



# Lismore to Mullumbimby Electricity Network Upgrade *Environmental Assessment Report*

Final Report  
Volume 1

for Country Energy

January 2009

0051706

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Country Energy

**Lismore to Mullumbimby  
Electricity Network Upgrade**  
*Environmental Assessment Report*

January 2009

**Environmental Resources Management  
Australia**

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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

This report has been prepared in accordance with the scope of services described in the contract or agreement between Environmental Resources Management Australia Pty Ltd ACN 002 773 248 (ERM) and Country Energy. The report relies upon data, surveys, measurements and results taken at or under the particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by Country Energy. Furthermore, the report has been prepared solely for use by Country Energy and ERM accepts no responsibility for its use by other parties.

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

---

**EA PREPARED BY**

Names:

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Qualifications:

*BE Env (Hons)**B. Engineering (Hons)*

Address:

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**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). .*

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**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

<b>1</b>	<b>INTRODUCTION</b>	
1.1	GENERAL	1
1.2	REGIONAL SETTING AND PROJECT LOCATION	1
1.3	COMPANY PROFILE	1
1.4	PROJECT BACKGROUND	3
1.5	DIRECTOR GENERAL'S REQUIREMENTS	4
1.6	PROJECT OVERVIEW	8
1.7	METHODOLOGY	9
1.7.1	ENVIRONMENTAL ASSESSMENT REPORT STRUCTURE	12
1.8	CONSULTATION	14
1.8.1	COMMUNITY CONSULTATION	14
1.8.2	CONSULTATION WITH GOVERNMENT AGENCIES	15
1.8.3	ABORIGINAL HERITAGE CONSULTATION	16
1.8.4	NON-ABORIGINAL HERITAGE CONSULTATION	16
<b>2</b>	<b>PROJECT AREA AND LAND USE DESCRIPTION</b>	
2.1	EXISTING TRANSMISSION LINE CORRIDORS	17
2.1.1	MULLUMBIMBY TO BALLINA	17
2.1.2	BALLINA TO ALSTONVILLE	17
2.2	NEW TRANSMISSION LINE CORRIDORS	20
2.2.1	BRUNSWICK HEADS FEEDER LOOP CORRIDOR	20
2.2.2	LISMORE TO ALSTONVILLE	20
2.2.3	LISMORE SOUTH SUBSTATION TO LISMORE SWITCHING STATION TRANSMISSION LINE CORRIDOR	20
2.2.4	LISMORE BULK SUPPLY POINT SUBSTATION TO LISMORE SOUTH SUBSTATION	20
2.3	NEW SUBSTATIONS	23
2.3.1	BRUNSWICK HEADS SUBSTATION	23
2.3.2	SUFFOLK PARK SUBSTATION	23
2.4	SUBSTATIONS TO BE UPGRADED	24
2.4.1	MULLUMBIMBY SUBSTATION	24
2.4.2	EWINGSDALE SUBSTATION	28
2.4.3	LENNOX HEAD SUBSTATION	30
2.4.4	BALLINA SUBSTATION	32
2.4.5	LISMORE BULK SUPPLY POINT SUBSTATION	34
2.4.6	LISMORE SOUTH SUBSTATION	36
<b>3</b>	<b>THE PROPOSAL</b>	
3.1	INTRODUCTION	39
3.2	FAR NORTH COAST ELECTRICITY DISTRIBUTION NETWORK OVERVIEW	39
3.2.1	STAGING	39
3.3	TRANSMISSION LINE UPGRADES	40
3.3.1	MULLUMBIMBY TO BALLINA	40

