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BOTSWANA TELECOMMUNICATIONS AUTHORITY

**GUIDELINES ON INTERCONNECTION FOR
BOTSWANA TELECOMMUNICATIONS SECTOR**

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PREAMBLE

The Botswana Telecommunications Authority recognises that efficient and effective telecommunications networks and services are an essential prerequisite for the continued growth of the Botswana economy. Telecommunications is also an important public utility for the nation. For these reasons, the Authority must ensure that commercial activities within the telecommunications sector are aligned with, and support, national development objectives and priorities. As more and more participants become involved in the sector, a broad regulatory framework needs to be established to guide the operations of the industry in the interest of consumers, fair competition, and the achievement of national goals. From a national perspective, the Government of Botswana looks to the entry of new operators and the emergence of a competitive market to deliver substantial benefits to the economy. These benefits include the rapid expansion of the universal telecommunications service and the elimination of unsatisfied demand, through increased level of capital investment in the communications sector. It is in this regard that the fundamental concept of Interconnection between telecommunications networks is to provide connectivity between any-to-any to safeguards against any abuse of market power. The provision of interconnection on fair and efficient terms is recognised as an essential requirement for the creation of a competitive telecommunications market. Interconnect charges can account for a substantial proportion of operators costs and hence their importance cannot be overstated.

DEFINITIONS AND INTERPRETATIONS

In the event of conflict or ambiguity between the terms defined herein and the terms defined in the Licence or in the Telecommunications Act then the following order of precedence shall apply:

- a) The Act;
- b) The Telecommunications Regulations;
- b) The Licence; and
- c) The Guidelines

For purposes of use in these Guidelines, the terms will have the following ascribed meanings:

“Act” means the Telecommunications Act, 1996 (No. 15 of 1996)

“Any-to-Any” means the ability of any customer on a telecommunications network to connect transparently to any customer on another telecommunications network.

“Authority” means the Botswana Telecommunications Authority established in terms of the Act.

“Billing” means any charge or fee payable by a customer to a network operator (Whether payable periodically, in instalments or otherwise) in relation to a telecommunications service.

“BTA” means the Botswana Telecommunications Authority.

“Calling line identification” means recognition of the calling subscriber for the purpose of call routing, subscriber number display, billing, and call validation.

“Connection” means the physical linking of Telecommunications Terminal Equipment and/or Private Telecommunications Networks to Public Telecommunications Networks in order to allow Users of the Private Telecommunications Network or the Users of the Telecommunications Terminal Equipment to communicate with Users of a Public Telecommunications Network or Users of the same or another Private Telecommunications Network or to access services provided on a Public Telecommunications Network as appropriate.

“Cost” of a service means the directly attributable average costs necessarily incurred in providing that service. For the avoidance of doubt, these average costs:

- a) include allowances for depreciation, related overhead costs, and the opportunity cost of capital; and
- b) exclude unrelated overhead costs, non-call related costs and any costs not necessarily incurred and discernibly attributable to the provision of the service in question.

“Dominant Operator” means a telecommunications operator that has the largest market share in a given segment or that is able to exercise market power in the same or other market.

“Emergency service” includes ambulances, police, fire brigade, hospital or clinic and other similar services.

“Interconnection” means the physical linking of the Telecommunications Systems in order to allow the Users of one Telecommunications Systems to communicate with Users of the same or another Telecommunications Systems or to access services provided by another Licensee.

“Interconnect Billing Reconciliation Process” means the process of two interconnected Licensees analysing the differences between their respective calculations of an interconnect bill from one party to the other to reach a settlement.

“Interconnection Charges” the price charged by a network owner to another operator for the purpose of interconnecting to the network.

“Licence” means a licence issued under Sections 27 and 28 of the Act.

“Licensee” means a natural or legal person, which has been granted a Licence by the BTA pursuant to the Telecommunications Act, and the terms of the Licence or Licences shall be construed accordingly.

“Network Operator” means a person that is granted a Licence by BTA to establish, maintain and operate a telecommunications network in Botswana.

“Operator directory” means operator assistance for the purpose of providing a telephone service such as a subscriber telephone number.

