THIRD PARTY ACCESS CODE

1ST JANUARY 2014
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1. General Conditions

1.1 Definitions

(a) In this Code:

**Base Load Demand** means the minimum demand served on the Transmission Network.

**Base Load Generator** means any generator that is normally operated to meet all or part of Base Load Demand, as determined based on Economic Dispatch, and which consequently produces electricity at an essentially constant rate and runs continuously.

**Code** means this Third Party Access Code, promulgated by the Regulator.

**Connection Facility Study** means a technical study to determine the compliance of the proposed connection of a Third Party with the Grid Code, as specified in the Grid Code.

**Connection Agreement** means the commercial agreement between the Transmission Network Owner and Third Party governing the connection of the Third Party to the Transmission Network.

**Distribution Network** means the whole or part of a system for the distribution of electricity that is not a Transmission Network.

**Economic Dispatch** means the operation of generation units to produce energy at the lowest cost to reliably serve consumers, recognising any operational limits of generation and transmission facilities, as further specified in the Grid Code.

**Exclusive Service Areas** means the geographic areas over which PPL has been granted exclusive rights to retail electricity to Large Load Customers, defined in the *Electricity Industry Policy* as within 10 kilometres of the distribution network operated by PPL as at the date of commencement of its Retailer Licence unless and until the Regulator removes such exclusivity in accordance with the terms of the licence.

**Grid Code** means the Grid Code promulgated by the Technical Regulator that governs technical aspects relating to connections to and the operation and use of the transmission system.

**Grid Impact Study** means a technical study to determine the impact of the proposed connection of a Third Party to the Transmission Network and the necessary augmentations to the Transmission Network, as specified in the Grid Code.

**Independent Power Producer (IPP)** means a Third Party which owns facilities to generate electric power for sale to the Regulated Retailer or Third Party retailers or Large Load Customers.

**Large Load Customer** means any customer with a peak demand of at least 10MW for at least 10 days in any one year, and an average peak demand of greater than 7.5MW.

**Licence** means a Retail Licence, Distribution Licence, Transmission Licence or Generation Licence issued, extended, modified or re-issued by the Regulator from time-to-time.
**Merit Order Table** means a list of generator units ordered based on the Economic Dispatch principles, as further specified in the Grid Code.

**Power Development Plan** means any plan endorsed by the Electricity Management Committee that identifies generation development needs and options, including a least cost development path for meeting electricity demand.

**Power Purchase Reference Price** means a set of prices as defined in Section 2.1 of this Code, where each price may comprise a base price and indexation formula.

**PPL** means PNG Power Ltd.

**Regulated Retailer** refers to PPL or any other licenced retailer whose retail rates are regulated by the Regulator.

**Regulator** means the Independent Consumer and Competition Commission established under the **Independent Consumer and Competition Commission Act 2002**.

**Regulatory Contract** means a regulatory contract issued under Section 34 or Section 35 of the Independent Consumer and Competition Commission Act 2002.

**Regulatory Year** means a period of 12 months commencing on 1 January

**Significant Impact** means the consequence of the proposed connection to the operation of the power system which have serious or widespread effect to the Grid that may require reinforcement or augmentation to maintain the operation within the technical and performance standards of the Grid Code.

**Statement of Power Purchase Reference Prices** means the statement defined in Section 2.2 of this Code.

**Statement of Wheeling Arrangements and Charges** means the statement defined in Section 3.2 of this Code.

**Statement of Connection Procedures and Charges** means the statement defined in Section 4.2 of this Code.

**System Operator** means the division or business unit within PPL, or an otherwise separate independent entity that is a Transmission Network Owner, whose function is to operate a Transmission Network or Networks in accordance with this Code, the Grid Code, its licence and its Regulatory Contract.

**Technical Regulator** means the Regulator as in the conduct of functions under sections 24A(1)(c) or 24A(1)(d) of the **Electricity Industry Act 2002** or its delegate under section 24B of the **Electricity Industry Act 2002**.

**Third Party** means a legal entity within Papua New Guinea which is legally separate from the relevant Transmission Network Owner or Regulated Retailer.

**Transmission Network** means the whole or part of a system for the transmission of electricity that:

(i) operates at a nominal voltage of 66kV or more, or

(ii) operates at a nominal voltage of more than 11kV - but less than 66kV in parallel to and in support of any part of that system which operates at a nominal voltage of 66kV or more.
Transmission Connection Assets means the electrical lines and equipment and their associated control and protection devices as defined in the Connection Agreement between the Transmission Network Owner and a Third Party in accordance with the Grid Code to connect the facility of the Third Party to the Transmission Network.

Transmission Network Owner refers to PPL or any other holder of a transmission Licence granted by the Regulator.

Unregulated Retailer refers to PPL or another Licenced Retailer whose retail rates are not regulated by the Regulator.

Wheeling means the transmission of generated power over the Transmission Network and/or the Distribution Network by a Third Party to an end-user customer or customers, including a Large Load Customer.

The definitions of other terms used in this Code are the same as in the Independent Consumer and Competition Commission Act 2002, the Transmission Network Owner and Regulated Retailer’s Licences or Regulatory Contracts.

1.2 Interpretation
(a) Interpretation of Code
In this Code, unless the context otherwise requires:
(i) headings are for convenience only and do not affect the interpretation of this Code;
(ii) words importing the singular include the plural and vice versa;
(iii) words importing a gender include any gender;
(iv) an expression importing a natural person includes any company, partnership, trust, joint venture, association, corporation or other body corporate and any governmental agency;
(v) a reference to any statute or regulation includes all statutes or regulations varying, consolidating, re-enacting, extending or replacing them and a reference to a statute includes all regulations, proclamations and orders issued under that statute;
(vi) a reference to a document or a provision of a document includes an amendment or supplement to, or replacement of, that document or that provision of that document;
(vii) an event which is required under this Code to occur on or by a stipulated day which is not a business day may occur on or by the next business day;

1.3 Scope and coverage
(a) Scope of Code
The scope of this Code is defined as:
(i) Establishing reference prices for wholesale power purchases (from IPPs or resellers) by a Regulated Retailer.
(ii) Establishing wheeling arrangements and charges to be applied by a Transmission Network Owner for wheeling of power through its Transmission Network by Third Parties.

