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GENERAL NOTICE

NOTICE 1683 OF 1998

SOUTH AFRICAN TELECOMMUNICATIONS REGULATORY AUTHORITY



NOTICE IN TERMS OF SECTIONS 27, 43(3) AND 44(5) OF THE TELECOMMUNICATIONS ACT, 1996 (ACT 103 OF 1996) INVITING REPRESENTATIONS WITH REGARD TO INTERCONNECTION AND FACILITIES LEASING GUIDELINES ON THE FORM AND CONTENT OF INTERCONNECTION AND FACILITIES LEASING AGREEMENTS

1. The South African Telecommunications Regulatory Authority ("the Authority") hereby provides notice and invites comment on interconnection and facilities leasing guidelines relating to the form and content of interconnection and facilities leasing agreements, under Sections 27, 43(3) and 44(5) of the Telecommunications Act, 1996 (Act 103 of 1996) ("the Act").

2. Interested persons are hereby invited to submit written representations, including an electronic version of representations in Microsoft Word 6.0 or higher, of their views on –

rules regarding the form and content of interconnection and facilities leasing agreements

by no later than 16h00 on Friday, 9 October 1998.

3. Persons making representations are further invited to indicate whether they are requesting an opportunity to make oral representations (and the estimated duration therefor, which duration shall not exceed one hour).
4. Furthermore, persons submitting representations to the Authority after Friday, 2 October 1998, are requested to submit twelve (12) copies of such submissions.
5. Written representations may be posted or hand delivered for the attention of Mr. Izaäk Coetzee –

SATRA, Private Bag X1, Marlboro, 2063; OR
SATRA, Block B, Pin Mill Farm, 164 Katherine Street, Sandton, Gauteng Province.
6. Oral representations will be heard from Monday, 19 October 1998 at SATRA, Block B, Pin Mill Farm, 164 Katherine Street, Sandton, Gauteng Province.
7. The times of the oral hearings will be made known to such persons (i.e. those who requested an opportunity to make oral hearings) by means of a telephone call, telefax, or e-mail by no later than Wednesday, 14 October 1998.
8. All persons attending and/or making oral representations will do so at their own cost.

9. All written representations and documents submitted to the Authority pursuant to this notice shall be made available for inspection by interested persons from Monday, 12 to Friday, 16 October 1998, during the business hours of the Authority, from 8h30 to 16h00, and copies of such representations and documents will be obtainable on payment of a fee.
10. At the request of any person who submits a written representation or document pursuant to this notice, the Authority may determine whether such representation or document, or a portion thereof, relates to the financial capacity or business plan of any person, or to any other matter reasonably justifying confidentiality, in which event such representation or document shall not be made available for inspection by members of public. If the request for non-disclosure to public is refused, the person making the request will be allowed to withdraw the representation or document in question.
11. With respect to the documentation determined not to be open to public inspection as aforementioned in paragraph 10 above, the Authority may direct that the public or any member or category thereof, shall not be present during the oral submission relating to such documentation; provided that those present shall have been notified of this intention, allowed to object thereto and after such objections had been considered by the Authority.

THE "DISCUSSION DOCUMENT"

12. In order to provide for a wider basis for the representations to be made during the enquiry, the Authority has compiled questions that are pertinent to this issue.
13. These questions have been incorporated in the annexure hereto titled **"DISCUSSION DOCUMENT – GUIDELINES RELATING TO THE FORM AND CONTENT OF INTERCONNECTION AND FACILITIES LEASING AGREEMENTS"** (hereinafter referred to simply as the "Discussion Document").
14. Representations may address any relevant issue, whether or not such issue has been raised in the Discussion Document. Furthermore, it is not a prerequisite that representations should address any or all of the issues raised in the Discussion Document.
15. The findings, recommendations and conclusions by the Authority following public comment, will be published in the Government Gazette in accordance with Sections 27, 43(3) and 44(5) of the Act.

SOUTH AFRICAN TELECOMMUNICATIONS REGULATORY AUTHORITY

**DRAFT INTERCONNECTION AND FACILITY LEASING
GUIDELINES &**

CONSULTATION PAPER

ISSUED BY SATRA IN CONNECTION WITH

A PUBLIC ENQUIRY INTO

**THE INTERCONNECTION AND FACILITY LEASING GUIDELINES
TO BE ESTABLISHED BY SATRA PURSUANT TO
SECTIONS 43 AND 44 OF THE TELECOMMUNICATIONS ACT**

19 AUGUST 1998

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SECTION A:

DRAFT INTERCONNECTION AND FACILITIES LEASING GUIDELINES ISSUED UNDER SECTIONS 43 AND 44 OF THE TELECOMMUNICATIONS ACT 1996

1. Objectives

1.1 Recognising South Africa's interest in developing a telecommunications industry which provides universal and affordable access to a fully integrated telecommunications network, the objectives underlying these Interconnection Guidelines are:

- (a) to provide a comprehensive and transparent framework for SATRA to implement interconnection policy;
- (b) to promote the expansion, availability and usage of all telecommunications facilities and services in South Africa;
- (c) to enhance fair and effective competition in the telecommunications industry;
- (d) to ensure the end-to-end interoperability of services for users, and ensure that the customer of any telecommunications network can be connected to the customer of any other network;
- (e) to establish fair and non-discriminatory provisions for interconnection, and to provide for access to information, transparency and equality of access to services;
- (f) to ensure compliance with accepted technical standards for the provision of interconnection; and
- (g) to promote the interests of telecommunications users and consumers.

2. Interconnection

2.1 In these Interconnection Guidelines "interconnection" includes, but is not limited to:

- (a) the establishment of physical or logical network interfaces or points of interconnection between the systems of two licensed telecommunications service operators;

- (b) the provision of telecommunications services across the points of interconnection and within networks; and
- (c) associated signalling, data and billing arrangements.

2.2 Interconnection arrangements are to be negotiated between the interconnecting parties and reduced to a written interconnection agreement which complies with these Guidelines.

3. **Application of Interconnection Guidelines**

3.1 Unless specifically restricted to major operators, these Guidelines apply to:

- (a) interconnection of any licensed telecommunications system and another licensed telecommunications system
- (b) interconnection between any licensed telecommunications system and any private telecommunication network maintained by Transnet or Eskom, or any other entity accorded equivalent rights to those rights accorded to Transnet and Eskom under section 41 of the Telecommunications Act or successor legislation;
- (c) interconnection between any licensed telecommunications system and a licensed telecommunications service, including but not limited to value added network services; and
- (d) other forms of interconnection as prescribed by SATRA from time to time.

4. **Requirement to Supply**

4.1 All licensed telecommunications systems are obliged on request to interconnect their telecommunications system with :

- (a) another licensed telecommunications system;
- (b) a private telecommunications network maintained by Transnet or Eskom;
- (c) a private telecommunications network; or
- (d) a licensed telecommunications service,

in accordance with these Interconnection Guidelines, unless SATRA determines that the request is not reasonable.

4.2 SATRA will determine that request is not reasonable where, in its opinion, interconnection is not technically feasible, will not promote increased public use of telecommunications services, or because it will not promote the efficient use of telecommunications facilities.

4.3 An access seeker is free to acquire services from an access provider at standard retail tariffs without prejudice to any rights to acquire the same or similar services under an interconnection arrangement.

4.4 A major operator in a particular market segment may not abuse its market power by limiting access to services or facilities that are necessary or efficient for interconnection.

5. Any to Any Connectivity

5.1 Interconnection must ensure that:

- (a) a customer of one licensed telecommunications system operator, inter alia paging, is able to call a customer of any other licensed telecommunication system operator on a non-discriminatory basis; and
- (b) the transmission of calls across and within the respective networks should be transparent and seamless to both the calling and called parties; and
- (c) a customer of one licensed telecommunication system operator is able to access services provided by any other licensed telecommunications service operator either directly or by transiting the system of another licensed telecommunications service provider.

6. Request for Interconnection

6.1 SATRA shall be given notice of all requests for interconnection by an access seeker.

6.2 Major operators shall develop standard procedures for interconnection that shall be made available on request to access seekers of a particular type. Those procedures will assist access seekers to finalise efficient interconnection arrangements of a systematic type. However, they will not limit SATRA's powers or the right of an access seeker to request different interconnection arrangements.

6.3 Where an access provider has received a request for interconnection from an access seeker, the access provider must provide the access seeker with such information and specifications and in such time as is reasonably required by the access seeker to enable it to plan, establish and maintain its network or service, including:

- (a) technical, traffic and other relevant information;
- (b) network and facilities specifications; and
- (c) any material changes to that information or specifications which may impact on the access seeker's interconnection arrangements or the services it intends to provide to customers using the access services.

7. Efficient Provisioning

7.1 The provisioning of interconnection by the access provider must be efficient and occur in a timely fashion. Requests for interconnection or facility sharing shall include the time by which such provisioning needs to be implemented.

7.2 Interconnection shall be made available of sufficient capacity sufficient to enable the efficient transmission of telecommunications services between the interconnecting parties.

7.3 The provisioning of interconnection must be non-discriminatory as between other telecommunications service operators, and as between other telecommunications service operators and any subsidiaries or partners of the licensed telecommunication system operator.

7.4 Provisioning systems must not include any unnecessary steps, and access seekers' orders for capacity must be provisioned in the order received, and must not be provisioned after other customer orders or after provisioning required by a subsidiary or partner of the access provider.

8. Non-Discrimination

8.1 An access provider must treat each interconnecting party on a basis that is non-discriminatory and no less favourable as to terms, conditions and rates than the treatment which the access provider affords to itself, its subsidiaries, its affiliates, or to other similarly licensed operators or service operators to which the access provider is providing a materially equivalent service.

8.2 Where a major operator makes an interconnection service available to an access seeker, that service must also be made available to any other equivalent access seeker on the same terms and conditions.

8.3 An access provider must treat each customer of any interconnecting party on a basis that is non-discriminatory and no less favourable than the treatment which the licensed telecommunication system operator affords to its own customers or the customers of any other affiliated or unaffiliated operator.

8.4 The access provider must deal with each interconnecting party on a non-discriminatory basis in relation to the technical and operational quality of the services which it provides, including as to quality, availability, time of provision, and technical standards and specifications.

9. New Services

9.1 Where an access seeker requires a new service that cannot be supported by existing forms of access, it shall provide the access provider with information regarding the following to the extent it is required by the access provider to provide the service:

- the technical details of the proposed access service;
- the approximate date the proposed access service is required; and
- an estimate of the capacity required

9.2 The access provider for the new access service must ensure that the network conditioning and provisioning procedures required to provide the new service are undertaken as soon as practicable after the request in order to enable the requesting operator to carry out the necessary testing prior to the intended commencement of the new service.

9.3 The onus rests on an access provider to prove that a new interconnection service is technically unfeasible.

10. Establishment and Location of POIs

10.1 Points of Interconnection (POIs) must be established and maintained at any technically feasible point in a major operator's network as requested.

- 10.2 The access seeker must provide sufficient details to the access provider in relation to a POI to enable the access provider to assess what network conditioning may be required and to estimate the costs of establishing the POI.
- 10.3 POIs shall be established as soon as practicable following a request and within such time period as SATRA may prescribe.
- 10.4 For inter-carrier interconnection, each carrier shall bear its own port, datafill and switch costs to support a POI and the parties shall share the cost of the interconnect capacity equally.
- 10.5 The onus rests on the access provider to demonstrate to SATRA's satisfaction that a particular POI is not technically feasible or that it has been provided with insufficient information to establish a POI.

11. **Interconnection Charging Structure**

- 11.1 Charges for interconnection services shall be structured to distinguish and separately price the following aspects of an interconnection service:
 - (a) the establishment and implementation of the physical interconnection, including testing;
 - (b) rental charges for use of facilities, equipment and resources, including leased transmission links;
 - (c) variable charges for ancillary and supplementary services (e.g. billing, operator, emergency, directory);
 - (d) traffic related access charges for the conveyance of traffic, at a per minute rate (rounded off to the nearest second) and which may include a differential for the time of transmission.
- 11.2 All charges for interconnection services shall be transparent and sufficiently unbundled so that the party seeking interconnection does not have to pay for network components or facilities that it does not require for the service to be delivered.
- 11.3 The pattern of access charges should match as closely as possible the pattern of underlying costs incurred. For example, where a fixed cost is incurred a fixed charge should be levied and where a timed cost is incurred a timed charge should be levied.

11.4 Unless SATRA grants a specific written exception, interconnection charges should never exceed retail charges for equivalent services or facilities.

11.5 Interconnection charges should be set so as to promote efficient and sustainable competition for the benefit of consumers, and promote economically efficient network use.