‘Person’ means any individual, company, corporation, partnership, joint venture, consortium, government or governmental entity.

“Point of Interconnection” means a physical or notional point (or Points) between the telecommunications networks of different network operators which constitutes (or constitute) a point (or points) of demarcation between such networks and where communications are to be handed over and conveyed from one telecommunications network to another efficiently and effectively as agreed between the relevant network operators, or as determined by BTA.

“Private Telecommunications Network” means the telecommunications system operated for the benefit of a single person or a single group of persons under common ownership to serve their own needs.

“Public Network Operator” means a Licensee being the holder of either a Public Switched Telephone Network Licence or a Public Mobile Telephone Licence and the term ‘Public Network Operator’ shall be construed accordingly.

“Public Telecommunications Network” means a telecommunications system or a group of telecommunications systems for the offering of Public Telecommunications Services to Users pursuant to the provision of the law.

“Public Telecommunications Services” means a telecommunications service provided for compensation to the general public or any category thereof, in accordance with the law.

“Public Telecommunications Service Provider” means any Person licensed or otherwise legally authorised to operate in Botswana a Public Telecommunications Network.

“Quality of service” means a performance measure, which shall always be pre-defined in an interconnection agreement and it shall include measurement of unsuccessful calls which do not include failure caused by customer behaviour.

“Telecommunications System” means any transmission or switching device or other device or instrument used to convey, receive or transmit Telecommunications signals for the purpose of providing Public Telecommunications Services.

“Transit Service” means the carriage of communications by a network operator between the telecommunications networks of other network operators who have not established points of interconnection between themselves to enable direct communication, and includes the provision of capacity and interconnection for this purpose.

“Unbundled Basis” means the separate provision on the discrete elements necessary to support interconnection where it is both commercially and technically feasible to so provide the elements.

“User” means a person who utilises Public Telecommunications Services.

1.0 INTRODUCTION

1.1 These Interconnection Guidelines are issued in accordance with the provisions of the Act.

1.2 It is a requirement for each telecommunications network operator to interconnect with all other networks and provide customer access including equal access to competing services, as well as general requirements to contribute to the development of the telecommunications market.

1.4 The Guidelines are harmonised with the Telecommunications Policies and Model Telecommunications Bill

of Southern African Development Community (SADC), which specify the principles governing interconnection between operators, including providers of value-added services, within a national boundary, to allow for inter-operability and inter-communication.

2.0 PURPOSE AND SCOPE OF GUIDELINES

Purpose

2.1 The principal purpose of the Guidelines is to simplify the arrangements for interconnection and provision of services between Licensees, and ensure that all Licensees are treated fairly and in a non-discriminatory manner. The Guidelines also provide a formal process for dealing with interconnection disputes. The aim is to encourage good practices by Licensees and to promote the provision of high Quality of Service to users, through technical and economic efficiency.

2.2 The Guidelines establish Interconnection rules set by the Botswana Telecommunications Authority and form part of the regulatory policy objectives and principles to be applied to all licensed telecommunications operators within the telecommunications sector in Botswana. In particular, the Guidelines set out the operational mechanisms and principles to govern the interconnection and access between telecommunications networks in Botswana.

2.3 In case of any inadequacy in the terms and conditions of the licences, the Guidelines may be used to modify or amend any of the terms and conditions of any of the licences. The Authority may take the Guidelines into account in applying the relevant conditions in the licences. The Authority reserves the right to depart from the Guidelines where the circumstances justify such action.

2.4 The Guidelines are subject to review and may be amended following consultation with interested parties in the light of experience of their operations, development in the telecommunications market and of any relevant changes to the telecommunications regulation or Botswana laws.

Scope

2.5 The Guidelines shall apply to the interconnection of, and between, operators Licensed by the Authority, and shall not apply to operators of Private Telecommunications Networks or to users, unless expressly stated otherwise.

2.6 The Guidelines do not set rates for interconnection services, however, they do set out the methodology by which rates shall be determined and the framework under which a move towards cost oriented interconnection rates should take place.

