Transmission pricing methodology

2020 Guidelines

10 June 2020

Authority's intent

i. The **TPM** must contain the following components:

1. a **connection charge**
2. a **benefit-based charge**
3. a **residual charge**
4. a prudent discount policy, and
5. a transitional cap on certain **transmission charges**.

ii. The **TPM** must also include seven **additional components** if, in Transpower's reasonable opinion, their inclusion better meets the Authority's statutory objective than not including them.

Connection charge

iii. The purpose of the **connection charge** is to charge each designated transmission customer to recover the cost of the **connection investments** that connect that designated transmission customer's assets to the **interconnected grid**.

Benefit-based charge

iv. The purpose of the **benefit-based charge** is to ensure that the costs of **post-2019** and certain **pre-2019 investments** in the **interconnected grid** are (except where the benefits associated with an **investment** are insufficiently material to warrant the administrative costs of applying even a generalised approach under a simple method) recovered in accordance with the **positive net private benefits** that each designated transmission customer is expected, as at the time of setting or resetting the charge, to receive from the **investment**. The **positive net private benefit** of the designated transmission customer includes the **positive net private benefit** of any parties whose equipment is electrically connected to the **interconnected grid** through the designated transmission customer's network.

Residual charge

v. The purpose of the **residual charge** is to provide a mechanism to ensure that Transpower can recover up to its **recoverable revenue** in any **pricing year** in a way which is designed to minimise any effect on designated transmission customers' decision-making.

Prudent discount policy

vi. The purpose of the prudent discount policy is to allow Transpower to discount the **transmission charges** of a designated transmission customer if the customer:

a. would otherwise pay more than the stand-alone cost of **transmission lines services** equivalent to the services it receives from the **interconnected grid** (calculated based on a hypothetical **investment** to supply that customer); or

b. would find it viable to inefficiently bypass the grid (including inefficiently disconnecting from the grid in favour of alternative supply).

Transitional cap on certain transmission charges

vii. The purpose of the transitional cap on certain **transmission charges** is to limit electricity bill price shock by limiting the total increase in **transmission charges** relating to the existing **interconnected grid** that each **load customer** faces relative to the charges the customer actually incurred in respect of the existing **interconnected grid** in the 2019/20 **pricing year**. The cap applies only as long as it is effective in limiting a designated transmission customer's **transmission charges** subject to the cap.

Additional components

viii. Transpower must include each **additional component** in the **TPM** if doing so would, in Transpower's reasonable opinion, better meet the Authority's statutory objective than not including that **additional component**.

a. Adjustments to charges for staged commissioning. The purpose of this component is to allow Transpower to adjust how it recovers the cost of an **investment** that is **commissioned** in stages, so as to not unreasonably deter staged commissioning of **investments**.

b. Charges for assets that in substance principally provide connection services. The purpose of this component is to ensure that if a **connection asset** is reclassified as an **investment** in the **interconnected grid** but continues in substance to provide principally connection services, it is still charged for as a **connection asset**.

c. Charges for **connection investments** to use a method substantially the same as for **benefit-based charges**. The purpose of this component is to allocate the charges for each **connection investment** in substantially the same way as the charges for each **benefit-based investment**.

d. Transitional **congestion charge**. The purpose of this component is to efficiently influence grid use for a limited transitional period, or if the Authority agrees, for a more extended period, when it is expected that the grid might become congested, if other means of controlling or influencing demand, including nodal pricing and administrative load control associated with scarcity pricing, are not adequate to meet this objective.

e. Extension of **benefit-based charge**. The purpose of this component is to allow Transpower to extend the **benefit-based charge** to further **pre-2019 investments** in the **interconnected grid**.

f. Allocation of **opex**. The purpose of this component is to attribute **opex** to the **connection investment** or **benefit-based investment** that it is spent on without recourse to proxies.

g. kvar charge. The purpose of this component is to allow Transpower to impose a charge on reactive power.

General matters

1. In developing the **TPM** in accordance with these **Guidelines**, Transpower must, as far as reasonably practicable, use the following principles, including in selecting between options which otherwise comply with these **Guidelines**:

   a. set charges in a way that:

      (i) reflects the cost of providing designated transmission customers with:

         A. new **investment** in the grid;

         B. access to the parts of the grid relevant to them; and

         C. use of the grid to transport energy;

      (ii) reflects the share of **positive net private benefits** those designated transmission customers are expected to derive from the matters referred to in (A) to (C) above;

      (iii) takes into account, and does not seek to replicate the effect of, other means of controlling demand, including nodal prices;

   b. balance the economic benefits and costs of precision of the **TPM** with the economic benefits and costs of practical considerations including:

      (i) robustness;

      (ii) simplicity;

      (iii) certainty, including through limiting the need for Transpower to exercise discretion; and

      (iv) costs associated with developing, administering and complying with the **TPM**;

   c. avoid creating incentives for existing and potential designated transmission customers to avoid **transmission charges** in ways that cause economic inefficiency;

   d. avoid creating incentives for distributed generators to seek avoided cost of transmission payments, except to the extent that the payments reflect a saving in the costs of transmission (not just a saving in **transmission charges** to the relevant designated transmission customer);

   e. avoid discriminating between designated transmission customers, except to the extent allowed by these **Guidelines** or otherwise necessary to achieve the Authority's statutory objective; and

   f. allow Transpower to recover up to, but no more than, its **recoverable revenue**, should it wish to do so.

2. The **TPM** may differ in its details from the particular requirements in these **Guidelines** (but not their intent, including as set out in the Authority's intent section of these **Guidelines**), if Transpower considers, in its reasonable opinion, that doing so would better meet the Authority's statutory objective than complying with these **Guidelines** in their entirety. For the avoidance of doubt, neither this clause (nor any other clause) limits the Authority's powers under clause 12.91 of the **Code**, including the power to

refer back to Transpower a proposed **TPM** which it considers does not best meet its statutory objective and subsequently to amend a proposed **TPM**, nor its ability to interpret the **Guidelines** or its statutory objective in exercising those powers.

3. All subsequent provisions in these **Guidelines** are to be interpreted and applied subject to clauses 1 and 2 above.

4. Transpower must prepare a summary of Transpower's reasons for proposing the particular methods it has included in the **TPM**, and provide it to the Authority along with the **TPM**. This summary must include details of:

   a. where, under clause 2, Transpower proposes a **TPM** which differs in its details from the particular requirements of these **Guidelines**, how the **TPM** differs from these **Guidelines** and Transpower's reasons for proposing a **TPM** which differs from these **Guidelines**, including why it considers that its proposed **TPM** better meets the Authority's statutory objective than complying with these **Guidelines** in their entirety; and

   b. where Transpower has made material assumptions in developing the **TPM**, the assumptions made and Transpower's reasons for making those assumptions.