12. Interconnection Charges Imposed by Major Operators on Carriers

12.1 Major operators must provide interconnection services to any Carrier access seeker at cost-based charges.

12.2 Cost-based charges are to be derived on the basis of forward looking economic costs calculated for an efficient operator, incorporating the directly attributable long run incremental cost of the service or facility in question, and include no more than a reasonable rate of return on investment. Indirect fixed costs such as corporate overheads are excluded.

12.3 To the extent that a major operator lacks the necessary costing information to determine a cost-based charge for any interconnection service, cost-oriented charges are based on:

- (a) current cost measurements of a hypothetical operator; or
- (b) international cost benchmarks must be applied.

12.4 The burden of proof to demonstrate that charges are cost-based or cost-oriented lies with the access provider.

12.5 SATRA may require charges to be adjusted or may itself adjust charges where it does not accept that the charges which have been applied are cost-based or cost-oriented as required.

13. Interconnection Charges Imposed by Major Operators on Service Providers

13.1 Major operators may charge service providers no more than its best retail prices (less avoidable costs) for the service, provided that this price is not less than the LRAIC of the major operator.

13.2 Major operators may charge service providers no more than the fully allocated costs of the major operator for establishing a POI.

14. Facilities Leasing**14.1 In relation to the provision of facilities by a major operator:**

- (a) SATRA will specify the basic performance characteristics and a standard provisional time;
- (b) an access seeker may notify a major operator that it requires to lease a facility;
- (c) a major operator may agree to make available the facilities in accordance with specifications and, if not, SATRA may make appropriate orders under section 44(7) of the Act.

15. Co-Location and Facility Sharing

15.1 Where a licensed telecommunication system operator has the exclusive right to install and provide facilities, those facilities should be made available for sharing with a party seeking interconnection services, unless sharing cannot occur for technical reasons.

15.2 Where a party seeking interconnection from a major operator requests that facilities be co-located with the facilities of the party providing the interconnection service, such co-location shall be provided unless co-location cannot be provided for technical reasons.

15.3 In the event that agreement is not reached between parties with respect to the sharing of facilities pursuant to this section, SATRA may determine the sharing arrangements which shall apply.

16. Technical Standards

16.1 Interconnection services must be of comparable technical and operational quality as that which applies in the licensed telecommunications system operator's own network.

16.2 The technical establishment and operation of interconnection services must wherever feasible comply with the relevant recommendations of the International Telecommunications Union (ITU).

16.3 Calling Line Identification (CLI) and all necessary signalling data shall be passed between interconnected parties unless such information cannot be provided for technical reasons or SATRA provides a specific written exemption.

17. Mobile Licensing

- 17.1 PMLN licensees shall facilitate roaming on their respective networks.
- 17.2 The form of roaming may be prescribed by SATRA from time to time.
- 17.3 The charges for roaming shall be set at a price between the LRAIC of the access provider and the best retail price of the access provider.
- 17.4 Roaming shall be offered on a reciprocal basis.

18. Confidentiality

- 18.1 Other than information which is already in the public domain, all information provided by one operator or service operator to another operator or service operator in relation to interconnection must be kept confidential and only used for interconnection purposes, except where the disclosure is authorised by the other party, authorised or required by law or is disclosed to SATRA.
- 18.2 Information which is received by the access operator as a result of providing interconnection to a requesting party such as traffic information, CLI or other details must be ring fenced within the access operator's organisation and cannot be used for marketing or other competitive purposes.

19. Network Changes

- 19.1 A major operator is required to provide 6 months notice to licensed telecommunications system operators and licensed telecommunications service operators of planned changes to its network.

20. Oversight and Transparency of Agreements

- 20.1 A written interconnection agreement shall address the following issues unless they are not relevant to that form of interconnection:
- (a) the scope of interconnection services;
 - (b) the maintenance of end-to-end quality of service;
 - (c) charging, billing and settlement procedures;

- (d) transmission of calling line identification (CLI) information;
- (e) access to ancillary, supplementary and advanced services, including operator services, directory information and emergency calls;
- (f) interconnection charges and commercial terms and conditions;
- (g) network provisioning and network and related information;
- (h) POI, network and transmission capacity requirements;
- (i) requirements for facilities access, infrastructure sharing and co-location;
- (j) forecasting;
- (k) the provision of information regarding network modernisation or rationalisation;
- (l) technical specifications, standards and service level commitments;
- (m) transmission and performance standards;
- (n) interoperability tests and measures to comply with essential requirements.
- (o) fault reporting and resolution procedures;
- (p) traffic and network management, maintenance and measurement;
- (q) information handling and confidentiality;
- (r) duration and renegotiation; and
- (s) dispute resolution procedures.

20.2 If the parties fail to reach agreement within 90 days of the request for interconnection, then on request of one of the parties, SATRA may declare the terms and conditions applicable to such interconnection, subject to the provisions of the *Telecommunications Act*.

20.3 Where parties have entered into a written interconnection agreement, a copy of that agreement shall be provided to SATRA pursuant to section 43(2) of the

Telecommunications Act to enable SATRA to determine whether the agreement is consistent with these Guidelines.

- 20.4 Where a major operator has entered into a written interconnection agreement for a particular interconnection service, the operator must make that agreement publicly available.
- 20.5 Notwithstanding other provisions in these Guidelines, SATRA will make publicly available the price terms and conditions on which interconnection services are provided.
- 20.6 The fact that interconnection arrangements have been entered into between the parties does not affect the power of SATRA to intervene and vary those arrangements where SATRA has the lawful power to make such variation and where SATRA considers that such variation is appropriate.

21. Inter-Operator Working Group

- 21.1 The Carriers shall form and participate in an Inter-Operator Working Group.
- 21.2 The Inter-Operator Working Group shall meet at least once every four months to discuss any interconnection issues between the parties.

22. Adjudication

- 22.1 SATRA is to be advised by the requesting party of a request for interconnection.
- 22.2 Disputes between operators as to the reasonableness of a request for interconnection are to be referred to SATRA for a decision as to the reasonableness of the request.
- 22.3 SATRA will apply a two stage test to determining whether an interconnection request is unreasonable. Its first consideration is whether the request is *technically feasible*. If it is technically feasible then SATRA will determine whether it is in the *public interest* because it promotes increased use of public telecommunications services or the more efficient use of telecommunications facilities.
- 22.4 The access provider shall bear the initial onus of proving that a requested form of interconnection is technically infeasible, or fails to promote the use of services or the more efficient use of telecommunications facilities.

22.5 Where an operator claims that another operator is unwilling to negotiate or agree on any term or condition on which interconnection is to be provided, the issue is to be submitted to SATRA for decision.

22.6 Where an operator or any other person alleges that there has been a contravention or failure to comply with:

- (a) the provisions of the Act;
- (b) the provisions of a licence held by an operator; or
- (c) an interconnection agreement,

then SATRA shall investigate and make a decision in response to the allegation.

22.7 Where SATRA is determining whether an interconnection agreement meets the SATRA Guidelines, SATRA may engage the assistance of an independent expert to provide SATRA with technical and expert advice on the compliance of the agreement with the Guidelines.

22.8 In the course of determining whether an interconnection agreement complies with the SATRA Guidelines, SATRA shall invite both parties to make written submissions to SATRA on the issue of compliance.

23. **SATRA's ADR Role**

23.1 Prior to an operator or operators referring a dispute as to reasonableness or inability to negotiate to SATRA for a formal determination, either party may request SATRA's assistance in resolving the dispute through mediation.

23.2 Where SATRA agrees to assist the parties by mediation, SATRA will ensure that all comments made by the parties during the mediation process remain confidential.

23.3 Where SATRA assists parties with mediation and the same dispute is then referred to SATRA for a final determination, SATRA will ensure that the members of staff, Councillor or Councillors who conducted the mediation are not involved in the formal determination process.

23.4 SATRA may also indicate to parties involved in ongoing protracted negotiations that it is willing to assist through mediation in order to help achieve an outcome for those negotiations and that it believes that a mediation would be in the public interest.

24. **Definitions**

24.1 **Access provider** means the licensed operator of a system or service that is requested to provide a service or facility.

24.2 **Access seeker** means the licensed operator of a system or service that requests a service or facility.

24.3 **Carrier** means Telkom or a holder of a PMLN licence.

24.4 **Service provider** means a provider of a telecommunications service other than a carrier.

24.5 A licensed telecommunication system operator is a **major operator** where they have a share of more than 25% of a particular telecommunications market in a geographical area in which they are licensed to operate.

25. **Variation of Guidelines**

25.1 These guidelines may be varied by SATRA from time to time by notice in the Government Gazette and in accordance with such procedures as SATRA may be required to observe in relation to such variation.

SECTION B: CONSULTATION PAPER

1. INTRODUCTION

1.1 This consultation process is taking place in the context of a formal inquiry which SATRA has initiated under section 27 of the *Telecommunications Act* 1996 (the Act), into the:

- Interconnection Guidelines to be issued by SATRA pursuant to section 43 of the Act; and¹
- Facilities Leasing Guidelines to be issued by SATRA pursuant to section 44 of the Act.

1.2 The Act, together with the associated regulations and the licences issued under that legislative scheme, provides the foundations for South Africa's telecommunications regulatory regime up to and beyond the year 2000. The objectives of the Act provide the core framework which underlies SATRA's approach to regulatory action.²

1.3 Interconnection and facilities sharing are the most essential telecommunications policy issues for any jurisdiction that has introduced or has plans to introduce competition in telecommunications markets. These arrangements govern the nature of the wholesale relationships which will be established between the incumbent and new operators and service providers in the delivery of telecommunications services involving more than one provider.

1.4 Interconnection and facilities sharing regimes and agreements vary internationally and can be used by regulators to achieve differing regulatory goals. Generally, however, such regimes serve the following fundamental objectives:

- establishing any-to-any connectivity, enabling a retail customer originating calls on one network to successfully complete calls terminated on another network;
- ensuring end user access to a variety of services provided by multiple operators without requiring a direct connection to such operators;

¹ Sections 43 and 44 of the *Telecommunications Act* are reproduced as Annexure One to this Report.

² The objectives are reproduced as Annexure Two to this Report.

- providing the framework for a wholesale market in telecommunications services between operators, with a distinct pricing regime to the retail market and which enhances competition in the retail market; and
 - removing barriers to entry in facilities and services markets.
- 1.5 In this context South Africa's interconnection and facilities sharing arrangements are a vital regulatory consideration. Under the Act SATRA is required to establish both interconnection and facilities sharing guidelines within which the industry will negotiate interconnection and facilities sharing agreements. SATRA also has the important task of adjudicating between industry players in relation to interconnection and facilities sharing disputes. The relevant considerations and processes are similar and it is therefore convenient to deal with the interconnection and facilities sharing processes together in one consultation document.
- 1.6 Ministerial Guidelines on interconnection are already in place with respect to certain interconnection agreements where Telkom SA Limited (Telkom) is a party (**Ministerial Guidelines**)³. However those Guidelines do not apply to all interconnection arrangements, and will not apply at all after May 2000. Further, there are no Ministerial Guidelines in place in relation to facilities sharing. The new interconnection and facilities sharing guidelines SATRA is developing, which are put forward in draft form for discussion in this paper (**SATRA Guidelines**), will apply both :
- on their introduction, to interconnection arrangements to the extent they are not currently governed by the Ministerial Guidelines, and
 - after the expiry of the Ministerial Guidelines in 2000, to those interconnection arrangements with Telkom to the extent that they are currently addressed by the Ministerial Guidelines.
- 1.7 The facilities sharing guidelines will apply to all facilities sharing from the date they take effect.
- 1.8 SATRA has initiated this public inquiry to allow open and comprehensive consultation with the industry and the public in relation to interconnection and facilities sharing regulation and the proposed SATRA Guidelines for the following reasons:

³ The Ministerial Guidelines were issued in the Gazette by notice 771 of 1997.

- interconnection and facilities sharing are, and are perceived within the industry as being, critical issues in the development of South African telecommunications services;
- interconnection and facilities sharing agreements and charging arrangements raise issues as to the appropriate treatment of incumbents and new competitors in emerging competitive industry environments;
- there appears to be some uncertainty regarding the manner in which such regulation will develop, including the scope of application of the proposed new SATRA Guidelines, and their relationship with existing Ministerial Guidelines;
- to facilitate business planning, it is preferable that information regarding the future interconnection and facilities sharing regime which will apply to the industry is available as soon as possible; and
- many of the existing interconnection arrangements in the industry have been formulated under the regulatory environment in existence prior to the *Telecommunications Act*.

1.9 As an initial step in the consultation process, following informal discussions with some operators, SATRA has prepared the proposed SATRA Guidelines, which are presented in Section A of this Paper, and the Background Discussion Paper in this Section B. The SATRA Guidelines also include the proposed procedures SATRA would adopt in resolving interconnection disputes. Similar procedures will apply in relation to disputes regarding facilities sharing.

