



**SOUTHERN  
GENERATION**  
LIMITED PARTNERSHIP

1 October 2019

Submissions  
Electricity Authority  
P O Box 10041  
Wellington 6145

By email: [submissions@ea.govt.nz](mailto:submissions@ea.govt.nz)

CC: Ron Beatty, Electricity Authority [ron.beatty@ea.govt.nz](mailto:ron.beatty@ea.govt.nz)

Dear Jean-Pierre,

**Re: Consultation Paper – Transmission pricing review**

The Southern Generation Limited Partnership (SGLP) appreciates the opportunity to provide the Electricity Authority (Authority) with feedback on the 2019 transmission pricing methodology (TPM) proposals.

SGLP consists of southern lines companies The Power Company Ltd (TPC) and Electricity Invercargill Ltd (EIL), and Central Otago-based Pioneer Generation Ltd, and is a generation investment partnership. SGLP owns two windfarms – Mt Stuart, near Milton and Flat Hill near Bluff. In December 2015 SGLP purchased the Aniwhenua hydro power station from Nova Energy. Total annual output of SGLP's distributed generation plant is more than 200GWhs with another 30GWh under construction.

SGLP supports the submissions by the Independent Electricity Generators Association (IEGA) and Pioneer Energy Limited.

A key focus of this submission is on the treatment of the Aniwhenua power station in the Authority's TPM modelling. We have provided the Authority with questions to clarify the treatment but, as requested, also highlight our concerns/questions in this submission.

The connection configuration of Aniwhenua is complicated. We have copied Ron Beatty on this submission as he is very aware of the arrangements for the ANI connection. Also attached is a copy of an Information Paper prepared by the Electricity Commission in 2008 to assist with understanding reconciliation.

The power plant has both 33kV and 110kV switchgear. A Prudent Discount Agreement with Transpower and Horizon relates to the 110kV connection resulting in this connection being notionally embedded. However, this is only one aspect of the power plant which is separate from the embedded 33kV connection to the Horizon network.

Injection into the Horizon network via this 33kV connection behind the Edgecumbe GXP was confirmed during the analysis of Lower North Island distributed generation to be eligible to continue to receive ACOT.<sup>1</sup>

Our understanding of the TPM spreadsheets released on the EMI website is that a significant volume of load has been assigned to SGLP that 'belongs to' the Horizon network. As a result of this incorrect load allocation the estimated Residual charge payable by SGLP is \$0.6m. If this incorrect load allocation is not corrected SGLP will be at a massive unjustified competitive disadvantage relative to other generators – who do not pay the Residual charge.

The following questions have been submitted to the TPM team in relation to Aniwhenua:

1. As discussed in person, could the EA please check the load and the Gross AMD numbers assigned to Southern Generation at the MAT1101\_BOPD POC Network connection. The reconciliation arrangements for Aniwhenua power station are complex and we have provided an information paper by the EA that could assist with your understanding.
2. Could you please confirm if the generation output of Aniwhenua will be treated as grid connected or embedded for the Benefit-based charge and the Residual charge.

If there is a marked increase in transmission costs for SGLP we query if the cap of 3.5% applies to generators as well as load?

SGLP operates the Aniwhenua power station to maximise injection into the Horizon network. If there is any generation in excess of local load, this is exported to the transmission grid via the notionally embedded arrangements. We have sought clarity from the Authority about treatment of distributed generation under the Benefit-based charge – as follows:

3. Our understanding is that the EA's calculation of the allocation of the Benefit-based charge for the seven historic transmission investments for grid generators, network companies and direct connects is based on net generation or load (at a GIP or GXP respectively). For network companies, this means Gross AMD minus the anytime maximum output of the distributed generation connected to that network.
  - a. Is it the EA's intention that the allocation of Benefit-based charges for new transmission investments will be on the same basis?
  - b. What is the proposed treatment at a node if from time to time it is importing electricity from the transmission grid (a GXP) and from time to time it is injecting electricity on to the transmission grid (a GIP)?