2.7 The Guidelines encourage the development and publication of a Reference Interconnection Offer (RIO) by Licensed network operators. A RIO is a publicly available document, published by a Licensee offering interconnection, defining a standard set of technical and commercial terms by which the Licensee offers interconnection services to other Licensees. It forms the basis of a transparent offer by the Licensee offering interconnection to enter into a contract with another party through a standard interconnection agreement.

3.0 KEY PRINCIPLES

3.1 The following interconnection principles shall apply to all Licensees :

- 3.1.1 Transparency;
- 3.1.2 Non-discrimination; and
- 3.1.4 Cost Orientation.

Transparency

3.2 Transparency should be one of the major objectives in the process of reaching decisions on interconnection issues. The process should be open, transparent and well documented. Transparency of terms and conditions for interconnection, including calculation of prices, should be assured to all operators seeking interconnection and all operators providing interconnection.

3.3 The Authority requires network operators offering interconnection to publish a Reference Interconnection Offer (RIO). The RIO should give a description of the relevant offerings broken down into components according to market needs, and the associated terms and conditions including prices, and to make publicly available interconnection information or agreements to interested parties.

Non-discrimination

3.5 Non-discrimination ensures that there is fair treatment of all operators and that there is no distortion of competition. Network operators should not discriminate between operators demanding interconnection by singling out one or more operators, especially own subsidiaries and/or affiliates. No operator must be given preferential interconnection terms and conditions, while denying those same terms and conditions to other operators.

3.6 A fundamental consideration in technical interconnection is that Dominant Operators must provide interconnection of comparable technical and operational quality as that which applies in the Dominant Operator's own network.

Cost-Orientation

3.7 Cost orientation refers to the principle that the charges for Interconnection shall be geared towards the underlying cost of providing the Interconnection facilities and services. Interconnection charges are crucial in setting rules for interconnection.

3.8 Without charges oriented towards costs, a dominant operator would have a reason to demand a high price for terminating calls that originate on another operator's network and it may pay little or nothing to the other operator to terminate calls originating from its own network.

3.9 Interconnection charges significantly above cost deter market entry and the development of competition, and the end result is that customers would ultimately have to pay for interconnection charges set above cost. The interconnection charges set above cost can provide abnormal profits that the dominant operator could use to subsidise losses, such as losses incurred as a result of predatory pricing action taken to drive competitors out of a market. It is therefore incumbent upon operators to ensure that Interconnection charges are cost-oriented and the charges are unbundled according to market demand. The details of cost accounting systems should be lodged with the Authority.

4.0 TECHNICAL ASPECTS

4.1 This section deals primarily with the interconnection of switched networks designed for the conveyance of voice calls and data calls.

Interconnection of switched networks

4.2 Interconnection is usually established between networks having either similar interface characteristics or similar services. The most common is interconnection between public switched telephone networks (PSTN), between mobile cellular networks (MCN), between the PSTN and the MCN, and between the PSTN and paging networks.

4.3 Interconnection has to make a provision for interfacing between traditional circuit switched networks and packet-switched Internet Protocol based networks.

4.4 The switched systems that have to be inter-operable at a desirable quality level are the circuit-switched fixed networks, the packet-switched IP networks and the mobile cellular networks, including satellite-based mobile networks.

4.5 Licensees offering switched interconnection shall provide other Licensees with details of their exchanges that are available for interconnection and shall provide this information within their RIOs. The information on exchanges should include, but not be limited to:

- a) Name of exchange;
- b) Location (geographic address);
- c) Function (International/Tandem/Local);
- d) Manufacturer; and
- e) Model (Hardware/Software).

4.6 Licensees with either a PSTN or Public Mobile Telephone Service Licence have a mandatory obligation to provide interconnection services and/or facilities.

Rules for interconnect links between public exchanges

General

4.7 Technical switched interconnection rules include, but are not limited to:

- a) Minimum number of interconnect links;
- b) Maximum interconnect link capacity;
- c) Requirements to interconnect to specific exchanges; and
- d) Signalling requirements.

4.8 Licensees shall define any technical interconnection rules within their RIOs.

4.9 Technical interconnection rules shall not be anti-competitive nor shall they represent an unreasonable obstacle to interconnection. The Authority has the right to approve or withhold approval from any such rules.

