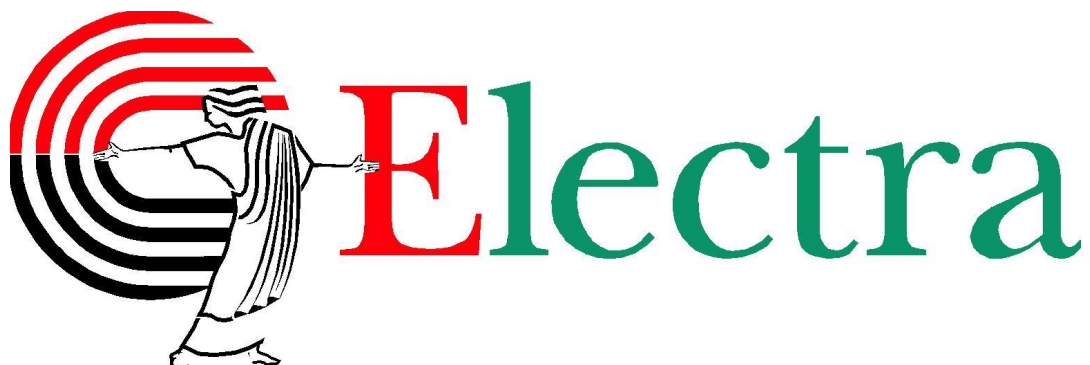


Preferred terms & conditions  
for connection and operation  
of generation rated between  
1MW and 5MW capacity



Electra Ltd  
Corner Bristol & Exeter Sts  
PO Box 244  
Levin 5540

Phone (0800) 353-2872  
Fax (06) 367-6120  
Email [JOHNF@ELECTRA.CO.NZ](mailto:JOHNF@ELECTRA.CO.NZ)  
Web [www.electra.co.nz](http://www.electra.co.nz)

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## Background to this agreement

Schedule 2 to the Electricity Governance (Connection Of Distributed Generation) Regulations 2007 sets out the regulated terms & conditions for connecting distributed generation in the absence of a mutually agreed set of terms & conditions between a distributor and a generator. In particular paragraphs 6(1) and 6(2) of Schedule 1 to the Regulations set out our right to attempt to negotiate a set of terms & conditions rather than accept the regulated terms & conditions.

This document sets out our preferred terms & conditions for connection and operation of generation between 1MW and 5MW. The format and clause numbering of this Agreement reflects Schedule 2 to the Regulations as much as possible to facilitate comparison.

The Application document and the Basis For Connection Charges document must be read and understood in conjunction with this Agreement although they do not form part of this Agreement.

## Parties to this agreement

- (1) Electra Limited, a limited liability company having its registered office at the Corner of Bristol & Exeter Sts, Levin.
- (2) The generator .....

## Definitions

Connection Assets means assets such as (but not limited to) lines, poles, transformers, cables, fuses, reclosers and circuit breakers necessary to connect your generation to our Network. The Connection Assets owned by us and by you are described in Schedule 1 to this Agreement.

Network means the assets such as (but not limited to) lines, poles, transformers, cables, fuses, reclosers or circuit breakers owned by us that are used to supply our customers.

Regulations means the Electricity Governance (Connection Of Distributed Generation) Regulations 2007 or any regulation passed in substitution thereof.

Requirements means the various requirements referred to in Sections 2.2 to 2.6 of the document entitled "Connection and operation of generation rated between 1MW and 5MW capacity".

We, us, our, ours and similar words means Electra Ltd.

You, your, yours and similar words means the party wishing to connect distributed generation to our network.

## Terms of agreement

### (1) Overview of regulated terms

Not used

### (2) Interpretation

Not used

### (3) General obligations

- (1) We will comply with all reasonable, prudent and accepted New Zealand power generation and distribution practices in meeting our obligations under this Agreement. You must do likewise.
- (2) We will construct, operate and maintain all Connection Assets owned by us in accordance with prudent and accepted New Zealand power distribution practice. You must construct, operate and maintain all your Connection Assets to equivalent standards.
- (3) You must construct, operate and maintain your generation and any associated equipment such as inverters in accordance with the makers' instructions unless those instructions would conflict with prudent and accepted New Zealand power distribution practice or electricity sector

regulations. If the makers' instructions do conflict, prudent and accepted New Zealand power distribution practice or sector regulations will prevail.