## **CONTENTS**

3.3.2	<b>BALLINA TO ALSTONVILLE (LINE 8507)</b>	43
3.4	<b>NEW TRANSMISSION LINES AND SUBSTATIONS</b>	46
3.4.1	<b>BRUNSWICK HEADS FEEDER LOOP</b>	46
3.4.2	<b>LISMORE TO ALSTONVILLE</b>	47
3.4.3	<b>LISMORE SOUTH SUBSTATION TO LISMORE SWITCHING STATION</b>	47
3.4.4	<b>LISMORE SUBSTATION TO LISMORE SOUTH SUBSTATION</b>	48
3.4.5	<b>BRUNSWICK HEADS SUBSTATION</b>	49
3.4.6	<b>SUFFOLK PARK SUBSTATION</b>	50
3.5	<b>EXISTING SUBSTATION UPGRADES</b>	51
3.5.1	<b>MULLUMBIMBY SUBSTATION</b>	51
3.5.2	<b>EWINGSDALE SUBSTATION</b>	52
3.5.3	<b>LENNOX HEAD SUBSTATION</b>	55
3.5.4	<b>BALLINA SUBSTATION</b>	55
3.5.5	<b>LISMORE (BSP) SUBSTATION</b>	58
3.5.6	<b>LISMORE SOUTH SUBSTATION</b>	58
3.6	<b>TRANSMISSION LINE CONSTRUCTION/UPGRADE METHODS</b>	60
3.6.1	<b>INTRODUCTION</b>	60
3.6.2	<b>SITE ESTABLISHMENT AND ACCESS</b>	60
3.6.3	<b>POLE REMOVAL</b>	61
3.6.4	<b>SURVEYING AND SERVICE LOCATING</b>	61
3.6.5	<b>FOUNDATION EXCAVATION AND POLE ERECTION</b>	61
3.6.6	<b>CONDUCTOR AND EARTH WIRE INSTALLATION</b>	62
3.6.7	<b>ENVIRONMENTAL MANAGEMENT</b>	62
3.7	<b>SUBSTATION CONSTRUCTION</b>	62
4	<b>JUSTIFICATION FOR THE PROJECT</b>	
4.1	<b>INTRODUCTION</b>	63
4.2	<b>OBJECTIVES</b>	63
4.3	<b>STRATEGIC PLANNING CONTEXT</b>	64
4.3.1	<b>FAR NORTH COAST REGIONAL STRATEGY</b>	64
4.3.2	<b>STATE INFRASTRUCTURE STRATEGY 2006-07 TO 2016-17</b>	66
4.3.3	<b>LOCAL PLANNING FRAMEWORK</b>	66
4.4	<b>PROJECT NEED</b>	74
4.4.1	<b>NETWORK PLANNING</b>	74
4.4.2	<b>INITIALLY IDENTIFIED UPGRADE SOLUTIONS</b>	74
4.4.3	<b>CONSIDERATION OF NON-NETWORK ALTERNATIVES</b>	75
4.5	<b>OPTIONS FOR UPGRADE AND LINE ROUTE SELECTION STUDIES</b>	76
4.5.1	<b>INITIAL NETWORK PLANNING ASSESSMENT</b>	76
4.5.2	<b>LINE ROUTE SELECTION PROCESS</b>	76
4.6	<b>POTENTIAL LAND USE CONFLICTS</b>	77
4.6.1	<b>URBAN GROWTH AREAS</b>	77
4.6.2	<b>RURAL LAND</b>	78
4.6.3	<b>PACIFIC HIGHWAY UPGRADE PROJECTS</b>	78
5	<b>PLANNING PROVISIONS</b>	
5.1	<b>INTRODUCTION</b>	79
5.2	<b>STATE LEGISLATION</b>	79



