

Electricity Industry (Network Quality and Reliability of Supply) Code 2005

BHP Billiton Nickel West Pty Ltd

ANNUAL REPORT ON MONITORING SYSTEMS 2006

- SKM Job No: WP03242
- Revision 2
- 15 November 2006



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1. INTRODUCTION

1.1 Preamble

The Economic Regulation Authority (Authority) granted Western Mining Corporation Resources Limited trading as Nickel West (Licensee) a Distribution Licence in accordance with the *Electricity Industry Act 2004 (WA)* on the 24th March 2006. Nickel West is a subsidiary of BHP Billiton.

It is a requirement in terms of Part 4, Division 3 of the Electricity Industry (Network Quality and Reliability of Supply) Code 2005 that Nickel West appoint an independent expert to audit and report on the operation of the systems that Nickel West has in place for monitoring compliance with the Quality and Reliability Standards as described in Part 2 of the Code.

BHP Billiton Nickel West has appointed Sinclair Knight Merz (SKM) as their auditors to report on Nickel West's compliance with the Code. The professional analysis in this report has been prepared by SKM for the exclusive use of the parties to whom it is addressed. In conducting the analysis in this report, SKM has endeavoured to use what is considered the best information available at the date of publication, including information supplied by Nickel West.

The Sinclair Knight Merz Group is a leading global professional services firm working with public and private sector clients across several chosen market areas. Services include engineering, scientific studies, planning, economics, logistics, architecture, geotechnical engineering, project management and spatial information.

1.2 Commercial Consideration

BHP Billiton Nickel West is a customer of Southern Cross Energy which owns the generation assets and sells electricity to Nickel West. For this purpose, a bilateral Power Purchase Agreement is in place between Nickel West and Southern Cross Energy regulating the sale and purchase of electricity.

Similar Power Purchase Agreements are also in place between Nickel West and its customers.

These Power Purchase Agreements specify planned outages, reliability and quality of electricity supply, network modifications and dispute resolution. The reliability and quality of electricity supply specifications are in line of the requirements of the Electricity Industry (Network Quality and Reliability of Supply) Code 2005.

2. Distribution System

WMC Resources Limited trading as Nickel West originally built, owned and maintained the generation and distribution systems required to operate its assets in Western Australia. This distribution network was later extended to service regional independent mining companies.

Nickel West has since sold its generation assets and the majority of its distribution assets to TransAlta Energy Australia trading as Southern Cross Energy. The remaining sum total length of Nickel West's distribution lines is limited to 72 kilometres. The Nickel West distribution system is divided into what is referred to in the area as the Northern System and Southern System. In addition to servicing Nickel West assets, Nickel West has retained the following seven (7) customers:

Within the Northern System;

- Agnew Gold Mine Company (AGMC)

Within the Southern System;

- Blair Nickel Mine (BNM)
- Goldfields Mine Management (GMM)
- Lanfranchi Nickel Mine (LNM)
- Lightning Nickel (LiN)
- Mincor Resources NL (Mincore)
- St Ives Gold Mine Company (SIGMC)

The Northern System is an isolated system owned and operated for the most part by Southern Cross Energy. Nickel West has retained ownership of a portion of this distribution network specifically servicing the Nickel West bore fields and the township of Leinster. Leinster is a closed town by invitation from Nickel West and provides residential accommodation and service facilities to their mine site at Leinster and to Agnew Gold employees. The township of Leinster consists of approximately 280 houses and commercial premises and electricity is supplied without charge to both the domestic dwellings and commercial premises. Agnew Gold Mine was formally a WMC asset and although it is serviced by the TransAlta distribution network it remains an electricity supply customer of Nickel West.



The Nickel West Southern System is connected to the South West Interconnected System. At present, all Nickel West customers are mining operations with bilateral Power Purchase Agreements and there are no Small Use Customers (see Appendix B for distribution layout).