4.10 A licensee providing interconnection may define a set of rules for handling calls routed incorrectly to one of its exchanges within its RIO. The BTA could consider it reasonable for Licensees to reject calls routed erroneously to a local exchange if the called party (user) is not hosted on that exchange.

Number of interconnect links

4.11 In order to protect the interconnection service resilience, Licensees may require other Licensees to interconnect to a specified minimum number of their exchanges and to specify particular exchanges or levels of switching. In general, Licensees should not define a maximum limit on the number of interconnect links to any other Licensee. In any instance where it might be considered necessary to constrain capacity on either a temporary or permanent basis, the BTA shall be consulted immediately before any constraints would come into force.

Link direction

4.12 Licensee providing interconnection of public exchanges shall enable Licensees using its service, to designate interconnect links as being either uni-directional (in either direction), or bi-directional (both-way).

4.13 Licensee providing interconnection of public exchanges may also encourage the use of uni-directional routes segregated by traffic type. This policy can protect certain traffic streams against congestion caused by others and it is possible to provide differing Grades of Service to particular traffic streams. The use of uni-directional routes may also be much simpler to manage from a commercial and accounting perspective.

Link capacity

4.14 The BTA expects that at a minimum the voice networks of Licensees shall be interconnected in multiples of 2 Mbps (2048 Kbps) E1 transmission links.

4.15 Licensee providing interconnection of public exchanges may define a minimum and a maximum capacity for any interconnect link.

4.16 Licensees should not place excessive reliance on any particular interconnect link as this may endanger interconnection service resilience. Licensees should endeavour to spread interconnection traffic over a number of diverse interconnect links.

Point of Interconnect

4.17 The Point of Interconnection shall be defined as the boundary between the networks of interconnected Licensees and is located at some point on the transmission interconnect link.

4.18 The transmission interconnection link refers to the technical aspects of the transmission (transport) used to interconnect the networks of Licensees in order to provide interconnection services.

4.19 The Point of Interconnection may be located at the premises of the Licensee providing interconnection (collocation), within the premises of the Licensee requesting interconnection (customer sited interconnect), or at a point in between their respective premises (In-span Interconnect).

4.20 Licensee providing interconnection shall fully define the transmission options that Licensees interconnecting to them may use within their RIOs.

4.21 Licensees shall be responsible for providing, operating and maintaining the transmission interconnect up to the point of interconnection. They shall be considered as owning any transmission equipment and infrastructure up to the point of interconnection.

4.22 Licensees shall be responsible for the traffic carried over its own network up to (for outgoing traffic) or from (for incoming traffic) the point of interconnection. Licensees shall not be responsible for the traffic carried over the other's network.

4.23 Licensee providing interconnection shall offer the option of placing the point of interconnect at their own premises, at the premises of the Licensees using their service(s) or in between, as an in-span interconnect. The commercial arrangements and provisioning, operations and maintenance processes shall be dependent on the location of the point of interconnection.

Interconnect extension circuits

4.24 Licensee providing interconnection shall enable Licensees to whom it is providing a service, to lease interconnection transmission links from the point of interconnection to other points in its network in order to enable switching interconnection to a greater number of exchanges.

Transmission technologies

4.25 Licensees shall support the use of modern transmission technologies for interconnect links.

4.26 Licensees should consider the resilience of transmission routes including redundancy, diverse routing, path protection, separation, diversity and ring architectures.

Interconnection of signalling networks

4.27 Licensee providing interconnection shall specify the signalling configuration to be used on interconnect links within their RIOs, and shall notify interconnected Licensees of any modification in the adopted International Telecommunication Union (ITU) signalling system within a reasonable time in advance.

Interface standards and technical requirements

4.28 Licensees shall adhere, as far as possible, to the appropriate ITU technical standards related to interconnection interfaces.

4.29 Licensee offering interconnection services shall state the technical standards used for interconnection, within their RIOs.

4.30 Licensee offering interconnection services shall provide reasonable notice to interconnected licensees of any modifications to the technical standards related to interconnection interfaces.

4.31 Licensee offering interconnection services shall collaborate with interconnected Licensees to overcome any technical problems.

