



The Review of the Independent Engineer's Report on the Asset Adjustment Process of Electricity Invercargill Limited

Final Report
November 2012

Prepared for



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STATEMENT OF INDEPENDENCE

This review has been conducted under the terms and conditions as specified in the Agreement entered into by Nel Consulting Limited (NCL) for this project.

The review required NCL to rely extensively on data provided by Electricity Invercargill Limited (EIL), including the Independent Engineer's Report and other documents submitted during the course of this review.¹ NCL was not required to independently verify the accuracy of this information, nor audit any financial information. It is for this reason that the accuracy of this review was highly dependent on the information provided to NCL. Where inconsistencies or conflicts were found in the data provided, NCL exercised its own best judgment to resolve the said inconsistencies or requested further clarification.

NCL confirms that, to the extent possible and with the information available, the review results have been determined in an independent and unbiased manner, by applying the methodology as set out in this report, and represent our best financial and technical judgments in support of the comments or recommendations made in this report.

¹ The information provided for this project includes the Independent Engineer's Report, Asset Adjustment Report, and Information Request Schedules.

1. EXECUTIVE SUMMARY

1.1 REVIEW OF EIL's COMPLIANCE TO INFORMATION REQUIREMENTS

The review conducted by NCL consists of an assessment of the Independent Engineer's Report submitted by EIL with particular focus on the non-exempt electricity distribution business' (EDB) compliance with the information requirements set out in Schedule C of the Commerce Commission's (Commission) Information Request².

The tables below summarise the results of the review while details of the assessment can be found in Section 3, Section 4 and Appendix A of this report.

Table 1: General Compliance to Schedule C Requirements

SCHEDULE C - General Compliance					
EDB	The report must be completed by an 'engineer' as defined in clause 1.1.4 of the EDB Input Methodologies	The report must be in writing and accessible in electronic format	The report must include a copy of the written instructions provided to the engineer by the EDB	The report must include a table summarising the various asset value adjustments and corresponding to Schedule A4 of the Information Disclosure Notice Templates	The report must include a signed statement by the engineer
EIL	Yes	Yes	Yes	Yes	Yes

Note: 'Yes' means that the EDB has complied with the requirements set, whereas 'No' means that the EDB has not fully complied with a specific requirement.

It can be observed from the table above that the EDB has complied with the general requirements set out in Schedule C.

The succeeding table provides an overview of the EDB's compliance in terms of Table 1 of the Commission's Information Request. Table 1 of the aforementioned request sets out the minimum information requirements for asset adjustments in terms of the following categories:

- Inclusion of load control relay;
- Correction of asset register errors;
- Re-application of a multiplier; and
- Re-application of optimisation or economic value test.

² Notice to Supply Information to the Commerce Commission, Section 53ZD of the Commerce Act 1986, Commerce Commission, 16 March 2011.

Table 2: Compliance to Schedule C – Table 1

SCHEDULE C - Table 1 Specific Compliance				
EDB	Category of Adjustment			
	Load Control Relay	Correct Asset Register Errors	Re-apply Multiplier	Re-apply Optimisation or Economic Value Test
EIL	N/A	Yes	Yes	N/A

Note: 'Yes' means that the EDB has complied with the requirements set, 'No' means that the EDB has not complied or partly complied with a specific requirement, and N/A means that the requirement is not applicable to the EDB.

For the EDB's proposed asset value modification, it can be observed from the table above that the EDB has complied with the requirements set out in Table 1 of the Commission's Information Request.

1.2 RECOMMENDATIONS

The table below summarises the EDB's proposed value adjustments and NCL's recommended value adjustments based on the review of the Independent Engineer's Report.

Table 3: Recommended Asset Adjustments

EIL							
Asset adjustment process - adjustments (in \$000)		2004	2005	2006	2007	2008	2009
Include load control relays		-	-	-	-	-	-
Correct asset register errors	11kV and LV cables	(368)	-	-	-	-	-
Re-apply an existing or modified multiplier		3,219	-	-	-	-	-
Re-apply optimisation or EV tests		-	-	-	-	-	-
Total Adjustments		2,851	-	-	-	-	-
NCL Proposed Adjustments		-	-	-	-	-	-
Total Adjustments (net of NCL proposed adjustments)		2,851	-	-	-	-	-

2. INTRODUCTION

2.1 OVERVIEW

NCL was contracted by the Commission to undertake the review and provide advice on the Independent Engineer's Report on asset value adjustments as submitted to the Commission by EIL as part of completed statutory information requests.

These statutory information requests emanate from the requirements set out under Part 4 of the Commerce Act 1986 (the Act) from which it is required to set default price-quality paths (DPPs) for suppliers subject to default price quality regulation.