3. Report – Information to be published

3.1 Schedule 1 Clause 4 and Clause 10: Compliance with Voltage Fluctuations and Harmonics

Clause 4(a); the total number of breaches documented for each provision:

Total Number of Breaches Reported			
Quality and Reliability Standards	2003/2004	2004/2005	2005/2006
Voltage Fluctuations	0	0	0
Harmonic Limits	0	0	0

Clause 4(b); the remedial action documented in each case:

Remedial Action Taken			
Quality and Reliability Standards	2003/2004	2004/2005	2005/2006
Voltage Fluctuations	0	0	0
Harmonic Limits	0	0	0

No remedial action requested.

3.2 Schedule 1 Clause 5: The number of premises of small use customers which has been subject to interrupted supply of electricity

This section of the Code is not relevant to Nickel West as Nickel West supplies only mining operations and has no Small Use Customers.

3.3 Schedule 1 Clause 6 and Clause 10: The total number of complaints received

Total Number of Complaints Received			
	2003/2004	2004/2005	2005/2006
All customers	0	0	1



3.4 Schedule 1 Clause 7 and Clause 10: The number of complaints received from customers in each of the discrete areas

Discrete Customers / Areas			
Customers	2003/2004	2004/2005	2005/2006
Agnew Gold Mine Company	0	0	0
Goldfields Mine Management	0	0	0
Lightning Nickel	0	0	0
Mincor Resources NL	0	0	1
St Ives Gold Mine Company	0	0	0
Lanfranchi Nickel Mine	0	0	0
Blair Nickel Mine	0	0	0

3.5 Schedule 1 Clause 8 and Clause 10: The total amount spent by the transmitter or distributor in addressing complaints, other than by way of payment under sections 18 and 19

Total Amount of Time Spent in Addressing Complaints - Hours			
	2003/2004	2004/2005	2005/2006
All customers	0	0	2

Current records maintained by Nickel West do not include Dollar values as this has not been historically required by the Power Purchase Agreements.

3.6 Schedule 1 Clause 9 and Clause 10: The number and total amount of payments made by the transmitter or distributor under each of sections 18 and 19

Number and Total Payments Made			
	2003/2004	2004/2005	2005/2006
Number of Payments	0	0	0
Cost of Payments	\$0.00	\$0.00	\$0.00



3.7 Schedule 1 Clause 11(a), 12 and 13: The average length of interruption of supply to customer premises expressed in minutes*

Average Length of Interruptions of Supply to Customer Premises Expressed in Minutes					
Customers	2002/2003	2003/2004	2004/2005	2005/2006	Average
Agnew Gold Mine Company	-	16.58	121.30	117.56	85.15
Blair Nickel Mine	-	-	-	-	-
Goldfields Mine Management	-	-	-	49.75	49.75
Lanfranchi Nickel Mine	-	-	475.00	183.00	329.00
Lightning Nickel	-	-	-	111.33	111.33
Mincor Resources NL	-	-	475.00	200.50	245.04
St Ives Gold Mine Company	-	-	225.75	182.56	204.16

3.8 Schedule 1 Clause 11(b), 12 and 13: The average number of interruptions of supply to customer premises*

Average Number of Interruptions of Supply to Customer Premises					
Customers	2002/2003	2003/2004	2004/2005	2005/2006	Average
Agnew Gold Mine Company	-	12	23	16	17.0
Blair Nickel Mine	-	-	-	-	-
Goldfields Mine Management	-	-	-	4	4.0
Lanfranchi Nickel Mine	-	-	2	4	3.0
Lightning Nickel	-	-	-	3	3.0
Mincor Resources NL	-	-	2	6	4.0
St Ives Gold Mine Company	-	-	4	9	6.5

3.9 Schedule 1 Clause 11(c), 12 and 13: The average percentage of time that electricity has been supplied to customer premises (ASAI)*

Average Percentage of Time Electricity has been Supplied to Customer Premises					
Customers	2002/2003	2003/2004	2004/2005	2005/2006	Average
Agnew Gold Mine Company	-	99.96%	99.47%	99.64%	99.69%
Blair Nickel Mine	-	-	-	-	-
Goldfields Mine Management	-	-	-	99.96%	99.96%
Lanfranchi Nickel Mine	-	-	99.82%	99.86%	99.84%
Lightning Nickel	-	-	-	99.94%	99.94%
Mincor Resources NL	-	-	99.82%	99.77%	99.80%
St Ives Gold Mine Company	-	-	99.83%	99.69%	99.76%



