

Mr John Yeoman
Electra Limited
Ground Floor
Cnr Salisbury and Durham Streets
LEVIN

3 December 2004

Dear John

ODV Valuation of Electra Limited at 31 March 2004

Introduction

As requested, PricewaterhouseCoopers has reviewed the Optimised Deprival Value ("ODV") of Electra Limited's ("Electra") Electricity Lines Business ("ELB") system fixed assets as at 31 March 2004.

Electra is the lines company that owns and manages the electricity assets within the Kapiti Coast and Horowhenua districts from Foxton/Tokomaru to Paekakariki. Electra supplies 40,297 connected consumers, with a maximum combined peak winter demand of 82MW in the year ended 31 March 2004.

Electra supplies few major industrial consumers; most commercial consumers are small to medium sized. Most consumers are residential - either rural or urban in the broad categories below:

- Traditional farming – including dairy and horticulture;
- Non-traditional horticulture;
- Rural residential;
- Rural lifestyle;
- Urban residential;
- Commercial;
- Industrial

Electra's network can be summarised as:

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- Two closed 33kV rings – Kapiti and Horowhenua – connected through Otaki zone substation;
- 10 zone substations – generally located at major population centres;
- 42 radial 11kV feeders from the zone substations;
- 2,327 distribution transformers with a total installed capacity of 282,753kVA – mainly small pole mounted units with 1,259 50kVA or smaller;
- Installed in a coastal marine environment

We confirm that the ODV valuation has been calculated in accordance with the Handbook for Optimised Deprival Valuation of System Fixed Assets of Electricity Lines Businesses (“the Handbook”). The Handbook was issued by the Commerce Commission on 30 August 2004.

Part 4 of the Commerce Act (Electricity Information Disclosure) Requirements (“the Requirements”) requires that:

- ELBs publicly disclose various financial performance measures;
- these financial performance measures be based on the ODV of the ELB’s system fixed assets; and
- the ODV be calculated in accordance with the Handbook.

We stress that the valuation derived using the ODV methodology in the Handbook is intended for regulatory purposes and may not necessarily represent the fair market value of the ELB.

In reviewing the ODV valuation we have relied on advice from Kerlake and Partners Consulting Engineers (“Kerlake”). In particular, Kerlake has reviewed the replacement costs, asset lives and optimisation of the system fixed assets.

Valuation Methodology

The ODV of an asset is the minimum of the Optimised Depreciated Replacement Cost (“ODRC”) and Economic Value (“EV”). The ODRC is a measure of the cost of replicating the network in the most efficient way possible, from an engineering perspective, given its service capability and the age of the existing assets. The EV is the earnings based value

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of the network, and is obtained by calculating the Net Present Value ("NPV") of the future cash flows of the least cost equivalent service not using system fixed assets. EV is used to value uneconomic parts of the network, which are not able to fully recover their costs (including their cost of capital), with assets valued at ODRC. This equates to the value of the assets if they were (hypothetically) replaced today, with their modern equivalent assets, and any excess or uneconomic assets removed.

The key steps in the application of the ODV approach to valuing the system fixed assets of an ELB are summarised below in simple terms:

- prepare a valuation asset register;
- determine Modern Equivalent Asset ("MEA") replacement costs of each asset to determine the Replacement Cost ("RC");
- optimise the asset base to determine the Optimised Replacement Cost ("ORC");
- depreciate the RC to determine the Depreciated Replacement Cost ("DRC");
- depreciate the ORC to determine the ODRC;
- apply the EV test; and
- determine the ODV being the minimum of ODRC or EV for each segment of the system.

Optimised Depreciated Replacement Cost

Electra produced an ODRC asset register of the system fixed assets as at 31 March 2004. This information formed the basis of the valuation. For the purposes of this asset valuation, the components of Electra's electricity system were separated into a number of distinct asset categories (consistent with Table A.1 of the Handbook). A summarised version of this register is included as Table 1 overleaf. More detailed information concerning asset categories is contained in the ODV valuation report prepared by Electra.

The total RC of the system fixed assets of Electra is \$177,475,288. After charging depreciation of \$76,209,130 to reflect the age of the assets, a DRC of \$101,266,158 has been derived, and finally, following a review of system optimisation by Kerslake, an ODRC of \$101,173,264 has been determined.