(iii) Establishing a connection policy and charges to be applied by a Transmission Network Owner for connection to its Transmission Network by Third Parties.

(b) New connections or reconnections only

This Code applies only to Third Parties that connect to, or who following disconnection reconnect to, a Transmission Network after the commencement of this Code. For the avoidance of doubt, the existing commercial arrangements between Third Parties and Transmission Network Owners or Regulated Retailers are not affected by this Code, except that where the term of an existing contract between a Third Party and PPL and/or the State of PNG expires following commencement of this Code. Any new contract or commercial arrangement must from that date comply with this Code.

(c) Coverage of Code

The following entities or persons are covered by this Code:

(i) Regulated Retailers (with respect to the Power Purchase Reference Price)

(ii) Transmission Network Owners (with respect to wheeling and connection to the Transmission Network) which are listed in Schedule 1

(iii) Any IPP with an electrical generating facility exceeding 1 MW name plate rating and connected to a Transmission Network and who:

(A) Sells electricity to a Regulated Retailer for resale to customers, or

(B) Sells electricity to Large Load Customers by wheeling this through the Transmission Network, or

(C) Sells electricity to a Third Party retailer for resale to customers outside the Exclusive Service Areas of the Transmission Network Owner.

(iv) Any Third Party Regulated Retailer who purchases electricity from IPPs and wheels this through a Transmission Network Owner’s network.

(d) Application for access to new Transmission Network

(i) Third Parties may apply to the Regulator for access to a Transmission Network not already included in Schedule 1.

(ii) Where the Transmission Network owner rejects an application for access to a new Transmission Network, if the Regulator considers that the application for network access is in pursuit of the public interest or the improvement in economic efficiency of the electricity networks and/or the generation of electricity, it will launch a public inquiry process in accordance with the ICC Act.
Following a public inquiry process and consideration of all written submissions, the Regulator will approve the application if the following conditions are met:

(A) Competition using the Transmission Network may be economically and financially feasible.

(B) There is no need for a cross subsidy from the incumbent electricity retailers using the Transmission Network to the new entrant.

(C) Third Party access to the Transmission Network will improve the electrification of Papua New Guinea and/or allow new retailers to supply electricity to customers.

(iv) On approval of a Third Party application to the Regulator, the new Transmission Network will be added to Schedule 1.

1.4 Objectives

(a) Code objectives

The objectives of this Code are to:

(i) Improve transparency with regards to power purchase contracting between IPPs and Regulated Retailers.

(ii) Constrain the ability of Regulated Retailers to unfairly discriminate against potential competitors.

(iii) Protect Transmission Network Operators’ commercial interests by clarifying how they are remunerated by Third Parties connecting to and wheeling power through their network.

(iv) Constrain the ability of Transmission Network Operator/s that perform System Operator functions from unfairly discriminating against Third Parties.

(b) Supports policy objectives

The objectives of this Code support the access, reliability and affordability objectives of the Electricity Industry Policy by:

(i) Improving the reliability of electricity supply by supporting entry by IPPs to ensure sufficient generating capacity is available for dispatch by the System Operator operating independently of PPL and/or the Transmission Network Owner.

(ii) Helping ensure that power is more affordable for customers by increasing the range of potential generation options and, thereby, offering more opportunities for the System Operator to select least-cost generation options.

(iii) Helping ensure that power is more affordable for customers by increasing the range of potential retailers and, thereby, offering more opportunities for Large Load Customers to select a least-cost option.
2. Power Purchase Reference Price

2.1 Principles for regulation of power purchase costs

(a) Pass through of prudent and efficient power purchase costs

The prudent and efficient power purchase costs of a Regulated Retailer will be passed-through to the retail electricity tariff based on terms set out in its Regulatory Contract.

(b) Power Purchase Reference Prices as an upper bound

The Power Purchase Reference Price (in place at the time when the power was contracted) defines the upper bound for costs of power purchased by a Regulated Retailer from Third Parties that are acceptable to the Regulator.

(c) Must still follow competitive procurement processes

When purchasing power, a Regulated Retailer must follow any competitive procurement processes defined in its Licence and Regulatory Contract to ensure that the resulting power purchase costs are prudent and efficient. Power Purchase Reference Prices do not in any way obviate the requirement to follow these processes.

(d) Ex-ante approval of power purchase prices

Before signing any power purchase agreement, a Regulated Retailer must demonstrate to the Regulator that the agreed power purchase price is equal to or less than the applicable Power Purchase Reference Price, as described in Section 2.4 below. The process for the approval of power purchase prices is set out in Section 5 below.

(e) Exceptional circumstances

A power purchase price that is higher than the Power Purchase Reference Price will, in general, not be approved or considered prudent and efficient unless the Regulated Retailer can demonstrate that exceptional circumstances apply and the Regulator agrees with this assessment.

(f) Free to negotiate other commercial aspects

For the avoidance of doubt, power purchase prices are the only aspect of power purchase agreements that require the approval of the Regulator with respect to this Code. However, all Licence holders are subject to other aspects of the law and regulations in place from time-to-time, including all aspects of the Electricity Industry Act 2002, the Independent Consumer and Competition Act 2002, Licence conditions, Regulatory Contracts, this Code, the Grid Code and other relevant law.

2.2 Statement of Power Purchase Reference Prices

(a) Prepare Statement of Power Purchase Reference Prices

(i) A Regulated Retailer must prepare and submit a Statement of Power Purchase Reference Prices to the Regulator for approval, based on the principles set out in this Code.
(ii) Where multiple Regulated Retailers are using the same Transmission Network, only one Regulated Retailer must submit a Statement of Power Purchase Reference Prices and this must be binding on all Regulated Retailers using that network. The Statement must be agreed among all concerned Regulated Retailers or, where agreement cannot be reached, must be designated by the Regulator.

(b) Process for approval

The process for the submission, review, approval, and publication of the Statement of Power Purchase Reference Prices is set out in Section 5 below.