- (4) We will ensure that our Network and any Connection Assets owned by us do not endanger your plant, property, staff, contractors or the public at large. You must ensure that your generation or any Connection Assets owned by you do not endanger our staff or contractors, the public at large, our Network or Connection Assets owned by us.
  - (5) In particular your generation must comply with the technical specifications set out in Schedule 2 to this Agreement as well as any conditions that we specified as part of your initial or final application.
  - (6) You must comply with all electricity sector governance rules and regulations.
  - (7) You must cooperate with Transpower in their role as system operator in order to maintain operating standards at Transpower's grid exit substations. In particular you must acknowledge Transpower's overriding need to keep the national grid working properly.
  - (8) You must advise us of any change of ownership of your generation within 10 working days of any change of ownership becoming binding on you.
- (4) Installation of meters and access to meters and meter data
- (1) You must...
    - (a) Install a meter or meters that...
      - (i) Can separately record flows of electricity both into our Network and from our Network.
      - (ii) Complies with Part D of the Electricity Governance Rules.
      - (iii) Meets the requirements of your energy retailer.

- (b) Allow our staff or authorised contractor to...
    - (i) Have reasonable access to your generation, metering installation and Connection Assets.
    - (ii) Inspect any of the above for compliance with safety requirements or with our connection and operating standards.
  - (2) You must provide us with any meter data in a recognised and unencrypted format such as an Excel spreadsheet within 5 working days of being requested at your own cost. Such requests may also arise from our obligations to Transpower in regard to demand at their grid exit substations.
  - (3) We may require you to install reactive power metering if we believe that your generator may operate with a power factor outside of 0.95 leading or lagging.
  - (4) We will not impose metering requirements that are inconsistent with any Electricity Governance rules
  - (5) You must reimburse us for the costs of any inspection under (b)(ii) above up to a maximum of \$1,200 per inspection.
  - (6) If you wish to receive a rebate from us for helping us avoid Transpower peak charges you will need to install and maintain a communications link capable of real-time operation between your metering and our control room in Bristol St, Levin. This link will be installed and maintained at your expense and shall comply with our technical and operating standards.
  - (7) We will calculate a generation loss factor for your generation. The energy you inject into our network will be deemed to be the metered amount multiplied by this loss factor. We may revise this loss factor annually, but will definitely revise it every 5 years.
- (5) Right of access

- (1) You must let us into your premises to inspect the connection, commissioning and initial start up of your generation.
  - (2) In order for us to fulfill our obligations under this Agreement you must let us into your premises at any reasonable time. For routine matters we will try to give you at least 2 working days notice.
- (6) Process for right of access
- (1) You must make provision for us to enter your premises at any time in case of operational emergencies or hazardous situations including such provisions as providing keys, PIN numbers or swipe cards, and notifying your security people. If we cannot gain ready access to your premises we reserve the right to disconnect your generation at the point of connection to our Network even if that means disconnecting your entire premises.
- (7) We must not interfere with your equipment
- (1) We will not interfere with your equipment other than disconnecting your generation in the circumstances below...
    - (i) If an emergency or undesirable operational situation arises.
    - (ii) If your generator creates an unsafe condition as provided for in Section (13)(1) of this Agreement.
    - (iii) If your generation is interfering with our other customers and you have not followed our instructions to cease interfering as provided for in Section (13)(2) of this Agreement.
    - (iv) If any part of an undisputed invoice remains unpaid as provided for in Section (20)(5) of this Agreement.
- (8) You must not interfere with our equipment

- (1) Other than disconnecting your generation at the point of connection to our Network, you must not interfere with our Network in any way.
- (9) Obligation to notify if interference is discovered
- (1) If we discover that your equipment has been interfered with we will make all reasonable attempts to advise you within 24 hours. If the interference has created an unsafe situation we may disconnect your generation immediately.
  - (2) If you discover that our equipment has been interfered with you must make all reasonable attempts to advise us within 24 hours. If the interference has created an unsafe situation you should advise our control room immediately.
- (10) General rule about interruptions
- (1) Subject to the clauses in Section (11) below we will make all reasonable efforts to not interrupt your generation.
- (11) Circumstances allowing us to disconnect your generation
- (1) We may require you to reduce or temporarily disconnect your generation under certain operating circumstances such as our Network becoming congested or constrained. The practical reality is that we may not be able to provide much notice of such a requirement.
  - (2) We may require you to reduce or disconnect your generation from our Network so we can work on our Network. If it is planned work, we will provide you with the same notice period as our other customers. If it is unplanned work we may not be able to provide you with any notice.
  - (3) You must cooperate with us when we are trying to restore our Network after a fault, including complying with instructions to increase generation, reduce generation or disconnect. You must also cooperate with Transpower if they are trying to restore their grid after a fault.