3.10 Schedule 1 Clause 11(d), 12 and 13: The average total length of all interruptions of supply to customer premises expressed in minutes*

Average Length of Interruptions of Supply to Customer Premises Expressed in Minutes				
Customers	2002/2003	2003/2004	2004/2005	2005/2006
Agnew Gold Mine Company	-	16.58	121.30	117.56
Blair Nickel Mine	-	-	-	-
Goldfields Mine Management	-	-	-	49.75
Lanfranchi Nickel Mine	-	-	475.00	183.00
Lightning Nickel	-	-	-	111.33
Mincor Resources NL	-	-	475.00	200.50
St Ives Gold Mine Company	-	-	225.75	182.56
Average Total Length	-	16.58	324.26	140.78

* Note: The system operated by Nickel West does not include discrete areas as defined in the code in that all customers are located in non-urban areas outside the Perth CBD. The Nickel West Distribution System essentially operates as a radial feeder with seven mining customers each receiving supply at multiple metered points. Within the tables of this report, the information included for each customer is the accumulation of all network interruptions for the main load centres of each defined customer and is the nearest figure that Nickel West has available to satisfy the requirements of the Code.



4. Conclusions

BHP Billiton Nickel West has made detailed data available to Sinclair Knight Merz relating to network interruptions for the previous three years. This information has been audited by Sinclair Knight Merz for inclusion in this report.

BHP Billiton Nickel West's distribution assets are situated in remote locations in the Eastern Goldfields district of Western Australia. Nickel West services seven customers and has bilateral power purchase agreements in place with each of these customers. The bilateral Power Purchase Agreements specify network quality and reliability of supply. In terms of these Power Purchase Agreements, Nickel West as the supplying party incurs substantial liability in the event of loss of supply and such liability is representative of lost production.

There are no small use customers associated with the Nickel West Distribution Network.



Appendix A Terms used in this Report

“**authority**” means the Economic Regulation Authority established by the Economic Regulation Authority Act 2003;

“**code**” means the Electricity Industry (Network Quality and Reliability of Supply) Code 2005;

“**customer**” means a person whose electrical installations are connected to a transmission or distribution system for the purpose of receiving electricity supply;

“**interruption**” means a loss of electricity supply for more than one minute that is due to a cause beyond the control of the customer concerned;