2.3 Calculating Power Purchase Reference Prices

(a) Power Purchase Reference Price calculated as avoided cost

The reference price must be calculated based on the avoided cost of power and expressed in Kina per kilowatt hour of energy generated. The avoided cost of power represents the total saving to a Regulated Retailer from purchasing power from the new entrant IPP rather than using alternative sources of generation.

(b) Categories of power supply

The Power Purchase Reference Price must be set separately for each of the Transmission Networks listed in Schedule 1 being used by a Regulated Retailer and for each of the following three categories of power supply:

(i) Firm supply is supply from a generator that has a long-term power purchase agreement (PPA) and is able to guarantee the generating capacity and volume of supply. An example of firm supply is from a thermal generator or from a hydro plant that guarantees supply at its minimum generating capacity during hydrologically dry periods.

(ii) Non-firm supply is supply from a generator that has a long-term PPA but which cannot guarantee the capacity and volume of supply. This type of supply needs to be backed-up by dependable generation capacity to ensure security of supply. Examples of non-firm supply include generation in excess of the firm supply level from a hydro plant and from wind generation where output is both intermittent and unpredictable but must be put on priority dispatch.

(iii) Short-term supply is supply from a generator that does not have a long-term PPA and sells surplus power only. This means that power supply quantities are not known in advance. An example of short-term supply is from a processing or mining plant that sells surplus electricity output when its industrial production falls.

(c) Power Purchase Reference Price for firm supply

(i) The Power Purchase Reference Price must equal the long-run marginal cost of generation obtained from the Power Development Plan, expressed in Kina per kilowatt hour of energy generated, calculated at the generation plant’s
high voltage connection to the Transmission Network and escalated by an appropriate technical loss factor for the relevant Transmission Network.

(ii) When no recent Power Development Plan exists, being a Power Development Plan approved within the last five years, the Power Purchase Reference Price must equal the full cost (including but not limited to the capital costs plus operating and maintenance costs plus fuel costs) of the next major Base Load Generator project being planned for the relevant Transmission Network. The Regulated Retailer must demonstrate to the Regulator that this next generation project is least cost.

(d) Power Purchase Reference Price for non-firm supply

(i) The Power Purchase Reference Price for non-firm supply must equal the variable costs (including fuel costs and variable operating and maintenance costs) of the marginal Base Load Generator over the planning horizon of the Power Development Plan, escalated by an appropriate technical loss factor for the relevant Transmission Network.

(ii) When no recent Power Development Plan exists, the Power Purchase Reference Price must equal the variable costs of the next major Base Load Generator project being planned for the relevant Transmission Network. The Regulated Retailer must demonstrate to the Regulator that this next generation project is least cost.

(e) Power Purchase Reference Price for short-term supply

The Power Purchase Reference Price must equal the variable cost of the marginal dispatched generator in the preceding year. When the marginal dispatched generator is non-pumping hydro generation, the variable cost must equal zero, unless otherwise agreed in writing by the Regulator, which indicates that there is a surplus of hydro generation over demand. The variable cost of the marginal dispatched generator may vary by time of day and year and therefore the Power Purchase Reference Price for short-term supply must be defined separately for each of the following periods:

(i) Peak hours, dry season
(ii) Peak hours, wet season
(iii) Off-peak hours, dry season
(iv) Off-peak hours, wet season

(f) Power Development Plan and underlying data will be made available

To assist in the calculation of Power Purchase Reference Prices for firm and non-firm supply, the Electricity Management Committee will provide the Power Development Plan and all necessary underlying data (including but not limited to cost assumptions, projected generation output and any constraints applicable on operation of power plants included in the plan) to the Regulated Retailer preparing the Statement of Power Purchase Reference Prices.

(g) Underlying assumptions

The assumptions used to calculate Power Purchase Reference Prices, in particular the Weighted Average Cost of Capital and asset lives, should be the same as those
used at the most recent regulatory review for the Regulated Retailer under its Regulatory Contract.

(h) Indexation of Power Purchase Reference Prices

(i) Between updates to the Statement of Power Purchase Reference Prices (described in Section 5 below), Power Purchase Reference Prices for firm and non-firm supply must be indexed to changes in fuel prices and exchange rates. Where relevant, the indexation should be consistent with those applied in the Regulatory Contract.

(ii) Power purchase costs for short-term supply must not be indexed but must be recalculated each year using the actual variable cost of the marginal dispatched generator in the preceding year.

(i) Base and indexation formula

Power Purchase Reference Prices for firm and non-firm supply must be defined as a base price in Kina per kilowatt hour terms and an indexation formula to be applied until the next statement of Power Purchase Reference Prices is approved.

2.4 Comparing power purchase prices with the Power Purchase Reference Price

(a) Levelised cost basis

Power purchase prices agreed between the Regulated Retailer and the IPP must be compared with Power Purchase Reference Prices on a levelised cost (Kina per kilowatt hour) basis.

(b) Calculation of levelised costs

The levelised cost of power purchases is calculated as the total lifetime cost of the generator divided by the total lifetime electricity production. These are calculated as follows.

(i) The total lifetime cost of the generator is calculated as the present value (over the life of the power purchase agreement) of the sum of capacity costs and energy costs. It must also take into consideration the additional costs of Transmission Network losses, network connection costs and Transmission Network augmentation costs, subject to the determination of the Regulator as to the reasonableness of the estimation of such losses and costs.

(ii) The total lifetime electricity production is calculated as the present value (over the life of the power purchase agreement) of expected annual electricity production.

(iii) Both the life cycle cost and electricity production must factor in any must-take provisions included in a power purchase agreement and may be calculated based on modelling of generation dispatch over the life of the power purchase agreement.

(iv) The discount rate used to calculate the present value of costs and production should be the same as the Weighted Average Cost of Capital applied at the most recent regulatory review of the Regulated Retailer under its Regulatory Contract.
2.5 Economic Dispatch and merit order

(a) Responsibilities of System Operator

(i) The System Operator will be responsible for scheduling and dispatching generation in accordance with the Economic Dispatch principles as defined in the Grid Code.