1.10 The Background Discussion paper presents a review of the existing regulatory environment affecting interconnection, taking into account interviews with a number of market participants, and explains the underlying basis on which SATRA puts forward for comment the proposed Draft Interconnection Guidelines. A list of the parties with whom SATRA has met for discussions of issues relating to interconnection for the purposes of preparing this paper is contained as Annexure Three.

1.11 In accordance with section 27, interested parties are invited to make written representations to SATRA in relation to these issues and to indicate whether they wish to make oral representations to SATRA. Written representations and indications of a party's interest in making oral representation must be received by 9 October 1998. This will then be followed by a public hearing.

- 1.12 Following the completion of the enquiry under section 27 SATRA will form its final views, prepare final guidelines and gazette those final guidelines which will be issued under sections 43 and 44.

2. ASSOCIATED ISSUES

- 2.1 During the interview phase preceding this consultation paper a number of service providers made comments regarding particular network opportunities that were technically possible but not authorised under the South African regulatory regime. However, SATRA wishes to make it clear that these regulatory settings are part of the higher level policy framework developed by the South African Government since 1994 and which have been implemented in the *Telecommunications Act* and relevant telecommunications licences. They are matters of stated Government policy and are not within the scope of this review.
- 2.2 However, an interconnection regime cannot be developed in isolation from other policy objectives, including major liberalisation initiatives. While many of the principles outlined in this paper will continue to be applicable in various forms well into the future it must be recognised that interconnection regulation is a dynamic concept. All interconnection regimes are subject to revision and SATRA anticipates that it will want to revisit interconnection regulation at a later date in the context of the broad set of policy considerations that are relevant to fixed line liberalisation.
- 2.3 Accordingly, while the SATRA Guidelines have been prepared in the context of the current structure of the market, including the proposed introduction of two further mobile licensees, SATRA envisages that the guidelines, as proposed, will continue to apply to existing and new entrants regardless of the framework of competition as the industry changes. However, their appropriateness will be reviewed to ensure that they remain relevant to any future liberalisation plans.
- 2.4 The Government's commitment to improving universal access is one of the primary telecommunications policy objectives of South Africa. The impact of interconnection on South Africa's universal access policy is relevant to this paper, however, the universal access policy per se is not. Accordingly, SATRA does not propose to review issues relating to the universal access regulatory regime in this paper. Rather, it will simply review the relationship between interconnection and universal access.
- 2.5 Competition and retail price controls are also part of the matrix of regulatory policy tools available to SATRA to achieve desired telecommunications policy objectives. This paper does not provide recommendations regarding the regulation of retail prices in South

Africa under a tariffing regime or as part of a price control mechanism. However, it is necessary to make some observations to clarify the relationship between wholesale and retail pricing regulation and desired policy objectives. In developing principles for interconnection regulation it is also necessary to ensure that they are consistent with the Government's competition policy objectives.

3. INTERCONNECTION IN THE SOUTH AFRICAN INDUSTRY CONTEXT

Developing a South African Approach

3.1 SATRA considers that there are a number of key aspects of the context within which an interconnection scheme which is specifically appropriate for South Africa must be developed including the following:

- The unique structure of the South African industry. An understanding of the structure, the operations and the scope of the national industry is an essential element underlying the development of a comprehensive and appropriate interconnection regime.
- The forecast developments in the structure of the industry over the coming years, with the introduction of competition in additional sectors of the market. These changes will be driven in part by South Africa's commitments made in the context of international trade agreements, where international obligations now extend directly to issues relating to interconnection.
- The current scheme of licensing operators and service providers under the Act, to deliver specific services, and the specific provisions of licences which have been granted under the Act.

3.2 Although there is an evolving international consensus in relation to interconnection regulation, this does not mean that interconnection policy will or should be identical in every country. Clearly there are distinct differences between the level of general economic and telecommunications infrastructure development between countries. Accordingly, each country must adopt specific policy settings to meet specific objectives. However, neither does this mean that the experience of other countries is irrelevant.

3.3 A thorough analytical assessment must be undertaken in applying international comparisons so that relevant benchmarks can be used and less relevant benchmarks may be discarded or adjusted. International comparisons with more developed telecommunications markets should be applied while recognising that South Africa has:

- differently configured telecommunications markets, for example, it is a very large geographic region with reasonably well developed urban markets but very underdeveloped rural markets; and
- emerged from a unique political background and has very specific development objectives.

3.4 SATRA also recognises that comparisons with a number of lesser developed telecommunications markets should be subject to a critical assessment for the following reasons:

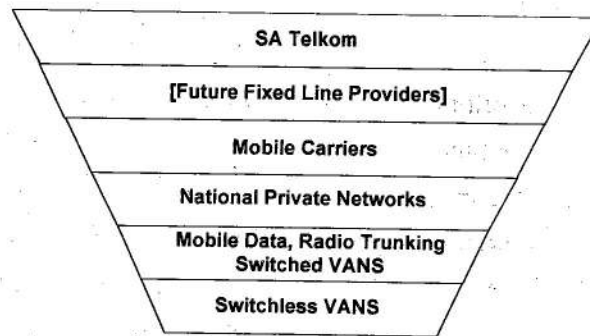
- many of them are in or will shortly be in a process of revising their regulatory regimes as part of new policy initiatives;
- South Africa wishes to take a pro-active approach to regulation and it has decided to be a regulatory leader not a follower in its region; and
- as the most extensive reviews of interconnection policy have been undertaken in the more liberalised nations it is better to begin with those more developed principles and then assess whether there is a valid reason for excluding them from the South African environment.

3.5 Ultimately, SATRA will take advantage of the considerable amount of interconnection policy analysis that has taken place elsewhere, while ensuring that those principles are relevantly applied to South Africa to achieve South Africa's policy objectives.

Industry Structure

3.6 South Africa's approach to interconnection policy must be developed in the context of the current structure and state of the South African industry. The telecommunications industry in South Africa today is marked by the emergence of a diversity of new service providers entering those parts of the market which are open to competition. Core voice telephony services will continue to be provided exclusively by Telkom until 2002. The services covered by Telkom's monopoly include public switched telecommunication services, national long distance and international services, local access services and public pay telephone services.

3.7 The current industry hierarchy may be diagrammatically represented in the following manner.

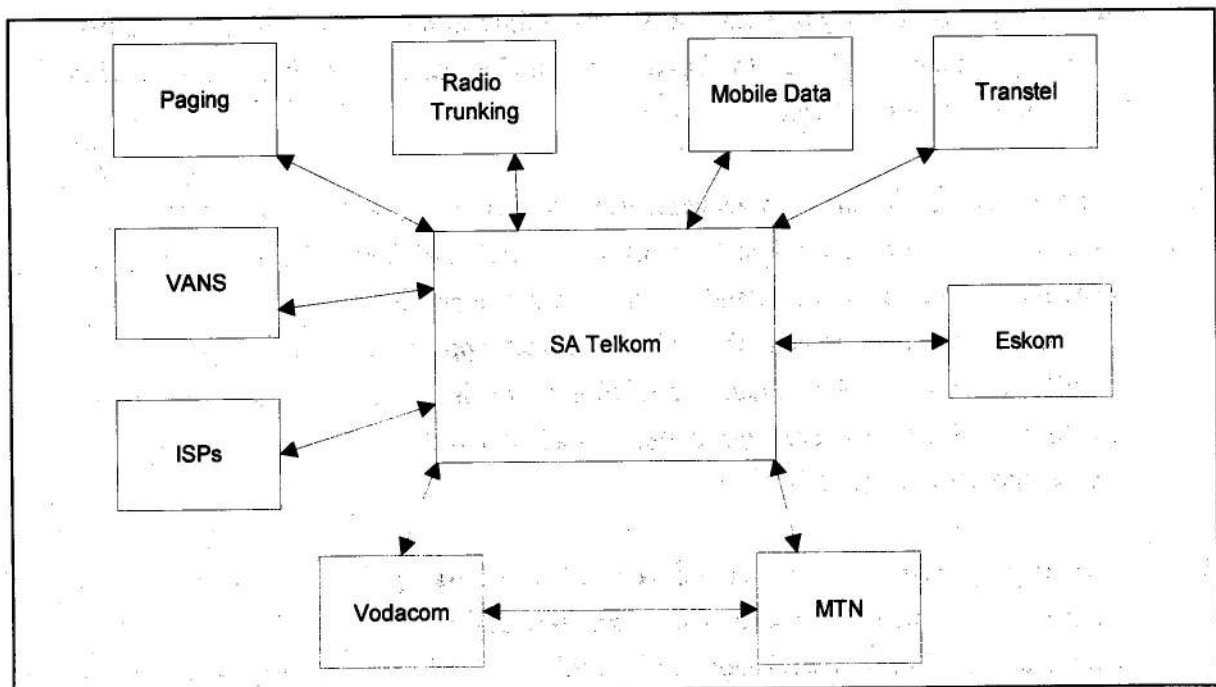
Figure 1: South African Industry Structure

- 3.8 The two major new entrant carriers in the last few years are the mobile cellular service operators, Vodacom and MTN. Vodacom and MTN are constrained in their capacity to fully compete with Telkom in facilities as well as services by section 37(2)(d) of the Act which requires that they may not use any fixed lines in providing their services other than fixed lines made available by Telkom or another person holding a public switched telecommunications service.
- 3.9 Within two years of the commencement of the Act, SATRA was required to conduct an inquiry into the economic feasibility of the provision of more than two mobile cellular telecommunications services, and if it found that the provision of more than two services is feasible, recommend that the Minister invite applications for the grant of further mobile licences. A public enquiry in relation to this issue was held early this year and on 31 July 1998 SATRA announced that it had recommended to the Minister that two further mobile licences be issued.
- 3.10 Two large private networks have developed in the transport and electricity industries, Transnet and Eskom. Those networks are substantial, with the Transnet network for example operating 150 exchanges and handling 72 million outgoing calls per annum. Private networks other than those of Transnet and Eskom are also constrained by a legislative requirement to use Telkom facilities where the network is not contained on a single or contiguous pieces of land owned by the same person.
- 3.11 Unrestricted competition is permitted in the Value Added Services market (**VANS**), where there are a large number of licensed service providers, including internet service providers (**ISPs**). VANS service providers are also constrained by a legislative requirement to use Telkom facilities.
- 3.12 The South African industry also includes providers of paging services and radio trunking, used primarily for radio communications between vehicles and offered by such

companies as Q Trunk or Fleetcall. These services compete indirectly with licensed telecommunications services. Operators have also been licensed to provide mobile data services.

- 3.13 All of the network operators and service providers listed above are connected to the Telkom network, and either exchange traffic or provide services using the Telkom network. However, Telkom has entered into written interconnection agreements only with the two mobile operators and with Swiftnet, a wireless data service provider. The subjects covered in these agreements are briefly outlined in Annexure Four. Figure 2 summarises the existing interconnect structure and displays the central role played by Telkom. This is the current structure of the industry and the commercial environment in which South Africa's interconnect and facilities sharing policy must be applied.

Figure 2: Interconnect Structure



International Obligations

- 3.14 An important factor in relation to the development of the SATRA Guidelines is the fact that South Africa has agreed to accept a series of international obligations with respect to domestic interconnection arrangements, as a signatory to the World Trade Organisation (WTO) General Agreement on Trade in Services (GATS) and the associated WTO Regulatory Reference Paper, which deals specifically with interconnection.

- 3.15 The GATS is designed to establish a multilateral framework of principles and rules for trade in services that will see the global liberalisation of trade in services while still promoting the interest of all participant countries. It is part of the more comprehensive *Final Act of the Uruguay Round and the Marrakech Agreement Establishing the World Trade Organisation*. The GATS consists of 29 articles setting out general obligations and disciplines in relation to trade in services generally and includes eight annexes clarifying exemptions and provisions on four specific service sectors, including telecommunications. Countries signing the Marrakech Agreement are generally committed to observing the general obligations and disciplines of the GATS for all commercial services. However each country is only committed to observing and implementing the specific commitments for specific sectors such as telecommunications to the extent that it has made such commitments in its schedules.
- 3.16 South Africa's liberalisation commitments made in the context of the WTO process include the following:
- Voice services, except over a value added network, packet switched data transmission services, circuit switched data transmission services, telex services, facsimile services and private leased circuit services can only be provided through the Telkom network until 31 December 2003 after which there will be at least a duopoly.
 - There is to be a liberalisation of resale services between 2000 and 2003 and the Government will define the terms and conditions of that liberalisation as well as any maximum limits for foreign investment.
 - Cross border supply of paging services, personal radio-communications services and trunked radio system services also can only be provided through the Telkom network until the end of the monopoly, although open competition in these areas exists within the jurisdiction.
 - Cross border supply of mobile cellular services including mobile data can also only be supplied through the network of the Telkom monopoly or subsequent duopoly on international traffic. Within the jurisdiction mobile cellular services are supplied on a duopoly basis with the possibility of further additional mobile cellular licence being granted within two years as is now anticipated.
- 3.17 In making its commitments to the WTO liberalisation process and Regulatory Reference Paper, South Africa has reflected the strong policy commitments that the Government has made towards universal and affordable service and redressing the needs of

historically disadvantaged communities. Accordingly the liberalisation of services and the introduction of competition in various sectors is planned to take place over a five to six year period in order to ensure the primacy of those policy objectives.