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Table 1: Summary ODV asset register for Electra as at 31 March 2004

	Units	Replacement Cost (\$)	Depreciated RC (\$)	Optimised RC (\$)	ODRC (\$)	ODV (\$)
Subtransmission						
33kV lines - Heavy	km 93.40	7,289,090	4,086,778	7,289,090	4,086,778	4,086,778
33kV lines - Light	km 25.18	1,353,794	961,483	1,353,794	961,483	961,483
33kV lines DCCT Heavy	km 17.64	1,284,353	513,312	1,284,353	513,312	513,312
33kV Cables	km 13.02	3,945,932	3,314,966	3,945,932	3,314,966	3,314,966
33kV Cables - DCCT	km 7.95	1,915,950	1,794,647	1,915,950	1,794,647	1,794,647
33kV Isolation	No 14	152,000	99,686	152,000	99,686	99,686
33kV Surge Arrestors	No 21	168,000	139,200	168,000	139,200	139,200
Total - 33kV circuits		16,109,118	10,910,072	16,109,118	10,910,072	10,910,072
Zone Substations						
Land	Lot	544,000	544,000	544,000	544,000	544,000
Site Development and Buildings	Lot	13,488,859	6,730,612	13,488,859	6,730,612	6,730,612
Zone transformers	No 18	7,512,414	4,484,248	7,512,414	4,484,248	4,484,248
33kV circuit breakers - line	No 23	1,070,000	743,125	1,070,000	743,125	743,125
33kV circuit breakers - transformers	No 18	840,000	587,898	840,000	587,898	587,898
33kV circuit breakers - bus coupler	No 3	165,000	156,000	165,000	156,000	156,000
33kV circuit breakers - line protection	No 23	402,500	278,011	402,500	278,011	278,011
Transformer protection and controls	No 18	1,260,000	936,886	1,260,000	936,886	936,886
11kV indoor circuit breakers - feeders	No 43	1,290,000	798,000	1,230,000	750,545	750,545
11kV indoor circuit breakers - incomers	No 18	540,000	317,318	540,000	317,318	317,318
11kV indoor circuit breakers - bus coupler	No 5	150,000	106,462	150,000	106,462	106,462
11kV indoor circuit breakers - feeder protection	No 45	787,500	490,000	735,000	450,625	450,625
SCADA and Comms equipment	Lot	1,289,710	561,024	1,289,710	561,024	561,024
Ripple Injection Items	No 2	600,000	330,000	600,000	330,000	330,000
Total - zone substations		29,939,983	17,063,585	29,827,483	16,976,755	16,976,755
Distribution - Lines						
11kV oh medium	km 262.38	8,171,570	4,610,946	8,171,570	4,610,946	4,610,946
11kV oh light	km 448.85	14,236,032	7,965,969	14,236,032	7,965,969	7,965,969
11kV oh underbuilt heavy	km 12.49	190,083	98,244	190,083	98,244	98,244
11kV oh underbuilt medium	km 62.16	984,146	561,376	984,146	561,376	561,376
11kV oh underbuilt light	km 4.36	60,931	30,739	60,931	30,739	30,739
Totals		23,642,762	13,267,275	23,642,762	13,267,275	13,267,275
Distribution - Cables						
11kV ug heavy	km 7.57	1,024,904	785,438	1,024,904	785,438	785,438
11kV ug medium	km 154.13	17,242,388	12,870,108	17,242,388	12,870,108	12,870,108
11kV ug light	km 13.02	1,129,141	855,048	1,129,141	855,048	855,048
Total - Distribution Cables		19,396,434	14,510,594	19,396,434	14,510,594	14,510,594