In addition to our focus on the treatment of the Aniwhenua hydro power station, our key concerns about the proposed TPM are:

- the radically different approach to recovering transmission costs which is being imposed on a drop-dead date without any risk mitigation strategy
- removal of a peak demand signal (the RCPD interconnection rate) (with the possibility of a short-term transitional peak charge) when gross demand is estimated to be 20% higher than the electricity volumes currently transported by the transmission grid
- differing treatment of grid connected generation and distributed generation: Grid connected generation uses the transmission grid so is subject to the Benefits-based charge but the proposal is for this to be based on **net** generation after any load. Distributed generation does not, by definition, use the transmission grid but the local networks exposure to the Residual charge is proposed to increase relative to the current allocation of transmission charges by the amount of distributed generation on the network ie **gross** not net.

SGLP submits the Authority can achieve its statutory objective by making incremental changes to the current TPM that:

- reallocates the HVDC to a wider group of beneficiaries, and
- reduces the strength of the current regional coincident peak demand measure for allocating interconnection costs.

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<sup>1</sup> <https://www.ea.govt.nz/development/work-programme/pricing-cost-allocation/acot-code-change-implementation/>

Adopting this approach would involve a lot less risk and uncertainty at a time when the government is looking to the electricity sector to make a significant contribution to its climate change targets and commitments.

Please contact me if you require further clarification in relation to the Aniwhenua hydro power station.

Yours sincerely,



Fraser Jonker  
*Managing Director*

**SOUTHERN GENERATION  
LIMITED PARTNERSHIP**

**Attachments:**

- Information paper for Aniwhenua and Horizon grid connection points, Electricity Commission

## **Information paper for Aniwhenua and Horizon grid connection points**

### **Settlement under part J of the Electricity Governance Rules 2003**

This information paper has been prepared by the Electricity Commission for the purposes of assisting participants and others in interpreting and determining how participants might comply with certain rules in parts E and J Electricity Governance Rules 2003 that come into force on 1 May 2008.

The information paper does not form part of the Rules. It is provided for general information only and not as legal advice. It does not establish any legal obligation itself.

Although the Commission has taken every care in the preparation of the content of this information paper, the Commission offers no warranty (express or implied) as to the accuracy, completeness, or legality of that content. The Commission is not liable or responsible to any persons for direct or indirect loss or damage that may result from the action or failure to act by any person in reliance on the information paper.

The publishing of this information paper does not place any obligation on the Commission to follow any interpretation contained in it when carrying out any of its functions under the Electricity Act 1992.

A full copy of the Rules can be found at [www.electricitycommission.govt.nz](http://www.electricitycommission.govt.nz).

#### **Version control**

Version	Date issued	Comments/amendments
1.0	7 April 2008	Creation of information paper in draft format.
2.0	30 May 2008	Participant names corrected in paras 21 and 30 Para 15 deleted.

## Introduction

1. This information paper has been prepared by the Electricity Commission (Commission) for the purpose of assisting **participants** and others in interpreting and determining how **participants** might comply with certain rules in parts A, E and J of the Electricity Governance Rules 2003 (**Rules**) that come into force on 1 May 2008.
2. Bolded words in this information paper refer to definitions in part A of the **Rules**. This paper should be read in conjunction with the **Rules**.

## Reconciliation of the network connections

3. The Aniwhenua and Horizon **network** connection is complex and has been difficult to resolve historically. However, the inclusion of **balancing areas** and interconnection points between **networks** in the new reconciliation rules enables the process of settlement to be simplified.
4. The reconciliation system will process the electricity flow data from **metering information** and will allocate residual volumes to each of these **network** areas either within a **local network** or an **embedded network**. The concept of residual volume for the **local networks** involved in this settlement is to represent the generation injection and extraction through the **grid** connection points.
5. For submissions to the **reconciliation manager**<sup>1</sup> and the management of **installation control points (ICP)**<sup>2</sup> **participants** must comply with the **certification** requirements in the new part J<sup>3</sup> and the audit requirements in the revised part E<sup>4</sup> of the **Rules** which will come into effect on 1 May 2008.
6. For the purpose of transitional information, **reconciliation manager** notifications, **network supply point (NSP)** setups, and population of the **registry**, the Commission recommends that, although it is not a rule requirement, that
  - (a) The existing **embedded network** configuration should remain in place until 1 May 2008 modified to suit the new rules.

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<sup>1</sup> Rule 4 of part J.

