Lismore to Mullumbimby Electricity Network Upgrade

Environmental Assessment Report

Final Report
Volume 1

for Country Energy

January 2009

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FINAL REPORT

Country Energy

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January 2009

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Country Energy

Lismore to Mullumbimby Electricity Network Upgrade

Environmental Assessment Report

January 2009

Reference: 0051706

For and on behalf of:
Environmental Resources Management Australia

Approved by: Murray Curtis

Signed:

Position: Partner

Date: 21 January 2009

SUBMISSION OF ENVIRONMENTAL ASSESSMENT
prepared under Part 3A of the Environmental Planning and Assessment Act 1979

EA PREPARED BY

Names:	***William Weir***	***Murray Curtis***
Qualifications:	***BE Env (Hons)***	***B. Engineering (Hons)***
Address:	*Suite 3, 146 to 148 Gordon Street*	
	Port Macquarie	
	NSW 2444	

PROJECT PLAN APPLICATION

Applicant name:	*Country Energy*
Applicant address:	*PO Box 718*
	Queanbeyan
	NSW 2620
Land to be developed:	*Property description of land to be developed is contained in the EA.*
Proposed development:	*Project approval is sought for the upgrade of its electricity network, including the installation and operation and upgrade of 66,000 volt (66kV) and 132,000 volt (132kV) electricity transmission lines, construction of two new substations and upgrading of five existing substations between Lismore and Mullumbimby (via Ballina). .*

ENVIRONMENTAL ASSESSMENT

☑ *An EA is attached which addresses all matters listed under Part 3A of the Environmental Planning and Assessment Act 1979.*

CERTIFICATE

I certify that I have prepared the contents of this EA and to the best of my knowledge:

- *it contains all available information that is relevant to the environmental assessment of the development to which the EA relates; and*
- *it is true in all material particulars and does not, by its presentation or omission of information, materially mislead.*

Signature:		
Name:	*William Weir* Senior Engineer	*Murray Curtis* Partner
Date:	*22 December 2008*	*22 December 2008*

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

ANNEXURES

ANNEX A	*LISMORE TO MULLUMBIMBY ELECTRICITY NETWORK UPGRADE - LINE ROUTE OPTIONS REPORT (ERM, 2007)*
ANNEX B	*DIRECTOR GENERAL REQUIREMENTS (DGR'S)*
ANNEX C	*COMMUNITY CONSULTATION MATERIALS*
ANNEX D	*CONSULTATION SUMMARY - RIGHT OF WAY SERVICES*
ANNEX E	*SCHEMATIC SHOWING PROJECT STAGING*
ANNEX F	*POLE ILLUSTRATIONS*
ANNEX G	*SUBSTATION PLANS*
ANNEX H	*LISMORE TO MULLUMBIMBY ELECTRICITY NETWORK UPGRADE - ECOLOGICAL ASSESSMENT (ERM, 2008)*
ANNEX I	*LISMORE TO MULLUMBIMBY ELECTRICITY NETWORK UPGRADE - ABORIGINAL HERITAGE ASSESSMENT (ERM, 2008)*
ANNEX J	*MULLUMBIMBY POWER STATION - HERITAGE IMPACT ASSESSMENT (ERM, 2008)*
ANNEX K	*LISMORE POWER STATION - HERITAGE ASSESSMENT (ERM, 2008)*
ANNEX L	*LISMORE TO MULLUMBIMBY ELECTRICITY NETWORK UPGRADE - ACOUSTIC ASSESSMENT (ERM, 2008)*
ANNEX M	*LISMORE TO MULLUMBIMBY ELECTRICITY NETWORK UPGRADE - VISUAL IMPACT ASSESSMENT (ERM, 2008)*
ANNEX N	*LISMORE TO MULLUMBIMBY ELECTRICITY NETWORK UPAGRADE: GENERIC ASSESSMENT OF TRANSMISSION LINE ELECTRIC AND MAGNETIC FIELDS (CONNELL WAGNER 9 SEPTEMBER 2008)*
ANNEX O	*LISMORE TO MULLUMBIMBY ELECTRICITY NETWORK UPAGRADE: GENERIC EMF ASSESSMENT OF UPGRADE OF A ZONE SUBSTATION FROM 66KV TO 132KV (CONNELL WAGNER 18 SEPTEMBER 2008)*
ANNEX P	*LISMORE TO MULLUMBIMBY SUBTRANSMISSION NETWORK DEVELOPMENT (COUNTRY ENERGY, 2005)*
ANNEX Q	*SUFFOLK PARK SUBSTATION AND LINE ROUTE SELECTION ENVIRONMENTAL ASSESSMENT (MWH 2008)*

LIST OF TABLES

LIST OF FIGURES

Executive Summary

EXECUTIVE SUMMARY

WHAT IS PROPOSED?