(ii) The System Operator must prepare a Merit Order Table of scheduled generation based on the Economic Dispatch principles.

(b) Compliance with Economic Dispatch

The Regulator will assist the Technical Regulator in monitoring and assessing compliance with respect to the Merit Order Table and Economic Dispatch principles, as further specific in the Grid Code.

3. Wheeling power through the network

3.1 Principles for use of the network for wheeling

(a) Right to wheel

A Transmission Network Owner must provide non-discriminatory rights to use or access its Transmission Network to Third Parties for the purpose of supplying Large Load Customers

(b) Compliance with wheeling arrangements

Any Third Party use of the Transmission Network must comply with the Statement of Wheeling Arrangements and Charges approved at that time.

(c) Pay wheeling charges

Any Third Party use of the Transmission Network must pay wheeling charges on an on-going basis in accordance with the Statement of Wheeling Arrangements and Charges approved at the time of use.

(d) Compliance with Grid Code

Any Third Party use of the Transmission Network must comply with the Grid Code.

3.2 Statement of Wheeling Arrangements and Charges

(a) Prepare Statement of Wheeling Arrangements and Charges

A Transmission Network Owner must prepare and submit a Statement of Wheeling Arrangements and Charges for each of its Transmission Networks, where such networks are listed in Schedule 1, to the Regulator for approval, based on the principles set out in this Code. A Transmission Network Owner must prepare such a Statement whether or not a Third Party has made a request to use or access its Transmission Network.

(b) Process for approval

The process for the submission, review, approval, and publication of Statement of Wheeling Arrangements and Charges is set out in Section 5 below.
Terms and conditions of statement

The Statement of Wheeling Arrangements and Charges must include detailed terms and conditions for use of the Transmission Network, such that it can be used as a commercially workable contract between the Transmission Network Owner and Third Parties. The terms and conditions must be in line with the principles set out in this Code and must include, but are not limited to, a description of:

(i) The applications process, including timelines, for granting Third Parties access to the Transmission Network.

(ii) The operational and technical requirements that Third Parties must meet when accessing the Transmission Network, in line with those set out in the Grid Code.

(iii) The service standards that the Transmission Network Owner will meet, in line with those set out in the Grid Code.

(iv) A compensation mechanism to Third Parties for service quality that does not meet the service standards, in accordance with the principles governing such a compensation mechanism set out in Schedule 2.

(v) A current list of charges, the process and timeline for updating charges, and procedures for billing and payment.

(vi) The process for transferring an existing Large Load Customer from one supplier to another.

3.3 Principles for calculating wheeling charges

(a) Wheeling charges based on average costs

(i) Third Parties are expected to pay a proportionate share of common network costs as the other users of the Transmission Network.

(ii) Wheeling charges must therefore be calculated based on an average (rather than incremental) cost basis, with total network costs allocated among different types of network users.

(b) Determining common network costs

(i) The Transmission Network Owner’s network costs must be separated from its other business costs. This separation must be conducted in a manner consistent with any ring-fencing provisions set out in a Transmission Network Owner’s Licence or Regulatory Contract.

(ii) The Transmission Network Owner’s network costs must be separated for each of its Transmission Network. The allocation of Transmission Network business overheads between Transmission Networks must be proportional to the total revenue generated from each network, or as otherwise agreed by the Regulator.

(c) Allocation of common network costs between users

(i) A Transmission Network Owner must propose, as part of the Statement of Wheeling Charges that will be reviewed and approved by the Regulator, a
methodology for allocating its network costs between Third Party users of the Transmission Network, itself, and other users of the Transmission Network.

(ii) The allocation must reflect the costs of providing network services to different types of users in a fair and non-discriminatory manner. Types of users may be defined based on those found in predominantly similar circumstances of:

(A) Location.

(B) Voltage off-take level.

(C) Economic activity.

(D) Energy consumption and demand profile.

(iii) Examples of methodologies include, but are not limited to, allocating network costs based on metered demand, on metered demand at system peak, or on contracted connection capacity.

(iv) A Transmission Network Owner may modify its methodology over time, but all changes need to be approved by the Regulator prior to being applied in the following Regulatory Year.

(d) Acceptable charging structures

(i) A Transmission Network Owner must propose a structure of wheeling charges.

(ii) The structure of wheeling charges must be consistent with the allocation of network costs between users where possible and must reflect the costs of providing network services to Third Parties in a fair and non-discriminatory manner deemed reasonable by the Regulator.

(iii) At a minimum, the structure of charges must differentiate between voltage off-take level.

(iv) The Transmission Network Owner may propose a structure that further unbundles wheeling charges, including differentiating by:

(A) Location.

(B) Economic activity.

(C) Energy consumption and demand profile.

(e) Recovery of network costs

A Transmission Network Owner must not recover its network costs more than once. Revenue from wheeling charges must be deducted from a Transmission Network Operator’s revenue requirement in accordance with its Regulatory Contract.

(f) Pass-through events

Wheeling charges must be updated to reflect changes in a Transmission Network Owner’s network costs due to pass through events as defined in its Regulatory Contract. Such changes must apply from the commencement of the subsequent Regulatory Year.

(g) Pass-through of Wheeling Charges
Wheeling charges must be passed through to end-user customers by Regulated Retailers and Third Parties, as they are charged to the Regulated Retailer or Third Party by the licenced Transmission Network Owner or Distribution Network Owner. Such charges should be separately identified on the bill or invoice received by the end-user customer.

4. Connection to the network

4.1 Principles for connection to the network

(a) Right to connect

A Transmission Network Owner must provide non-discriminatory connection to its Transmission Network to any Third Party including but not limited to IPPs for any or all of the following purposes:

(i) Third Party to supply power to a Regulated Retailer who is also the Transmission Network Owner in order to implement the power supply contract or power purchase agreement (PPA) between the Third Party and a Regulated Retailer.

(ii) Third Party to wheel power through the Transmission Network to a Large Load Customer within the exclusive service area of a Regulated Retailer.