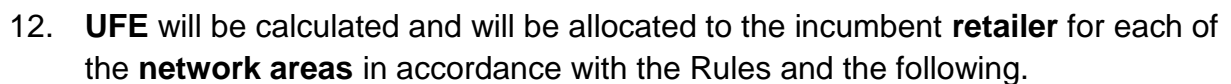
<sup>2</sup> Refer to the **distributor** and **retailer** obligations set out in part E of the **Rules** that relate to the maintenance and management of **ICPs**.

<sup>3</sup> Rule 19 of part J.

<sup>4</sup> Rule 10 of part E.

- (b) Transitional revisions are submitted in accordance with the existing **NSPs** and back dated to 1 May 2006.
- (c) As at 1 May 2008 the Horizon **embedded network** will become part of the LINE **local network** connected to EDG0331 and the existing **embedded network** NSP will be replaced with an interconnection point NSP.
7. The new part J and revised parts A, E and D. Rule 11.3 of part J requires the **reconciliation manager** to conduct a reconciliation for **consumption periods** that are up to 24 months prior to the **reconciliation period** in which a request to do so is made. If such a request is granted in the first two years after the new rules come into force, in order to undertake the reconciliation, the **reconciliation manager** will require information that relates to **consumption periods** before part J came into force. **Retailers** have undertaken to provide this information if requested, although this is not strictly required by the **Rules**.
8. The **network** connections have been defined in the diagrams below for the transitional revision configuration, and the post 1 May 2008 configurations, as well as the **electricity** flow into and out of each **network**. These flow directions are used within the description of the calculation later in this information paper. Individual responsibilities of specific **participants** are detailed in paragraphs 26 to 32. The actual physical connections are shown in the attached Appendix 1.
9. A **reconciliation type** identifies the type of processing that the **reconciliation manager** carries out during reconciliation. **Reconciliation types** do not define how a point of connection is classified in terms of the **Rules** as a **grid injection point (GIP)** or **grid exit point (GXP)**.
10. Equations are set out below that represent energy settlement to assist **participants'** understanding of the new and amended rules. Please note that these equations do not fully represent the complexity of solving each **network** area. The details are contained within the **reconciliation manager's** system for solving **embedded networks** with residual volumes and bi-directional flows, and interconnection points with bi-directional flows.

11. Settlement for the transitional revision period will be carried out using differencing by the **reconciliation manager**, however the **network** configuration will be as the below. This settlement configuration will remain in place for all transitional revision period settlement until global reconciliation becomes effective on 1 May 2008.



*For NSP = MAT1101 BOPE GN (Aniwhenua)*

13. MAT1101 BOPE GN is a **grid connected network** and the **point of connection** is defined as a **GXP**.<sup>5</sup> Bay of Plenty Electricity (BOPE) is the connected party and, under the **Rules**, the **Grid Owner** has responsibility for providing **submission information** to the **reconciliation manager** for meter M2, for this **grid connection point**.<sup>6</sup> Submissions to the **reconciliation manager** should be made against MAT1101 BOPE GN using file format AV-130 contained in the **reconciliation manager** functional specification.<sup>7</sup>
14. In terms of settlement the Commission considers that, although it is not an explicit rule requirement, the following equation describes the methodology that will be applied by the **reconciliation manager** to enable **participants** to comply with the relevant rules, and for settlement that will be referenced to WKM2201:

$$\text{MAT1101 BOPE GN total} = \text{M2} - \text{M3}$$

(where M2, and M3 represent meters).

*For NSP = EDG0331 HEDL GN (Horizon **local network** (HEDL))*

15. Under the settlement methodology for the Horizon **local network**, the **point of connection** (EDG0331) is treated as a **GN reconciliation** type, with the **grid** incumbency volume settled by difference and being a residual volume.
16. EDG0331 HEDL GN is a **grid connected network** and the **point of connection** is defined as a **GXP**.<sup>8</sup> HEDL is the connected party and, under the **Rules**, the **Grid Owner** has responsibility for providing **submission information** to the **reconciliation manager** for meter M1, for this **grid connection point**.<sup>9</sup> Submissions to the **reconciliation manager** should be made against EDG0331 HEDL GN using file format AV-130 contained in the **reconciliation manager** functional specification.<sup>10</sup>

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<sup>5</sup> As defined in part A of the Rules.