As part of setting the DPP, the Commission is required to specify the starting prices applying to each supplier in order to inform its decisions on any starting price adjustments. Given this, the Commission requested information from the EDBs by way of notice under 53ZD of the Act on 16 March 2011 (Information Request).

Consistent with relevant input methodologies determined by the Commission in December 2010 – Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2010 (EDB IMs), an EDB is permitted to undertake an 'asset adjustment process' for setting its initial regulatory asset base. Such process allows EDBs to alter the starting value of their asset base from the value disclosed as at 31 March 2009 under existing EDB information disclosure requirements.

Schedule C of the Commission's Information Request sets out the minimum information requirements necessary to be disclosed on adjustments to assets and requires an Independent Engineer's Report to be completed.

This report summarises NCL's review of the Independent Engineer's Report on the asset value adjustments submitted by EIL.

3. COMPLIANCE WITH INFORMATION REQUIREMENTS

3.1 INTRODUCTION

As per the EDB IMs³, an EDB is allowed to adjust its initial regulatory asset base. To be able to do this however, an EDB must comply with the minimum information requirements set out in Schedule C of the Commission's Information Request. The aforementioned schedule also clearly specifies foremost compliance to the asset adjustment process as set out in clause 2.2.1 of the EDB IMs.

The adjustment process detailed in the EDB IMs stipulates that an EDB may choose to undertake none, some or all of the following adjustments:

1. Designate a load control relay asset owned by an EDB, except a 2009 disclosed asset;
2. Correct the following types of asset register errors where the error relates to 2009 disclosed assets;
 - a. Assets omitted in error;
 - b. Assets included in error; and
 - c. Assets allocated to the incorrect asset category, or given an estimation of quantity, age, category or location now known to be incorrect.
3. Re-apply a multiplier where more accurate information relating to the application of the multiplier has subsequently become available;
4. Re-apply the following types of multiplier in the manner described:
 - a. Rugged terrain multiplier may be amended to the modified range and may also be applied to non-standard designs of overhead line networks;
 - b. The business district multiplier may be amended to the modified range; and
 - c. The rocky ground multiplier may be amended to the modified range may also be applied to cables laid in loose rock or sand.
5. For a 2009 disclosed asset whose values was affected by the application of an optimisation or economic value test, the asset may subsequently be included, excluded or its value modified.

Furthermore, clause 2.2.2 of the EDB IMs set out the specific assets that should be included and excluded in the regulatory asset base; thus, the EDB's proposed adjustments to the initial regulatory asset base in terms of proposed correction of assets omitted and included in error should be consistent with what is allowed for in the EDB IMs.

As per the EDB IMs, EDBs should exclude the following from their regulatory asset base:

1. Assets not used to supply electricity distribution services;

³ Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2010, Commerce Commission, 22 December 2010.

2. Designated as 'excluded' type as a result of the asset adjustment process;
3. Easement land;
4. Intangible assets, unless they are
 - a. Finance leases; or
 - b. Identifiable non-monetary assets; and
5. Works under construction.

On the other hand, the following are allowed to be included in the regulatory asset base value:

1. 2009 disclosed assets; and
2. An asset which, as a result of the asset adjustment process is designated as 'included'.

3.2 COMPLIANCE REVIEW RESULTS

This portion of the review focuses on the EDB's compliance to the information requirements set out in Schedule C of the Commission's Information Request. The results of NCL's compliance assessment of the Independent Engineer's Report submitted by the EDB are also presented in Appendix A of this report. A more comprehensive review was conducted by NCL in relation to the EDB's proposed asset adjustments which are discussed in more detail in the succeeding sections.

Appendix A lists the different minimum requirements for an Independent Engineer's Report as well as the minimum information requirements for each proposed adjustment. Where NCL believes a particular information submission is unclear, we have indicated the reason for uncertainty or specified additional information that may be submitted in order to ascertain the compliance to a particular requirement.

The following tables summarise the results of NCL's review of the EDB's compliance to Schedule C and Table 1 of the Commission's Information Request.

Table 4: General Compliance to Schedule C Requirements

SCHEDULE C - General Compliance					
EDB	The report must be completed by an 'engineer' as defined in clause 1.1.4 of the EDB Input Methodologies	The report must be in writing and accessible in electronic format	The report must include a copy of the written instructions provided to the engineer by the EDB	The report must include a table summarising the various asset value adjustments and corresponding to Schedule A4 of the Information Disclosure Notice Templates	The report must include a signed statement by the engineer
EIL	Yes	Yes	Yes	Yes	Yes

Note: Refer to Appendix A for details regarding the analysis presented in the table above.

'Yes' means that the EDB has complied with the requirements set, whereas 'No' means that the EDB has not fully complied with a specific requirement.

From the table above it can be observed that the EDB has complied with the general compliance requirements as specified in Schedule C of the Commission's Information Request.