(b) Compliance with connection procedures

Any Third Party connection to the Transmission Network must comply with the Statement of Connection Service Procedures and Charges approved at that time.

(c) Ex-ante approval of Connection Agreement

Before connecting any Third Party, a Transmission Network Owner submit its proposed Connection Agreement to the Regulator, demonstrating that it complies with the Regulator approved Statement of Connection Service Procedures and Charges and the principles set out in this Code. The process for the submission, review, and approval of a Connection Agreement is set out in Section 5 below.

(d) Pay connection service charges and network connection charges

(i) Any Third Party applying for connection to the Transmission Network must pay the connection service charges in accordance with the Statement of Connection Service Procedures and Charges approved at the time of use.

(ii) Any Third Party connecting to the Transmission Network must pay network connection charges in accordance with the Connection Agreement between the Third Party and the Transmission Network Owner.

(e) Compliance with Grid Code

The connection of any Third Party to the Transmission Network must comply with the design, installation and operating standards as well as the procedures and requirements for connection that are specified in the Grid Code.

4.2 Statement of Connection Service Procedures and Charges

(a) Prepare Statement of Connection Service Procedures and Charges
(i) A Transmission Network Owner must submit to the Regulator for the approval of its Statement of Connection Service Procedures and Charges that will apply any Third Party seeking for new connection or modification of existing connection for the purposes defined in Section 4.1(a) above.

(ii) The Statement of Connection Service Procedures and Charges must detail the application, evaluation, approval, and implementation of connection of the Third Party’s facilities. It must be consistent with the provisions set out in Sections 4.3 and 4.4 of this Code, as well as any requirements contained in a Transmission Network Owner’s licence, the Transmission Network Owner’s, Regulatory Contract, and the Grid Code.

(b) Process for approval

The process for the submission, review, approval, and publication of the Statement of Power Purchase Reference Prices is set out in Section 5 below.

4.3 Procedures for connecting Third Parties

(a) Application for connection

Any Third Party seeking new connection or modification of existing connection to a Transmission Network must apply for connection to the Transmission Network Owner.

(b) Connection service procedures and charges made available

The Statement of Connection Service Procedures and Charges must be made available by the Transmission Network Owner to any Third Party or any person applying for connection.

(c) Processing and evaluation of proposed connection

(i) The Transmission Network Owner must process the application for connection of any Third Party upon payment of processing and evaluation fees as approved by the Regulator.

(ii) The Transmission Network Owner must evaluate the impact of proposed connection to the Grid through Grid Impact Studies and Connection Facility Studies in accordance with the requirements for such studies contained in the Grid Code.

(d) Approval of proposed connection

(i) The proposed connection must be approved by the Transmission Network Owner if there is no Significant Impact that may adversely affect the operation, safety and security of the Grid.

(ii) In the case where there is Significant Impact, including on network augmentation or the cost of connection, the Transmission Network Owner must determine the least-cost requirements to mitigate the impacts to the Grid.

(iii) The basis for the assessment of impacts and least-cost mitigation requirements must be the Grid Impact Studies and Connection Facility Studies.

(e) Dispute settlement on proposed connection
Any Third Party whose application for connection was disapproved by the Transmission Network Owner has the right to appeal to the and seek a ruling from the Regulator in accordance with the dispute resolution process set out in Section 7 of this Code.

4.4 Calculating connection service charges
(a) Connection service charges
Connection service charges defined in the Statement of Connection Service Procedures and Charges must cover the one-time fees for the processing of connection. This includes conducting the Grid Impact Study and Connection Facility Studies.
(b) Payment of charges
The form of payment will be a one-off payment, or, if agreed between the Third Party and the Transmission Network Owner, will be applied over time or in any other manner agreed.

4.5 Transmission asset boundaries
(a) Ownership and operation of transmission assets
Transmission Connection Assets must be owned and operated by the Transmission Network Owner even if the Third Party has constructed or paid for the construction of the connection facilities.
(b) Identification of Transmission Connection Assets
(i) A Transmission Network Owner must identify the Transmission Connection Assets and boundaries for the Third Party's connection in accordance with the Grid Code.
(ii) A transmission asset must not be defined as a Transmission Connection Asset if it is intended for use by parties other than the connecting Third Party/ies even if the Third Party/ies are the only initial users of the asset.
(c) Connection Agreement
The Connection Agreement between the Transmission Network Owner and the Third Party must define the Transmission Connection Assets and boundaries as well as responsibilities in operation and maintenance of the transmission connection facilities at a specific connection point.

4.6 Calculating network connection charges
(a) Cost of investing in Transmission Connection Assets
Any up-front costs of investing in Transmission Connection Assets incurred by the Transmission Network Owner must be paid for by Third Parties and will be included in network connection charges as follows:
(i) Transmission Connection Assets used solely by a Third Party – The capital costs of the Transmission Connection Assets must be paid for by the Third Party exclusively.
(ii) Transmission Connection Assets used by two or more Third Parties – Where the Transmission Connection Assets are to be shared between two or more Third Parties, the costs must then be apportioned between the Third Parties concerned in proportion to their share of the total contracted peak demand (in MW) at the connection point. Where the metered annual peak demand (in MW) for the prior year for a Third Party exceeds their contracted peak demand, then their metered value must be substituted for their contracted value for the purposes of calculating the apportionment of the charges payable.

(iii) Subsequent connections to existing connection asset – In case a Transmission Connection Asset was previously used solely by a Third Party or group of Third Parties who paid fully or partially the investment of the assets and a new Third Party becomes a user of any portion of the existing Transmission Connection Assets, a reimbursement process will be triggered. The connection charges payable by each Third Party are recalculated by apportioning the remaining unrecovered capital cost of the assets between the existing and new Third Parties, as under (ii) above.

In addition, the new Third Party user must make a contribution towards the costs of Transmission Connection Assets previously paid for by existing users. This contribution will be calculated as the difference between the original value to be recovered from charges and the remaining value. This difference will be apportioned between the existing and new Third Party users using the shares of each in the total contracted maximum demand (in MW). That part of the difference allocated to the new Third Party will be converted into a contribution by dividing it by the remaining life of the Transmission Connection Assets. This contribution will be added to the connection charge paid by the new Third Party and deducted from the connection charges payable by existing Third Party users.