3.18 In addition to these broad commitments, South Africa has accepted and committed to the regulatory principles set down by the WTO in the Regulatory Reference Paper. The Regulatory Reference Paper forms part of a multilateral commitment between WTO member states, including both developed and developing countries, to an agreed set of principles underlying interconnection. It sets out definitions and principles in relation to competitive safeguards, interconnection, universal services and the role of the national regulator.

3.19 The WTO Paper distinguishes between "major suppliers" and other industry operators, and contains the following requirements:

- interconnection with a major supplier will be ensured at any technically feasible point;
- such interconnection will be provided under non-discriminatory terms and conditions;
- interconnection will be provided in a timely fashion;
- interconnection will be provided on terms and conditions and at cost-oriented rates that are transparent, reasonable and sufficiently unbundled such that a party is not required to pay for components or facilities that it does not require;
- the procedures that are applicable for interconnection to a major supplier will be made publicly available; and
- there should be a dispute settlement procedure in place that will enable disputes about interconnection to be resolved.

3.20 The full text of South Africa's commitments to the WTO process are attached as Annexure Five to this paper. SATRA considers that the WTO Reference Paper interconnection principles should be followed in the proposed SATRA Guidelines, both to the extent that they are binding on South Africa and because they reflect a basic set of consensual international principles in relation to interconnection.

Licensed Systems and Services

3.21 Under the *Telecommunications Act* the provision of any telecommunications service must be licensed. Licences are currently available in the following categories:

- public switched telecommunications service;
- mobile cellular telecommunications service;
- national long distance telecommunications service;
- international telecommunications service;
- local access telecommunications services;
- public pay phone service;
- value added network services ; and
- private telecommunications networks.

3.22 The grant of new licences in the categories of public switched, mobile cellular, national long-distance, international and other prescribed telecommunications services, is restricted under the *Telecommunications Act*, and may commence only with an invitation from the Minister published by notice in the Gazette, specifying the kind of service in respect of which applications are invited. Applications for the licence may then be lodged. In inviting applications for the grant of new licences, the Minister is required to have regard to the areas where Telkom holds exclusive rights to provide services under its licence.

Fixed Telephony Services

3.23 Telkom is deemed to be the holder of a licence to provide public switched telecommunication services, including national long distance and international services, local access services and public pay telephone services.⁴ The *Telecommunications Act* also provides that Telkom's licence will specify the duration of the periods of exclusivity conferred on Telkom.⁵ No person other than Telkom shall be granted a licence to

⁴ S.36(1)(b)

⁵ S. 36(3)

provide these services, until a date to be fixed by the Minister by notice in the Gazette. Telkom is also required by the legislation to comply with any conditions specified in its licence relating to the extension of its public switched telecommunications network to areas and communities which are not served or not adequately served.

3.24 Condition 3 of the Telkom licence specifies its exclusive services, and provides that for a period of five years commencing on 7 May 1997, Telkom is authorised to provide on an exclusive basis the following elements of the Public Switched Telecommunications Service:

- the national long-distance telecommunication service;
- the international telecommunication service;
- the local access telecommunication service;
- the public pay-telephone service;
- all or any telecommunication facilities to be used by any person for the provision of value added network services; and
- all or any telecommunication facilities to be used by any person for the provision of any private telecommunication network, other than a private telecommunication network referred to in section 42(2)(b) of the Act.

3.25 As outlined in the introduction to this Consultation Paper, it is not the purpose of this enquiry to review the exclusive services of Telkom. However, it is particularly important that where Telkom is the only supplier of an interconnection service or facility that the interconnect regime ensure that it is supplied effectively and efficiently.

3.26 Telkom is required to establish Regulatory Accounts covering its retail and wholesale activities as agreed between it and SATRA under section 46 of the Act.⁶ However, Telkom is not required to prepare accounts in accordance with that condition until it has put in place the necessary accounting and management information systems which will enable it to do so.⁷ Those systems must be in place within five years, provided that Telkom should not be required to do anything under the condition which would impose

⁶ Condition 8.2 of the Licence

⁷ See condition 8.4

an undue burden on it having regard to its obligations under the remaining conditions of the licence.

- 3.27 The only provision of the Telkom licence dealing with interconnection is condition 13.4.3 which provides that Telkom has no obligation to permit any connection to its network if the person requesting connection has not entered into an interconnection agreement with Telkom.⁸

PLMN Services

- 3.28 The *Telecommunications Act* deems both Vodacom and MTN to be the holders of licences to provide mobile cellular telecommunications services in accordance with the terms and conditions of their licences and the MultiParty Implementation Agreement, subject to section 42(3)(a).
- 3.29 The cellular licences held by MTN and Vodacom authorise the construction, maintenance and use of a public land mobile network (PLMN) to provide a GSM national mobile radio telephony service, to connect equipment for the provision of telephones, and to interconnect with the Telkom network and other mobile networks. The mobile licences oblige mobile operators to use leased lines for all connection between the elements of its PLMN, and interconnection with Telkom or another PLMN unless Telkom has indicated that it is unwilling or unable to provide these links in which case the mobile operators can apply to the Postmaster General to procure, construct or use their own links.⁹
- 3.30 Clause 7 of the licence provides that the mobile operator is obliged to enter into an interconnection agreement. If the licensee is unable to do so, the (then) Post Master General may on the request of any party determine the terms and conditions of an interconnection agreement, which are to be no less than for any similarly licensed person. If terms and conditions were determined applying to interconnection, the licensee shall comply with them as if they constituted an agreement entered into by the Licensee.¹⁰

⁸ The Telkom licence also contains roll-out targets, deals with price regulation, and with issues of directory services, service standards, confidentiality of customer information, and billing. Telkom also holds licences under section 40 to provide VANS services and under section 30 to use the radio frequency spectrum and radio stations as specified.

⁹ See clause 3.1 of the cellular operators' licences

¹⁰ The mobile operators are also subject to market reach requirements in their licences, with targets of 60% of the population serviced within 2 years and 70% within 4 years. The licences also include provisions relating community service obligations, customer service standards and privacy, directory information, fair trading, licences fees, and performance specifications. Mobile tariffs and fees must be lodged with the PMG and are subject to approval. Mobile licensees are also required by clause 12 of the Licence to maintain accounting records in accordance with a Chart of Accounts and Cost Allocation Manual to be determined by the PMG in consultation with the Licensee.

The mobile licences issued to Vodacom and MTN prior to the Telecommunications Act are currently in the process of being reissued in accordance with the Act.

- 3.31 Section 42 (3) (a) provides that a licence issued under s37(1), (40 (1)(b) or 41 (1)(c) shall not incorporate a term or condition of the relevant agreement referred to in those sections which is inconsistent with a provision of the Act or which relates to interconnection or making available the telecommunication facilities of Telkom. This means that for the mobile licences no terms of the MPIA that are inconsistent with the Act or which deal with interconnection or making available the telecommunication facilities of Telkom are carried over.

Private Networks (PTNs)

- 3.32 The legislation allows the licensing of private telecommunication networks, where a person is providing a network for purposes principally or integrally related to their own operations. Private networks may not be used to by-pass calls originating and terminating on the Telkom system.
- 3.33 Transnet and Eskom, the two principal private network operators in South Africa, are permitted to use telecommunications facilities other than those made available by Telkom in providing their private network services to themselves. Any other private network operator is required to use Telkom facilities wherever the network is not situated on a single or contiguous piece or pieces of land owned by the same person. Even so, Transnet and Eskom are required to not install or extend their telecommunication facilities so as to cause unnecessary duplication of Telkom's facilities and are also constrained on embarking on any major installation or extension of facilities without first referring to a liaison committee for consideration and obtaining Telkom consent or SATRA authorisation.
- 3.34 The provision of both Private Telecommunications Networks and Value Added Network Services is governed by a proposed regulation.¹¹ For PTNs, the proposed regulation provides that they shall only conduct the service through means of facilities obtained from Telkom, except where the network is installed on a single piece of land or contiguous pieces of land owned by the same person or it is the network of Transnet or Eskom. PTN's are not permitted to resell any capacity or any telecommunication facilities, nor can they permit traffic that enters their network from the PSTN to re enter the PSTN. The same restriction applies against traffic entering the PSTN from the private

¹¹

Notice in Respect of Regulatory Framework VANS and PTNS SRF 0001 1998.

network re-entering the private network. PTN's are only permitted to interconnect with Telkom and they are not able to sub-let or part with control or cede any facilities by which the PTN is conducted.

Value Added Network Services and Mobile Data

- 3.35 The legislation also specifically provides for the licensing of value added network services, including but not limited to electronic data interchange, email, protocol conversion, access to a database or a managed data network service. Licences for all these services must provide that the service will be provided by means of telecommunications facilities provided or made available by Telkom. Internet Service Providers are included in the category of VANS operators.¹²
- 3.36 The proposed regulation covering PTNs and VANS states that VANS providers may only provide services through use of facilities obtained from Telkom and must interconnect only with Telkom. They must not resell any capacity or any telecommunications facilities and must not sublet or part with control of any facilities by which VANS are provided. VANS services are prohibited from carrying voice traffic.
- 3.37 Licences have also been granted for the provision of national mobile data services.

The Multiparty Implementation Agreement

- 3.38 The Multiparty Implementation Agreement (**MPIA**) entered into by the Government of South Africa with the Postmaster General, Telkom, Vodacom and MTN following the announcement that MTN and Vodacom had been the successful tenderers for national cellular licences is also historically a relevant component of the industry's regulatory framework. The MPIA essentially filled a regulatory hiatus by establishing a structure for an interconnection regime in the absence of empowering telecommunications legislation.
- 3.39 Any interconnection agreement or subsequent modifications were required to be provided to the Postmaster General for his approval. The principles to be applied by the Postmaster General in approving an interconnection agreement were

¹²

VANS licences include requirements relating to the duration of the licence, the licence fee, the provision of information to SATRA. VANS licences also include consumer related requirements, including required protection for the confidentiality of customer information, billing disclosure requirements, and procedures for assistance and customer complaints. The licence also includes a fair trading "non-discrimination" provision, requiring the licensee not to show undue preference to or exercise undue discrimination against customers or potential customers in respect of the provision of the services.

- any customer of any operator should be able to send communications to, and to receive communications from, any other customer of any operator;
- interconnection methods should conform with good engineering principles and practice;
- points of interconnect should be established in sufficient numbers and with sufficient capacity to convey all inter-network traffic;
- a carrier should be able to hand over and accept communications to and from the Telkom network at a place or places chosen by the Postmaster General from the lists of points of interconnect (real or virtual), submitted by each of the operators;
- all fixed links provided by Telkom to the licensees for connection to the PSTN were to be leased lines;
- each carrier's charges for any service should be the same as the charges which are included in its books of account in respect of the same service when it is provided by its wholesale business for its retail business;
- each of the licensees' terms and conditions for interconnection to Telkom shall be and shall remain no less favourable than those for the other licensee; and
- near-end handover would occur for calls originating from the Telkom network and far-end handover for calls originating from other lines would be applied.

3.40 The MPIA confirmed Telkom's sole right to provide all fixed links required by the two mobile licensees to construct, maintain and use their networks and to interconnect with each other and with Telkom unless Telkom was unwilling or unable to provide the requested links. It set out a procedure by which the mobile licensees could make a request to Telkom for the provision of specified links within 90 days and also enabled them to apply to the Postmaster General for permission to procure a link from another source in circumstances where Telkom was unwilling to or failed to provide the link within the specified period.