“**network**” means —

(a) transmission works; or

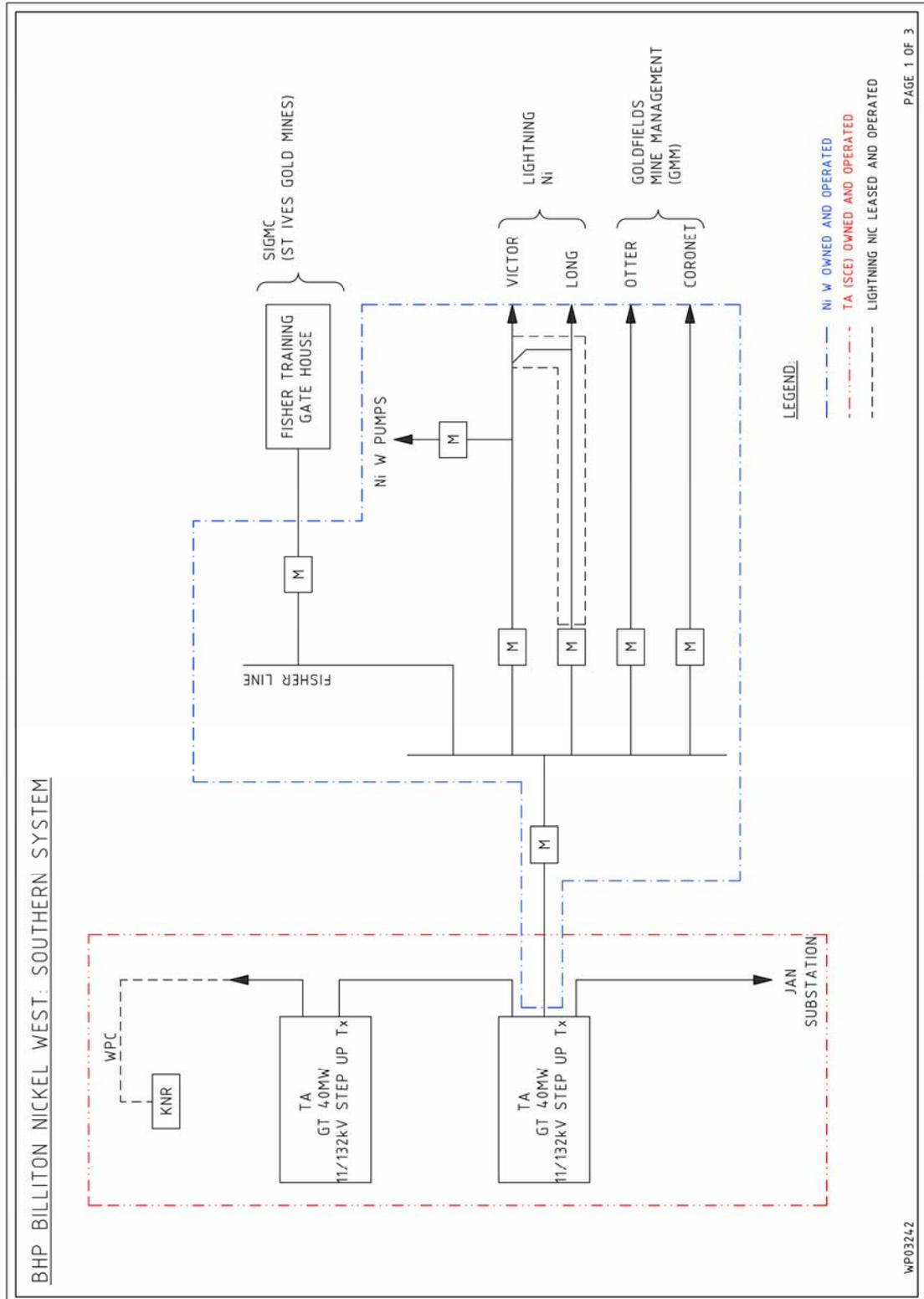
(b) distribution works,

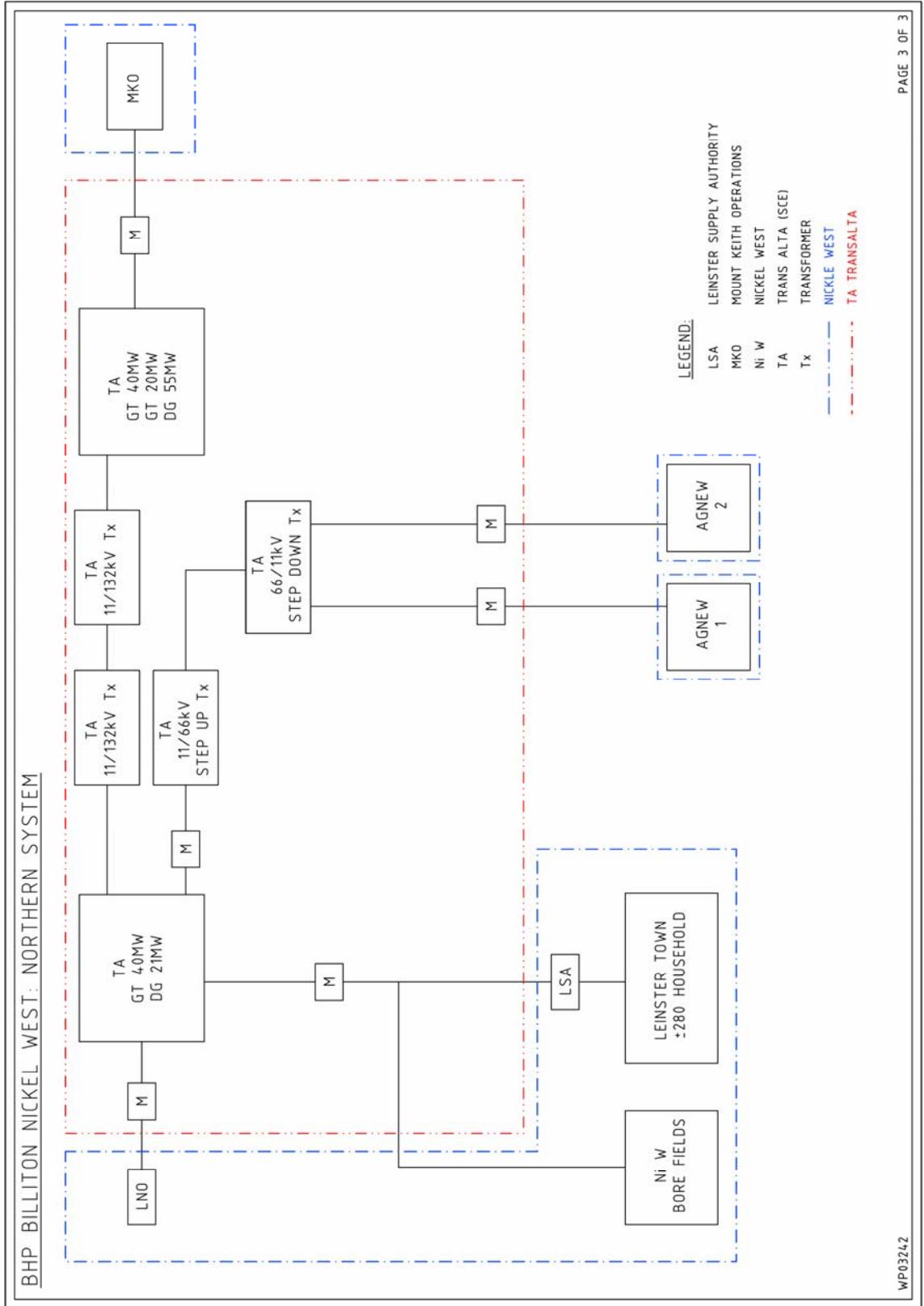
“**planned interruption**” means an interruption that is undertaken in accordance with section 11 of the Code;

“**small use customer**” means a customer who consumes not more than 160 MWh of electricity per year;

“**unplanned interruption**” means an interruption that is not undertaken in accordance with section 11 of the Code.