5. The **TPM** must include requirements for Transpower to consult on:

   a. the proposed **connection charge** for each **connection investment**;

   b. the proposed **benefit-based charge** and its allocation between designated transmission customers for each proposed **high-value benefit-based investment**;

   c. the proposed allocation of the **residual charge**;

   d. any transitional **congestion charge**;

   e. any kvar charge; and

   f. any proposed material changes to those charges (other than the total **residual charge**) or their allocations (in which case consultation must extend to whether and on what basis such changes are warranted under these **Guidelines**),

   with parties who have a material financial interest in the respective charges. Where Transpower can demonstrate that such parties have already been consulted on the above (whether by Transpower or any other party), it need not repeat that consultation for the purposes of this clause.

6. The **TPM** must include a requirement for Transpower to provide each designated transmission customer with information regarding how its **transmission charges** have been calculated, including the basis on which its **benefit-based charges** and **residual charge** have been set. The basis on which the **residual charge** has been set includes: the extent to which the **residual charge** comprises unallocated **opex**; and the extent to which it comprises costs which have been reallocated to the **residual charge** as a result of **benefit-based investments** having been subject to **reassignment** or, where applicable, as a result of a prudent discount. Information provided for the purposes of this clause should be sufficient to enable the designated transmission customer to understand the basis for Transpower's calculations of its **transmission charges**.

7. The **TPM** must provide that, where it is necessary to consider the characteristics of, benefits or costs accruing to, incentives on, or other matters related to a designated transmission customer under the **TPM**, that assessment must also consider the characteristics of, benefits or costs accruing to, incentives on, or other matters related to any party whose equipment is directly or indirectly electrically connected through that designated transmission customer's network to the grid.

8. Where these **Guidelines** require allocations of charges based on expected **positive net private benefits**, the **TPM** must result in an allocation between designated transmission customers that is broadly in proportion to their expected **positive net private benefits**.

9. The **TPM** must provide for the treatment of a transmission alternative to be consistent with the treatment the type of **investment** (i.e. **connection investment** or **benefit-based investment**) which the transmission alternative seeks to avoid would have received under these **Guidelines** or, where this is not reasonably practicable, the cost of transmission alternatives must be allocated to the designated transmission customers that benefit from them in proportion to Transpower's reasonable assessment of the relative level of **positive net private benefit** that each customer receives from them.

Main components

10. The **TPM** must include:

    1. a charge for **connection investments**;
    2. a **benefit-based charge**;
    3. a **residual charge**;
    4. a prudent discount policy; and
    5. a transitional cap on specified **transmission charges**.

Main component 1: connection charge

11. The **TPM** must provide for the costs of **connection investments** to be recovered from those designated transmission customers whose assets are connected to the assets forming part of those **connection investments**.

12. The **TPM** must include a definition of deep connection, which must be applied consistently and transparently. The definition of deep connection must avoid subsidisation of **interconnection assets** to the extent reasonably practicable.

Main component 2: benefit-based charge

Benefit-based charge must apply to benefit-based investments

13. The **TPM** must include a **benefit-based charge** for each **benefit-based investment**.

14. A **benefit-based investment** means:

   a. any **post-2019 investment** in the **interconnected grid**;

   b. the following **pre-2019 investments** in the **interconnected grid**:

      (i) the Bunnythorpe-Haywards Reconductoring Project;

      (ii) **investments** in and associated with the HVDC link;

      (iii) the Lower South Island Renewables Project;

      (iv) the Lower South Island Reliability Project;

      (v) the North Island Grid Upgrade (NIGU) Project;

      (vi) the Upper North Island Dynamic Reactive Support Project; and

      (vii) the Wairakei Ring Project;

   c. **post-2019 upgrading expenditure** as provided for in clauses 25 to 26 below; and

   d. **pre-2019 investments** in the **interconnected grid** identified by means of a method established under clauses 62 and 63 below.

Benefit-based charges must recover the covered cost of benefit-based investments

15. Except as provided for in clause 16, the **benefit-based charge** for a **benefit-based investment** must recover, over the **benefit-based investment's remaining life**, the present value of the **covered cost** of that **benefit-based investment**, which comprises:

   a. the capital cost of the **benefit-based investment**, based on:

      (i) for **post-2019 benefit-based investments**, the **value of commissioned assets** forming part of that **benefit-based investment**;

      (ii) for **pre-2019 benefit-based investments**, the depreciated value of the **benefit-based investment** as recorded in the **regulatory asset base** at the date the **benefit-based charge** is first applied to the **benefit-based investment**;

   b. a return on capital for the **benefit-based investment**, based on its capital cost as allowed for under paragraph (a) and **WACC**;

   c. an amount of **opex** reasonably attributable to the **benefit-based investment** based on an allocation of the **opex** allowance for the **pricing year** as set in the **IPP**; and

   d. any other costs attributable to that **benefit-based investment**.

16. The **benefit-based charge** must recover the full present value of the **covered cost** of a **benefit-based investment** except where and to the extent that:

   a. the **annual benefit-based charges** are adjusted or ended under clause 32 because the **benefit-based investment** is substantially damaged or destroyed;

   b. that **benefit-based investment** is subject to **reassignment** in accordance with clauses 34 to 40;

c. the **benefit-based charge** has been scaled back in accordance with clauses 43 and 44; or

d. part of the **covered cost** is recovered through the **connection charge** as a consequence of the implementation of **Additional Component** A: adjustments to charges for staged commissioning.

Recovery of the covered cost of a benefit-based investment over time

17. The **TPM** must provide that Transpower's recovery of the capital components for each **benefit-based investment** for a **pricing year** under the **TPM** must be the same as the forecast depreciation and forecast return on capital in that **pricing year** for that **benefit-based investment** under the **IPP**.

Allocating annual benefit-based charges among customers

18. The **TPM** must include one or more standard methods for allocating **annual benefit-based charges**.

19. The **TPM** may include one or more simple methods for allocating **annual benefit-based charges**.

20. The **TPM** must provide:

    a. that Transpower must use a standard method to allocate the **annual benefit-based charges** for **high-value post-2019 benefit-based investments**;

    b. that Transpower must use Schedule 1 to allocate the **annual benefit-based charges** for the **benefit-based investments** included in Schedule 1; however, Transpower may adjust the allocations in Schedule 1 in accordance with clauses 31 to 44, including for the purposes of the initial allocation;

    c. that Transpower must use a standard method, simple method or combination of both to allocate the **annual benefit-based charges** for any other **benefit-based investments**; and

    d. where these **Guidelines** provide for an adjustment to the allocations, a method or methods for making that adjustment. That method(s) must be a standard method, simple method or combination of both, but need not be the same as any other standard, simple or combined method provided for in these **Guidelines**.