4. THE INTERCONNECTION REGULATORY FRAMEWORK

SATRA's Interconnection Functions

- 4.1 There are a number of different functions which regulatory bodies in SATRA's position are commonly required to perform with respect to interconnection which include the following.¹³
- Regulators can be required to perform pre-agreement "rule-making" functions, where they develop interconnection guidelines, principles or rules as standards which must be followed by the parties in their negotiated interconnection agreement.
 - Regulators may also be given a post-agreement "approval" role, where they have the power to decide whether a particular agreement negotiated between parties complies with the set of principles or rules. In addition, regulators may have a role "monitoring" the progress of interconnection negotiations.
 - A regulator may perform an "eligibility" function, in determining whether a party is entitled to an interconnection agreement.
 - Regulators may also have "determinative" functions for interconnection, whereby the regulator sets the terms and conditions on which interconnection is to be provided, either in every situation or in instances where the parties are unable to negotiate an agreement.
 - A regulator may have an "adjudicative" function, where the regulator is involved in determining disputes which arise between interconnecting parties, either interpreting their agreement, or using external criteria as the basis for making an adjudicative decision where a dispute has arisen between the parties.
- 4.2 The legislation requires that SATRA carries out all of these functions to some degree. The scope and matrix of SATRA's functions with respect to interconnection provide the basis for the establishment of a comprehensive and effective interconnection regime in South Africa. Figure 3 indicates SATRA's role and the respective legislative provision in relation to each function.

¹³

The Report on Network Interconnection in the Domain of ONP, Study for DGXIII of the European Commission, 1994 (WIK report) describes the different roles or functions regulators could carry out in relation to interconnection.

FIGURE 3: SATRA'S INTERCONNECTION FUNCTIONS

FUNCTION	SATRA REQUIREMENTS	LEGISLATIVE PROVISION
RULE-MAKING	SATRA sets Guidelines	s.43(3)
MONITORING	Parties notify SATRA of requests for interconnection	s.43(1)(e)(i)
APPROVAL	SATRA determines whether agreements are consistent with the Guidelines	s.43(2)
ELIGIBILITY	SATRA determines the Reasonableness of a request for interconnection	s.43(1)(e)(ii)
DETERMINATION	SATRA declares terms and conditions where no agreement is reached	s.43(4)(b)
ADJUDICATION	SATRA investigates and makes orders or determinations into contraventions of failure to comply with an interconnection agreement	s.100(1)(a)

- 4.3 The significance of the different regulatory functions identified may also vary over time. Since there are few written interconnection agreements entered into to date, and there may be divergent views within the industry as to when a party should be entitled to the benefit of a formal interconnection agreement, SATRA may face an active role in the short term in deciding when a request for interconnection is reasonable. In the medium term, SATRA's role might shift more towards the adjudicative aspect of determining disputes which arise as to whether a party has contravened or failed to comply with an agreement. Once SATRA's Guidelines come into effect, SATRA will commence exercising the approval function.

Requirement for Guidelines

- 4.4 Establishing Guidelines for both interconnection and facilities sharing is required of SATRA under the Act. Sub-section 43(3) provides that SATRA shall prescribe guidelines relating to the form and content of interconnection agreements, and such guidelines shall determine, amongst other things:
- the time by or period within which interconnection pursuant to the agreement shall be carried out;

- the quality or level of service to be provided by means of the one telecommunication system for the other telecommunication service; and
- the fees and charges payable for such interconnection.

4.5 Section 43(4) addresses the powers of SATRA to adjudicate on interconnection disputes. Where the parties are unwilling or unable to negotiate or agree proposed terms and conditions that comply with the guidelines SATRA may declare terms and conditions to be applicable between the parties.¹⁴ SATRA may also determine that particular terms and conditions are not consistent with the guidelines and direct the parties to negotiate and agree on new terms and conditions.¹⁵ The terms and conditions so declared are enforceable between the parties.¹⁶

4.6 There is a proviso to SATRA's power to introduce interconnection guidelines which states that within 12 months of the date of commencement of the *Telecommunications Act* the Minister is to determine by notice in the Gazette guidelines in respect of Telkom which will be in force until the third anniversary of the date on which the Minister issued a licence to Telkom in accordance with section 36(1)(a) of the *Telecommunications Act*. On 7 May 1997 the Ministerial Determination of Interconnection Guidelines was issued, and a copy is reproduced as Annexure Six to this report. The Ministerial Guidelines state that they will lapse in favour of interconnection guidelines prescribed by SATRA under section 43 on or after 7 May 2000.

4.7 The Ministerial Guidelines apply only to interconnection with the Telkom network. No guidelines are in existence that currently apply to other forms of interconnection so that, for example, the direct interconnection agreement which exists between MTN and Vodacom was reached as a matter of commercial negotiation and is outside the Ministerial Guidelines. While the regulation of the Telkom network may be the most significant regulatory imperative because Telkom's incumbency and exclusivities ensure that it stands at the centre of the interconnection environment, there is a level of asymmetry in that no rules have been implemented for interconnection by other networks. Guidelines applying to all networks would be desirable in order to reduce uncertainty and ensure that unequal bargaining power does not distort the outcomes of interconnection negotiations.

¹⁴ See sub-section 43(4)(b).

¹⁵ See sub-section 43(5)(b).

¹⁶ See sub-section 43(6)(a).

- 4.8 The SATRA Guidelines are applicable to all other industry parties. SATRA proposes that they will apply to all interconnection requests or agreements to the extent they are not currently subject to the Ministerial Guidelines from the date of their determination, and will subsequently apply in place of the Ministerial Guidelines for all purposes from 7 May 2000. Although the SATRA Guidelines will not replace the current Ministerial Guidelines completely until the year 2000 they will be able to be utilised to provide guidance in areas that are not currently covered by the Ministerial Guidelines.
- 4.9 The need for parties to negotiate and enter into written interconnection agreements remains paramount, and SATRA does not intend that the SATRA Guidelines will replace the role of negotiation and commercial resolution of key issues. However the SATRA Guidelines have been developed on the basis that they will provide detailed guidance to industry participants as to the matters to be covered in an interconnection agreement, while also retaining the flexibility to accommodate differing industry concerns. SATRA believes that by providing the industry with a detailed set of guidelines it will reduce the time taken to negotiate interconnection agreements and also help to prevent unnecessary disputes.

Interested parties are invited to comment on these views regarding the relevance of SATRA's guidelines and the relationship between the existing Ministerial Guidelines and the SATRA Guidelines.

Facilities Leasing

- 4.10 SATRA is also required by section 44 (5) to formulate guidelines relating to the form and content of agreements for leasing or otherwise making telecommunication facilities available. The section foreshadows that the guidelines will be formulated along the same lines as the interconnection guidelines taking account of the necessary changes to deal with the requirement of facilities leasing.
- 4.11 Telkom is required under section 44 (2) to lease or make available telecommunication facilities to any other service provider under an agreement reached between the parties unless that request is unreasonable.¹⁷ The unreasonable test that applies in this context is the same as in section 43.¹⁸ This is a potentially broad provision that reflects the Government's desire to ensure that facilities within the Telkom network are used efficiently.

¹⁸

See sub-section 44(3).

- 4.12 A slightly different formulation applies to facilities leasing by Transnet and Eskom to Telkom. They must when requested by Telkom, make available to it any of their telecommunications facilities on negotiated and agreed conditions without undue delay unless Telkom's request is unreasonable.¹⁹ Transnet and Eskom are required to make available their facilities unless there is no spare capacity on those facilities.²⁰ Further, Telkom is *required to make a request* where its own facilities are inadequate and it cannot itself obtain the necessary additional facilities economically, technically or in a timely manner or if the use of Transtel's or Eskom's facilities will facilitate the provision by Telkom of services.²¹
- 4.13 In this facilities sharing scheme there is no requirement for operators other than fixed line providers to share with each other or with Telkom. This appears to have been predicated on the fact that only Telkom has significant national facilities and Transnet and Eskom, as the second largest providers of fixed line facilities should be required to work efficiently with Telkom. However there is no reason why efficient facilities sharing that meets the relevant statutory criteria should not be available at all levels of the industry and this should be facilitated.
- 4.14 Section 44 (7) also provides that where SATRA is satisfied that Telkom is unwilling or unable to make suitable facilities available within a reasonable period of time SATRA may authorise that person to provide or obtain the facilities other than from Telkom, notwithstanding the Telkom exclusivity.²² Accordingly, a facilities leasing dispute can be addressed in two ways. Either SATRA will intervene and determine the relevant contractual terms, or, the access seeker may be authorised to provide its own facilities or to obtain those facilities from a third party in a manner that would otherwise infringe Telkom's exclusivities.
- 4.15 This is a necessary safeguard exception to Telkom's exclusivities to ensure that unless it discharges its responsibilities efficiently as a monopoly provider, a party seeking facilities may pursue other alternatives. Telkom must either properly serve an access seeker that wishes to share facilities or accept that the access seeker makes other arrangements. This power could potentially have an important effect on the improvement of the quality and timeliness of Telkom's provisioning, particularly in more remote areas. On the one hand it is important that Telkom's exclusivities are preserved where it is operating efficiently. On the other it would be unfortunate if Telkom was unable to fully serve the delivery of

¹⁹ See sub-section 44(1)(a).

²⁰ See paragraph 44(1)(b).

²¹ See sub-section 44(1)(c).

²² See sub-section 44(7).

services to under served areas by other parties and its exclusive rights actually hindered the achievement of this important policy goal. This suggests that the exercise of SATRA's powers may provide an important incentive for improvement in the quality of services delivered to remote areas.

4.16 These provisions raise the following issues for SATRA's consideration in the context of the development of facilities sharing guidelines:

- the types of facilities that Telkom, Transnet and Eskom and the mobile carriers should be required to share, and ensuring that those facilities are currently available on fair and reasonable terms;
- should facilities sharing be mandated for operators other than Telkom and the private network operators and, if so, how should that facilities sharing requirement be imposed;
- when should an access seeker be authorised by SATRA to provide or obtain facilities other than from Telkom where it was unwilling or unable to make suitable facilities available;
- should the benchmarks imposed on Telkom be of a higher standard than those imposed under the MPIA and should they aim to create an efficient provisioning environment and how may this regime improve and diversify rollout in underserved areas; and
- in what circumstances is Telkom required to use the facilities of Transtel or Eskom on the basis that its own facilities cannot be obtained economically, technically or in a timely manner or if the use of those facilities would facilitate the provision by Telkom of services.

5. INTERCONNECTION AND UNIVERSAL ACCESS

Overview

5.1 The South African telecommunications market is not ready to eliminate some cross-subsidies which are required to fund network expansion. However, over time, domestic and international economic forces will begin to erode those cross-subsidies. It is therefore even more important that there is a reasonable correlation between the level of margins available in restricted areas of operation and the contribution to network expansion, particularly in underserved areas.

- 5.2 There are strong policy justifications for providing cross subsidies to encourage the rollout of networks in underserved areas. However, in most developed telecommunications environments, a distinction is drawn between access charges on the one hand and compensation for rollout to underserved areas. If an effective cross-subsidy were to be created by simply establishing a skewed interconnection regime, then this may well send the wrong pricing signals to the market and lead to unforeseen results. Balance is therefore required.

The Current Model for Universal Access

- 5.3 Currently the South African regulatory regime uses relatively approximate and indirect methods of providing funding for universal access. The current model is for rollout obligations to be imposed on licensees. In return, that licensee is able to operate in a specific regulatory environment that provides it with particular benefits. The imposition of rollout obligations is very useful. For example, it ensures that in a new licence scenario the bidder is serious and is willing to make a capital expenditure commitment to infrastructure deployment. In the case of an incumbent that is retaining its exclusivities for a longer period then rollout commitments provide an indication of tangible benefits of the retention of that exclusivity.
- 5.4 Telkom has significant rollout obligations. However, it also has very significant and extensive exclusivities which would appear to more than compensate it for these rollout obligations. In a similar manner, the rollout obligations of MTN and Vodacom are balanced against their regulatory rights. Those rights included the ability to be the first cellular operators in South Africa and to launch at approximately the same time (albeit with a slight headstart by Vodacom) and to secure high value customers, establish their businesses and entrench their position in the market.
- 5.5 The entry conditions of further new carriers may be quite different. While it is expected that they will be in a position to compete against existing players there may be a regulatory objective that they provide connectivity to underserved areas. However, those underserved areas alone may not provide a sustainable long term business proposition. Accordingly, some of the revenues from the already well served areas are expected to contribute to the provision of connectivity in more marginal areas. In these circumstances the balance of rights and obligations must be assessed to ensure that it is fair.

Sources of Cross Subsidy

- 5.6 Currently the South African telecommunications market has relatively low local call charges. This is as a result of the monopoly and historic pricing patterns that have been

set. Telkom is currently in the process of rebalancing its charges. However, the fact remains that there does not appear to be significant margins in the local call market for fixed line services. Profits will presumably be greater for local mobile calls. However, price competition will begin to reduce that amount over time. In summary, local call prices would not appear to reflect unusual profits. There are also a number of reasons why SATRA would want to encourage more long distance competition. However, as in most countries international services remain a viable source of cross subsidy. SATRA believes that this is relevant to interconnect pricing.