Numbering

4.32 PSTN Licensees shall provide details of the number ranges which are hosted on each of their local exchanges. Licensees using the service may then route calls to those number ranges directly on the interconnect link to the local exchange.

4.33 Mobile Licensees shall provide details of the active number ranges.

Quality of Service

4.34 Licensees providing interconnection services shall do so with the same quality of service as for calls carried wholly on their own networks.

4.35 Licensees shall work jointly to ensure the overall quality of the calls which are made via an interconnection point and their own networks. Licensees shall adopt general principles regarding standards, techniques and methods in order to guarantee the quality on telecommunication networks and in services, as stipulated in ITU recommendations.

4.36 Licensees shall define a number of Quality of Service measures that they shall provide to and expect from, interconnected Licensees within their RIOs.

5.0 INTERCONNECTION PROCESS

Interconnection Agreement

5.1 An interconnection agreement should not, directly or indirectly hinder the provision of a telecommunications service by any Licensee.

5.2 An interconnection agreement shall include, among others, the following:

- a) scope and definition of interconnect services;
- b) interconnection and POI requirements and principles;
- c) provision of information, including notice of changes in the configuration of its network, numbering, routing & signalling;
- d) interconnection provisioning procedures and cost of interconnection;
- e) network and transmission capacity requirements;

- f) technical service level commitments;
- g) technical specifications and standards;
- h) transmission and performance standards;
- i) fault reporting and fault resolution procedures;
- j) network management, maintenance and measurement, including traffic record on incoming and outgoing calls;
- k) network safety, protection and related matters;
- l) call handling and operation procedures;
- m) access to interconnection facilities and sharing of infrastructure;
- n) charging mechanisms, billing and settlement procedures;
- o) transmission of calling line identification (CLI) information;
- p) operator assisted services, directory information and assistance;
- q) commercial terms and conditions;
- r) confidentiality of information;
- s) liability and indemnities;
- t) force majeure;
- u) intellectual property rights;
- v) provision for an Interconnection Agreement liaison and co-ordination Management Committee;
- w) review periods, terms for review and termination of the agreement; and
- x) dispute settlement.

Request for Interconnection

5.3 Licensee requesting interconnection shall make a written request to the network operator with copy to the BTA.

5.4 The start of negotiations between the parties shall be deemed to be from the time that each of the following conditions have been satisfied:

- a) The network operator requesting interconnection submits to the other network operator a formal written request and annexes therewith all available relevant information, to the extent reasonably necessary on the following:
 - i) network configuration;
 - ii) proposed POIs;
 - iii) proposed interfaces;
 - iv) capacity requirements;
 - v) proposed traffic routing;
 - vi) traffic forecasts;
 - vii) traffic types;
 - viii) proposed implementation schedules (with at least six months notice from the date of request); and
 - ix) details of initial and future network operations relevant to the interconnection requirements.
- b) A formal confidentiality agreement has been executed between the parties.

5.5 The Licensee requesting interconnection shall advise the BTA when the confidentiality agreement between the parties has been executed and a copy lodged with the Authority within ten (10) working days from the execution of the Agreement.

5.6 The operator to whom a request for interconnection has been made shall, within ten (10) working days of receipt of the

written request, submit to the requesting network operator all available relevant information as requested to the extent reasonably necessary and practicable.

5.7 The operator responding to the request for interconnection shall formally advise the BTA as soon as it has responded to the request for information.

5.8 The BTA may at any time ask the parties to provide copies of the information exchanged between the parties.

5.9 All documents relating to the interconnection negotiations between network operators should be hand delivered and formally acknowledged upon receipt.

Negotiation Period

5.10 The network operators shall reach an interconnection agreement within ninety (90) days from the start of negotiations.

Approval by the Authority

5.11 The Licensees shall lodge with the Authority their Interconnection Agreement not later than thirty (30) days from the date of execution of the Agreement.

5.12 In the event that the Authority is not satisfied with the terms and conditions and/or the charges set forth in the interconnection agreement, or if the interconnection as contemplated therein is inconsistent with provisions of the Act and the market conditions, the Authority shall request the interconnecting parties to revise the interconnection agreement as specified by the Authority in writing, and submit a revised interconnection agreement to the Authority within thirty (30) days of receipt of the Authority's directive.