21. A standard method must allocate the **annual benefit-based charge** for a **benefit-based investment** between the designated transmission customers expected to benefit from the **benefit-based investment** in proportion to the expected **positive net private benefit** to them from the **benefit-based investment** over its **remaining life**.

22. A simple method:

    a. must be capable of being implemented at a lower cost to participants, including Transpower, than the standard method(s). Cost includes administrative burdens on participants but does not include increases in resulting **transmission charges**;

    b. must, in Transpower's reasonable opinion, result in an allocation of the **benefit-based charge** between the designated transmission customers who receive a major **positive net private benefit** from the **benefit-based investment** that is broadly in proportion to expected **positive net private benefits**; and

c. may exempt designated transmission customers who do not receive a major **positive net private benefit** from a **benefit-based investment** from receiving an allocation of the **annual benefit-based charges** for the **benefit-based investment**. Where a designated transmission customer is so exempted, the simple method must provide for the allocation they would have received to be recovered from those designated transmission customers who have received an allocation of the **annual benefit-based charges** for the **benefit-based investment**.

23. The **TPM** must provide that, save for benefits and costs included at Transpower's discretion, the treatment of benefits and costs used to calculate **net private benefits**, for **post-2019 benefit-based investments** must be aligned with the treatment of the relevant **electricity market benefit or cost elements** under the **Transpower Capex IM** investment test applied to the **investment** (if any), except to the extent that Transpower reasonably considers such alignment would not result in an allocation between designated transmission customers that is in proportion to their expected **positive net private benefits**.

24. The **TPM** must provide that, once a designated transmission customer's share of the **annual benefit-based charge** has been allocated, that share will not change, save where these **Guidelines** permit otherwise.

Upgrading expenditure

25. **Upgrading expenditure**, in relation to existing **benefit-based investments**, means expenditure that results in an extension to the existing **benefit-based investment's** expected **remaining life** or otherwise increases the benefits that **benefit-based investment** is expected to provide.

26. The **TPM** must provide that, where Transpower undertakes **upgrading expenditure**, that **upgrading expenditure** must be recovered by either:

a. treating the **upgrading expenditure** as a new **benefit-based investment**, in which case the **upgrading expenditure** must be recovered using a method prescribed in the **TPM** for recovering the **covered cost** of a **post-2019 benefit-based investment** having a capital cost equal to the cost of the **upgrading expenditure**; or

b. treating the **upgrading expenditure** as part of the original **investment** to which the **upgrading expenditure** relates, in which case:

i. the remaining **covered cost** of the overall **benefit-based investment** is to be calculated by combining the **covered cost** of the **upgrading expenditure** with the unrecovered **covered cost** of the original **investment**; and

ii. the allocation of the **benefit-based charge** for the overall **investment** is to be calculated by combining the expected **net private benefits** resulting from the **upgrading expenditure** (determined using the method referred to in clause 26(a)) with the future **net private benefits** of the original **investment**, as originally calculated under clause 20 and subject to any adjustments made under clauses 31 to 44.

Main component 3: residual charge

27. The **TPM** must provide for a **residual charge** to apply to all designated transmission customers, to the extent that they are **load customers,** to allow Transpower to recover any remaining **recoverable revenue** not recovered through other **transmission charges**.

28. The **TPM** must provide for the **residual charge** to be initially allocated in proportion to each designated transmission customer's historical anytime maximum demand, which may be calculated using data supplied by the reconciliation manager, and is to be calculated by:

a. taking**,** in a year from 1 July to 30 June, the customer's anytime maximum demand for that year, which is calculated by:

i. for each one of the customer's points of connection, taking the highest value in any trading period in that year of gross load, being the sum of:

1. the net quantity of electricity flow from the grid at that point of connection; and

2. Transpower's reasonable estimate of concurrent generation behind the designated transmission customer's point of connection; and

ii. aggregating each of those sums across all the customer's points of connection;

b. taking the average of the customer's anytime maximum demand over the four years from 1 July 2014 to 30 June 2018.

29. The **TPM** must provide that, in initially allocating the **residual charge** under clause 28, Transpower may adjust the allocation where necessary to accommodate circumstances in which, in Transpower's reasonable opinion, a designated transmission customer has experienced a substantial reduction in anytime maximum demand, due to factors that are largely beyond the customer's control or influence. For the purposes of this clause, a substantial reduction in demand is to be assessed relative to the designated transmission customer's remaining demand.

30. The **TPM** must provide that for each **pricing year**, from and including the **pricing year** commencing on 1 April 2023, the **residual charge** is to be allocated in proportion to each designated transmission customer's adjusted historical anytime maximum demand, calculated as:

$$AHAMD_t = HAMD_0 \times U_t / U_0$$

where:

$AHAMD_t$	is the designated transmission customer's adjusted historical anytime maximum demand
$HAMD_0$	is the designated transmission customer's historical anytime maximum demand calculated as described in clauses 28 and 29.
U_t	is the designated transmission customer's average total **gross** annual energy usage (measured in MWh) across the year commencing on 1 July four years and nine months prior to the start of the **pricing year** in which the adjustment applies and the three preceding years commencing on 1 July
U_0	is the designated transmission customer's average total **gross** annual energy usage (measured in MWh) across the four years from 1 July 2014 to 30 June 2018, reduced as necessary to be consistent with the reduction in anytime maximum demand under clause 29.

Adjustments to benefit-based and residual charges

Changes to annual benefit-based charge parameters

31. The **TPM** must allow Transpower to adjust future **annual benefit-based charges** for a **benefit-based investment** if, in Transpower's reasonable assessment, there has been a material change to any of the expected future:

    a. **WACC**;

    b. **opex** attributable to the **benefit-based investment**;

    c. **remaining life** of the **benefit-based investment**; or

    d. other costs attributable to the **benefit-based investment**.

Damage to a benefit-based investment

32. The **TPM** must allow Transpower to adjust or end future **annual benefit-based charges** for a **benefit-based investment** where that **benefit-based investment** is destroyed or substantially damaged for reasons that, in Transpower's reasonable opinion, are outside the control of the relevant participants.