- (4) We will make reasonable efforts to advise you of any circumstances that require or have required you to disconnect your generation.
- (5) You acknowledge that in a fault situation we may need to give priority to restoring wider areas of our Network, with individual customers (including generators) taking a lesser priority.

(12) Our obligations if your generation is disconnected

- (1) If we disconnect your generation for operational reasons, we will make all reasonable efforts to advise you for the reason why within 24 hours.
- (2) We will make reasonable efforts to reconnect your generation subject to our other fault restoration priorities. In some circumstance we may require your generation to contribute to such fault restoration.

(13) Adverse operating effects

- (1) If your generator causes an unsafe or hazardous condition to arise we may require you to immediately disconnect your generation from our Network.
- (2) If your generator adversely effects the operation of our Network or adversely affects the quality of supply to our other customers (through, but not limited to, such effects as voltage, frequency, harmonics, spikes, sags or surges) we reserve the right to provide you with a written requirement to correct the offending performance aspect within 5 working days. If you fail to correct the offending aspect within those 5 working days we reserve the right to disconnect your generation from our Network. Such disconnection will not relieve you or us from any other obligations under this Agreement.

(14) Interruptions by generator

- (1) You agree to give us at least 5 working days notice of any planned disconnection of your generation.

- (2) If your planned disconnection means that you cannot provide any agreed power injection, reactive support, voltage support or other service the following may apply...
  - (i) we may charge you for the cost of obtaining these services elsewhere.
  - (ii) we may pass on any losses, penalties or fines we incur.
  - (iii) we will withhold payment for services not provided.

#### (15) Permanent disconnections

- (1) Notwithstanding any other provisions for disconnections in this Agreement, if you wish to permanently de-energise your generation you must do the following...
  - (i) Physically disconnect your generation as required under the terms of this Agreement.
  - (ii) Make all necessary arrangements with your energy retailer to bring your contract with them to an orderly close.
  - (iii) Settle up your account with us including any unrecovered capital costs as provided for in Section (32)(3) of this Agreement.
- (2) If you wish for your installation to remain connected to our Network as a load you must enter into a standard network connection agreement with us.

#### (16) Meaning of confidentiality

Not used.

#### (17) General rules about confidentiality

Not used.

#### (18) When confidential information can be disclosed

- (1) We will keep all information you provide us with confidential except as follows...
  - (a) Any metering data that must be provided to your energy retailer within the terms of your agreement with them.
  - (b) Any details that we need to share with any of our contractors as part of working on our Network.
  - (c) Any information that we need to share with Transpower in order to keep our Network and their grid working properly.
  - (d) Any information that we have a statutory obligation to disclose as a matter of routine, such as annual returns.
  - (e) Any information that we may be lawfully requested to divulge to a statutory authority. In such a specific case we would attempt to notify you of any such requests as soon as possible.
- (2) You must keep all information we provide you with confidential except when you are lawfully requested to divulge information to a statutory authority. You must notify us within 2 working days of receiving any such request. In particular you must not divulge any information about our Network's physical or operational characteristics to any other parties.

(19) Disclosure by employees, agents etc.

Not used.

(20) Pricing & charges

- (1) The charges payable by you to us and by us to you are set out in Schedule 3 to this Agreement.
  - (a) In addition to the charges set out in Schedule 3 we may, from time to time, need to charge you for activities such as network switching, engineering

design or technical studies. We will advise you of the likely charges in advance.