The costs of any incremental investment in Transmission Connection Assets required to accommodate the new Third Party user will be paid entirely by that user.

(iv) Transmission Connection Asset reclassified as Transmission Network Asset – When a Transmission Connection Asset has been reclassified as a Transmission Network Asset due to the reconfiguration of the Transmission Network, the Transmission Network Owner must redefine the Transmission Connection Asset boundaries accordingly. It must then identify the share of the original network connection charges represented by the reclassified assets and adjust the network connection charges to be applied from that point forward accordingly. No reimbursement must be made in such cases for network connection charges already paid related to the reclassified assets.

(v) Oversized Transmission Connection Assets – When a Transmission Network Owner decides to oversize any Transmission Connection Asset to serve a Third Party in anticipation of future connections or use of the asset, the additional costs of such over-sizing must be borne by the Transmission Network Owner. Such oversizing is determined by comparison of the capacity
of the assets concerned with the sum of the contracted maximum demand of the parties to be connected allowing a sufficient margin for security purposes.

(b) Cost of operating Transmission Connection Assets

The Transmission Network Owner's costs of operating and maintaining Transmission Connection Assets must be charged to the Third Party using the Transmission Connection Assets on the same basis as for the cost of investing in Transmission Connection Assets.

(c) Cost of Transmission Network augmentations

(i) When the connection of a Third Party requires reinforcement and augmentations on other parts of the Transmission Network, as identified in the Grid Impact Study, the Transmission Network Owner must be responsible for the cost of augmentations, subject to a cap, and this cost will not be included in network connection charges applied to the Third Party.

(ii) The Regulator may set a cap for the cost of augmentations that the Transmission Network Owner may recover in this way, giving consideration to the impact on transmission wheeling charges and retail tariffs to be paid by customers. The Transmission Network Owner may also propose to the Regulator for approval of a cap for the cost of augmentations.

(iii) Where such a cap applies, the Third Party that causes the impact must pay for the cost of augmentations beyond the cap and this cost will be included in network connection charges applied to the Third Party.

(iv) A Third Party may also voluntarily pay for augmentations needed for its proposed connection where these are below the cap.

(d) Payment of network connection charges

The form of payment of network connection charges must be specified in the Connection Agreement between the Transmission Network Owner and the Third Party. It may be a one-off payment or a network connection charge applied over time or any other manner agreed between the Third Party and the Transmission Network Owner.

(e) Treatment of capital investments with respect to wheeling charges and tariffs

(i) Where the Third Party has constructed or paid for the construction of Transmission Connection Assets or network augmentations in full, these assets must be treated as contributed connection assets by the Regulator and be excluded from the regulatory asset base used to calculate Transmission Network wheeling charges and retail tariffs.

(ii) Where the Third Party has constructed or paid for the construction of Transmission Connection Assets or network augmentations in part, the part value paid must be treated as contributed assets by the Regulator and be excluded from the regulatory asset base used to calculate Transmission Network wheeling charges and retail tariffs.
(iii) Where the Transmission Network Owner has paid for network augmentations paid by the Transmission Network, the value paid must be added to the regulatory asset base of the Transmission Network Owner, in the same way as for other capital expenditures undertaken between Regulatory Contract and mid-term reviews that were not approved by the Regulator or otherwise included in the regulatory asset base at the time of the last regulatory review.

(iv) Where the Transmission Network Owner has paid for the oversizing of Transmission Connection Assets, the additional costs resulting from this oversizing may be included in the regulated asset base if such oversizing can be shown to be prudent or economically efficient to the satisfaction of the Regulator. Where the Regulator does not consider the oversizing to be prudent or economically efficient then the additional costs of oversizing can only be recovered from future network connections, as consumer usage grows and oversized assets are then required and are seen to be prudent and efficient by the Regulator.

4.7 Metering of connections

(a) Metering arrangements

The metering arrangements between a Transmission Network Owner and a Third Party will be governed by the Grid Code.

5. Process for the submission, review and approval of statements, power purchase prices, and connection agreements

(a) Submission of proposed statements at regulatory reviews

At the commencement of each review of a Regulatory Contract and at subsequent mid-term reviews:

(i) The Regulated Retailer (if applicable) must submit a proposed Statement of Power Purchase Reference Prices, including all underlying calculations and reasoning.

(ii) The Transmission Network Owner (if applicable) must submit a proposed Statement of Wheeling Arrangements and Charges and proposed Statement of Connection Procedures and Charges, including all underlying calculations and reasoning.

(b) Submission of first statements

(i) Each Regulated Retailer must submit a proposed Statement of Power Purchase Reference Prices, including all underlying calculations and reasoning, within 90 days of the promulgation of this Code, or from the date of commencement of its first Retail Licence (whichever is the latest date), or as otherwise agreed by the Regulator in writing.

(ii) Each Transmission Network Owner, whose Transmission Network is listed in Schedule 1, must submit a proposed Statement of Wheeling Arrangements and Charges, including all underlying calculations and reasoning, within 90 days of the promulgation of this Code, or from the date of the each addition to
Schedule 1, unless an extension is granted by the Regulator on the grounds that ring fencing the costs of the Transmission Network Owner will require more time.

(iii) Each Transmission Network Owner must submit a proposed Statement of Connection Procedures and Charges, including all underlying calculations and reasoning, within 90 days of the promulgation of this Code, or from the date of commencement of its first Transmission Licence (whichever is the later date), or as otherwise agreed by the Regulator in writing.

(c) Review by Regulator

(i) The Regulator must review proposed statements, including the underlying calculations and reasoning, and either approve or require modifications to the submissions.

(ii) The Regulator must consult relevant industry stakeholders before approving the submission/s as it deems necessary.

(d) Publishing approved statements

Both the Regulator and the Regulated Retailer/Transmission Network Owner must promptly publish all submissions and approved charges on its website.