Entry, exit, changing use or point of connection

33. The **TPM** must:

    a. provide for a process/es for allocating:

       (i) **benefit-based charges** and **residual charges** in respect of each new designated transmission customer; and

       (ii) **benefit-based charges** in respect of each existing designated transmission customer that increases the use or generation of electricity (where those increases are substantial and Transpower reasonably expects those increases to be sustained) by **large offtake plant** or a **large generating station** at one or more of the customer's points of connection;

b. ensure that the process/es referred to in clause 33(a) result in **benefit-based charges** that, to the extent possible, reflect the share of **net private benefits** that each designated transmission customer is expected to receive from each **benefit-based investment** across the whole of its life (or, for **pre-2019 investments**, its **remaining life** from the date the **benefit-based charge** was first applied to the **investment**);

c. ensure that the process/es referred to in clause 33(a)(i) ultimately result in an annual **residual charge** equivalent to the charge that would, in Transpower's reasonable opinion, have been payable had the **large offtake plant, large generating station** or designated transmission customer been fully operational from 1 July 2014;

d. provide that, where a designated transmission customer closes a plant (but remains a designated transmission customer), Transpower will continue to allocate it **annual benefit-based charges** for **investments commissioned** prior to its closure, and these charges should continue until the plant closes or until ten years after the commissioning date of each of the grid **investments** to which the **benefit-based charges** relate (whichever is the later), after which point(s) Transpower must re-allocate those **benefit-based charges** to all remaining designated transmission customers subject to such charges. For the avoidance of doubt, for the purposes of provisions of these **Guidelines** relating to the adjustment of **benefit-based charges**, the closed plant should be treated as though it remains operational until such time as Transpower must re-allocate **benefit-based charges** under this clause;

e. provide that, where a party:

   (i) electrically connects or electrically disconnects **large offtake plant** or a **large generating station** to or from the **interconnected grid** through a designated transmission customer (whether that equipment is connected to the designated transmission customer directly or indirectly); or

   (ii) increases the use or generation of electricity by **large offtake plant** or a **large generating station** that is electrically connected to the **interconnected grid** through a designated transmission customer (whether that equipment is connected to the designated transmission customer directly or indirectly), where that increase is substantial and Transpower reasonably expects that increase to be sustained,

   the **benefit-based charge** and **residual charge** for that designated transmission customer are to be adjusted by the amount that the party would have paid with respect to that equipment had it been separately connected to the grid at the designated transmission customer's point of connection (with consequent adjustments to be made to other designated transmission customers' charges);

f. provide that, where a designated transmission customer sells part of its business, Transpower may allocate the designated transmission customer's charges between the original and new owners;

g. be designed to minimise any incentive for a participant to inefficiently shift the point of connection of its **large offtake plant** or **large generating station**. The prudent discount policy may apply to circumstances where a designated transmission customer has an inefficient incentive to shift its point of connection, but the remainder of the **TPM** must be designed to minimise such incentives; and

h. provide that, where a designated transmission customer ceases to be a designated transmission customer, Transpower must re-allocate the **benefit-based charges** and **residual charges** which were previously allocated to that designated transmission customer so that these charges are recovered from the remaining designated transmission customers subject to such charges.

Reassignment

34. The **TPM** must provide for a party to be able to make an application to Transpower for **reassignment** of **benefit-based charges**:

    a. where that party has a material direct or indirect financial interest in the **annual benefit-based charge** for that **benefit-based investment**;

    b. where the **benefit-based investment** has a current (depreciated) value of $5 million or more (with this threshold to be adjusted for inflation); and

    c. whether or not the **benefit-based investment** has previously been subject to **reassignment**.

35. The **TPM** must provide that a **benefit-based investment** must, and may only, be subject to **reassignment** if, in Transpower's reasonable opinion, the circumstances which justify the **reassignment** are likely to be sustained and (over and above any changes which Transpower may take into account as a result of the application of clauses 31 to 33):

    a. for a **pre-2019 benefit-based investment**, the **investment's** value following **reassignment** would be less than 80% of its current value;

    b. for a **post-2019 benefit-based investment**:

        (i) where the disconnection from the grid of a single party, facility or plant causes the **benefit-based investment's** value following **reassignment** to be less than 80% of its current value; or

        (ii) the **benefit-based investment** has been **commissioned** or otherwise been in operation for the period of time specified in the **TPM** for the purpose of this subclause and its value following **reassignment** is now less than 80% of its current value.

36. The **TPM** must provide that, where Transpower receives an application for **reassignment** supported by evidence which Transpower in its reasonable opinion considers indicates that the conditions in clause 35 are likely to be met, it must undertake such investigations as it considers necessary for it to make an informed decision and then determine whether a **reassignment** is necessary under clause 35.

37. In setting a period of time for which a **post-2019 benefit-based investment** must have been **commissioned** in order for it to be eligible for **reassignment**, the **TPM** must provide for that period to be sufficiently long that the prospect of **reassignment**

will likely have a negligible impact on the characteristics of the **post-2019 benefit-based investment** that designated transmission customers are incentivised to seek.

38. The **TPM** must provide that, where Transpower determines that the circumstances which led to the **reassignment** no longer exist and that the depreciated value of the **investment** is $5 million or more after adjusting for inflation, it must reverse the **reassignment** (that is, restore the value of the **benefit-based investment** to the value that would have applied if the **reassignment** had not taken place) or adjust the level of the **reassignment**, as is appropriate.

39. The **TPM** must include a method for determining the value of a **benefit-based investmen**t following **reassignment** which is consistent with the change in forecast future demand for **transmission lines services** (over and above any changes taken into account as a result of the application of clauses 31 to 33) which led to the **reassignment**, reversal or adjustment.

40. The **TPM** must provide that, where Transpower determines to carry out a **reassignment** with respect to a **benefit-based investment** or reverse or readjust the level of a **reassignment**, it must:

    a. modify the **annual benefit-based charge** for that **investment** to take into account the change in the **benefit-based investment's** value;

    b. adjust the allocation of the **annual benefit-based charge** to designated transmission customers to the extent necessary to take into account the change in forecast future demand for **transmission lines services** (over and above any changes taken into account as a result of the application of clauses 31 to 33) which led to the **reassignment,** reversal or adjustment; and

    c. adjust the **residual charge** as necessary to take into account the changes to the **annual benefit-based charge**.