6. PRINCIPLES UNDERLYING THE DRAFT INTERCONNECTION GUIDELINES

Introduction

- 6.1 The Draft Interconnection Guidelines presented in Section A of this Paper have been prepared to reflect the specific industry legislative scheme and objectives, and the specific industry structure and context of South Africa. A regulator's interest in an interconnection agreement generally does not involve a consideration of the drafting of individual provisions and accordingly SATRA's Guidelines are not intended to constitute a complete interconnection agreement between the parties.
- 6.2 At the same time however it is internationally acknowledged that merely declaring rights and duties regarding interconnection is generally not sufficient to achieve acceptable interconnection outcomes.²³ Part of the reason for this, as the FCC has acknowledged, is that because of the incumbent's incentives and superior bargaining power its negotiations with new entrants or other operators over the terms of interconnection agreements would be quite different from typical commercial negotiations as the new entrant or other operator has nothing that the incumbent needs or wants.²⁴
- 6.3 In this context, SATRA considers that its role is to provide a clear framework within which there is a high probability that commercial parties will negotiate, in an environment of reasonable equality, and be able to reach a final agreement which will benefit consumers. Specific interconnection disputes may require SATRA to focus on very defined issues and require this level of intervention. However, these disputes will be raised by the parties on a case-by-case basis.

Terminology

- 6.4 Following the distinction used in the Act, the SATRA Guidelines refer to licensed telecommunications systems, and licensed telecommunications services. All providers of these systems, services or networks are referred to as operators. Telecommunications system operators refers to fixed or mobile operators who have their own infrastructure and also includes private telecommunications networks, while licensed telecommunications service providers refers to those operators who provide services, such as value added network services and internet service providers.

²³ *Report on Network Interconnection in the Domain of ONP Study for DGXIII of the European Commission*, 1994 (WIK report) para 4.2.1.4

²⁴ Federal Communications Commission Local Competition Order FCC 96-235 para 10

Reasonable Requests for Interconnection

- 6.5 Under section 43(1) of the Act Telkom is required to interconnect its telecommunications system to the telecommunications system of any other person requesting the connection unless the request is unreasonable. The concept of interconnect is also broadly described in the Act as follows:

*"Interconnect" means to link two telecommunications systems so that users of either system may communicate with users of or utilise services provided by means of, the other system or any other telecommunications system, and "interconnection" has a corresponding meaning"*²⁵

- 6.6 This definition addresses the process of physical interconnection at the point of interface between two networks as well as the transmission of calls, the utilisation of services signalling, billing and other arrangements. The legislative concept of interconnection involves, at a minimum, linking two telecommunications systems so that users of one system may:

- communicate with users of the other system;
- use services provided by means of the other system; or
- use services provided by any other telecommunications system.

- 6.7 The first element facilitates communication between end users. That is, interconnection is required to enable one network to terminate a call originating on another telecommunications network. For example, if a call is made from a mobile handset on the Vodacom network to a fixed line telephone on the Telkom network, Vodacom must acquire termination services from Telkom.

- 6.8 The second element facilitates all forms of indirect access. For example, if any telecommunications service provider wishes to access a customer directly connected to an existing mobile or fixed line network. For example, if a VANS provider needs to access a fixed line customer on the Telkom network, then the capacity to reach that retail user depends on the provision of interconnection services.

- 6.9 The third element addresses access across a transit network. For example, if a new entrant fixed line carrier is introduced at a later time, and an end user directly connected to the Telkom network wishes to access the services of a VANS provider where the VANS provider is only directly connected to the new fixed line provider, then the call must transit that new fixed line providers network.
- 6.10 SATRA considers that this definition of "interconnect" in the Act is very broad and includes a wide variety of signalling, facility, services and other arrangements.

Interested parties are invited to comment on the concept of interconnection in the Telecommunications Act, the scope of that concept, its application to various forms of network interoperability and the way in which it has been incorporated into the Draft Interconnection Guidelines.

Interconnection Policy

- 6.11 Interconnection policy is partly driven by economics. It is therefore useful to understand a number of the relevant economic principles which have traditionally justified interconnection. It is commonly understood that access regimes should apply to "bottleneck" facilities and services. In its strictest economic sense a service or facility will be a bottleneck where it is not possible or economically viable to duplicate that service or facility. However, in many countries interconnection does not solely apply to recognised bottlenecks and it is also used to pursue a range of important policy goals.
- 6.12 This economic concept also finds support in the WTO Reference Paper which requires that a major supplier must provide interconnection at any technical feasible point in its network. A "major supplier" is one that has the ability to materially effect the terms of participation (having regard to pricing and supply) in the relevant market for basic telecommunications service as a result of its control over essential facilities or the use of its position in the market. An essential facility is one that is part of a public telecommunications network or service that:
- is exclusively or predominantly provided by a single or limited number of suppliers; and
 - cannot feasibly be economically or technically substituted in order to provide a service.
- 6.13 The WTO concept in effect requires interconnection to occur where a potential access provider holds the exclusive right to provide those services and can materially effect the

terms of participation in the relevant market. Applying these principles to South Africa, Telkom continues to hold the exclusive right to provide fixed line telecommunication services throughout the country. It therefore falls into the class of a "major supplier" in terms of the WTO principles both because of its exclusivity and because it can control prices in that market.

- 6.14 As the fixed line market is liberalised, competition will develop at various levels of the fixed line service hierarchy and, as that competition expands, the need for regulatory intervention in the setting of access prices may dissipate. Of course, South Africa has not yet established a model for the introduction of fixed line competition. However, as a hypothetical, if the fixed line market were to be open at all levels it is possible that South Africa would see a pattern in the development of competition similar to other countries. This has involved the establishment of competitive facilities at higher levels of the network such as international gateways moving down through national long distance networks and ultimately, in the long term, into the local loop.
- 6.15 This suggests that interconnection regulation is a dynamic concept. As contestability occurs at different levels of the network hierarchy at different times it may be possible to progressively remove the need for regulated access pricing. However, there is still a significant period of time until South Africa allows this form of competition and a further significant period of time may be required to allow the level of competition to develop a sufficient level of contestability.

Reasonable Requests for Interconnection

- 6.16 Consistently with most other regulatory regimes, the *Telecommunications Act* bestows significant powers on both the Minister and SATRA in relation to a range of regulatory initiatives, including interconnection and facilities leasing. Each particular set of legislative criteria must be understood in a specific legislative and policy context to take account of any relevantly different policy emphasis. Nevertheless, most of those methodologies include an assessment of whether the form of interconnection:

- is technically possible to satisfy the interconnection request;
- promotes the long term interests of end users;
- encourages the efficient use of infrastructure and promotes efficient investment; and
- may effect network integrity.

6.17 Different countries will place each of these considerations under different headings and may emphasise one more than another. However, these topics are generally assessed in one form or another.

6.18 Each of these elements is specifically contemplated under sections 43 and 44. Under Section 43 of the Act compliance with an interconnection request is mandatory unless that request is unreasonable. A request is not unreasonable where SATRA determines that the request:

- is technically feasible; and
- will promote increased public use of telecommunications services or more efficient use of telecommunication facilities.

6.19 Accordingly, SATRA proposes to apply a two stage test to determining whether an interconnection request is unreasonable. Its first consideration is whether the request is *technically feasible*. If it is technically feasible then SATRA will determine whether it is in the *public interest* because it promotes increased use of public telecommunications services or the more efficient use of telecommunications facilities.

Technical Feasibility

6.20 The concept of technical feasibility involves an assessment of whether the proposed form of interconnection is technically possible, including by virtue of any network upgrades. It does not involve an assessment of economic viability. It therefore requires SATRA to determine whether there is available technology that would or could after technically feasible upgrades allow the party from whom interconnection is requested to comply with that request.

6.21 This interpretation of technical feasibility is supported by the following:

- the public interest in the second stage test allows the consideration of economic matters as part of SATRA's decision making process;
- the ordinary meaning of technical feasibility is that the implementation of the necessary technical configuration is possible or practicable;
- the concept is clearly different to "economic feasibility" or "economic viability"; and

- the access provider will be entitled to levy charges in accordance with the costing methodology determined by SATRA.

- 6.22 It will be "technically feasible" for an operator to comply with an interconnection request if it can do so using its existing telecommunications system as it stands or with upgrades using technology that is commercially available and able to be deployed within the network. However, this does not mean that an access seeker can request a form of interconnection that will involve very significant network upgrades and be guaranteed that this interconnection request will be upheld. If that interconnection request is technically possible but does not satisfy either of the consumer benefit tests then SATRA may decline to uphold that request.
- 6.23 While the concept of "technical feasibility" in the *Telecommunications Act* must be applied as a matter of South African law, it is also useful to understand how that term has been applied in other modern telecommunications legislative environment. For example, the term "technically feasible" is used in the United States *Telecommunications Act 1996*²⁶, and the Federal Communications Commission (FCC) provided its views on the term following extensive industry consultation.²⁷ The FCC noted that the US *Telecommunication Act of 1996* distinguished between technical considerations and economic concerns. The South African *Telecommunications Act* makes a similar distinction.²⁸

²⁶ For example, section 251(c)(2) requires incumbent local exchange carriers to provide interconnection with their networks at any "technically feasible point". Similarly, section 251(c)(3) obligates incumbent LECs to provide access to unbundled elements at any "technically feasible point".

²⁷ The First Report & Order In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act 1996 FCC 96-235 (Local Competition Order) For example, the FCC made the following relevant comments in relation to technical feasibility:

"We conclude that the term 'technically feasible' refers solely to technical or operational concerns, rather than economic, space, or site consideration. We further conclude that the obligations imposed by sections 251(c)(2) and 251(c)(3) include modifications to incumbent LEC facilities to the extent necessary to accommodate interconnection or access to network elements."

Specific, significant, and demonstrable network reliability concerns associated with providing interconnection or access at a particular point. However, will be regarded as relevant evidence that interconnection or access at that point is technically infeasible. We also conclude that pre-existing interconnection or access at that particular point evidences the technical feasibility of interconnection or access at substantially similar points. Finally, we conclude that incumbent LECs must prove to the appropriate state commission that a particular interconnection or access point is not technically feasible."

²⁸ Further, the FCC has stated that:

"Thus, it is reasonable to interpret congresses use of the term 'feasible' in sections 251(c)(2) and 251(c)(3) as encompassing more than what is merely 'practical' or similar to what is ordinarily done. That is, use of the term 'feasible' implies that interconnecting or providing access to a LEC network element may be feasible at a particular point even if such interconnection or access requires a novel use of, or some modification to, incumbent LEC equipment. This interpretation is consistent with the fact that incumbent LEC networks were not designed to accommodate third party interconnection or use of network elements at all or even most points within the

6.24 On this basis, the matters that are relevant to an assessment of technical feasibility include:

- whether the access provider's network can support the requested form of interconnection either in its current form or with technical upgrades; and
- whether the interconnection request would threaten network reliability.

6.25 SATRA considers that section 43 contemplates modifications to networks to facilitate interconnection. Prior to interconnection an incumbent network has been designed and configured for monopoly network operation. As a result by its very nature interconnection requires that this network be modified to ensure connectivity with other networks. Further, telecommunications networks are constantly being upgraded and re-configured to improve their efficiency and performance characteristics.

6.26 It is the access provider that best understands the capacity of its network to deal with new forms of interconnection. This can make it very difficult for the access seeker to bear the onus of proving technical infeasibility. It is also difficult for SATRA to fully understand the nature of the operation of the access provider's network. Accordingly, the access provider should bear the initial onus of proving that a form of interconnection is technically infeasible. This is not to say that this should be a heavy onus. However it would be unjust for an access provider to withhold the information required to prove technical feasibility and then to claim that feasibility was not proven.

Interested parties are invited to comment on this interpretation of technical feasibility and its practical application to interconnection and facilities sharing.

Increased Public Use of Services

6.27 If the technical feasibility threshold test is met, then under the second element of the test of reasonableness of a request, SATRA will need to determine whether interconnection will promote the increased public use of services or the more efficient use of facilities.

network. If incumbent LEC's were not required, at least to some extent, to adapt their facilities to interconnection or use by the carriers, the purposes of sections 251(c)(2) and 251(c)(3) would often be frustrated....

We also conclude, however, that legitimate threats to network reliability and security must be considered in evaluating the technical feasibility of interconnection or access to incumbent LEC networks. Negative network reliability effects unnecessarily contrary to a finding of technical feasibility. Each carrier must be able to retain responsibility for the management, control and performance of its own network. Thus, with regard to network reliability and security, to justify a refusal to provide interconnection or access at a point requested by another carrier, incumbent LECs must prove to the state commission with clear and convincing evidence, that specific and significant adverse impacts will result from the requested interconnection or access...."²⁸

SATRA proposes that the increased use of services would be sustained where there is evidence or analysis to indicate that:

- access to telecommunications networks will improve; or
- the usage of telecommunications services by persons connected to telecommunications networks will increase, including increased usage resulting from reductions in price and improvements in quality.