## CONTENTS

5.2.1	ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979	79
5.2.2	THREATENED SPECIES CONSERVATION ACT 1995	80
5.3	STATE ENVIRONMENTAL PLANNING POLICIES	81
5.3.1	STATE ENVIRONMENTAL PLANNING POLICY 14 – COASTAL WETLANDS	81
5.3.2	STATE ENVIRONMENTAL PLANNING POLICY 33 – OFFENSIVE AND HAZARDOUS INDUSTRIES	84
5.3.3	STATE ENVIRONMENTAL PLANNING POLICY 44 – KOALA HABITAT PROTECTION	85
5.3.4	STATE ENVIRONMENTAL PLANNING POLICY 71 – COASTAL PROTECTION	85
5.4	REGIONAL PLANNING INSTRUMENTS	90
5.4.1	NORTH COAST REGIONAL ENVIRONMENTAL PLAN	90
5.5	LOCAL PLANNING INSTRUMENTS	93
5.6	OTHER RELEVANT POLICIES	95
5.6.1	DRAFT NETWORK ELECTRICITY SYSTEMS AND FACILITIES – EIA GUIDELINES, PLANNINGNSW 2002	95
6	ECOLOGY	
6.1	FLORA	99
6.2	FAUNA	99
6.3	IMPACT ASSESSMENT	104
6.3.1	STATE ENVIRONMENTAL PLANNING POLICY No. 14 – COASTAL WETLANDS	104
6.3.2	STATE ENVIRONMENTAL PLANNING POLICY No. 44 – KOALA HABITAT	105
6.3.3	THREATENED SPECIES CONSERVATION ACT 1995	105
6.3.4	ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999	106
6.4	MITIGATION MEASURES	107
7	ABORIGINAL HERITAGE	
7.1	INTRODUCTION	109
7.1.1	BACKGROUND	109
7.1.2	COMMUNITY CONSULTATION	109
7.2	ARCHAEOLOGICAL SURVEYS	110
7.2.1	METHODOLOGY	110
7.3	RESULTS	111
7.3.1	NEW TRANSMISSION LINE CORRIDORS	111
7.3.2	NEW SUBSTATIONS	112
7.4	RECOMMENDATIONS AND MITIGATION MEASURES	114
8	NON-ABORIGINAL HERITAGE	
8.1	INTRODUCTION	117
8.2	MULLUMBIMBY POWER STATION	117
8.2.1	INTRODUCTION	118