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	Units	Replacement Cost (\$)	Depreciated RC (\$)	Optimised RC (\$)	ODRC (\$)	ODV (\$)
Distribution transformer						
10kVA - 1 phase	No 14	50,400	35,640	50,400	35,640	35,640
15kVA - 1 phase	No 12	43,200	35,200	43,200	35,200	35,200
30kVA - 1 phase	No 4	17,200	10,416	17,200	10,416	10,416
15 kVA - 3 phase - pole	No 98	588,000	339,533	588,000	339,533	339,533
30 kVA - 3 phase - pole	No 818	4,908,000	2,514,533	4,908,000	2,514,533	2,514,533
50 kVA - 3 phase - pole	No 313	2,504,000	1,182,667	2,504,000	1,182,667	1,182,667
100 kVA - 3 phase - pole	No 135	1,485,000	785,644	1,485,000	785,644	785,644
200 kVA - 3 phase - pole	No 43	645,000	132,167	645,000	132,167	132,167
300 kVA - 3 phase - pole	No 15	270,000	65,600	270,000	65,600	65,600
100 kVA - 3 phase - ground	No 116	1,508,000	1,028,878	1,508,000	1,028,878	1,028,878
200 kVA - 3 phase - ground	No 122	2,196,000	1,345,000	2,196,000	1,345,000	1,345,000
300 kVA - 3 phase - ground	No 453	9,060,000	4,276,444	9,060,000	4,276,444	4,276,444
500 kVA - 3 phase - ground	No 65	1,690,000	860,889	1,690,000	860,889	860,889
750 kVA - 3 phase - ground	No 11	330,000	165,333	330,000	165,333	165,333
Total - Distribution Transformers	2,219	25,294,800	12,777,944	25,294,800	12,777,944	12,777,944
LV Lines						
Overhead - LV Only	km 114.14	5,998,600	3,183,435	5,998,600	3,183,435	3,183,435
Overhead - Underbuilt	km 345.94	7,881,756	4,286,860	7,881,756	4,286,860	4,286,860
Underground - LV only	km 278.95	19,135,601	10,431,376	19,135,601	10,431,376	10,431,376
Underground - with 11kV	km 135.96	3,768,578	2,059,044	3,768,578	2,059,044	2,059,044
Total - 400V		36,784,535	19,960,715	36,784,535	19,960,715	19,960,715
Customer service connections						
LV - 1 phase - overhead	No 7,636	534,553	219,706	534,553	219,706	219,706
LV - 3 phase - overhead	No 2,577	463,822	194,120	463,822	194,120	194,120
LV - 1 phase - underground	No 26,319	8,224,538	3,568,990	8,224,538	3,568,990	3,568,990
LV - 3 phase - underground	No 3,765	2,635,649	1,146,598	2,635,649	1,146,598	1,146,598
Total - Customer Service	40,297	11,858,563	5,129,415	11,858,563	5,129,415	5,129,415
Other system Fixed Assets						
SCADA and Comms (Central Facilities)	Lot	1,176,000	699,200	1,176,000	699,200	699,200
Radio Communication hubs	No 3	330,350	279,423	330,350	279,423	279,423
Fibre Optic	km 3.67	231,744	226,594	231,744	226,594	226,594
Link Pillars	No 755	2,178,000	1,064,800	2,178,000	1,064,800	1,064,800
Streetlighting	km 42.70	1,281,000	597,800	1,281,000	597,800	597,800
Emergency Spares		345,500	338,000	345,500	338,000	338,000
Total - other system Fixed Assets		5,542,594	3,205,817	5,542,594	3,205,817	3,205,817
Totals		177,475,288	101,266,158	177,362,788	101,173,264	101,173,264

Note: Totals may not add due to rounding.

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Review of the ODRC

No reconciliation has been undertaken between the valuation database and Electra's historical accounting fixed asset records. The responsibility for the completeness and accuracy of the data lies with Electra. PricewaterhouseCoopers has not, in the course of this assignment, conducted anything in the nature of an audit of the information provided. Accordingly, we do not express an opinion as to the reliability, accuracy or completeness of the information upon which this valuation is based. We have reviewed the valuation methodology and performed sample checks on the ODRC asset register as described below.

Electra assembled an ODRC register of their ELB system fixed assets as at 31 March 2004. Our check as to the completeness and accuracy of the ODRC asset register focused on the detailed registers and the Geographic Information System ("GIS") that underlie the summarised ODRC asset register. Representative portions of the data records were checked on a sample basis. Testing primarily focused on asset categories of a material nature although samples were tested from all asset categories. In addition, reasonableness tests were performed on asset groups to ensure the completeness and accuracy of the summary schedules.