Table 5: Compliance to Schedule C Table 1 – Load Control Relays and Register Error Corrections

SCHEDULE C - Table 1 Compliance - Load Control Relays and Correction of Asset Register Errors								
EDB	Load Control Relay		Correct Asset Register Errors					
	Included		Included	Excluded	Value Modified			
	Number and Description	DHC or Depreciated Carrying Value	Description and Value	Description and Value	Description and Type of Error	Value of Each Asset	Calculation of Relevant Adjustment	Resultant Modified Value
EIL	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes

Note: Refer to Appendix A for details regarding the analysis presented in the table above.

'Yes' means that the EDB has complied with the requirements set, 'No' means that the EDB has not fully complied with a specific requirement, and N/A means that the requirement is not applicable to the EDB.

The EDB has not proposed any asset adjustment in relation to the inclusion of a load control relay and adjustments in relation to assets included or excluded in error. For the EDB's proposed asset value modification, it can be observed from the table above that the EDB has complied with the requirements set out in Table 1 of the Commission's Information Request.

Table 6: Compliance to Schedule C Table 1 – Multipliers

SCHEDULE C - Table 1 Compliance – Multipliers							
EDB	Re-apply Existing multiplier			Re-apply Modified Multiplier			
	Value Modified			Value Modified			
	Description and ODV Value for Each Asset	Description of More Accurate Information	Calculations Used and Resultant Modified Value	Description and ODV Value for Each Asset	New Multiplier and Reason for Selection	Supporting Facts and Reasons	Calculations Used and Resultant Modified Value
EIL	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Refer to Appendix A for details regarding the analysis presented in the table above.

'Yes' means that the EDB has complied with the requirements set, whereas 'No' means that the EDB has not fully complied with a specific requirement.

It can be observed from the table above that the EDB has complied with the requirements set out in Table 1 of the Commission's Information Request in relation to adjustments in relation to the reapplication of existing and modified multipliers.

Table 7: Compliance to Schedule C Table 1 – Optimisation or Economic Value Test

SCHEDULE C - Table 1 Compliance - Optimisation or Economic Value Test					
EDB	Re-apply Optimisation or Economic Value Test				
	Included or Value Modified				
	Description and ODV Value for Each Asset	Value of each asset in the ODV had the assets not been optimised or subject to the economic value test	Value after reapplying more up-to-date information	Details of supporting facts where relevant to support the reapplication	Resultant 'included value' at 2004 ODV value
EIL	N/A	N/A	N/A	N/A	N/A

Note: Refer to Appendix A for details regarding the analysis presented in the table above.

'Yes' means that the EDB has complied with the requirements set, 'No' means that the EDB has not fully complied with a specific requirement, and N/A means that the requirement is not applicable to the EDB.

The EDB has not proposed any adjustment in relation to optimisation and economic value test.

4. DETAILED REVIEW OF ASSET VALUE ADJUSTMENTS

4.1 LOAD CONTROL RELAY AND REGISTER ERROR CORRECTIONS

The EDB has not proposed any adjustment in relation to load control relays. In relation to the correction of asset register errors, the EDB has identified that some 11kV and low voltage (LV) cables have been previously classified incorrectly.

The errors in cable classification were identified during the validation checks conducted by the EDB between the geographical information system (GIS) and the 2004 optimised deprival valuation (ODV) database and consequently a corrected standard cost was applied to assets found to be incorrectly classified. The independent engineer checked a sample of the cables in the GIS against the 2004 ODV database. Furthermore, the independent engineer reviewed calculation as well as the standard costs that were applied to confirm that the costs match the standard cost in the ODV Handbook.

NCL recommends no adjustment in relation to the EDB's proposed value modification.

4.2 MULTIPLIER RELATED ASSET VALUE ADJUSTMENTS

The EDB IMs allow the EDBs to adjust the application of multipliers where better information has subsequently become available. Furthermore, the Commission revised the multiplier ranges set in the 2004 ODV Handbook to as follows:

- a. Rugged terrain multiplier now range from 1.2 to 1.8 times and may also be applied to non-standard designs of overhead line networks that accommodate difficult physical or climatic conditions involving swampy ground, high winds or snow;
- b. Business district multiplier now range from 1.15 to 2.5 times; and
- c. Rocky ground multiplier now range from 1.0 to 2.0 times and may also be applied to cables installed in loose rock or sand.

This section focuses on the review of the EDB's proposed multiplier related adjustments.

4.2.1 Re-apply an Existing Multiplier

From the review performed by EIL of the 2004 ODV, it has been determined that the traffic management allowance was incorrectly applied or incorrectly categorised.