## **CONTENTS**

<b>8.2.2</b>	<b>METHODOLOGY</b>	<b>119</b>
<b>8.2.3</b>	<b>HERITAGE ASSESSMENT</b>	<b>119</b>
<b>8.2.4</b>	<b>IMPACT ASSESSMENT</b>	<b>120</b>
<b>8.2.5</b>	<b>MITIGATION MEASURES</b>	<b>120</b>
<b>8.2.6</b>	<b>CONCLUSION</b>	<b>120</b>
<b>8.3</b>	<b>LISMORE POWER STATION</b>	<b>121</b>
<b>8.3.1</b>	<b>INTRODUCTION</b>	<b>121</b>
<b>8.3.2</b>	<b>METHODOLOGY</b>	<b>123</b>
<b>8.3.3</b>	<b>HERITAGE ASSESSMENT</b>	<b>123</b>
<b>8.3.4</b>	<b>MITIGATION MEASURES</b>	<b>124</b>
<b>8.3.5</b>	<b>CONCLUSION</b>	<b>124</b>
<b>9</b>	<b>NOISE</b>	
<b>9.1</b>	<b>BACKGROUND</b>	<b>125</b>
<b>9.2</b>	<b>NOISE CRITERIA</b>	<b>125</b>
<b>9.2.1</b>	<b>OPERATIONAL NOISE CRITERIA</b>	<b>125</b>
<b>9.2.2</b>	<b>PROJECT SPECIFIC NOISE CRITERIA (PSNC)</b>	<b>126</b>
<b>9.2.3</b>	<b>CONSTRUCTION NOISE CRITERIA</b>	<b>126</b>
<b>9.2.4</b>	<b>DERIVED CONSTRUCTION NOISE CRITERIA</b>	<b>127</b>
<b>9.2.5</b>	<b>EQUIPMENT SOUND POWER LEVELS</b>	<b>127</b>
<b>9.2.6</b>	<b>“MODIFYING FACTOR” ADJUSTMENTS</b>	<b>127</b>
<b>9.3</b>	<b>BRUNSWICK HEADS</b>	<b>127</b>
<b>9.4</b>	<b>SUFFOLK PARK SUBSTATION</b>	<b>127</b>
<b>9.4.1</b>	<b>RESIDENTIAL RECEIVERS</b>	<b>127</b>
<b>9.4.2</b>	<b>NOISE IMPACT ASSESSMENT RESULTS</b>	<b>128</b>
<b>9.5</b>	<b>LISMORE BULK SUPPLY POINT SUBSTATION</b>	<b>128</b>
<b>9.5.1</b>	<b>RESIDENTIAL RECEIVERS</b>	<b>128</b>
<b>9.5.2</b>	<b>NOISE IMPACT ASSESSMENT RESULTS</b>	<b>128</b>
<b>9.6</b>	<b>LISMORE SOUTH SUBSTATION</b>	<b>128</b>
<b>9.6.1</b>	<b>SENSITIVE RECEPTORS</b>	<b>129</b>
<b>9.6.2</b>	<b>NOISE MODELLING RESULTS</b>	<b>129</b>
<b>9.7</b>	<b>BALLINA SUBSTATION</b>	<b>129</b>
<b>9.7.1</b>	<b>RESIDENTIAL RECEIVERS</b>	<b>129</b>
<b>9.7.2</b>	<b>OPERATIONAL NOISE MODELLING RESULTS</b>	<b>129</b>
<b>9.7.3</b>	<b>CONSTRUCTION NOISE MODELLING RESULTS</b>	<b>130</b>
<b>9.8</b>	<b>LENNOX HEAD SUBSTATION</b>	<b>130</b>
<b>9.8.1</b>	<b>RESIDENTIAL RECEIVERS</b>	<b>130</b>
<b>9.8.2</b>	<b>NOISE MODELLING RESULTS</b>	<b>130</b>
<b>9.9</b>	<b>EWINGSDALE SUBSTATION</b>	<b>131</b>
<b>9.9.1</b>	<b>RESIDENTIAL RECEIVERS</b>	<b>131</b>
<b>9.9.2</b>	<b>NOISE MODELLING RESULTS</b>	<b>131</b>
<b>9.10</b>	<b>MULLUMBIMBY SUBSTATION</b>	<b>131</b>
<b>9.10.1</b>	<b>RESIDENTIAL RECEIVERS</b>	<b>131</b>
<b>9.10.2</b>	<b>NOISE MODELLING RESULTS</b>	<b>132</b>
<b>9.11</b>	<b>TRANSMISSION LINE ROUTE</b>	<b>132</b>
<b>9.11.1</b>	<b>CONSTRUCTION IMPACTS</b>	<b>132</b>
<b>9.11.2</b>	<b>TRANSMISSION POWER LINE OPERATION</b>	<b>132</b>
<b>9.12</b>	<b>CONCLUSION</b>	<b>133</b>