Country Energy has identified the need for major augmentation of its electricity supply network in the Lismore, Ballina, Ewingsdale, Byron Bay and Mullumbimby areas to cater for long-term demands resulting from significant population expansion in northern New South Wales. Based on projected demand, Country Energy identified that this augmentation project needs to be progressively constructed and completed by December 2014.

Electricity Transmission Lines

The Project includes the upgrade of the existing electricity transmission line between Mullumbimby and Alstonville that passes via Ewingsdale, Suffolk Park, Lennox Head and Ballina. The Project also includes the construction of new transmission lines:

- between Alstonville and Lismore;
- between Lismore South substation and Lismore switching station;
- between Lismore bulk supply point and Lismore South substation; and
- a feeder loop to Brunswick Heads.

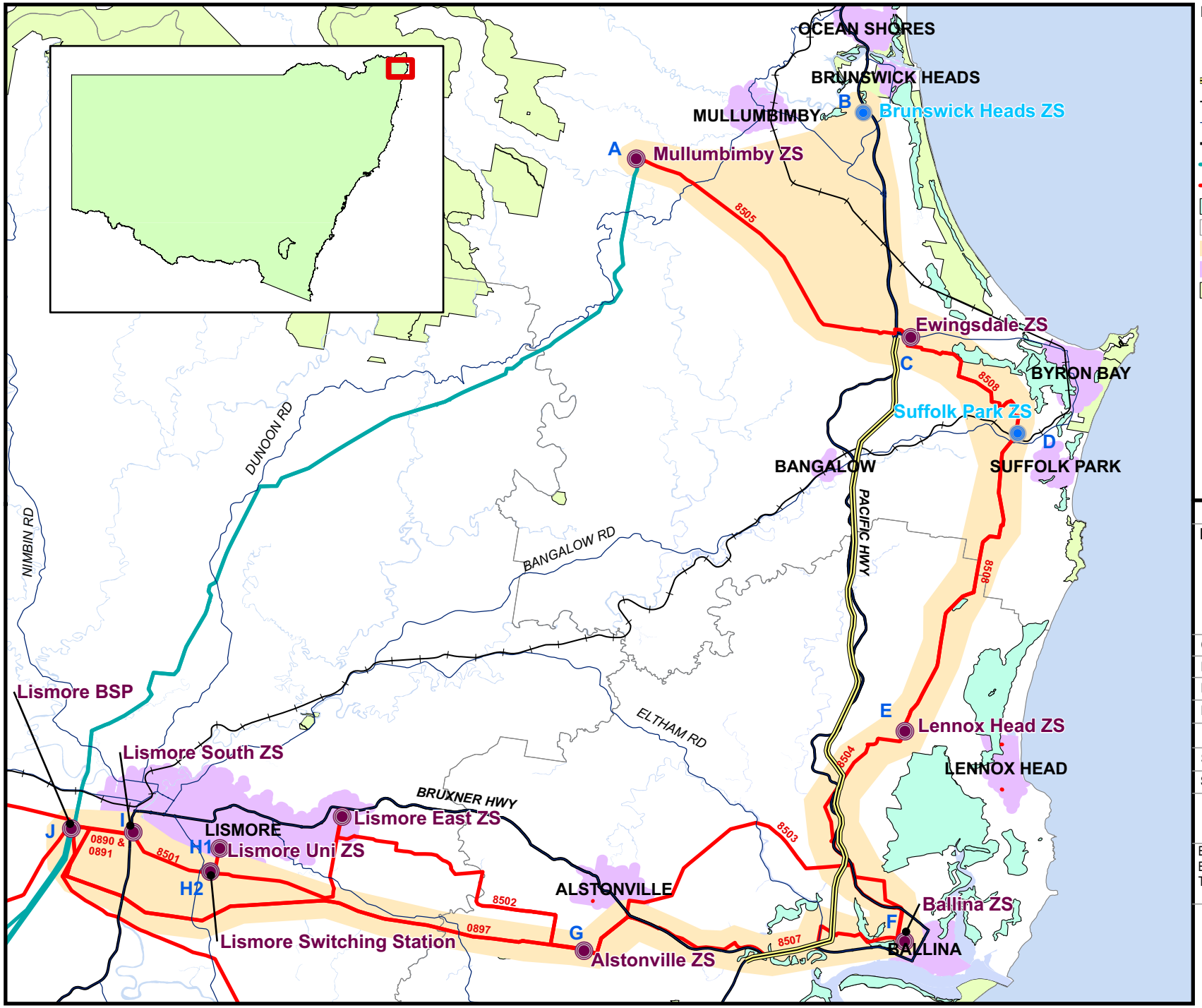
Substations

The Project involves the upgrade of the following substations:

- Mullumbimby Substation;
- Ewingsdale Substation;
- Lennox Head Substation;
- Ballina Substation
- Lismore Substation; and
- Lismore South Substation.