- (b) If connecting your generation requires us to forego connecting a customer that we could derive a higher revenue from, we may require you to fund the difference in addition to any other charges.
  - (c) If connecting your generation requires us to configure our network in sub-optimal way (for instance so that line losses are higher than they otherwise might be) we may require you to pay for these costs in addition to any other charges.
  - (d) You must also pay any and all Transpower system operator charges and Electricity Commission levies. We will pay these charges on your behalf and recover that amount from you.
- (2) We will send you a tax invoice itemising all the charges and rebates set out in Schedule 3 which you will receive by the 5<sup>th</sup> working day following month end. You must pay us (less any amounts in dispute) by the 20<sup>th</sup> of the month in which you receive our invoice.
  - (3) If our invoice does not reach you by the 5<sup>th</sup> working day following month end, you shall be entitled to delay paying us by one day for every day after the 5<sup>th</sup> working day you receive our invoice.
  - (4) Any undisputed amounts not paid by the required date shall incur interest on a compounded daily basis. The interest rate shall be the call account rate as shown on the National Bank's website on each day that payment is outstanding. Similarly we will pay you interest on any undisputed rebates that we have not paid you.
  - (5) If any undisputed amount remains unpaid by you for more than 1 calendar month after the due date of payment, we may give you 10 working days notice that we will disconnect your generation at the point of connection to our Network. If we do not receive full payment cleared in our bank account on the 11<sup>th</sup> working day after giving you notice we will disconnect you with no further notice. Such

disconnection will not relieve you or us of any other obligations under this Agreement.

(21) General rule about liability

- (1) If we breach any of the terms of this Agreement either by acting or failing to act we will be liable to you. Similarly, if you breach any of the terms of this Agreement either by acting or failing to act you will be liable to us.

(22) Exceptions to general rule about liability

Not used.

(23) Limits on liability

- (1) If either we or you breach our obligations under this Agreement our liability to you and your liability to us will extend firstly to direct losses and secondly to indirect or consequential losses to a total value no greater than \$2,000,000 for any single event.

(24) Liability clauses do not apply

Not used.

(25) Indemnity for damage claimed by third parties

- (1) We will indemnify you for any claims against you by a third party that arise from any act or failure to act reasonably attributable to us.
- (2) Similarly, you must indemnify us for any claims against us by a third party that arise from any act or failure to act reasonably attributable to you. By way of example, such an event might be if your generator causes a voltage spike that damages our other customers' equipment.

(26) Force Majeure

- (1) If a force majeure event occurs and prevents you fulfilling your obligations under this Agreement, you will be relieved of that obligation for as long as the force majeure event reasonably prevents you from doing so. Similarly, we will

be relieved of our obligations for as long as we are reasonably prevented from fulfilling them.

- (2) For this Agreement, a force majeure event can be considered...
- (a) Any event beyond either your or our reasonable control that prevents either you or us fulfilling our obligations under this Agreement.
  - (b) Any of the following events without limitation...
    - (i) Fire, flood, storm, earthquake, landslide (unless reasonably foreseeable), volcanic eruption or similar event.
    - (ii) Explosion or nuclear, biological or chemical contamination.
    - (iii) Sabotage, terrorism or act of war (whether war has been declared or not).
  - (c) A force majeure event shall not include...
    - (i) An unwillingness or inability by either you or us to pay an amount of money necessary to fulfill obligations under this Agreement.
    - (ii) An inability of either you or us to pay a debt arising from this Agreement.
    - (iii) Either you or us calling a meeting for the purpose of reaching a compromise with creditors as set out in Part 14 of the Companies Act 1993.
    - (iv) Either you or us being adjudged bankrupt.
    - (v) Either you or us being placed in receivership or similar circumstances.
    - (vi) Either you or us are put into liquidation.

- (d) A force majeure event shall not include an event that either you or us could have prevented by acting with reasonable care and foresight.

(27) Insurance

- (1) You must take out and maintain general liability insurance with no exclusions for the entire duration of this Agreement for any liabilities that could arise under this Agreement. Similarly we will ensure that our general liability insurance includes cover for all liabilities that could arise under this Agreement.
- (2) Your insurance cover must be for no less than \$2,000,000 for any single event.
- (3) We will require you to provide written proof of your insurance cover prior to executing this Agreement. Similarly we will provide you with proof of our insurance cover.
- (4) If you are of sufficient size and credit-worthiness we may waive the insurance requirements set out in (1), (2) and (3) above and allow you to self-insure.