<sup>6</sup> Rule 4.3.3 of part J.

<sup>7</sup> Rule 16 of part J requires that where an obligation exists to provide information in accordance with Part J, the information must be delivered in the format determined from time to time by the **Board**.

<sup>8</sup> As defined in part A of the Rules.

<sup>9</sup> Rule 4.3.3 of part J.

<sup>10</sup> Rule 16 of part J requires that where an obligation exists to provide information in accordance with Part J, the information must be delivered in the format determined from time to time by the **Board**.

17. The electricity flow through the snake hill circuit from EDG0331 to the Galatea **embedded network** will appear as **UFE** between the two **network** areas and will be allocated to the incumbent **retailer** within the reconciliation process.

*For the Galatea **embedded network***

18. The Galatea **embedded network** is an **embedded network** with an EN **NSP** connection to the HEDL **local network**.
19. Submissions for the **embedded network** gateway **meter** (M3) to the **reconciliation manager** are the responsibility of the **embedded network** owner,<sup>11</sup> HEDL, and should be made against ANI0331 HEDL EN using file format AV-130 contained in the **reconciliation manager** functional specification.<sup>12</sup>
20. Submissions for the interconnection point **meter** (M4) to the **reconciliation manager**<sup>13</sup> are the responsibility again of HEDL however we understand that there is no **metering** at this **point of connection**. Should information for the electricity flow through this **point of connection** be available, then a **network** interconnection point will need to be established by the **reconciliation manager** and submissions should be made against ANI0111 HEDL NP using file format AV-130 contained in the **reconciliation manager** functional specification.<sup>14</sup>
21. Should the interconnection point information not be available, the incumbent retailer may notice +ve and –ve **UFE** being applied to their purchases for each of the **network points of connection**.

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<sup>11</sup> Rule 4.3.2 of part J.

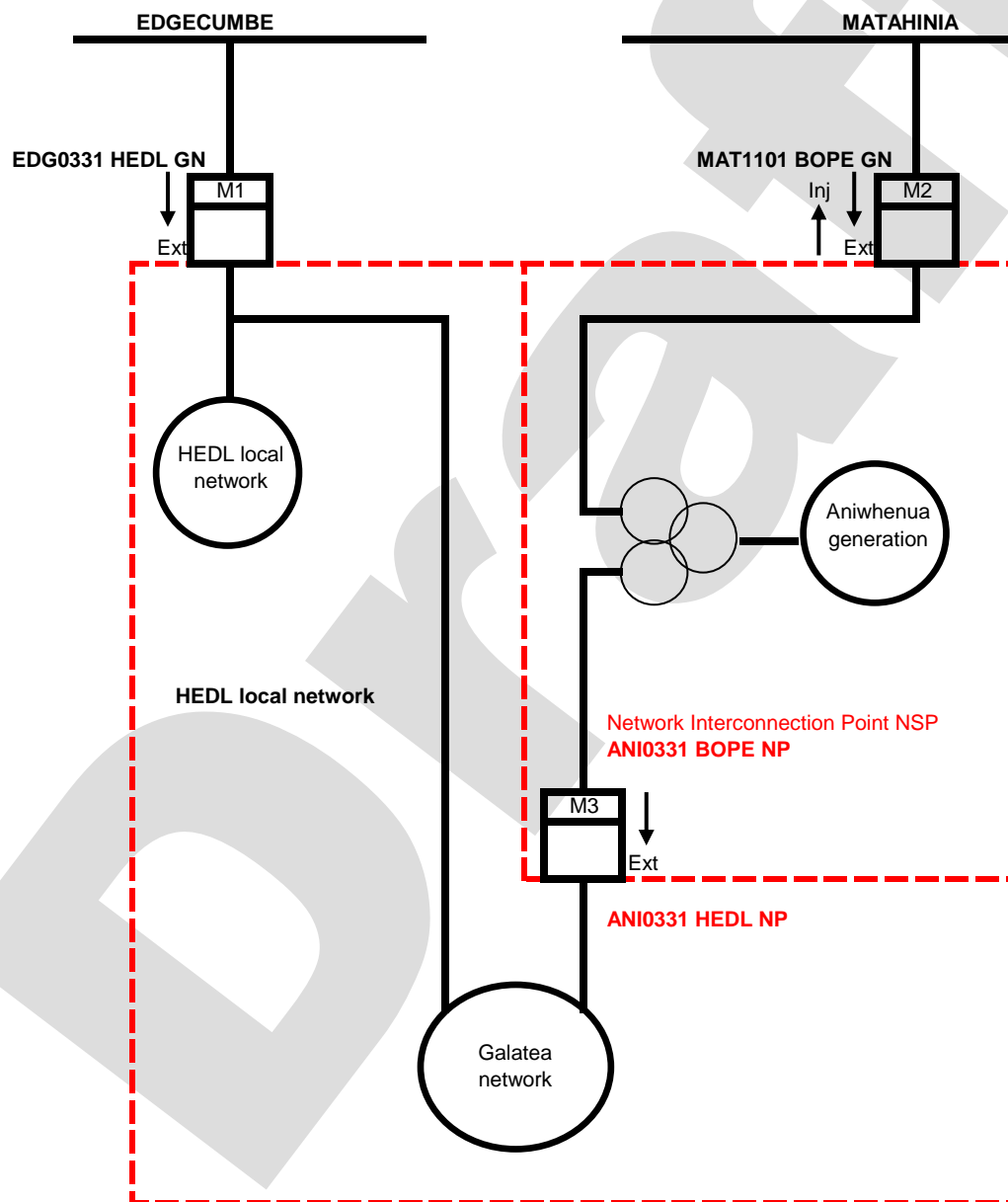
<sup>12</sup> Rule 16 of part J.