## **CONTENTS**

<b>9.13</b>	<b>RECOMMENDATIONS</b>	<b>133</b>
<b>9.13.1</b>	<b>BALLINA SUBSTATION</b>	<b>133</b>
<b>9.13.2</b>	<b>CONSTRUCTION IMPACTS</b>	<b>133</b>
<b>10</b>	<b>VISUAL AMENITY</b>	
<b>10.1</b>	<b>INTRODUCTION</b>	<b>135</b>
<b>10.2</b>	<b>VISUAL ASSESSMENT METHODOLOGY</b>	<b>137</b>
<b>10.3</b>	<b>LANDSCAPE AND VISUAL ASSESSMENT</b>	<b>139</b>
<b>10.3.1</b>	<b>LANDSCAPE UNITS</b>	<b>139</b>
<b>10.3.2</b>	<b>VIEWSHED</b>	<b>139</b>
<b>10.3.3</b>	<b>LANDSCAPE SENSITIVITY</b>	<b>140</b>
<b>10.3.4</b>	<b>THE IMPACT OF TOPOGRAPHY AND VEGETATION ON VISIBILITY</b>	<b>141</b>
<b>10.3.5</b>	<b>ASSESSMENT OF THE VISUAL IMPACTS</b>	<b>142</b>
<b>10.4</b>	<b>SUMMARY OF THE VISUAL IMPACT FROM PUBLICLY ACCESSIBLE VIEWPOINTS</b>	<b>142</b>
<b>10.5</b>	<b>MITIGATION</b>	<b>143</b>
<b>10.6</b>	<b>CONCLUSION</b>	<b>144</b>
<b>11</b>	<b>ELECTRIC AND MAGNETIC FIELDS (EMF)</b>	
<b>11.1</b>	<b>EMF AND HEALTH</b>	<b>145</b>
<b>11.1.1</b>	<b>STANDARDS</b>	<b>145</b>
<b>11.1.2</b>	<b>PRUDENT AVOIDANCE</b>	<b>145</b>
<b>11.2</b>	<b>ELECTRIC FIELDS</b>	<b>146</b>
<b>11.2.1</b>	<b>ELECTRIC FIELDS AND SUBSTATIONS</b>	<b>146</b>
<b>11.3</b>	<b>MAGNETIC FIELDS</b>	<b>146</b>
<b>11.3.1</b>	<b>MAGNETIC FIELDS AND SUBSTATIONS</b>	<b>147</b>
<b>11.4</b>	<b>EMF AND TRANSMISSION LINES</b>	<b>147</b>
<b>12</b>	<b>CONTAMINATED LAND</b>	
<b>12.1</b>	<b>INTRODUCTION</b>	<b>149</b>
<b>12.1.1</b>	<b>CONTAMINATED SOILS – POWER POLES</b>	<b>149</b>
<b>12.1.2</b>	<b>SUBSTATION SITES</b>	<b>149</b>
<b>12.1.3</b>	<b>POWER STATIONS</b>	<b>150</b>
<b>12.1.4</b>	<b>CATTLE DIPS SITES</b>	<b>150</b>
<b>12.2</b>	<b>MITIGATION</b>	<b>151</b>
<b>13</b>	<b>CONSTRUCTION IMPACTS</b>	
<b>13.1</b>	<b>PROPOSED CONSTRUCTION ACTIVITIES</b>	<b>153</b>
<b>13.1.1</b>	<b>UPGRADE OF TRANSMISSION LINE INFRASTRUCTURE</b>	<b>153</b>
<b>13.1.2</b>	<b>INSTALLATION OF UNDERGROUND TRANSMISSION LINE</b>	<b>154</b>
<b>13.1.3</b>	<b>SUBSTATION CONSTRUCTION</b>	<b>154</b>
<b>13.1.4</b>	<b>UPGRADE OF EXISTING SUBSTATIONS</b>	<b>154</b>
<b>13.2</b>	<b>POTENTIAL ENVIRONMENTAL IMPACTS</b>	<b>155</b>
<b>13.2.1</b>	<b>TRAFFIC</b>	<b>155</b>
<b>13.2.2</b>	<b>AIR QUALITY</b>	<b>156</b>