Substantial and sustained change in grid use

41. The **TPM** must:

    a. provide that Transpower may review the allocation of future **annual benefit-based charges** for a **high-value benefit-based investment** if, in Transpower's reasonable opinion, there has been, or it expects that there will be, a substantial and sustained change in grid use affecting the **net private benefits** derived by one or more designated transmission customers from the **benefit-based investment** (which, in Transpower's reasonable opinion, has not been adequately accounted for by applying any of clauses 31 to 40 above as applicable) relative to the time the relevant charges were allocated;

    b. provide that a substantial change in grid use will not have occurred:

        (i) for a **post-2019 investment**, where the circumstances which have eventuated were factored into the calculations used to allocate the relevant charges (for example, where scenarios about future developments were used in the allocation); and

(ii) where there has not been a change in circumstances or event that caused a widespread, substantial change to the pattern of grid use relative to the use at the time the relevant charges were allocated;

c. provide a method or methods for Transpower to determine whether there has been a substantial and sustained change in grid use affecting a **high-value benefit-based investment** (where the methods may differ for different kinds of **investment**); and

d. provide that the method or methods referred to in clause 41(c) are such that the allocation review referred to in clause 41(a) is likely to be only rarely invoked.

Pro-rata adjustments

42. The **TPM** must ensure that where, as a result of an adjustment or adjustments under clauses 31 to 41 or otherwise, the percentage allocators used to allocate the **annual benefit-based charge** in respect of a **benefit-based investment** or the **residual charge** to individual designated transmission customers no longer total 100%, Transpower must adjust those allocators pro-rata so that the allocators total 100%.

The charges may be scaled back

43. The **TPM** must provide for the charges set under it to be scaled back if, in any **pricing year** Transpower wishes to recover less than its **recoverable revenue**.

44. The **TPM** must provide that, where clause 43 applies, Transpower may scale back the **annual benefit-based charge** for a **benefit-based investment**. However, such a scaling back of the **annual benefit-based charge** must not result in an increase in the **residual charge**.

Main component 4: prudent discount policy

45. The **TPM** must provide for a prudent discount policy that encourages existing and prospective designated transmission customers not to inefficiently bypass the grid, including encouraging **load customers** not to inefficiently disconnect from the grid in favour of alternative supply.

46. The prudent discount must be available where a designated transmission customer can establish that:

a. it would be technically and operationally feasible, and commercially beneficial, for the designated transmission customer to undertake the relevant action described in clause 45; and

b. the relevant action would be inefficient to implement given Transpower's economic costs of providing the designated transmission customer with access to the grid and the economic costs incurred by the designated transmission customer if it proceeded with the relevant action described in clause 45.

47. The **TPM** must further:

a. include a method for determining the efficient standalone cost of the **transmission lines services** a designated transmission customer receives based on the hypothetical **investment** that would be required to supply solely that designated transmission customer;

b. ensure that the method provided for in clause 47(a) results in a standalone cost which, in Transpower's reasonable opinion, approximates the cost of supplying transmission services that are of equivalent value to the customer, including in terms of access to energy, quality of energy supplied, reliability, security of supply, the cost of resource or other regulatory consents, and such other matters as Transpower considers relevant; and

c. provide that a prudent discount must be available where and to the extent that a designated transmission customer's **transmission charges** exceed the standalone cost of the **transmission lines services** it receives.

48. The **TPM** must detail practical ways to facilitate greater transparency on the matter of prudent discounts.

Main component 5: transitional cap on transmission charges

49. Subject to clause 53, the **TPM** must provide for a cap on the sum (excluding GST) of each **existing load customer's**:

a. **benefit-based charges** in respect of the **benefit-based investments** included in Schedule 1;

b. **residual charge**; and

c. any surcharge imposed by the operation of clause 51.

50. Subject to clause 53, in setting a cap, the **TPM** must provide for:

a. the difference between a distributor's **transmission charges** subject to the cap as set out in clause 49, and its **transmission charges** minus its **connection charges** in the 2019/20 **pricing year**, to be limited to no more than the amount resulting from the following formula:

$$B \times (0.035 + CPI + L)$$

where:

B is the estimated total electricity bill for all consumers supplied, directly or indirectly, from the distributor's network in the 2019/20 **pricing year** (expressed in dollars, excluding GST), calculated as:

$$B = C + P * V$$

and where:

CPI is the proportionate change in the Consumer Price Index since the 2019/20 **pricing year** (expressed as a decimal);

L is the proportionate increase in the distributor's load in MWh since the 2019/20 **pricing year**, if any (expressed as a decimal);

C is the distributor's total line charge revenue for the 2019/20 **pricing year** excluding GST from the Schedule 8 Report on Billed Quantities and Line Charges Revenues of the Electricity Distribution Information Disclosure Determination 2012 (as amended from time to time);

P is the volume weighted average of wholesale energy prices at the distributor's grid exit point or grid exit points for the 5 **pricing years** up to and including the 2019/20 **pricing year** from the Authority's Electricity Market Information database, expressed in $/MWh and excluding GST, with weights being the distributor's **gross** energy usage as determined by the reconciliation manager; and

V is the distributor's total **gross** annual energy usage for the 2019/20 **pricing year**, expressed in MWh, as determined by the reconciliation manager;

b. the difference between a direct consumer's **transmission charges** subject to the cap as set out in clause 49, and its **transmission charges** minus its **connection charges** in the 2019/20 **pricing year**, to be limited to no more than:

B x (0.035 + 0.02 x Y + CPI + L)

where:

B is the estimated total electricity bill of that direct consumer in the 2019/20 **pricing year** (expressed in dollars, excluding GST), calculated as;

B = T + P * V

and where:

Y is the greater of zero and of the number of **pricing years** which have elapsed since the start of the 2019/20 **pricing year** minus 5;

CPI is the proportionate change in the Consumer Price Index since the 2019/20 **pricing year** (expressed as a decimal);

L is the proportionate increase in the direct consumer's load in MWh since the 2019/20 **pricing year**, if any (expressed as a decimal);

T is the direct consumer's total **transmission charge** (including any **connection charge**) under the existing **TPM** in the 2019/20 **pricing year**, excluding GST;

P is the volume weighted average of wholesale energy prices at the direct consumer's grid exit point or grid exit points for the 5 **pricing years** up to and including the 2019/20 **pricing year** from the Authority's Electricity Market Information database, expressed in \$/MWh and excluding GST, with weights being the direct consumer's **gross** energy usage as determined by the reconciliation manager; and

V is the direct consumer's total **gross** annual energy usage in the 2019/20 **pricing year** in MWh obtained from the reconciliation manager;

c. the cap to be permanently removed:

(i) for a particular **existing load customer** if, in any **pricing year** after the **pricing year** in which **benefit-based charges** are first applied to **low-value post-2019 benefit-based investments**, the cap does not have the effect of reducing the **existing load customer's transmission charges** subject to the cap as set out in clause 49; and

(ii) in its entirety, by the end of the 2038/39 **pricing year**.