(e) Automatic approval

(i) If the Regulator does not respond to a submission within 90 days by approving it or requiring additional information and/or data or modifications to the submission, it must be considered approved and must be published in accordance with (d) above.

(ii) The clock stops for the above provision when additional information and/or data or modifications are requested and notified in writing (including by email) by the Regulator. An additional 5 days is added to the remaining time at each request by the Regulator. The timing does not recommence until the full delivery of information and/or data or modification is made in writing.

(f) Amendments between regulatory reviews

Between each review of a Regulatory Contract and subsequent mid-term reviews:

(i) The Regulator may request that any statement be amended if the Regulator considers circumstance require. Examples of such circumstances may include, but are not limited to, major changes in costs, or issuing of a new network expansion or extension plan.

(ii) Where the Regulator notifies a Regulated Retailer/Transmission Network Owner/Distributor that a statement must be amended, the Regulated Retailer/Transmission Network Owner/Distributor has 30 days to submit its updated proposal.

(iii) The Regulated Retailer / Transmission Network Owner may at any time submit a proposed amendment to the Regulator for approval. Any amendments to statements between regulatory reviews must follow the
same process for review and approval as described in (c), (d), and (e) above.

(g) Approval of power purchase prices

(i) A Regulated Retailer must submit its proposed power purchase prices, including all underlying calculations and reasoning, to the Regulator prior to any Power Purchase Agreement being signed.

(ii) The process for the Regulator reviewing and approving power purchase prices must follow the same process for review and approval as described in (c) and (e) above.

(h) Approval of Connection Agreements

(i) A Transmission Network Owner must submit its Connection Agreement, including all underlying calculations and reasoning, to the Regulator prior to any such agreement being signed with a Third Party access seeker.

(ii) The process for the Regulator reviewing and approving Connection Agreements same process for review and approval as described in (c) and (e) above.

6. Governance of the Third Party access Code

(a) Governed by the Regulator

This Code must be governed by the Regulator, who may make variations from time to time, but any such variations must not be inconsistent with the objectives set out in Section 1.4.

(b) Process for variations

No variation may be made to this Code unless:

(i) At least 40 business days prior to any variation taking effect:

   (A) The Regulator has published a notice describing the proposed variation in both the National Gazette and a daily newspaper circulating nationally and inviting the making of submissions in relation to the proposed variation not less than 20 Business Days after the date of publication of that notice.

   (B) The Regulator has provided a notice to the Minister responsible for the Electricity Industry Act describing the proposed variation.

   (C) The Regulator has made available, for inspection or purchase by the public, copies of the precise form of the proposed variation.

(ii) The Regulator has considered such submissions in relation to the proposed amendments it receives under (i) above.

(c) Changes to Regulatory Contracts and Licences

The Regulator must ensure that any material changes to the Regulatory Contracts and Licences of Transmission Network Operators and Regulated Retailers must be
reflected in this Code, so long as they are consistent with the principles of the ICCC Act, the Regulatory Contract and this Code.

(d) Version that applies

(i) If a variation to this Code is made during the review of agreed power purchase prices (as described in Section 2.4), the version of this Code that must apply is the version that was in place at the time the Regulator received a Regulated Retailer’s submission.

(ii) The Regulator may require modifications under clause 5(f) of this Code to accommodate the outcomes of the review of agreed power purchase prices. This may include ceasing consideration of the Regulated Retailer’s submission, until the review of agreed power purchase prices has concluded.

7. Dispute resolution

7.1 Disputes process

(a) Notification of dispute

(i) A Third Party or Regulated Retailer/Transmission Network Owner (“disputing parties”) may notify the Regulator that a dispute related to this Code exists and provide relevant information, including any commercial agreements.

(ii) The Regulator must notify the other disputing parties that a dispute has been raised.

(b) Confidential information

(i) A disputing party may request that information related to the dispute be kept confidential.

(ii) The Regulator will inform the other disputing party that such a request has been made, ask if there are any objections, will consider the request and comply with it where the Regulator considers the request to be in the interests of resolving the dispute and the principles set out in this Code.

(c) Involvement of Technical Regulator

If the Regulator considers that there are technical aspects to the dispute that relate to the Grid Code or any other decision made by the Technical Regulator, the Regulator may request that the Technical Regulator to assist the Regulator in arbitrating and making a determination on the dispute.

(d) Withdrawal of dispute

The party that notified the Regulator of the dispute may withdraw the notification at any time before the Regulator makes its final determination, with either the agreement of the other disputing party, or if the other disputing party does not agree, the Regulator.

(e) Negotiations
If the Regulator considers that a process of negotiation is likely to result in a resolution to of the dispute, it will request the disputing parties to enter into the negotiations and set out a procedure for such negotiations and a date by which they must be concluded. The Regulator may appoint a mediator to facilitate these negotiations. The mediator must not act as an arbitrator or adjudicator of the dispute.

(f) Arbitration

If the Regulator considers that a process of negotiation is unlikely to deliver a resolution to the dispute or negotiations have failed to reach a resolution by the date specified by the Regulator then it must move to a process of arbitration, conducted by the Regulator with, if required, the assistance of the Technical Regulator.

When conducting an arbitration, the Regulator may request any information from the disputing parties that it considers will assist it in making its determination.

(g) Arbitration hearing

(i) The Regulator may (but is not required) to hold one or more hearings in arbitrating any dispute. In an arbitration hearing, the Regulator:

(A) Is not bound by technicalities, legal forms or rules of evidence; and

(B) Must act as speedily as a proper consideration of the dispute allows, having regard to the need to carefully and quickly inquire into and investigate the dispute and all matters affecting the merits, and fair settlement, of the dispute.

(C) May inform itself of any matter relevant to the dispute in any way it thinks appropriate.

(D) May enable a party to attend by video-conference or audio-conference if that party is unable to attend in person; and

(E) Must give a party at least 7 days’ notice of any hearing.

(ii) The Regulator may charge one or more of the disputing parties for its reasonable costs in conducting the arbitration and allocate the charges between one or more of the parties, as the Regulator deems appropriate.