## **CONTENTS**

<b>13.2.3</b>	<b>NOISE</b>	<b>157</b>
<b>13.2.4</b>	<b>WATER QUALITY</b>	<b>158</b>
<b>13.2.5</b>	<b>EROSION AND SEDIMENT CONTROL</b>	<b>159</b>
<b>14</b>	<b>WASTE MINIMISATION AND MANAGEMENT</b>	
<b>14.1</b>	<b>INTRODUCTION</b>	<b>161</b>
<b>14.2</b>	<b>POTENTIAL IMPACTS</b>	<b>161</b>
<b>14.3</b>	<b>MITIGATION MEASURES</b>	<b>162</b>
<b>15</b>	<b>CLIMATE CHANGE</b>	
<b>15.1</b>	<b>INTRODUCTION</b>	<b>165</b>
<b>15.2</b>	<b>GREENHOUSE GAS EMISSIONS</b>	<b>165</b>
<b>15.2.1</b>	<b>SCENARIO 1 EMISSIONS</b>	<b>165</b>
<b>15.2.2</b>	<b>SCENARIO 2 EMISSIONS</b>	<b>166</b>
<b>15.2.3</b>	<b>SCOPE 3 EMISSIONS</b>	<b>166</b>
<b>15.3</b>	<b>PRACTICAL CONSIDERATION OF CLIMATE CHANGE</b>	<b>166</b>
<b>15.3.1</b>	<b>VARIATIONS IN FLOOD PLANNING LEVELS</b>	<b>167</b>
<b>15.3.2</b>	<b>VARIATIONS IN SURFACE WATER MANAGEMENT METHODS</b>	<b>167</b>
<b>15.4</b>	<b>MITIGATION MEASURES</b>	<b>167</b>
<b>16</b>	<b>ECOLOGICALLY SUSTAINABLE DEVELOPMENT</b>	
<b>16.1</b>	<b>PRECAUTIONARY PRINCIPLE</b>	<b>169</b>
<b>16.1.1</b>	<b>INTERPRETATION</b>	<b>169</b>
<b>16.1.2</b>	<b>JUSTIFICATION</b>	<b>170</b>
<b>16.2</b>	<b>SOCIAL EQUITY INCLUDING INTERGENERATIONAL EQUITY</b>	<b>171</b>
<b>16.2.1</b>	<b>INTERPRETATION</b>	<b>171</b>
<b>16.2.2</b>	<b>JUSTIFICATION</b>	<b>171</b>
<b>16.3</b>	<b>CONSERVATION OF BIOLOGICAL DIVERSITY AND MAINTENANCE OF ECOLOGICAL INTEGRITY</b>	<b>172</b>
<b>16.3.1</b>	<b>INTERPRETATION</b>	<b>172</b>
<b>16.3.2</b>	<b>JUSTIFICATION</b>	<b>172</b>
<b>16.4</b>	<b>IMPROVED VALUATION AND PRICING OF ENVIRONMENTAL RESOURCES</b>	<b>172</b>
<b>16.4.1</b>	<b>INTERPRETATION</b>	<b>172</b>
<b>16.4.2</b>	<b>JUSTIFICATION</b>	<b>173</b>
<b>16.5</b>	<b>CONCLUSION</b>	<b>173</b>
<b>17</b>	<b>ENVIRONMENTAL RISK ANALYSIS</b>	
<b>18</b>	<b>DRAFT STATEMENT OF COMMITMENTS</b>	
<b>19</b>	<b>CONCLUSION</b>	

## **ANNEXURES**

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

## ***LIST OF TABLES***

<b><i>TABLE 1.1</i></b>	<b><i>CONSIDERATION OF DIRECTOR GENERAL'S REQUIREMENTS</i></b>	<b><i>5</i></b>
<b><i>TABLE 5.1</i></b>	<b><i>SEPP 71 POLICY AIMS</i></b>	<b><i>86</i></b>
<b><i>TABLE 5.2</i></b>	<b><i>SEPP 71 CLAUSE 8 – MATTERS FOR CONSIDERATION</i></b>	<b><i>88</i></b>
<b><i>TABLE 5.3</i></b>	<b><i>NSW COASTAL POLICY 1997 - GOALS</i></b>	<b><i>91</i></b>
<b><i>TABLE 6.1</i></b>	<b><i>THREATENED SPECIES ASSESSED UNDER THE THREATENED SPECIES CONSERVATION ACT 1995</i></b>	<b><i>105</i></b>
<b><i>TABLE 6.2</i></b>	<b><i>THREATENED SPECIES ASSESSED UNDER THE ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999</i></b>	<b><i>106</i></b>
<b><i>TABLE 7.1</i></b>	<b><i>ACTIVE NATIVE TITLE CLAIMS WITHIN THE STUDY AREA</i></b>	<b><i>109</i></b>
<b><i>TABLE 9.1</i></b>	<b><i>CONSTRUCTION NOISE GOALS</i></b>	<b><i>126</i></b>
<b><i>TABLE 10.1</i></b>	<b><i>ZONES OF VISUAL INFLUENCE WITHIN THE VIEWSHED</i></b>	<b><i>140</i></b>
<b><i>TABLE 10.2</i></b>	<b><i>LANDSCAPE SENSITIVITY</i></b>	<b><i>141</i></b>
<b><i>TABLE 10.3</i></b>	<b><i>SUMMARY ASSESSMENT OF PUBLICLY ACCESSIBLE VIEWPOINTS</i></b>	<b><i>142</i></b>
<b><i>TABLE 17.1</i></b>	<b><i>ENVIRONMENTAL RISK ANALYSIS</i></b>	<b><i>176</i></b>
<b><i>TABLE 18.1</i></b>	<b><i>STATEMENT OF COMMITMENTS</i></b>	<b><i>187</i></b>