51. To the extent that the cap results in a reduction in **transmission charges** for one or more **existing load customers**, the revenue so forgone is to be recovered by a surcharge on and proportional to the total of the charges listed in clause 49 for each designated transmission customer.

52. For the avoidance of doubt, the surcharge on the **benefit-based charge** and the **residual charge** for a designated transmission customer is to be reduced if necessary and to the extent necessary to ensure that its **transmission charges** subject to the cap as set out in clause 49 meet the conditions in clause 50.

53. The cap provisions must not prevent Transpower from recovering its **recoverable revenue**.

Additional components

54. The **TPM** must incorporate each of the following **additional components**, where including that component would, in Transpower's reasonable opinion, better meet the Authority's statutory objective than not including that **additional component**:

a. adjustments to charges for staged commissioning, as described in clause 55;

b. charges for assets principally providing connection services, as described in clause 56;

c. charges for **connection investments** to use a method substantially the same as for **benefit-based charges**, as described in clause 57;

d. a transitional **congestion charge**, as described in clauses 58 to 61;

e. including additional **pre-2019 investments** in the **benefit-based charge**, as described in clauses 62 and 63;

f. allocation of **opex**, as described in clause 64; and

g. a kvar charge, as described in clause 65.

Additional component A: adjustments to charges for staged commissioning

55. This component must provide a method for Transpower, at its discretion, to adjust charges, change asset classification and/or use a hybrid asset classification so that in Transpower's reasonable opinion, the charges for a **connection asset** that will ultimately be an **interconnection asset** do not unreasonably deter the partial commissioning of the asset. The **benefit-based charge** must apply when the assets meet the definition of **interconnection assets** and must recover the present value of the **covered cost** of the **investment**, less any **connection charges** paid for it.

Additional component B: charges for assets principally providing connection services

56. This component must provide a method to ensure that **connection assets** cannot be changed into **interconnection assets** by a person other than Transpower investing in other assets to create an interconnection loop.

Additional component C: charges for connection investments to use a method substantially the same as for benefit-based charges

57. This component must provide for the method for determining the annual amount to be recovered for each new **connection investment** to align with the method for determining the **annual benefit-based charge** for **post-2019 benefit-based investments**, notwithstanding the requirements of clauses 11 and 12.

Additional component D: transitional congestion charge

58. This component must provide a method for determining, in respect of a transitional **congestion charge**:

    a. the initial level of the charge;

    b. the designated transmission customers or geographic areas to, or the circumstances in, which it applies; and

    c. how the charge is to be allocated between designated transmission customers.

    The transitional **congestion charge** may only apply in respect of those geographic areas, circuits or other circumstances in which Transpower expects, in its reasonable opinion, there is a significant likelihood of congestion occurring without a transitional **congestion charge**.

59. If Transpower determines to include a transitional **congestion charge** in the **TPM**, it must include in its outline required under clause 4 of these **Guidelines**, an explanation as to why it considers that grid demand will not be efficiently controlled by the other means, including nodal pricing and administrative load control associated with scarcity pricing.

60. If the **TPM** includes a transitional **congestion charge**:

a. the transitional **congestion charge** must be progressively phased out, such phase-out to commence no later than one year after the transitional **congestion charge** is first imposed;

b. the **TPM** must include the process for phasing out the transitional **congestion charge**, including specifying the maximum transitional **congestion charge** which can be levied in any year, which may be expressed as a percentage of the initial transitional **congestion charge**;

c. the process for phasing-out the transitional **congestion charge** under clause 60(b) must result in it being phased out completely within five years of the **TPM** entering into effect. However, the process under clause 60(b) may allow Transpower, during this phase-out period, to temporarily pause the phase-out or increase the transitional **congestion charge** up to a specified maximum amount, including by reinstating a transitional **congestion charge** which has already been phased out, where Transpower considers that doing so would, in its reasonable opinion, better meet the Authority's statutory objective, provided that the phase-out is still completed within the five year period unless Transpower has obtained the Authority's approval under clause 60(d) below to extend that period; and

d. the **TPM** must include provision for Transpower to apply to the Authority during the phase-out period, to deviate from the maximum transitional **congestion charge** that may be levied in any year, the time limit on or duration of the phase-out period. Transpower must provide to the Authority such information as the Authority requires to determine an application under this paragraph.

61. Notwithstanding clause 60 above, after the **TPM** is implemented, Transpower may propose to introduce a new transitional **congestion charge** as part of a review under clause 12.85 of the **Code**. In proposing a new transitional **congestion charge**, Transpower must provide to the Authority such information as the Authority requires to assess Transpower's proposal. Clause 60 applies, with any necessary modifications, to a new transitional **congestion charge** introduced under this clause.

Additional component E: Including additional pre-2019 investments in the benefit-based charge

62. This component must include a method for extending the definition of **benefit-based investment** to other **pre-2019 investments** in the **interconnected grid** and related services, including transmission alternatives, that contribute to Transpower's **recoverable revenue**.

63. If the **TPM** includes such a method, it:

a. must specify a method for allocating the **annual benefit-based charges** for the **benefit-based investments** between designated transmission customers. The method must be a standard method as described in clause 21, a simple method as described in clause 22 or a combination of both but need not be the same as any other standard, simple or combined method provided for in these **Guidelines**;

b. must provide for the **benefit-based charge** for such **benefit-based investments** to be capped at Transpower's reasonable estimate of the present value of the aggregate **positive net private benefits** expected to be derived by designated transmission customers from the **benefit-based investment** over its **remaining life**; and

c. may include transitional provisions which phase in the relevant charges.

Additional component F: allocation of opex

64. This component must include a method for allocating **opex** expended in relation to **connection assets** and assets in a **benefit-based investment** to the designated transmission customers paying charges in relation to that asset or **investment**. The method must not use a proxy or generalised rule for allocation.

Additional component G: kvar charge

65. This component must include a method for imposing a kvar charge on reactive power.

Implementation timeframe for the guidelines

66. The **TPM** must provide for the **benefit-based charge** to apply to **high-value post-2019 benefit-based investments** and **pre-2019 benefit-based investments** to which Schedule 1 applies from the commencement of the **TPM** or the date on which the **investment** is **commissioned** (whichever is later).

67. The **TPM** must provide that the implementation of the **benefit-based charge** for **low-value post-2019 benefit-based investments** and the **additional components**, other than a transitional **congestion charge**, must be deferred if necessary in order to expedite the implementation of the **benefit-based charge** for the **benefit-based investments** specified in clause 66.