Amendments to interconnection agreements

5.13 Any party to an Interconnection Agreement may request for amendment or modification of the Agreement by giving the other

party written notice. The Authority shall be entitled to a copy of the amended Agreement.

5.14 The parties should negotiate and make necessary amendments to the Agreement. To the extent that the terms and conditions of any agreement or amendment made cease to be reasonable, the requested party should, within thirty (30) days offer to the requesting party or agree with the requesting party, as the case may be, to amend the interconnection agreement, so that its terms and conditions are reasonable.

6.0 COMMERCIAL ASPECT

Principles of charging

6.1 The fundamental principle is that all Licensees should be fairly compensated for the cost incurred in the provision of interconnection. The level and structure of interconnection charges are major determinants of the viability of any operator seeking interconnection in general. All Licensed network operators are required to offer interconnection charges that have cost based rates which are transparent, reasonable, having regard to economic feasibility, and sufficiently unbundled so that the interconnecting party does not pay for network components or facilities which it does not require for the service to be provided, it being understood that no unreasonable and unrecoverable costs will be imposed on the Licensee in connection with any unbundling. Cost based charges should be based on the directly attributable costs of the interconnection service or facility in question. Interconnection arrangements should be consistent with commercially sound operations, and sustainable outcomes.

6.2 As far as technically feasible the charging structure should be based on unbundled network elements. In general, the charging regime should be consistent with the practice world-wide that distinguishes between:

- a) appropriate fixed charges for the provision and operation of the points of interconnection;
- b) variable traffic sensitive usage charges;
- c) charges for supplementary and support activities such as billing, directories, enquires, or emergency services; and

- d) separate pricing and provisioning arrangements for leased transmission links on the basis of cost of provision plus a reasonable return on investment.

6.3 Operators shall negotiate on the basis of objective criteria and cost orientation and agree on prices for the delivery of a menu of interconnection services. This menu may comprise of, but not limited to, systems for continuity of traffic between the users connected to operators involved, facility for accommodating equipment for interconnection, transmission component, and any other system for common use. The setting of prices will, among others, be based on the cost of providing services or facilities.

6.4 The BTA's policy is to move to a charging system based on Long Run Average Incremental Costs. The BTA, however, recognises that such an approach is not immediately applicable to Botswana and would expect its phased implementation by operators within 3 years from the date of implementation of these guidelines.

6.5 Licensees shall, after approval by the Authority, give a minimum of 30 (thirty) days notice of any changes to interconnection charges including charges for the introduction of any new interconnection services, and shall notify the Authority of their intention to introduce new interconnection services.

6.6 Licensees shall publish the charges as annexes to their RIOs, and shall also publish such charges on any form of official media.

Call conveyance

6.7 Charges shall only be made for successful calls, that is those calls which the called party or an answering device of the called party responds. The charging unit for all successful calls shall be as prescribed in the Licence.

6.8 Licensee offering interconnection shall charge all interconnected Licensees the same time-unit (per second/minute) rates for the same call conveyance services.

6.9 There shall be no minimum charge for successful calls.

6.10 Call conveyance charges shall reflect the amount of network infrastructure used in the conveyance of each call.

6.11 PSTN Licensee must offer different interconnection charges for local, single tandem, double tandem and transit (including international) calls, while Mobile licensee shall offer a single charge for call termination based on the average utilisation of network infrastructure by incoming calls in mobile networks.

6.12 Licensee offering interconnection may offer peak and off-peak interconnection rates, provided the overall cost recovery does not exceed the total average cost of providing the service.

Transmission link costs and charges

6.13 The costs of transmission links shall be borne by the Licensee requesting the service, charges shall be the same for all requesting Licensees.

Interconnection link costs and charges

6.14 The costs of the interconnection links shall be shared between the Licensees on the basis of the proportion of traffic which each originates on each link. The traffic volume shall be measured in call minutes.

Data interconnection services

6.15 Data interconnection services shall be charged for through a combination of call conveyance and transmission link charges.

