetation Maintenance, Liddel-Killingworth Transmission Line Easement Date Received: 18 Dec 2007 Reference Number: 2007/3929 TransGrid/Energy generation and supply/Wollar to Wellington/NSW/construct 330kV transmission line & switching station Date Received: 06 Jul 2005 Reference Number: 2005/2202 TransGrid/Energy generation and supply/Tuggerah Substation to Ourimbah State Forest/NSW/330kV Transmission Line Date Received: 11 Nov 2002 Reference Number: 2002/863 TransGrid/Energy generation and supply/Warabrook to Kooragang Island/NSW/TransGrid 132kV Power Transmission Line Date Received: 03 Sep 2002 Reference Number: 2002/794 TransGrid/Energy generation and supply/Eastern Creek/NSW/TransGrid Sydney West 330kV Substation Augmentation Date Received: 30 May 2002 Reference Number: 2002/677 TransGrid/Energy generation and supply/Singleton Military Area/NSW/Vegetation Maintenance, Liddell-Killingworth 330 kV Power Line Easement, Singleton Date Received: 03 May 2002 Reference Number: 2002/649 Country Energy/Energy generation and supply/Molong/NSW/66kV transmission line to link the Molong-Cumnock and the TransGrid Molong-Manildra 132kV transmission lines Date Received: 21 Mar 2002 Reference Number: 2002/616 Transgrid/Energy and Infrastructure (incl. Pipelines)/Molong to Manildra/NSW/132kV transmission line Date Received: 12 Dec 2001 Reference Number: 2001/527 TransGrid/Energy and Infrastructure (incl. Pipelines)/Buronga (NSW) to Monash (SA)/NSW/Electricity Transmission Line Date Received: 10 Aug 2001 Reference Number: 2001/380	X	

7 Information sources and attachments

(For the information provided above)

7.1 References

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

7.2 Reliability and date of information

For information in section 3 specify:

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

Data in section 3 was obtained during the seven month period from June to December 2009. The EPBC Act protected matters search tool was used to identify World Heritage Properties, Natural Heritage Places, Wetlands of International Importance, Threatened species and Endangered Ecological Communities, and Migratory Species within the preferred corridor. This information was supported and thoroughly ground truthed with ecological and heritage field surveys conducted in September, November and December 2009. In the western section of the line ecological field surveys were limited because of landholder constraints. Despite this surveys covered a large area of the corridor and ecologists were able to use this information to reliably predict the species and communities that occur within the area.

The location of Commonwealth land within the preferred corridor was determined using current cadastre files for the area.

7.3 Attachments

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

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)		Figure 1
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3)		Figure 1 & 4
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.3)		Appendix C
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.4)		
	copies of any flora and fauna investigations and surveys (section 3)		Figure 2 and 3 and Appendix D
	technical reports relevant to the assessment of impacts on protected matters and that support the arguments and conclusions in the referral (section 3 and 4)		
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)		Appendix B

8 Contacts, signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (s 489, EPBC Act).
Under the EPBC Act a referral can only be made by:

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

Project title:

8.1 Person proposing to take action

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

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

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

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

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

If the Minister decides that further assessment and approval is required, the Minister must designate a person as a proponent of the action. The proponent is responsible for meeting the requirements of the EPBC Act during the assessment process. The proponent will generally be the person proposing to take the action[2].

Name	Don Paton
Title	
Organisation	TransGrid
ACN / ABN (if applicable)	19 622 755 774
Postal address	PO Box A1000
Telephone	(02) 8204 6300
Email	Don.Paton@transgrid.com.au

Declaration I declare that the information contained in this form is, to my knowledge, true and not misleading. I agree to be the proponent for this action.

Signature Date

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

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

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

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

Name	Lauren Branson
Title	Senior Ecologist
Organisation	URS Australia
Postal address	3/116 Miller Street North Sydney
Telephone	(02) 8925 5500
Email	Lauren_branson@urscorp.com
Declaration	I declare that the information contained in this form is, to my knowledge, true and not misleading.
Signature	Date

If the referring party is a small business (fewer than 20 employees), estimate the time taken, in hours and minutes, to complete this form (include your time reading the instructions, working on the questions and obtaining the information and time spent by all employees in collecting and providing this information).

Hours	Minutes

REFERRAL CHECKLIST

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

HAVE YOU:

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