Testing was directed to examining the flow of information into the summary asset register. The steps undertaken in the process were:

- the process by which the GIS register was populated was checked for quality assurance;
- source data was selected at random and the items were traced through the GIS into the asset register;
- items were selected from asset groups within the asset register and traced to source data such as drawings and supplier documentation; and
- reasonableness tests were performed on asset groups to ensure the completeness and accuracy of the summary spreadsheet schedules.

Representative portions of the asset database were checked on a sample basis as follows:

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- site visits were made to a sample of substations and physical assets were traced to database;
- source data was selected at random and the items were traced into the asset register;
- items were selected from asset groups within the asset register and traced to source data such as drawings and supplier documentation; and
- reasonableness tests were performed on asset groups to ensure the completeness and accuracy of the summary schedules.

Economic Value

The ODV of an asset is the lesser of its ODRC and EV. The EV of an asset is lower than the ODRC where it is possible to provide the same service, at lower cost to users of the network, by an alternative means. System fixed assets are valued at their EV when it is possible to supply users by alternative means at a lower cost than the existing network.

The strict application of the above approach would require EV testing for each part of the system. This would be time consuming and impractical in many instances. The Handbook states in paragraph 2.59 however, that a comprehensive EV test need only be applied if it is considered that the write-down in asset value as a result of the EV analysis on all potentially uneconomic assets would be greater than 1% of the ODRC of all system fixed assets. In accordance with clause 2.59 of the Handbook, the EV analysis undertaken for the 2001 ODV of Electra has been considered as a guide to determine whether a comprehensive EV test is required.

In 2001, 8 segments were selected for EV testing using the segmentation criteria prescribed in paragraph 3.70 of the Ministry of Economic Development's ODV Handbook (4th edition). Together these segments comprised a total ODRC of \$5.277 million or 7.3% of the total 2001 ODRC. The EV testing applied to these segments in 2001 resulted in an EV write-down of \$96,946 or 0.13% of the total network ODRC.

Since 2001, there have been no significant changes to the configurations or supply requirements of these spurs and feeders. Increases in the replacement cost of the assets due to revised Handbook values have been offset by additional depreciation on the assets since 2001. As a result, there is no reason to consider that the results of the EV testing

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undertaken in 2001 would be materially different in 2004. In addition, there are no other segments of the network which are believed to be less economic than the feeders and spurs noted above. Therefore, as the EV write-down in 2001 was considerably less than 1% of the ODRC, it is not necessary to undertake a comprehensive EV analysis for the purposes of the 2004 ODV valuation.

Further support for this conclusion is provided by the cost of the alternative supply options for the relevant feeders and spurs. In 2001, the ODV Handbook prescribed that EV tests must be undertaken using a cost for the alternative supply option (excluding energy, but including transmission) of no more than 30 cents per kWh (or 35 - 40c/kWh including energy). Based on our analysis undertaken in 2001 and again in 2004, for those customers connected to the least economic segments, the least cost alternative use able to provide the same service, is local diesel generation. In 2001, we assessed the total costs of supply for remote segments as being greater than the maximum alternative cost allowed in the 2001 Handbook. In 2001 however, in accordance with the Handbook, the EV tests were calculated using the maximum allowable tariff of 30 c/kWh. The EV write-downs calculated in 2001 were therefore potentially overstated due to the Handbook's requirement to use 30 c/kWh as the cost of the alternative.

The 2004 Handbook does not prescribe a maximum value to be used for alternative supply options. The current cost of the fuel itself is in excess of 30c/kWh (for remote locations) and forecasts of diesel prices are not expected to result in prices any lower than 2001 prices. In addition, we have no evidence that the capital costs for diesel generation are lower in 2004 than in 2001, or will become less than 2001 costs in the medium term. These factors support our conclusion that the EV analysis undertaken in 2001 was potentially overstated. Therefore for the purposes of this valuation, and given the 2001 EV results, we conclude that the potential EV write-down in 2004, if any, will be less than 1% of ODRC.

In addition, the potential for by-pass of existing customers by alternative suppliers was considered in order to determine if additional EV analysis was required. Following discussions with Electra staff, it was concluded that no additional analysis was required as there are no instances where large customers (that is those who are likely to be of most interest to alternative suppliers), could be supplied by another network or the transmission system with costs of supply less than existing costs of supply. Thus the EV

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of these assets will be greater than their ODRC, based on the higher alternative costs, and the ODV equals the ODRC.