Appendix B Distribution Network



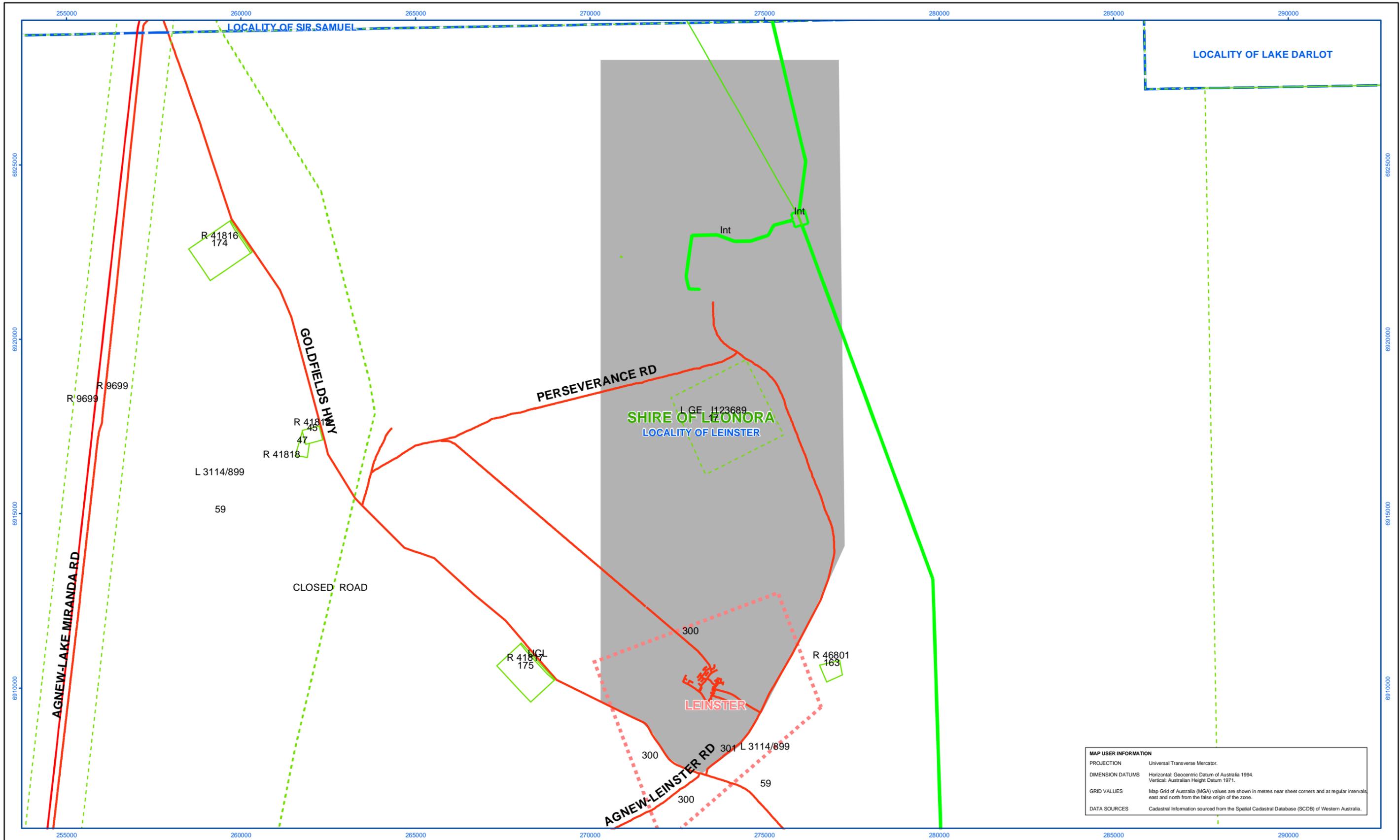


Appendix C Geographic Location of Distribution Network





Appendix D Distribution License Area



MAP USER INFORMATION
 PROJECTION Universal Transverse Mercator.
 DIMENSION DATUMS Horizontal: Geocentric Datum of Australia 1994.
 Vertical: Australian Height Datum 1971.
 GRID VALUES Map Grid of Australia (MGA) values are shown in metres near sheet corners and at regular intervals east and north from the false origin of the zone.
 DATA SOURCES Cadastral Information sourced from the Spatial Cadastral Database (SCDB) of Western Australia.