## LIST OF FIGURES

<b>FIGURE 1.1</b>	<b>PROJECT AREA</b>	<b>2</b>
<b>FIGURE 1.2</b>	<b>COUNTRY ENERGY'S REGIONS</b>	<b>3</b>
<b>FIGURE 1.3</b>	<b>POTENTIALLY SENSITIVE AREAS (MULLUMBIMBY TO BALLINA)</b>	<b>10</b>
<b>FIGURE 1.4</b>	<b>POTENTIALLY SENSITIVE AREAS (BALLINA TO LISMORE)</b>	<b>11</b>
<b>FIGURE 2.1</b>	<b>EXISTING TRANSMISSION LINE CORRIDOR (MULLUMBIMBY TO BALLINA)</b>	<b>18</b>
<b>FIGURE 2.2</b>	<b>EXISTING TRANSMISSION LINE CORRIDOR (BALLINA TO LISMORE)</b>	<b>19</b>
<b>FIGURE 2.3</b>	<b>BRUNSWICK HEADS FEEDER LOOP CORRIDOR</b>	<b>21</b>
<b>FIGURE 2.4</b>	<b>NEW TRANSMISSION LINE CORRIDORS (LISMORE TO ALSTONVILLE)</b>	<b>22</b>
<b>FIGURE 2.5</b>	<b>BRUNSWICK HEADS SUBSTATION SITE</b>	<b>25</b>
<b>FIGURE 2.6</b>	<b>SUFFOLK PARK SUBSTATION SITE</b>	<b>26</b>
<b>FIGURE 2.7</b>	<b>MULLUMBIMBY SUBSTATION SITE</b>	<b>27</b>
<b>FIGURE 2.8</b>	<b>EWINGSDALE SUBSTATION SITE</b>	<b>29</b>
<b>FIGURE 2.9</b>	<b>LENNOX HEAD SUBSTATION SITE</b>	<b>31</b>
<b>FIGURE 2.10</b>	<b>BALLINA SUBSTATION SITE</b>	<b>33</b>
<b>FIGURE 2.11</b>	<b>LISMORE BULK SUPPLY POINT SUBSTATION SITE</b>	<b>35</b>
<b>FIGURE 2.12</b>	<b>LISMORE SOUTH SUBSTATION SITE</b>	<b>37</b>
<b>FIGURE 3.1</b>	<b>PROPOSED EWINGSDALE ALIGNMENT</b>	<b>41</b>
<b>FIGURE 3.2</b>	<b>PROPOSED ALIGNMENT AT SUFFOLK PARK SUBSTATION</b>	<b>42</b>
<b>FIGURE 3.3</b>	<b>PROPOSED ALIGNMENT AT FERNGROVE</b>	<b>43</b>
<b>FIGURE 3.4</b>	<b>PROPOSED BARLOWS ROAD REALIGNMENT</b>	<b>44</b>
<b>FIGURE 3.5</b>	<b>PROPOSED REALIGNMENT NEAR GAP ROAD</b>	<b>44</b>
<b>FIGURE 3.6</b>	<b>PROPOSED REALIGNMENT NEAR ALSTONVILLE</b>	<b>45</b>
<b>FIGURE 3.7</b>	<b>PROPOSED ROUTE AROUND ALSTONVILLE SUBSTATION</b>	<b>46</b>
<b>FIGURE 3.8</b>	<b>PROPOSED DUAL CIRCUIT TRANSMISSION LINE FROM</b>	
	<b>ALSTONVILLE TO LISMORE</b>	<b>47</b>
<b>FIGURE 3.9</b>	<b>LISMORE SOUTH TO LISMORE SWITCHING STATION ALIGNMENT</b>	<b>48</b>
<b>FIGURE 3.10</b>	<b>UNDERGROUND LINE ON THREE CHAIN ROAD AND</b>	
	<b>DUAL CIRCUIT TO LISMORE BSP SUBSTATION FROM SOUTH</b>	<b>49</b>