Collocation and facilities sharing services

6.16 The prices charged by Licensees for the running costs of collocation and facilities sharing services shall be cost-based. Leases for the space within buildings should reflect local market values.

Billing

Call conveyance billing

General

6.17 Licensees offering interconnection shall fully define their billing processes within their RIOs. These shall include timescales for:

- a) Billing period (start and end dates);
- b) Delivery of invoice from billing party;
- c) Queries related to invoices from billed party; and
- d) Time to reach a reconciliation agreement.

6.18 Interconnect billing should be based on call recording in the interconnected exchanges.

6.19 Each Licensee on each side of an interconnect should have the capability to measure the call seconds. If only one of the Licensees has the ability to measure such calls, then their measurements shall be considered to be definitive. If both Licensees have the ability to measure such calls, then the reconciliation process should be contained in the Interconnect Agreement and defined in the RIO of Licensee offering interconnection.

6.20 For charging and accounting purposes, calls shall be considered in principle to fall entirely within the charge period in which they start, regardless of the fact that they may end in another charge period.

6.21 The traffic unit used by Licensees offering Interconnection for charging and settlement of call conveyance bills shall be one second of Conversation Time. Conversation Time shall be defined as the interval that elapses between the moment when the reply condition (answer signal in the backward direction) is detected at the point where the recording of the call takes place, and the moment when the clear forward condition (clear forward signal) is detected at the same point.

6.22 Licensees shall define the format of the invoice and the method of transmitting the invoice within their RIOs.

6.23 Except for disputed amounts being processed in accordance with the billing disputes process, if a party fails to pay five (5) working days after the due date any amount due under the interconnect agreement, the party shall pay automatically interest on the due amount at the default interest rate which shall be agreed by both parties, as from the due date.

6.24 The billing party shall store billing data in such format as shall be sufficient to recalculate the amounts due from one party to the other. The billing party shall store such data for at least two years.

Interconnect billing reconciliation

6.25 Licensees shall define their interconnect billing reconciliation process within their RIOs.

6.26 The interconnecting Licensees shall agree on a defined percentage difference in both parties calculation of a bill, within which there shall be no interconnect Billing Reconciliation Process. Therefore the sending party's bill shall prevail.

6.27 In the case of billing discrepancies being greater than the defined percentage, Licensees should work together in order to improve the accuracy of the bills and the comparison of records shall be made more frequently until the fault is identified and resolved.

6.28 During an Interconnect Billing Reconciliation Process, Licensees should work together in good faith, taking more frequent measurements and exchanging detailed information if necessary.

6.29 If the specific cause(s) for billing discrepancies cannot be found, the Licensees should agree on an estimate for the correct value based on ***either historical data*** or an average of calculated bills of both parties.

7.0 INTERCONNECTION DISPUTE PROCESS

7.1 In the event that, within ninety (90) days of commencement of the negotiations, there is no commercial interconnection agreement due to differences arising between or among the Licensees relating to or arising out of interconnection issues, any one of the Licensees shall declare a dispute, in terms of the Act. In referring the dispute to the BTA, the parties shall state the areas of agreement and disagreement.

Settlement procedure by the BTA

7.2 The BTA's approach shall be consistent with the regulation of the sector and must aim to promote competition; avoid distorting industry economics; discourage anti-competitive behaviour; and take account of operational efficiencies, consumer and national priorities.

7.3 The Authority may decide on the dispute based on written submissions and oral hearings of the parties concerned. In any case, a decision could be reached without oral proceedings.

7.4 The Authority may in appropriate cases issue interim orders.

7.5 In its decision, the Authority shall take into consideration the interests of the Users and of each party.

7.6 Attendance for the oral hearings will be open to any interested stakeholders and members of the public. However, where the presence of the public and other stakeholders may pose a threat to the public order, specifically to the national security or to an important business or operating secret, the Authority will decide on the level of attendance.

7.7 The Authority's decision shall be final and conclusive and shall represent what is in the opinion of the Authority, a fair

balance between the legitimate interests of both parties. Any party aggrieved by the Authority's decision may appeal to the High Court in terms of the Act.