6.28 These two components of the first part of the public interest test reflect a number of the objectives of the *Telecommunications Act*. First the policy imperative to improve universal access through increasing the number of customers connected to the network and thereby improving network externalities in a manner that will benefit the South African economy. Secondly, the need to encourage competition to improve the quality and range of services provided over telecommunications networks and their price.

6.29 SATRA notes that the *Telecommunications Act* emphasises the need to promote increased access to telecommunications networks, particularly by those who are currently under served. Accordingly, interconnection and facilities sharing policies should not detract from increased access to public telecommunications networks in the absence of any countervailing public benefits.

6.30 However, this does not mean that interconnection determinations should simply favour those operators who are providing increased connectivity to telecommunications networks in under served areas. Except in the most extreme cases interconnection requests are unlikely to have any significant impact on teledensity levels and network rollout in the current regulatory environment. Where licence obligations exist to require rollout and regulatory rights have been bestowed to support that rollout.

6.31 Equally, it could be argued that increased profitability may lead to increased investment in new connections over and above universal access obligations. However, the correlation between revenue and investment is less clear and a rational business will only invest in these connections if, in the long term, business fundamentals justify that investment. That is, if a number of telecommunications investment opportunities (or other investment opportunities) present themselves to a telecommunications operator and one of those is investment in new connections, if the rate of return for this investment is less than for the other opportunities then inevitably investment capital will find its way to the opportunity that provides the greatest return.

- 6.32 While the exercise of interconnection powers to achieve increased connectivity to telecommunications networks is a significant consideration its significance resides in the exercise of the power to encourage such increased connectivity over and above the targets of the prevailing operators. As discussed above, it can reasonably be assumed that the current line rollout targets of all of the existing South African network operators (Telkom, Vodacom and MTN) will be more than met by internal funding mechanisms established within the regulatory environment.
- 6.33 For example, even if Telkom were to interconnect with PLMN, private network and VANS operators on cost based terms this would not effect the vast majority of traffic as it both originates and terminates on the Telkom PSTN. This large volume of traffic continues to provide an internal funding mechanism for Telkom. In a similar manner the retail revenues of MTN and Vodacom continue to provide a very strong funding mechanism for their rollout obligations.
- 6.34 Such a consideration does, however, arise in the context of the introduction of further mobile licensees in South Africa which would be required to enter the market late, to compete with entrenched fixed line and mobile operators with an objective to meet the expectations of currently under served customers. Arguments that the interconnection regime should be used to remove barriers to entry would find greater support in this context. Therefore the exercise of interconnection powers in favour of late entrants may well be supported by this consideration in certain circumstances.
- 6.35 When users are connected to a telecommunications network then increased usage of the services offered over that network will occur when those services meet the needs of users in terms of price, quality and features. Telecommunications services, like other services and goods, are subject to varying degrees of price elasticity. Accordingly, as prices fall the usage of services will increase. Levels of price elasticity will differ between different customers. For example, some corporate applications can command high prices because they are less price sensitive as quality is the major consideration. In these circumstances price is a factor but service qualities and features will also be an important driver of increased traffic.
- 6.36 However basic services can be quite price elastic, particularly national long distance and international services provided to small business and individuals. This is particularly the case in countries such as South Africa where there is clearly a high level of unmet demand that may be addressed through increased connectivity and lower prices. All of these factors are best achieved through competition. This suggests that the interconnection regime should promote price and quality competition.

Interested parties are invited to comment on whether and how the interconnection regime should assist in providing a competitive telecommunications market in those areas that are open to competition.

More Efficient Use of Telecommunication Facilities

- 6.37 Even in telecommunications markets that have achieved universal service and have had the opportunity to develop sophisticated fully digital end to end networks economic efficiency is a high priority.²⁹ This issue is of even greater significance in South Africa where a substantial portion of the community is not properly served by telecommunications networks. For example, if telecommunications facilities are being replicated in parts of Gauteng, and are not operating at optimal efficiency, then it is necessary to question whether firstly, that investment in infrastructure is efficient and secondly whether, to the extent that it is inefficient, it is attracting investment that could be better deployed to expand network connectivity.
- 6.38 At its simplest level, a telecommunications facility is being used efficiently when it is being operated at an optimal level such that the long run average incremental cost (LRAIC) of each unit of usage is lower than at any other level of output. If network components are operating at higher levels of redundancy then the LRAIC of each unit of output will be higher as costs that are more fixed in nature will be amortised over a lower aggregate output. It is also possible that at high levels of usage certain diseconomies could be introduced to increase the LRAIC. However, this outcome is less likely given the engineering of telecommunications networks.
- 6.39 The efficiency of any particular form of interconnection must be assessed in each case. It is therefore unwise to establish a detailed and economically prescriptive set of rules in the guidelines that leave little scope for a more precise balancing of policy considerations. Nevertheless, it is possible to identify that South Africa may significantly benefit from forms of interconnection and facility sharing that increase the usage of particular elements and minimise unnecessary duplication.
- 6.40 A countervailing consideration is the degree to which South Africa wishes to promote infrastructure competition at various levels of telecommunications network. While certain forms of interconnection and facility sharing increase the usage of particular existing network elements this will of course have an impact on the incentive of competitors to establish a new network facility. New network facilities may be more cost

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For example, in Hong Kong economic efficiency has been highlighted as a key policy consideration even though basic network access requirements are fully satisfied and telecommunications users are relatively affluent.

effective and provide improved functionality and therefore result in a net consumer benefit in the long term.

- 6.41 Therefore, the efficient use of facilities may not be promoted in all the circumstances at the expense of the duplication of facilities in certain areas. However, the additional benefits of facilities based competition are more obvious in telecommunications markets that have achieved universal connectivity and therefore efficient usage of existing facilities is likely to be of greater relative significance in South Africa.

Interested parties are invited to comment on the criteria that are relevant to an efficient use of telecommunications facilities including any relevant economic tests.

Interconnection Applicability

- 6.42 The question of what types of operators should be entitled to interconnection with Telkom or any other operator, and as a corollary, receive the benefits of guaranteed access, prices at less than retail levels and service level protections is a fundamental question which must be addressed in SATRA's Guidelines.
- 6.43 A position taken in many interconnection regimes is that interconnection is restricted to those providers or operators offering public services.³⁰ This would include Telkom and the mobile operators. Accordingly, in other jurisdictions forms of interconnection are available to service providers generally, although not always on the same terms. In South Africa an important issue is whether VANS service providers and private networks, particularly Transnet and Eskom, should be subject to the Interconnection Guidelines and seek interconnect agreements with Telkom that govern their access to the PSTN.

VANS Providers

- 6.44 On one view, VANS providers are very large customers, who should not be entitled to cost based interconnection rates but shall receive discounts off retail tariffs such as volume discounts or to reflect available costs. In this respect, the broad definition of interconnection in the Act suggests that interconnection applies to VANS services. The

³⁰ See for example the European Union's Interconnection Directive where interconnection is offered to organisations which provide fixed and/or mobile public switched telecommunications networks and/or publicly available telecommunications sources; organisations which provide leased lines to users premises; organisations which are authorised to provide international telecommunication circuits; organisations which are allowed to interconnect under member states' laws. On the other hand the United States offers interconnection to any party who requests it including large corporations.

alternative view is that given the high level of functionality and diversity of services they provide for end users, the quantity and level of service usage they both directly provide and indirectly stimulate, VANS operators should be entitled to share some of the benefits of an interconnection regime, allowing them interconnection with the PSTN at discounted prices with agreed quality levels, even if the discount is not as substantial as that provided to interconnecting network operators.

6.45 VANS providers have suggested that in the absence of an interconnection regime, the current pricing they are offered is not just their retail price but the retail price plus a premium. VANS services are specifically dealt with in the current Ministerial Guidelines which state that providers of VANS shall be entitled to volume discounts at levels below prevailing retail prices but shall not be entitled to interconnection services on the LRIC rates referred to in section 5(a) of that document. The guidelines suggest that the discounts for VANS providers should take account of operational savings which might arise relative to the costs of supply to retail customers. That is, the Ministerial Guidelines apply to interconnection with VANS operators but provide for a different pricing regime.

6.46 The SATRA Guidelines embody the view that as competition is permitted in the provision of VANS services, the interest in assisting and promoting the growth of efficient competition in this area warrants the provision of interconnection to VANS providers. As Telkom is engaged in the provision of value added services and thus is directly competing with other VANS providers, Telkom would be expected to unbundle its interconnection services to these providers and to treat them in a non-discriminatory manner as regards price and quality. Accordingly, SATRA's current view is that VANS pricing should be set commercially but should be no worse than the best applicable retail price less avoidable costs. SATRA is prepared to intervene and set the VANS prices using alternative cost based methodologies if this pricing mechanism does not operate in the best interests of consumers.

Private Network Operators

6.47 Similar issues arise as to whether interconnection agreements are appropriate for private networks. SATRA understands that the private network operators currently receive discounts off retail prices in recognition for the carriage of traffic within the networks. In effect Telkom treats the private networks like any other customer and their networks as equivalent to the unbundled wiring of any customer beyond the Telkom NTP. The argument for an interconnection agreement covering private networks is that the private network generates a high level of use of the telecommunications systems, ensures service provision to segments of the business community, and may allow business users to take

advantage of technological innovations that the incumbent operator may not yet have adopted.

- 6.48 In addition, in a country where the network roll out is not yet complete private networks can serve the function of extending the network and access, both relieving and enhancing the functions of the public switched network to the extent of the private network's presence and capacity. This is potentially a strong argument in South Africa, where two substantial private networks have been developed, and have been given separate recognition under the legislation. Finally, the private networks often carry traffic for a significant distance and should be accorded some recognition for their network investment and operation.
- 6.49 Significantly, unlike the VANS operators, the private network operators are not excluded from the ambit of clause 5(1) of the Ministerial Guidelines. Accordingly, the Ministerial Guidelines ostensibly require that LRIC access be provided by Telkom to the private network operators. In the case of Transnet and Eskom this makes some sense as they are infrastructure investors (albeit for a very large private network) and they do not derive significant revenues. Further, a LRIC price simply would allow these entities to serve their private customers at a lower cost, not to attract subscribers from the Telkom network.
- 6.50 As those private customers are also important infrastructure providers it is sensible that they should not be subject to high business costs. However, these private network operators may be different to other licensed PTNs. Accordingly, SATRA would propose that PTNs should at worst enjoy the same pricing standards as VANS and should also be entitled to additional discounts commensurate with the scale and scope of their network. For example, Transnet and Eskom should enjoy additional discounts beyond the prevailing VANS prices.
- 6.51 On general principles, allowing private networks to interconnect on the same basis as other interconnecting systems may also encourage more private networks, which could result in the incumbent making a competitive response in terms of both price and service. On balance, the SATRA Guidelines have been prepared to allow private network interconnection for the two major private network operators, on the basis that the private networks are distinctly different from other large corporate users, and the more appropriate relationship between Telkom and those networks in those circumstances is a wholesale arrangement.

Radio Trunking and Mobile Data

- 6.52 For the smaller service providers in South Africa, such as radio trunking and mobile data providers, different considerations arise. These services are not generally competing in the same market segment as Telkom. SATRA is of the view that some concerns about pricing levels may appropriately be met through regulation of facilities pricing. However, they should also be entitled to the same pricing benefits as VANs operators.
- 6.53 Given that interconnection is such a fundamental part of a competitive telecommunications market the requirement to supply interconnection services set out in SATRA's guidelines is mandatory for all licensed PTNs and VANs operators except where SATRA in the exercise of its functions under section 43 (1)(c) determines that the request is not reasonable.

Interested parties are invited to comment on the proposed applicability of the interconnection regime to VANS providers, private networks, and other industry operators.

- 6.54 The pricing for carriers is addressed below.

Differential Obligations

- 6.55 The generally accepted view is that while all operators must meet the general obligations in relation to interconnect, an incumbent operator in newly liberalised markets has overwhelming market power and is likely to exercise that market power in any interconnect negotiations and, accordingly, it is necessary for the regulator to establish rules that constrain the incumbent, and provide assistance to new entrants.³¹ Common obligations that are placed on incumbent operators are cost-based interconnect prices, unbundled interconnect services and the requirement to compile separate accounts for its interconnect business.³² The rationale for removing barriers to entry for new entrants through the interconnection regime is to promote the growth of competition more rapidly, as well as to even the playing field in light of the anticipated advantages of the incumbent in the negotiating process.