68. The **TPM** must provide for **benefit-based charges** for **low-value post-2019 benefit-based investments** to be phased in as soon as is reasonably practicable after the **benefit-based charge** has been applied to the existing **benefit-based investments** referred to in clause 66 and no later than the date of **commissioning** of the **investment** or five years after the commencement of the **TPM**, whichever is the later.

Interpretation

69. In these **Guidelines**, unless the context otherwise requires it:

additional component means one of the components required by clause 54 of these **Guidelines** to be included in the proposed **TPM** where including that component would, in Transpower's reasonable opinion, better meet the Authority's statutory objective than not including it.

annual benefit-based charge means the amount of the **benefit-based charge** to be recovered in respect of a particular **benefit-based investment** in any one **pricing year**.

benefit-based charge means the charge as described in clause 13.

benefit-based investment means an **investment** specified in clause 14.

Code means the Electricity Industry Participation Code 2010, as amended from time to time.

commissioned has the meaning given to it in the **Transpower IMs**.

congestion charge means a charge, over and above other measures, including nodal prices and administrative load control associated with scarcity pricing, imposed to influence demand for use of the grid.

connection assets means the assets owned by Transpower used to connect a designated transmission customer's plant to the **interconnected grid,** and may have a more precise definition in the **TPM** as amended from time to time.

connection charge means the charge described in clauses 11 and 12, as modified by clause 57 if relevant.

connection investment means an **investment** owned by Transpower used to connect a designated transmission customer's plant to the **interconnected grid,** and may have a more precise definition in the **TPM** as amended from time to time.

covered cost, in relation to a **benefit-based investment**, has the meaning given to it in clause 15.

electricity market benefit or cost element has the meaning given to it in the **Transpower Capex IM***.*

existing load customer means a **load customer** which, in Transpower's reasonable opinion, was fully operational prior to the beginning of the 2019/20 **pricing year.**

gross, in relation to a **load customer's** energy usage means total energy usage on the **load customer's** network, being the sum of:

1. the customer's off-take from the grid;

2. Transpower's reasonable estimate of concurrent generation behind the designated transmission customer's point of connection.

Guidelines means these guidelines.

high-value, in respect of a **benefit-based investment**, means a **benefit-based investment** that, at the relevant time, has a (depreciated) value exceeding the "base capex threshold" as defined in the **Transpower Capex IM**, whether or not the **investment** would otherwise meet the test for "major capex".

interconnected grid means the elements of the grid owned by Transpower including the HVDC link but excluding **connection assets.**

interconnection assets means the assets which form part of the **interconnected grid**, and may have a more precise definition in the **TPM** as amended from time to time.

investment means, as the context requires:

a. an investment or project; or

b. the asset or assets that resulted or result from the investment or project.

IPP means Transpower's individual price-quality path determined by the Commerce Commission under Part 4 of the Commerce Act 1986 from time to time. At the date of these **Guidelines** the relevant determination is the *Transpower Individual Price-Quality Path Determination 2019* [2019] NZCC 19*.*

large generating station means a new or existing generating station:

a. that is directly connected to the grid; or

b. that:

   (i) is indirectly connected to the grid; and

   (ii) Transpower considers, in its reasonable opinion, is of such a size that it could viably connect directly to the grid.

large offtake plant means new or existing electricity consuming equipment:

a. that is directly connected to the grid; or

b. that:

   (i) is indirectly connected to the grid; and

   (ii) Transpower considers, in its reasonable opinion, is of such a size that it could viably connect directly to the grid.

load customer means a designated transmission customer whose equipment draws electricity from the grid or from any generation behind the designated transmission customer's point or points of connection (including distributed generation and behind-the-meter generation).

low-value means, in respect of a **benefit-based investment**, a **benefit-based investment** which does not meet the definition for a **high-value benefit-based investment.**

net private benefit means, for a designated transmission customer and with respect to a specific **investment**:

a. the value of the private benefits which are aligned with **electricity market benefit or cost elements** that arise from the **investment** in respect of that designated transmission customer from the commencement date of the **TPM**; less

b. the value of the private costs which are aligned with **electricity market benefit or cost elements** (but excluding the cost of the **investment** itself) that arise from that **investment** in respect of that designated transmission customer from the commencement date of the **TPM**,

provided that Transpower may, at its discretion, include as part of the calculation the value of other private benefits or private costs where those benefits or costs are significant and result from the **benefit-based investment.**

opex means "operating cost" as defined in the **Transpower IMs**.

positive net private benefit means for a designated transmission customer:

a. the **net private benefit** if it is positive; or

b. zero if it is not.

post-2019 means, in respect of an **investment**, an **investment** to the extent that it is first **commissioned** after 23 July 2019 (including any part of an **investment** that is in part a **pre-2019 investment** to the extent that it is **commissioned** after this date) and which at the relevant time of **commissioning** constitutes base capex or major capex as defined in the **Transpower Capex IM**.

pre-2019 means, in respect of an **investment**, an **investment** to the extent that it is **commissioned** on or before 23 July 2019 and which at the relevant time of **commissioning** would have constituted base capex or major capex as defined in the **Transpower Capex IM**.

pricing year has the meaning given to it in the **IPP.**

reassignment means a reassignment of charges from the **benefit-based charge** to the **residual charge** due to a reduction in the value of a **benefit-based investment** for the purposes of the **benefit-based charge**, and **reassignments** and **reassigned** have equivalent meanings.

recoverable revenue means revenue that Transpower is permitted to recover in respect of transmission services in a **pricing year** under the regime under the Commerce Act 1986, as administered by the Commerce Commission, and currently set out in the **IPP**, net of any amount of this revenue that Transpower recovers that is not subject to the **TPM.**

regulatory asset base means, for a **pricing year**, the asset base used to determine **recoverable revenue** for the **pricing year**.

remaining life means, for a **benefit-based investment**, the **benefit-based investment's** expected life at the time the relevant clause of the **TPM** applies.

residual charge means the charge as described in clause 27.

TPM means the transmission pricing methodology.

transmission lines services means electricity transmission services (as defined in the **IPP**) excluding services performed by Transpower as system operator**.**

transmission charges means the charges provided for by the **TPM**, as amended from time to time.

Transpower Capex IM means the Commerce Commission's *Transpower Capital Expenditure Input Methodology Determination* [2012] NZCC 2, as amended from time to time, or such equivalent document as may be produced from time to time.