Two new substations are also proposed at Brunswick Heads and Suffolk Park.

For a more detailed explanation of the Project refer to ***Chapter 3 – The Proposal***.



Legend

- Existing Substation
- Proposed Substation
- Pacific Highway Upgrade
- Casino-Murwillumbah Railway
- Main Roads
- Highway
- Existing 132kV
- Existing 66kV
- SEPP14 Areas
- LGA boundaries
- Project Area
- Built-up Areas
- National Parks

Project Area

Client:	Country Energy		
Project:	Lismore to Mullumbimby Upgrade		
Drawing No:	0051706_01	Suffix No:	A0
Date:	29/07/08	Drawing size:	A4
Drawn by:	TH	Reviewed by:	WW
Source:	Department of Lands		
Scale:	Refer Scale Bar		

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0 1 2 4 6 8 km

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WHY IS IT NEEDED?

The project presented within this Environmental Assessment has been developed following identification by Country Energy of projected deficiencies in the capacity of the existing network to cater for future growth of the Local Government Areas of Lismore, Ballina and Byron. The electricity network upgrade is necessary to ensure a safe and reliable electricity supply is provided to the community.

For a more detailed explanation of why the Project is needed refer to ***Chapter 4 – Justification for the Project.***

WHAT ALTERNATIVES WERE CONSIDERED?

Three initial options were identified, including the "do nothing" approach, as well as two high level solutions to address these network constraints.

Initial constructability assessments, easement requirements and discounted cash flow analysis indicated that whilst the 132kV option was marginally more expensive, it was likely to result in less environmental impact and consequently less public resistance and was therefore the preferred option.

Option 1 would have resulted in the following:

- the construction of two new additional circuits, in addition to the existing 66kV circuit, between Mullumbimby and Suffolk Park. This would significantly increase the visual impact along the existing 66kV power line alignment; and

- would require major extensions at the Mullumbimby substation site. This would present significant technical difficulties and likely required the demolition of the Heritage listed power station.

Option 2 was preferred as the need to construct new circuits is minimized and the majority of upgrade works are able to be undertaken within the existing 66kV line route corridors.

For a more detailed explanation of the alternatives considered refer to ***Section 4.5***.

WHAT WERE THE KEY ISSUES IDENTIFIED?

The key issues identified in relation to the Project included:

- ecological impacts, particularly on SEPP 14 wetland areas;

- impacts on items of Aboriginal Heritage significance in areas where excavation is proposed, such as substations and new transmission line corridors;

- impacts on both the Lismore Power Station and Mullumbimby Power Station which are both heritage listed;

- noise impacts to surrounding residential areas during both the construction and operational phases of the Project;

- visual impacts on the surrounding landscape; and
- perceived health effects of electric and magnetic fields (EMF).

The issues associated with the Project are discussed in further detail in ***Chapters 6 to 16***.

HOW WILL THE LIKELY IMPACTS BE MANAGED?

Mitigation measures to manage the impacts of the Project have been proposed and are discussed in **Chapters 6 to 16** and summarised in **Chapter 17**. The mitigation measures aim to remove or minimise potential environmental, social and economic impacts.

A draft Statement of Commitments, which lists the outcomes and actions proposed to be achieved, is provided in **Chapter 18**.

WHAT ARE THE MAIN BENEFICIAL OUTCOMES EXPECTED?

The main beneficial outcomes of the Project include ensuring a safe and reliable electricity supply in the region by strengthening the network capacity to meet future demands.

The population of the Far North Coast is predicted to continue to grow rapidly reaching 289,000 people by the year 2013 (a 26% increase) placing significant demands on electricity supply. The proposed upgrade will contribute to supporting the predicted growth in the region and subsequent demand on electricity supply and will assist to ensure the long term sustainability of the regional economy.

The Project will also ensure that service delivery standards are met and, as more modern infrastructure components are incorporated into the network, the efficiency of electricity supply will increase.