The independent engineer set out to review the proposed adjustment by performing an assessment of the documents provided by the Invercargill City Council which was used to determine the traffic management levels for the EDB's network beyond the CBD areas. Furthermore, the maps and photographs of the Invercargill City roads were compared against the output from the GIS system to confirm that they have been applied consistently. Lastly, the independent engineer reviewed the values being used for overhead and underground traffic management and confirmed that it correlates with that of the ODV Handbook.

From NCL's assessment of the information provided, NCL recommends no amendment in relation to the EDB's proposed adjustment in relation to the reapplication of an existing multiplier.

4.2.2 Re-apply a Modified Multiplier

For the 2004 ODV, the EDB has utilised only one business district multiplier. In its current submission, the EDB has now revised the classification to include three different business district multipliers (“Core” CBD, “Outer” Core CBD and “Arterial Commercial Area”) and three different multipliers that applies to 33kV cables. These multiplier magnitudes were developed from establishing the average cable installation cost, accounted for economies of scale, discounted/indexed the costs back to 2004 dollars, compared with the standard ODV Handbook installation costs and also included an additional factor to arrive at a multiplier level.

The independent engineer has reviewed the information supplied by the EDB and Energia’s report and has indicated that they are satisfied that the approach taken was appropriate.

NCL notes that the independent engineer tested a sample of cables in the “Core” CBD area, reviewing the length in the GIS against the 2004 ODV database. From the report it is not clear if a similar test was done for the other areas namely the “Outer” CBD and “Arterial Commercial Area”. However, NCL also notes that the independent engineer has indicated that they are of the view that the proposed adjustments are justified.

From the above, NCL recommends no adjustment in relation to the EDB’s proposed reapplication of a modified multiplier.

4.3 OPTIMISATION AND ECONOMIC VALUE TEST

The EDB has not proposed any adjustment in relation to optimisation or economic value test. However it is worth noting that as per Section 3.5.1 of the Independent Engineer’s Report, it is indicated that the LV optimisation related to trench optimisation has been applied in the reapplication of the business district multiplier in the adjustment process. From this statement and based on the fact that the EDB has not proposed any optimisation related adjustment, NCL has assumed that the reapplication of optimisation to LV assets has not resulted to changes in optimisation.

APPENDIX A: COMPLIANCE TO INFORMATION REQUIREMENTS

EIL – Schedule C General Requirements

SCHEDULE C INFORMATION REQUIREMENTS	COMPLIANCE		NCL COMMENTS
	YES	NO	
1. The report must be completed by an 'engineer' as defined in clause 1.1.4 of the EDB IMs	✓		
2. The report must:			
a. be in writing and accessible in electronic format;	✓		
b. include a copy of the written instructions provided to the engineer by the EDB;	✓		
c. include a table summarising the various asset value adjustments and corresponding to Schedule A4 of the Information Disclosure Notice Templates;	✓		
d. provide the minimum information for each category of asset adjustment outlined in Table 1.	See Schedule C Table 1 Review below.		
e. include a signed statement by the engineer.	✓		

EIL – Schedule C Table 1 Requirements

CATEGORY OF ADJUSTMENT ⁴	DESIGNATED ASSET TYPE	TABLE 1 INFORMATION REQUIREMENTS	COMPLIANCE		NCL COMMENTS
			YES	NO	
1. Correct Asset Register Errors	Value modified	• Description and type of error	✓		
		• Value of each asset	✓		
		• Calculation of relevant adjustment	✓		
		• Resultant modified value	✓		
2. Re-apply existing multiplier	Value modified	• Description and ODV valuation for each asset	✓		The ODV valuation was provided on an aggregated basis.
		• Description of the more accurate information (including supporting facts where relevant)	✓		
		• Calculation to the relevant modification to the ODV and the resultant 'modified value' at 2004 ODV value	✓		
3. Re-apply a modified multiplier	Value modified	• Description and ODV valuation for each asset	✓		The ODV valuation was provided on an aggregated basis.
		• Specification of the alternative multiplier and the reason for selecting the value within the range	✓		
		• Details of supporting facts where relevant to support the reason	✓		The independent engineer tested a sample of cables in the Core CBD area, reviewing the length in the GIS against the 2004 ODV database. Although in the report it is not clear if a similar test was done for other areas, NCL notes that the

⁴ The categories of adjustments presented in the table include only the categories where adjustments have been proposed by the EDB.

EIL – Schedule C Table 1 Requirements

CATEGORY OF ADJUSTMENT ⁴	DESIGNATED ASSET TYPE	TABLE 1 INFORMATION REQUIREMENTS	COMPLIANCE		NCL COMMENTS
			YES	NO	
					independent engineer has indicated that they are of the view that the proposed adjustments are justified.
		<ul style="list-style-type: none"> Calculation to the relevant modification to the ODV and the resultant 'modified value' at 2004 ODV value 	✓		