(h) Matters taken into account by the Regulator

The Regulator must take the following matters into account in making its determination following an arbitration process:

(i) The extent to which the determination is likely to further the achievement of the objectives of this Code.

(ii) The general principles contained in this Code.

(iii) The legitimate business interests of the Regulated Retailer/Transmission Network Operator, and their investment in facilities used to provide access.

(iv) The interests of all persons who use services provided by the Regulated Retail/Transmission Network Operator and Third Party.
(v) The operational and technical requirements necessary to protect the safe and reliable operation of the electricity system.

(vi) Any other matters that it thinks are relevant.

(i) Interim determination

(i) The Regulator may make a written interim determination on the dispute while arbitration continues, where it considers that failure to do so may cause irreparable damage or costs that cannot be compensated to the Regulated Retail/Transmission Network Operator or the Third Party or any other affected party. The interim determination is in force until a notification of the dispute is withdrawn or the Regulator makes a final determination.

(ii) The interim determination may not be backdated but may be revoked or varied by the Regulator.

(j) Final determination

(i) The Regulator must use reasonable endeavours to make a final determination within 18 months of the date on which it receives notification of an access dispute.

(ii) When the Regulator makes a final determination, it must give the disputing parties its reasons for making the final determination.

(iii) The final determination may deal with any matter relating to access by the Third Party including matters that were not the basis for notification of the dispute.

(iv) Before making a final determination, the Regulator shall give a draft of the final determination to the disputing parties, provide those parties with at least 14 days to make written submissions, and must have regard to those written submissions.

(v) All parties to the arbitration must comply with the final determination

(k) Termination of arbitration

The Regulator may at any time terminate an arbitration (without making a determination) if it thinks that:

(i) The notification of the dispute was vexatious.

(ii) The subject matter of the dispute is trivial, misconceived or lacking in substance.

(iii) A party to the arbitration of the dispute has not engaged in negotiations in good faith.

(iv) Access should continue to be governed by existing arrangements and agreements between the Regulated Retailer/Transmission Network Owner and the Third Party.

(v) The arbitration is not likely to further the objectives of this Code.

(vi) The services provided by the Third Party are not considered to be of significant social and/or economic importance.
(vii) The Third Party lacks the financial and/or technical capacity to be able to make use of any access it may be granted.

7.2 Appeal of decision by Regulator

(a) Appeals process

Decisions made by the Regulator may be appealed to an Appeals Panel as per Section 43 of the *Independent Consumer and Competition Commission Act 2002*. 
Schedule 1. Covered Transmission Network Owners

Transmission Network Owner 1 – PNG Power Limited
List of covered networks
1. Port Moresby Grid;
2. Ramu Grid (including Lae); and
3. Gazelle Grid.

Transmission Network Owner 2 – to be advised by the Regulator in writing from time-to-time.
List of covered networks - to be advised by the Regulator in writing from time-to-time.

Schedule 2. Compensation mechanism principles

- Justification
  (a) The justification for the compensation mechanism is as follows:
    (i) Third Parties connecting to and using a Transmission Network are required to pay the costs of the necessary Transmission Connection Assets plus the costs of any augmentation to Transmission Network Assets in excess of a cap set according to Section 4.6(c) above of this TPA Code plus a wheeling charge.
    (ii) In return for these payments, Third Parties have a right to receive a service consistent with the standards of performance set out in the Grid Code and, in particular, an assurance of their access to the Transmission Network when dispatched by the System Operator.
    (iii) In recognition of this, Third Parties are compensated where such access cannot be provided for reasons within the Transmission Network Owner’s control, but excluding actions by the System Operator relating to dispatch in accordance with this Code and the Grid Code, including in consideration of network safety, performance and reliability concerns.
    (iv) Such an event is referred to as a “constrained off event”.

- Grounds for compensation
  (b) A constrained off event is considered to have occurred and compensation is payable where:
    (i) a Third Party is instructed by a Transmission Network Owner to reduce the energy it proposes to inject to or receive from the Transmission Network to a level below the lower of its contracted maximum demand and the quantity
nominated by the Third Party to the Transmission Network Owner (where such nominations are required); or

(ii) a Third Party is physically disconnected from the Transmission Network by an action of the Transmission Network Owner.

(c) No compensation is payable where:

(i) The constrained off event is due to natural disasters, acts of sabotage or other causes that can reasonably be considered to be outside the control of the Transmission Network Owner.

(ii) The constrained off event is for the purposes of scheduled maintenance and due notice, as required in the Grid Code, has been given.

(iii) The constrained off event is due to a failure of the Third Party to comply with legal requirements or a failure of the Third Party to meet the requirements related to its access or to a failure of the Third Party to pay all sums owing to the Transmission Network Owner.

(iv) The constrained off event is a result of the actions of the Third Party.

- **Compensation payments**

(d) Compensation payments should be related to the length of time during which access by a Third Party is constrained off and the magnitude of this constraint.

(e) The unit compensation payment should be equal to the value of the connection charges that would be due from the Third Party for the period of constraint and volumes of energy that is constrained off plus a premium reflecting the additional costs to replace this energy or the value of the lost opportunity to sell this energy.

(f) The level of this premium should in general be set equal to the Power Purchase Reference Price for firm supply for the relevant Transmission Network.

(g) The total compensation payments due should be calculated on an annual basis or as otherwise agree by the Regulator in writing on application. The basis for the calculation and the data used should be clearly specified. Disputes over the calculation and/or payments due are referred to the Regulator.

(h) Where a Third Party is paying connection charges and/or wheeling charges, the compensation payment should take the form of a rebate on the charges payable in the following Regulatory Year, or as otherwise agree by the Regulator in writing on application.

(i) Where a Third Party is not paying connection charges and/or wheeling charges or the total compensation payable exceeds the expected annual value of these charges, then the difference is paid by the Transmission Network Owner to the Third Party as a cash payment.
Executed by Billy Manoka, Commissioner and Chief Executive Officer, for and on behalf of the Independent Consumer and Competition Commission pursuant to Section 7 of the Independent Consumer and Competition Commission Act 2002

Dr. Billy Manoka, PhD
Commissioner & Chief Executive Officer