<sup>13</sup> Rule 4.3 of part J.

<sup>14</sup> Rule 16 of part J.

## Proposed connection for global reconciliation period

22. Settlement for the global reconciliation period will be carried out in accordance with the Rules by the **reconciliation manager**, using the **network** configuration as below from 1 May 2008.
23. **UFE** will be calculated and will be allocated to the **retailers** for each of the **network areas** in accordance with the Rules and the following.



*For NSP = MAT1101 BOPE GN (Aniwhenua)*

24. The methodology noted within the transitional revision period detailed above apply.

*For NSP = EDG0331 HEDL GN (Horizon **local network** (HEDL))*

25. Under the settlement methodology for the Horizon **local network**, the **point of connection** remains treated as a **GN reconciliation** type, with the **grid** connection point volume settled by difference and being a residual volume. The requirements and methodology noted within the transitional revision period detailed above apply.

*For the Galatea **embedded network***

26. The Galatea **embedded network** owned by HEDL will disappear as at 1 May 2008, as this is not an **embedded network** as defined within the **Rules**. This section of **network** is electrically connected to the **local network** connected to EDG0331 owned by HEDL. As this is the same **network** owner for both sections of the **network**, it must be part of the one **balancing area**, and cannot be an **embedded network**.
27. The existing **embedded network** gateway **meter** (M3) and the associated **NSP** ANI0331 BOPE EN will need to be converted to a **network** interconnection **NSP** ANI0331 BOPE NP as shown effective 1 May 2008. The same **meter** and submission processes should remain, however the **NSP** name will change to that shown.
28. Submissions for the **network** interconnection point **meter** (M3) to the **reconciliation manager** is the responsibility of the **local network** owner,<sup>15</sup> HEDL, and should be made against ANI0331 BOPE NP using file format AV-130 contained in the **reconciliation manager** functional specification.<sup>16</sup>

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<sup>15</sup> Rule 4.3.2 of part J.

<sup>16</sup> Rule 16 of part J.

## Responsibility of parties

### Todd Energy Ltd

29. To set up, the following must be completed by TODD:

- (a) in relation to Aniwhenua **local network**:
  - (i) Submit a notification under rule 3 of part J to the **reconciliation manager** that TODD should have the **unaccounted for electricity** for the **network** allocated to it. Exemptions have been provided from the Rules to allow the reconciliation manager to calculate this network volume by difference.
  - (ii) Apply to the **reconciliation manager** to setup an interconnection **NSP ANI0331 BOPE NP** effective 1 May 2008.<sup>17</sup>
  - (iii) Provide and maintain **loss category** code<sup>18</sup> and **loss factors**<sup>19</sup> for the Aniwhenua **local network** in the **registry loss category** table using the same code as for ANI0331 HEDL NP.