<b>FIGURE 3.11</b>	<b>EXAMPLE OF SIMILAR SUBSTATION CONSTRUCTION FOR</b>	
	<b>SUFFOLK PARK</b>	<b>50</b>
<b>FIGURE 3.12</b>	<b>MULLUMBIMBY SUBSTATION PLAN</b>	<b>53</b>
<b>FIGURE 3.13</b>	<b>EWINGSDALE SUBSTATION PLAN</b>	<b>54</b>
<b>FIGURE 3.14</b>	<b>LENNOX HEAD SUBSTATION PLAN</b>	<b>56</b>
<b>FIGURE 3.15</b>	<b>BALLINA SUBSTATION PLAN</b>	<b>57</b>
<b>FIGURE 3.16</b>	<b>LISMORE (BSP) SUBSTATION PLAN</b>	<b>59</b>
<b>FIGURE 4.1</b>	<b>AFFECTED GROWTH AREAS</b>	<b>65</b>
<b>FIGURE 4.2</b>	<b>AFFECTED GROWTH AREAS (AREA 3 NORTH AND EAST EWINGSDALE)</b>	<b>68</b>
<b>FIGURE 4.3</b>	<b>AFFECTED GROWTH AREAS (LENNOX HEAD)</b>	<b>70</b>
<b>FIGURE 4.4</b>	<b>AFFECTED GROWTH AREAS (LISMORE)</b>	<b>71</b>
<b>FIGURE 4.5</b>	<b>NORTHERN RIVERS FARMLAND PROTECTION PROJECT</b>	<b>73</b>
<b>FIGURE 5.1</b>	<b>SEPP 14 WETLAND LOCALITY PLAN</b>	<b>83</b>
<b>FIGURE 6.1</b>	<b>ECOLOGICAL CONSTRAINTS PLAN</b>	<b>101</b>
<b>FIGURE 6.2</b>	<b>ECOLOGICAL CONSTRAINTS PLAN (EWINGSDALE TO LENNOX HEAD)</b>	<b>102</b>
<b>FIGURE 6.3</b>	<b>ECOLOGICAL CONSTRAINTS PLAN (LENNOX HEAD TO ALSTONVILLE)</b>	<b>103</b>
<b>FIGURE 7.1</b>	<b>EXAMPLES OF GRINDING BOWLS AT BRUNSWICK HEADS</b>	
	<b>SUBSTATION SITE</b>	<b>113</b>
<b>FIGURE 8.1</b>	<b>VIEW LOOKING SOUTH OF THE MULLUMBIMBY POWER STATION</b>	<b>117</b>
<b>FIGURE 8.2</b>	<b>MULLUMBIMBY POWER STATION BUILDING PLAN</b>	<b>119</b>
<b>FIGURE 8.3</b>	<b>VIEW OF THE INTERIOR OF THE LISMORE POWER STATION</b>	<b>121</b>
<b>FIGURE 8.4</b>	<b>SCHEMATIC RENDITION OF THE INTERNAL CONFIGURATION</b>	
	<b>OF THE LISMORE POWER STATION</b>	<b>122</b>
<b>FIGURE 10.1</b>	<b>TRANSMISSION LINE CONFIGURATIONS, STAGGERED (LEFT), VERTICAL (MIDDLE) DUAL CIRCUIT (RIGHT), (IMAGES COURTESY OF COUNTRY ENERGY)</b>	<b>135</b>
<b>FIGURE 10.2</b>	<b>EXAMPLE OF SLIMLINE COMMUNICATIONS POLE WITH DISH ANTENNA</b>	<b>137</b>
<b>FIGURE 10.3</b>	<b>MODERATE TO STEEPLY UNDULATING, CLEARED FARMLAND</b>	<b>139</b>





## 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**.



### **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.