(28) Distributors connection and operation standards and conditions

- (1) At all times you must comply with...
  - (a) Our reasonable connection and operating standards and policies.
  - (b) All the conditions that your connection is subject to.
  - (c) Occasional instructions from our staff to increase or decrease real or reactive power generation, or voltage, or to disconnect from our Network when operating conditions require such actions.
- (2) We will advise you of any automatic under frequency load shedding (AUFLS) devices upstream of your generation. You must operate your plant in accordance with any requirements dictated by the presence of AUFLS.

- (3) If your generation is large enough to cause our Network to inject energy into (rather than draw energy from) a Transpower grid exit substation, then we will need to enter into a special contract with Transpower. We will act as your agent in any aspect of this matter that affects you.
- (4) If it emerges that our Network cannot accept the intended maximum injection of your generation in either steady-state or transient situations we may require you to do one or more of the following activities...
  - (i) Limit the maximum generation of your plant, including the possibility of physically constraining its maximum output.
  - (ii) Connect your generation to a different point on our Network.
  - (iii) Augment our network as much as may be necessary in accordance with our technical standards.
  - (iv) Abandon your attempt to connect generation.

You will bear all the costs associated with the above activities unless it is proven by an independent engineer that our design calculations are incorrect.

#### (29) Inspection and testing

You must...

- (1) Inspect and test your generation in situ (ie. not in another location such as your workshop or the makers factory) before you connect it, or any associated Connection Assets owned by you, to our Network.
- (2) Give us 3 working days notice of your intention to test and inspect so that we can witness the inspection and testing.
- (3) Provide reasonable and safe access for us to witness the inspection and testing.

- (4) Provide us with a written test report within 5 working days of the inspection and testing.
- (5) Reimburse us for the costs of witnessing up to a maximum of \$1,200 per time. For the avoidance of doubt the following will apply...
  - (a) Any additional witnessing will incur a charge up to a maximum of \$1,200 per time.
  - (b) Any unreasonable delay in witnessing will entitle us to leave your site and treat any return visit as a separate time.

(30) Connection authorisation

- (1) You must not connect your generation, meters or Connection Assets without our written consent.
- (2) We will provide that written consent once we are satisfied that you have met all relevant standards.
- (3) We will provide you with reasonable assistance to make connection, and we will not unreasonably prevent or impede you from connecting.
- (4) Once we approve you generator, meters and Connection Assets for connection you must not modify them in any way that could materially alter their performance without our written approval. We will not withhold our approval unreasonably.
- (5) Not used.
- (6) If you do modify your generator, meters or Connection Assets in such a way that could materially alter their performance without our approval we reserve the right to physically disconnect your generation from our Network until...
  - (a) You restore it to the performance levels that you were granted approval for, or

- (b) We are satisfied that it will not cause any operational problems or damage to our Network or to our other customers.
- (c) If you wish to modify your generator so that it could exceed 5MW capacity, we may require you to go through the application process for generation greater than 5MW and pay all relevant fees to ensure that intending generators greater than 5MW are not discriminated against.

### (31) Disputes

- (1) If you dispute any aspect of this Agreement, you must notify us in writing setting out the precise nature of your dispute – you must not simply abandon your obligations to us. Similarly we will advise you in writing if we dispute any aspect of this Agreement.
- (2) When such a dispute arises we will work with you in the utmost good faith to resolve the dispute together. In particular neither you nor us will unreasonably stall any process of dispute resolution.
- (3) If neither you nor us can resolve the dispute it will be referred to an independent mediator appointed by the president of the nearest District Law Society. If the president is not independent in this matter, an independent mediator will be appointed by the president of the next nearest District Law Society.
- (4) If mediation does not resolve the dispute, the dispute shall be referred to an arbitrator appointed by the president of the nearest District Law Society. If the president is not independent in this matter, an independent mediator will be appointed by the president of the next nearest District Law Society. The arbitrators' decision shall be binding on you and us.
- (5) The costs of settling the dispute (including any legal or other costs) will be met by whoever is judged to have been in the wrong.

- (6) Disputing any aspect of this Agreement shall not relieve either your or us of any other obligations under this Agreement.

### (32) Duration of Agreement

- (1) This Agreement shall commence on the date that you and us execute the Agreement.
- (2) Subject to both you and us fulfilling our respective obligations and not doing anything that allows for this Agreement to be terminated, this Agreement shall terminate on [insert date].
- (3) You can terminate this Agreement prior to the above date by giving us six months notice. We may require you to reimburse us for any costs (such as, but not limited to, Connection Assets) that we expected to recover over the agreed duration of the Agreement but will not be able to do so because of termination.
- (4) Similarly we can terminate this Agreement prior to the above date by giving you six months notice.