For the reasons outlined above therefore, and in accordance with Clause 2.59 of the Handbook, we have reviewed the system fixed asset base of the Electra network and have identified assets that are potentially uneconomic. As a result, and based on analysis previously undertaken, with consideration of changes in circumstances relevant to these assets, we conclude that an EV of these assets will not result in a material (or > 1%) reduction in the ODV of the total system fixed assets.

Optimised Deprival Value

In summary, PricewaterhouseCoopers has reviewed the ODV of Electra’s ELB system fixed assets of \$101,173,264, as at 31 March 2004. The ODV is represented by:

	Value as at 31 March 2004 (\$)
ODRC of system fixed assets	101,173,264
Less ODRC of uneconomic segments	(-)
Plus EV of uneconomic segments	-
ODV of system fixed assets	101,173,264

Assets have been valued using the standard replacement costs included in the Handbook, and depreciated against the standard asset lives also incorporated in the Handbook. Assets for which the Handbook does not include standard replacement costs, such as zone substation equipment, have been valued by Electra’s engineers on a modern equivalent replacement cost basis and reviewed by Kerlake. System optimisation has been undertaken by Electra and reviewed by Kerlake. Appendix A includes Kerlake’s written confirmation on these issues¹.

¹ The Overall ODRC Summary included as an attachment in the Kerlake written confirmation includes traffic management as a separate asset category. For reporting purposes the value associated with traffic management has been apportioned to overhead lines and underground cables. This results in differences between subtotals between the Kerlake ODRC summary and Appendix 4 in the ODV Valuation Report.

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We have also considered whether a comprehensive EV test is required, as envisaged in paragraph 2.59 of the Handbook. We have concluded that a comprehensive EV test is not required as the value of potentially uneconomic assets is less than 1% of the ODRC of all system fixed assets. We have formed this conclusion on the basis of the EV segmentation and EV testing undertaken in 2001, together with a consideration of the likely costs of the relevant least cost alternatives and an assessment of changes to the network since 2001. We have therefore valued all segments of the distribution system at their ODRC value.

General

In accordance with our normal practice, PricewaterhouseCoopers specifically disclaim any responsibility to any party for any loss or damage whatsoever suffered as a result of acting in accordance with any information contained within this report. This report has been specifically prepared for the purpose set out above.

Neither the whole nor any part of this report nor any reference thereto may be included with or attached to any document, circular, resolution, letter or statement without the prior written consent of PricewaterhouseCoopers as to the form and context in which it may appear. We retain the right to review our opinion in light of information that now exists but becomes known to us after the date of this report.

This report has been prepared for the directors of Electra solely to provide an opinion on the ODV value of the ELB system fixed assets as at 31 March 2004, for regulatory purposes. This report has not been prepared for any other purpose and we expressly disclaim any liability to any other party who may rely on this report for any other purpose.

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Please do not hesitate to contact the undersigned if you have any queries about this report.

Yours sincerely



Craig Rice
Partner
Corporate Finance



Lynne Taylor
Director
Corporate Finance

APPENDIX A



15 Te Puni Street
(off The Esplanade)
Petone, Wellington
New Zealand

PO Box 38-997, Wellington 6332
Phone: 64-4-568 4411
Fax: 64-4-568 4177
E-mail: Engineers@kerslakeconsulting.gen.nz

CIVIL, STRUCTURAL, ELECTRICAL, MECHANICAL,
ENERGY AND BUILDING SERVICES ENGINEERS

Your Ref:

Our Ref: C/N 7919-100
GP:jk

25 November 2004

PricewaterhouseCoopers
Private Bag 92162
AUCKLAND

Attention: Lynne Taylor

Dear Lynne

Re: REVIEW OF ELECTRA LTD VALUATION FOR 2004

Attached is our report on the review of the Electra Ltd valuation as at 31 March 2004.

The ODRC of the network, as at 31 March 2004, is **\$101,173,264**

If you have any questions regarding this report, please do not hesitate to contact me.

Yours sincerely
KERSLAKE AND PARTNERS

A handwritten signature in black ink, appearing to read 'G. Pallo'.

G Pallo
Consultant
Encls

Cc: Electra Ltd.-Attn Rachael Hughes