Transpower IMs means the Commerce Commission's *Transpower Input Methodologies Determination 2010* [2012] NZCC 17, as amended from time to time, or such equivalent document as may be produced from time to time.

upgrading expenditure has the meaning given to it in clause 25.

value of commissioned assets has the meaning given to it in the **Transpower IMs**.

WACC means, for a **pricing year**, the pre-tax nominal weighted average cost of capital used to determine **recoverable revenue** for the **pricing year.**

70. In these **Guidelines**, unless the context requires otherwise, any other term that is defined in Part 1 of the **Code**, and used but not defined in these **Guidelines**, has the same meaning as in Part 1 of the **Code**. Terms defined in Part 1 of the **Code** are underlined in these **Guidelines**. Terms defined in these **Guidelines** are bolded.

Schedule 1 Annual benefit-based charge allocations for the benefit-based investments

	Bunnythorpe Haywards	HVDC	LSI Reliability	LSI Renewables	North Island Grid Upgrade	Wairakei Ring	UNI Dynamic Reactive
Alpine Energy	3.11%	0.85%	1.50%	2.99%	0.30%	0.23%	0.30%
Aurora Energy	5.71%	1.57%	0.90%	4.49%	0.30%	0.27%	0.30%
B.E.R. (Kupe) Ltd	0.03%	0.07%	0.10%	0.08%	0.03%	0.04%	0.03%
Buller Electricity	0.26%	0.08%	0.08%	0.19%	0.00%	0.01%	0.00%
Centralines	0.07%	0.21%	0.24%	0.17%	0.05%	0.01%	0.05%
Contact Energy	2.11%	12.58%	24.07%	0.09%	5.97%	21.39%	5.97%
Counties Power	0.32%	1.06%	1.08%	0.85%	2.63%	1.42%	2.63%
Daiken Southland	0.28%	0.09%	1.39%	0.28%	0.02%	0.02%	0.02%
Eastland Network	0.17%	0.35%	0.57%	0.41%	0.05%	0.00%	0.05%
Electra	2.70%	0.79%	0.95%	0.67%	0.15%	0.15%	0.15%
Electricity Ashburton	1.70%	0.51%	0.76%	1.71%	0.26%	0.15%	0.26%
Electricity Invercargill	2.27%	0.59%	0.27%	2.19%	0.14%	0.12%	0.14%
Electricity Southland	0.12%	0.04%	0.05%	0.07%	0.01%	0.01%	0.01%
Genesis Power	1.22%	3.24%	0.00%	0.03%	3.67%	7.69%	3.67%
Horizon Energy	0.33%	0.25%	0.39%	0.59%	0.04%	0.00%	0.04%
KCE (Mangahao)	0.05%	0.00%	0.00%	0.00%	0.18%	0.00%	0.18%
MainPower	3.21%	0.88%	1.28%	2.96%	0.24%	0.20%	0.24%
Marlborough Lines	2.04%	0.45%	0.87%	1.88%	0.15%	0.13%	0.15%
Mercury	0.62%	0.00%	0.00%	0.00%	6.14%	10.60%	6.14%
Meridian	0.23%	33.78%	1.11%	0.05%	7.36%	0.00%	7.36%
Methanex	0.03%	0.06%	0.09%	0.07%	0.03%	0.04%	0.03%
Nelson Electricity	0.28%	0.06%	0.12%	0.23%	0.02%	0.02%	0.02%
Network Tasman	3.06%	0.71%	1.34%	2.57%	0.20%	0.17%	0.20%
Network Waitaki	1.13%	0.36%	0.53%	2.17%	0.13%	0.08%	0.13%
New Zealand Rail	0.04%	0.07%	0.11%	0.08%	0.20%	0.12%	0.20%
Nga Awa Purua JV	0.00%	0.00%	0.00%	0.00%	0.98%	8.06%	0.98%
Ngatamariki Geothermal	0.01%	0.00%	0.00%	0.00%	0.59%	4.89%	0.59%

Norske Skog	0.00%	0.00%	0.00%	0.00%	0.18%	2.48%	0.18%
Northpower	0.67%	1.13%	2.17%	1.79%	5.99%	2.92%	5.99%
Nova	0.04%	0.00%	0.00%	0.00%	0.03%	0.00%	0.03%
NZ Steel	0.30%	0.51%	0.96%	0.85%	2.47%	1.34%	2.47%
NZAS	22.06%	7.27%	2.13%	23.65%	1.61%	1.62%	1.61%
Orion	18.24%	4.90%	7.19%	14.73%	1.15%	1.00%	1.15%
OtagoNet JV	1.46%	0.41%	2.02%	2.03%	0.11%	0.11%	0.11%
Pan Pacific	0.35%	0.47%	0.77%	0.69%	0.10%	0.00%	0.10%
Port Taranaki	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Powerco	4.02%	6.27%	8.59%	6.72%	1.91%	3.61%	1.91%
Resolution Dev	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%
Scanpower	0.05%	0.15%	0.17%	0.12%	0.03%	0.03%	0.03%
Southdown Generation	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%
Southern Generation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Southpark Utilities	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
The Lines Company	0.16%	0.36%	0.47%	0.37%	0.18%	0.49%	0.18%
The Power Company	1.54%	0.34%	8.25%	2.05%	0.13%	0.12%	0.13%
Tilt Renewables	0.26%	0.01%	0.00%	0.00%	0.16%	0.00%	0.16%
Todd Gen. Taranaki	0.24%	0.09%	0.00%	0.01%	0.26%	0.00%	0.26%
Top Energy	0.00%	0.24%	0.00%	0.00%	1.09%	0.52%	1.09%
TrustPower	0.00%	0.64%	0.00%	0.01%	0.16%	1.15%	0.16%
Tuaropaki (Mercury)	0.08%	0.06%	0.08%	0.07%	0.68%	0.13%	0.68%
Unison Networks	0.63%	1.34%	2.20%	1.60%	0.16%	0.00%	0.16%
Vector	5.51%	10.78%	19.03%	14.41%	51.33%	24.57%	51.33%
Waipa Networks	0.25%	0.59%	0.81%	0.64%	0.33%	1.02%	0.33%
WEL Networks	0.52%	1.13%	1.82%	1.41%	1.13%	2.38%	1.13%
Wellington Electricity	11.84%	4.25%	4.92%	3.22%	0.83%	0.66%	0.83%
Westpower	0.40%	0.09%	0.18%	0.45%	0.04%	0.03%	0.04%
Whareroa Cogen. Ltd	0.11%	0.03%	0.00%	0.00%	0.02%	0.00%	0.02%
Winstone Pulp Int	0.17%	0.29%	0.43%	0.36%	0.07%	0.00%	0.07%