### (33) Review of Agreement

- (1) Either you or us can request a review of any term or terms of this Agreement other than the terms that are subject to regular review.
- (2) The review shall be initiated by a written request which shall be acknowledged within 5 working days.
- (3) You and us shall use the utmost good faith to reach agree on the terms under review.
- (4) If you and us cannot reach agreement on the term to be reviewed within 30 working days, the matter shall lapse and shall not be considered grounds for dispute under the dispute resolution procedures in this Agreement.
- (5) None of the above clauses limit our right to initiate a review of the technical and operational aspects of your connection at any time in response to the needs of our

Network or to regulatory requirements. In such a case you must accept any reasonable changes to your connection standards that we direct.

(34) Purchase of generated energy

Because we are prohibited from trading energy by the Electricity Industry Reform Act 1998, you must have an agreement in place with an energy retailer for the purchase of all the energy you will generate. This must be a retailer that has a Use Of System Agreement with us.

## Execution

Signed for and on behalf of Electra Ltd

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation \_\_\_\_\_

Date \_\_\_\_\_

Signed for and on behalf of The generator

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation \_\_\_\_\_

Date \_\_\_\_\_

Witnessed by

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation

\_\_\_\_\_

Date

\_\_\_\_\_

## Schedule 1 – Connection Assets

(1) Connection Assets owned by us

(2) Connection assets owned by you

(3) Point of demarcation

The point of demarcation between your assets and our assets shall be [insert unique identifier such as fuses on pole ###]

## Schedule 2 – Technical specifications

- (1) Maximum power output (must be less than 5MW)

Nominal continuous rating \_\_\_\_\_

Peak rating (less than 1 minute) \_\_\_\_\_

- (2) Minimum power ramping rate

\_\_\_\_\_

- (3) Synchronising requirements (rotating plant only)

Synchronising requirement \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Drop out upon failure \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- (4) Protection requirements

Over voltage \_\_\_\_\_

\_\_\_\_\_

Over frequency \_\_\_\_\_

\_\_\_\_\_

Under voltage \_\_\_\_\_

\_\_\_\_\_

Under frequency \_\_\_\_\_

Export power

Mains failure

(5) Maximum voltage at point of connection to our Network

Nominal continuous voltage

Maximum voltage (1 minute)

(6) Minimum voltage ramping rate

(7) Voltage waveform

DC offset – less than 2% of fundamental.

Even harmonics – no individual harmonic greater than 2% of fundamental.

Third harmonic – no greater than 30% of fundamental.

Fifth harmonic – no greater than 15% of fundamental.

Seventh harmonic – no greater than 10% of fundamental.

Ninth harmonic – no greater than 6% of fundamental.

Eleventh harmonic – no greater than 4% of fundamental

Thirteenth harmonic and higher – no single harmonic greater than 1% of fundamental.

Our load control frequency (270 Hz) – no greater than 5% of the mains voltage

(9) Power factor limits

Leading \_\_\_\_\_

Lagging \_\_\_\_\_

(10) Over and under speed limits (rotating plant only)

Over speed limit \_\_\_\_\_

Under speed limit \_\_\_\_\_

(11) Over and under frequency limits (rotating plant only)

Over frequency limit \_\_\_\_\_

Under frequency limit \_\_\_\_\_

## Schedule 3 – Connection charges

Please ensure you have read the document “Basis of charges for connecting generation”.

All charges and rebates are deemed to be exclusive of GST and prior to any prompt payment discount.

Price component	Charge	Charging unit
Our connection charge.		\$/month
Our connection assets charge.		\$/month
Our location charge.		\$/month
Our power factor charge (for all kVAr over and above 0.95 leading or lagging).		\$/month
Our inability to reclose charge.		\$/month
Additional charges for activities such as network switching, engineering design or technical studies.		Total
Additional charges to compensate for any sub-optimal network configuration.		\$/month
Transpower connection charge.		\$/month
Transpower interconnection charge.		\$/month
Transpower system operator charge.		\$/month
Electricity Commission levies		\$/month