DATE	No.	DESCRIPTION	DRN	CHK	APR

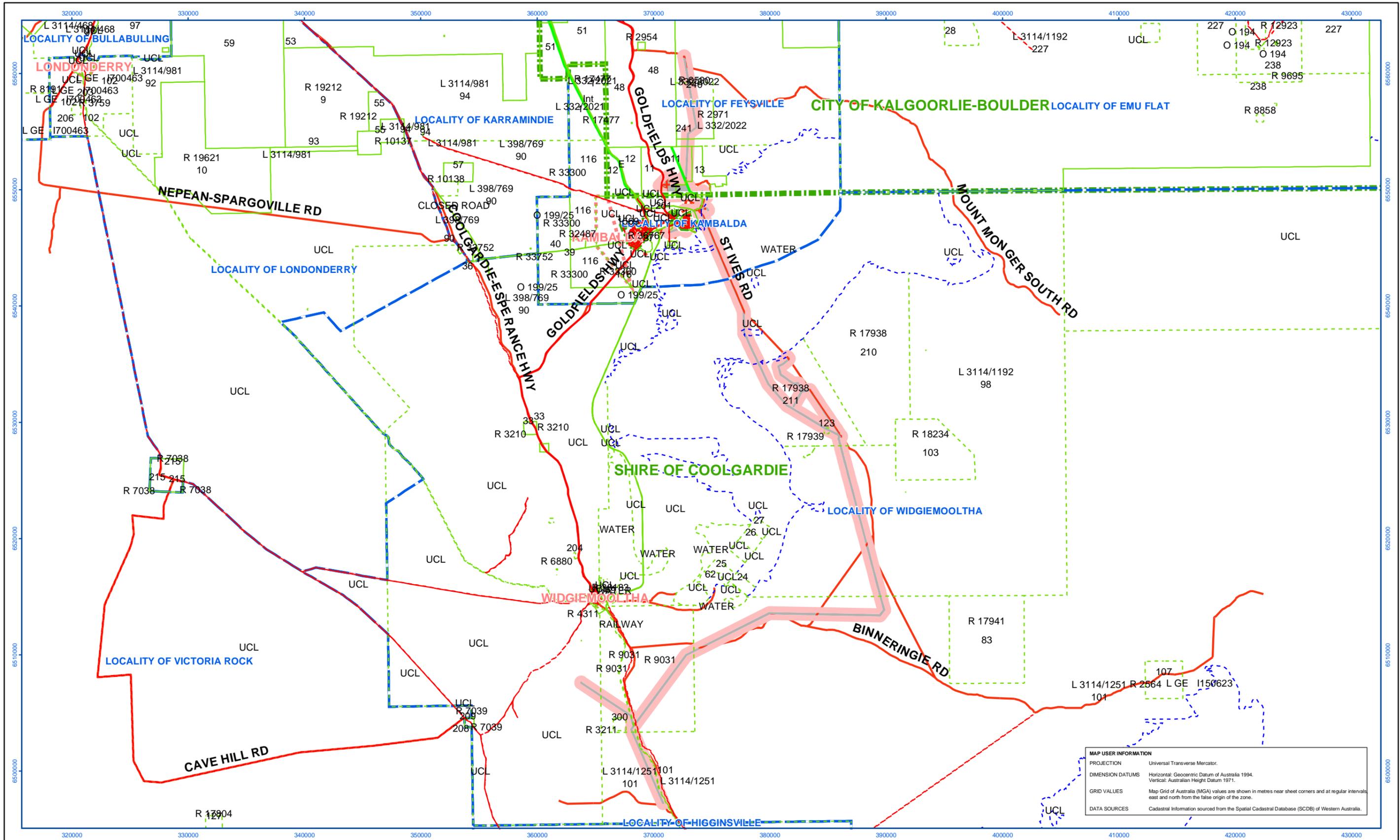


APPROVED:

CHAIRMAN
 ECONOMIC REGULATION AUTHORITY
 DATE:

ELECTRICITY INDUSTRY ACT 2004
NORTHERN GOLDFIELDS
DISTRIBUTION AND RETAIL
LICENSEE : WMC RESOURCES LTD t/a NICKEL WEST

DRAWN Geospatial Products DLI	CHECKED	APPROVED	PLAN No.	ISSUE	ORG SIZE
FILE No.	SCALE 1 :100 000	DATE	ERA-EL-070	A	A3



DATE	No.	DESCRIPTION	DRN	CHK	APR



APPROVED: _____
CHAIRMAN
ECONOMIC REGULATION AUTHORITY

DATE: _____

ELECTRICITY INDUSTRY ACT 2004
SOUTHERN GOLDFIELDS
DISTRIBUTION AND RETAIL
LICENSEE : WMC RESOURCES LTD t/a NICKEL WEST

DRAWN Geospatial Products DLI	CHECKED	APPROVED	PLAN No.	ISSUE	ORG SIZE
FILE No.	SCALE 1 : 300 000	DATE	ERA-EL-071	A	A3



Appendix E List of References

IEEE Power Engineering Society, 2003, *IEEE 1366 Guide for Electric Power Distribution Reliability Indices*, 1edn, The Institute of Electrical and Electronic Engineers, Inc, New York, U.S.A.