30. For ongoing operations, TODD must:

- (a) Provide **submission information** for the following **NSPs**:<sup>20</sup>
  - (i) MAT1101 BOPE GN in accordance with the **Rules**; and
- (b) Maintain the **ICPs** and loss factors on the Aniwhenua **local networks**.<sup>21</sup>

### Horizon (HEDL)

31. HEDL is responsible for the Galatea **embedded network**. To set up, the following must be completed by HEDL:

- (a) In relation to the Galatea **embedded network**:

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<sup>17</sup> Rule 8.1 of schedule E1 of part E requires the **reconciliation manager** to allocate a unique NSP identifier to each **point of connection** between two **networks** on the recommendation of any **network** owner.

<sup>18</sup> Refer to rule 5 and 6 of part E and rule 2.6 of schedule E1 of part E. Rule 2.6 of schedule E1 of part E requires the provision of **loss category** code information.

<sup>19</sup> Rule 5 and 6 of schedule E1 of part E.

<sup>20</sup> Rule 4.3.3 of part J.

<sup>21</sup> Refer to rules 6 of part E, and rule 2.6 of schedule E1 of part E, which requires the provision of **loss category** code information.

- (i) Apply to the **reconciliation manager** to end date the existing an **embedded network NSP** ANI0331 HEDL EN at M3, and set up at the same **point of connection**, a new **network** interconnection point ANI0331 HEDL NP<sup>22</sup> effective 1 May 2008.
- (ii) Provide and maintain **loss category** code<sup>23</sup> and **loss factors**<sup>24</sup> for ANI0331 HEDL NP in the **registry loss category** table using the same code as for ANI0331 BOPE NP.<sup>25</sup>
- (iii) Ensure that the **metering installations** at ANI0331 HEDL comply with the **Rules**.<sup>26</sup>
- (iv) Change the **NSP** for the **ICPs** connected to the Aniwhenua **embedded network** from ANI0331 HEDL EN to EDG0331 HEDL GN effective 1 May 2008.
- (v) Create a **balancing area** that includes EDG0331 HEDL GN and ANI0331 HEDL NP effective 1 May 2008.
- (vi) Notify all traders on the HEDL local network and the Galatea **embedded network** of the NSP change, prior to the change, as purchases may be represented at both EDG0331 and MAT1101.

32. For ongoing operations, HEDL must:

- (a) Provide **submission information** for the following **NSPs**:<sup>27</sup>
  - (i) ANI0331 HEDL NP in accordance with the **Rules**; and
- (b) Maintain the **ICPs** in accordance with the **Rules**.<sup>28</sup>

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<sup>22</sup> Rule 8 of part E provides for the management of **NSP** identifiers.

<sup>23</sup> Refer to rule 6 of part E and rule 2.6 of schedule E1 of part E. Rule 2.6 of schedule E1 of part E requires the provision of **loss category** code information.

<sup>24</sup> Rule 5 of schedule E1 of part E.

<sup>25</sup> Refer to rule 6 of Part E, and rule 2.6 of schedule E1 of part E. Rule 2.6 of schedule E1 of part E requires the provision of **loss category** code information.

<sup>26</sup> Rule 3 of part D provides for quantification at points of connection on **local networks** or **embedded networks**.

<sup>27</sup> Rule 4.3.2 of part J.

<sup>28</sup> Refer to rules 5 and 6 of part E.

## **Additional information**

33. The following can be found on the Commission's website:

- (a) Current **Rules**:  
<http://www.electricitycommission.govt.nz/rulesandregs/rules>.
- (b) New reconciliation **Rules** (under rule change 46):  
<http://www.electricitycommission.govt.nz/rulesandregs/rulechanges>.
- (c) Guidelines for metering, reconciliation, and registry arrangements for secondary networks consultation paper:  
<http://www.electricitycommission.govt.nz/consultation/EmbedNetworksDec07>.
- (d) **Balancing area** guidelines:  
<http://www.electricitycommission.govt.nz/infopapers/index.html#retail>.

34. If you require further information or further assistance, please contact the market administrator:

Electricity Commission  
P O Box 10041  
Wellington

Attention: Market administrator

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