³¹ David Lewin, Richard Kee "Interconnect a global guide to effective telecommunications" Ovum Study 1997 para C4.2

³² See the European Unions Full Competition Directive and Interconnection Directive, United States Local Competition Order.

- 6.56 As the FCC has acknowledged in its Local Competition Order "an incumbent LEC has little incentive to assist new entrants in their efforts to secure a greater share of that market." Indeed the incumbent "also has the ability to act on its incentive to discourage entry and robust competition by not interconnecting its network with the new entrant's network or by insisting on supra-competitive prices or other unreasonable conditions."³³
- 6.57 Distinctions between the interconnection requirements imposed on an incumbent and on other operators are also required by the WTO Regulatory Reference Paper. Although not using the term "incumbent operator", the Paper refers to "major suppliers" and defines this as a party who has the ability to materially affect the terms in the relevant market for basic telecommunications because of either its control over essential or bottleneck facilities or use of its position in the market. Similarly the European Union in its Interconnection Directive refers to organisations which have significant market power and imposes differential requirements on those organisations.³⁴
- 6.58 SATRA's Draft Interconnection Guidelines reflect this distinction, and impose more stringent interconnection requirements on "major operators" which are, defined as any operator who has an exclusive right to provide the relevant service or has more than 35% of a particular telecommunications market in a geographical area in which they are a licensee, where that segment of the market is open to competition. Major operators are required to meet additional requirements in relation to the location of points of interconnection, providing access to essential facilities, allowing co-location, and meeting requirements for the provision of information about their interconnection procedures, network requirements and forecasts, and interconnection charges.

Interested Parties are invited to comment on the proposed treatment of major operators and other operators in the Draft Interconnection Guidelines.

Provisioning, Technical and Operational Issues

- 6.59 International experience with the establishment of interconnection arrangements has demonstrated that issues relating to the provisioning of the access provider's network to enable the interconnection services to be provided have created delays and difficulties in establishing services. To address this issue, the SATRA Guidelines require that provisioning of interconnect services be provided in an efficient manner and in a timely

³³ Local Competition Order para 15

³⁴ Article 4(2). Directive 97/EC of the European Parliament and of the Council on Interconnection In Telecommunications With Regard To Ensuring Universal Service and Interoperability through Application of the Principles of Open Network Provision (ONP)

fashion. They also require that the systems operator should not discriminate between different operators in the way it provides interconnection services nor should it discriminate between the provisioning services it supplies to its retail arm or to any subsidiary or associate.

- 6.60 Non discrimination is an extremely important concept in relation to various aspects of providing interconnection services, including provisioning. An incumbent has an incentive to discriminate against its competitors by providing them less favourable terms and conditions of interconnection than it provides itself.³⁵ The approach to non-discrimination which has been incorporated into the SATRA Guidelines is that interconnection services must be provided at a level of quality that is at least indistinguishable from that which the incumbent provides itself, a subsidiary, an affiliate or any other party. In addition, incumbents may not discriminate against requesting parties based upon the identity of that party (for example, whether they are ISP, VANs PTN, cellular operator).
- 6.61 SATRA's Guidelines also address a range of technical and operational conditions of interconnection, again prescribing the expected level of conduct in areas where difficulties have arisen in other regimes. In these areas the SATRA Guidelines do not attempt to be exhaustive, but reflect the fact that interconnection is not "a simple homogenous service which can easily be defined in a few words."³⁶ Amongst the technical and operational issues addressed are:
- the geographic locations of POIs
 - whether co-location will be allowed
 - whether when fixed line competition is introduced equal access must be provided to the new entrant(s)
 - the extent of unbundling that will be required
 - the quality of service
 - technical interfaces

³⁵ Local Competition Order para 218

³⁶ The Changing Role of Government in an Era of Telecom Deregulation. Interconnection Regulatory Issues. Briefing Report No 4. ITU Regulatory colloquium NO. 4 Geneva 1995.

- billing and payment arrangements.

Interested Parties are invited to comment on the proposed treatment of provisioning and technical and operational issues in the Draft Interconnection Guidelines.

Points of Interconnect (POIs)

- 6.62 Two issues arise in relation to points of interconnect. The first relates to the vertical distribution of POIs, and whether the points of interconnect are positioned at the trunk, junction or local exchange level. The SATRA Guidelines suggest that the minimum position for interconnection is the trunk exchange level. Generally the lower down in the hierarchy of exchanges the POI are located, the greater the number of those exchanges and the number of POIs required, imposing a greater cost of capital outlay for the party seeking interconnection. However, the lower down in the hierarchy a party interconnects the lower should be any cost based charges. Accordingly, the access seeker may assess the relative economics of using one or many POIs.
- 6.63 The second issue in relation to POIs is their geographical distribution. The geographic location of points of interconnect is important because the location of the POIs will affect the interconnect charges paid. The access providing operator may be able to increase the costs of interconnection to the access seeking operator, by artificially or unnecessarily restricting the potential locations for POIs, requiring traffic to be carried further by the access provider.³⁷ This is particularly the case in more remote areas where it may be necessary to acquire long distance services to reach a distant POI when local access services would be appropriate if a local POI were available.
- 6.64 The location of POI's for the new entrants with networks in more remote areas may be even more significant. If, a new entrant operates in underserved areas and those areas are of a low population density or do not support as many POI's, then this may have a significant impact on their costs. If Telkom has not established a POI within a particular call charging zone, then that may require the new entrants to route calls beyond that charging zone to a POI in another zone for ultimate termination. This can significantly increase the costs of interconnection.
- 6.65 For example, if a new entrant is able to hand a call off to the Telkom network at a local point of interconnect for termination, then its interconnection costs may be X. However,

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See discussion at para 9.2 of ITU Colloquium on Interconnection 1995.

if it is required to route a call outside that local charging area to another charging zone where a POI is located and then back to the same charging zone, this may convert the interconnection costs to 2X. Accordingly, wherever possible, the new entrants should be able to interconnect within the same charging zone as the call is originated (to the extent that the alternative increases its costs).

- 6.66 It is particularly important that the POI costs not be prohibitive where POI's are numerous and geographically dispersed. Accordingly, SATRA is of the view that each party should bear its own port costs and data fill costs within its own network at their respective gateway exchanges. The cost of the interconnect link should then split equally between them. As it will be Telkom that establishes the interconnect link, at least during Telkom's exclusivity period, new entrants should be required to bear half of the cost of that interconnect link calculated on a LRAIC basis.
- 6.67 SATRA anticipates that there may be technical problems with establishing points of interconnect in underserved areas where switches reflect superseded technologies that do not support interconnection functionality. Telkom should disclose precisely where these switches are and its plans for upgrades so that others may plan their networks. While Telkom cannot be expected to upgrade its network immediately, SATRA will remain vigilant in ensuring that Telkom does not fail to upgrade for competitive reasons
- 6.68 The Draft Guidelines specify that the relevant points of interconnection for a major operator should be at any technically feasible point. This will allow the access seeking party to choose the points of interconnect provided that these can be managed technically.

Interested Parties are invited to comment on the proposed treatment of POIs in the Draft Interconnection Guidelines.

Unbundling Interconnection Services

- 6.69 Unbundling of interconnection services is a growing trend as regulators strive to ensure that new entrants into the telecommunications markets have the maximum options available to them. At this stage SATRA is inclined to favour unbundled pricing and interconnection at any technically feasible level as the key policy considerations. Further, an access seeker should not be required to acquire more access services than it requires. However, more contentious forms of fixed line unbundling such as local loop unbundling need not be addressed in the current guidelines as this would only need to be considered in the context of fixed line liberalisation.

Interested Parties are invited to comment on these views regarding unbundling of services.

Equal Access/Preselection

- 6.70 Currently the guidelines do not address a number of issues related to the provision of equal access in a competitive fixed line environment such as preselection or indirect access as these will not be relevant to the South African market for some time.

Interested Parties are invited to comment on whether the guidelines should address these issues at this stage or await greater details of South Africa's move towards fixed line liberalisation.

Forecasting and Network Modernisation

- 6.71 Forecasting procedures are a necessary part of any interconnect agreement. Forecasting, ordering and provisioning procedures are necessary from both the requesting operator and the access provider's point of view. The requesting operator will require certainty in relation to these matters to ensure that its interconnection needs will be met at the necessary times. The access provider will require the forecasting information provided to it by the requesting operator to be correct, in that under-forecasting of traffic could lead to traffic congestion and the diversion of calls, while over-forecasting will lead to greater expense due to the access provider's undertaking of network conditioning or other work involved in installing capacity which is then not used by the requesting operator.
- 6.72 SATRA considers that forecasting is an important part of interconnection arrangements for very large operators with high volumes of interconnect traffic, but is most appropriately dealt with by agreement. Accordingly, under the Draft Guidelines the issue must be dealt with between the parties and included in the written interconnection agreement. However, SATRA recognises that there can be difficulties in forecasting, particularly for new operators with less predictable businesses. It also recognises that forecasting regimes can be used to frustrate interconnection and impose unfair penalties on inaccurate forecasts. Accordingly, SATRA favours sensible arrangements that assist provisioning but do not penalise the forecasting operator.
- 6.73 Network modernisation is also an important part of any agreement in that it will often be required by both the access provider and the requesting party in order to enable the provision of new services. However network modernisation, while having benefits for both parties, can also cause problems as the requesting party may require network modernisation before being able to offer particular services and if the access provider's

program for network modernisation is delayed, then their ability to offer services will be affected.

- 6.74 It is also possible that network modernisation and rationalisation carried out by an access provider may cause problems for a requesting party who has placed POIs at switches which are to be eliminated or rationalised under network modernisation plans. Accordingly the SATRA Guidelines require that the interconnection agreement make provision for adequate notice of network modernisation and rationalisation to be provided to requesting parties.

Interested Parties are invited to comment on the proposed treatment of forecasting and network modernisation in the Draft Interconnection Guidelines.

Information

- 6.75 Other issues that need to be addressed in interconnection guidelines are the informational requirements to support interconnection. New entrants for example need information about the architecture and the configuration of the incumbent's network architecture in order to be able to make their interconnection requests and will require ongoing information about changes to the network once the request has been met.³⁸ Also in terms of negotiating interconnect arrangements where interconnect charges are fixed in relation to costs both the new entrant and the regulator will need to have information about the costs the incumbent incurs in providing interconnection services.
- 6.76 Other informational issues relate to the confidentiality obligations that will be applied to information exchanged between the parties during an interconnection negotiation or during the operation of an interconnection arrangement.

Interoperator Working Group

- 6.77 SATRA considers that it is of the utmost importance for the future development of the industry and services in South Africa that the interconnection regime put in place by the Guidelines functions smoothly in practice, with a clear mechanism in place for interconnecting parties to deal with the issues that will inevitably arise regarding interconnection as service provision continues.

- 6.78 To achieve the objective of ensuring that a long-term mechanism for ongoing discussion is in place, SATRA proposes the establishment of an Interoperator Working Group, for major interconnection arrangements (i.e. carrier to carrier), which would meet regularly both to monitor the practical operation of the guidelines, to deal with issues in dispute between the parties and to enable operators to raise and discuss issues that apply to more than one operator.
- 6.79 SATRA believes that this Working Group should be established on the basis that there are a number of issues on which commercial negotiations will be required and that by enabling a group of operators to come together common ground may be able to be achieved as opposed to conflict between two individual parties. In suggesting the Working Group SATRA acknowledges and hopes to build on the discussions that have already occurred between operators, and emphasises that the group does not preclude operators from forming additional forums with parties with whom they may have interconnection arrangements..

Interested Parties are invited to comment on the proposed establishment of an Interoperator Working Group in the Draft Interconnection Guidelines.

Written Agreements

- 6.80 The SATRA Guidelines recognise the need for these and other technical and operational issues to be addressed by the interconnecting operators in full, preferably prior to the introduction of the interconnecting service, and to this end the SATRA Guidelines also require that written interconnection agreements be prepared by interconnecting parties, and address all of the areas which must be covered in such agreements. These written agreements must be submitted to SATRA in accordance with the statutory requirements of the Act. SATRA will then assess whether the agreement is consistent with the Guidelines.

Interested Parties are invited to comment on the proposed requirements relating to written agreements in the Draft Interconnection Guidelines.

7. INTERCONNECTION CHARGES

- 7.1 The pricing arrangements for VANs and PTN operators are outlined above. This section addresses the interconnection charges for carriers which SATRA believes should be cost based. SATRA believes that any interconnection charges established by it should meet the consumer benefit tests set out in section 43. That is, it must increase the public use of

telecommunication services or result in the more efficient use of telecommunications facilities.

Averaging and Unbundling

- 7.2 Preliminary issues in relation to charging are averaging and unbundling. The averaging of interconnection charges over high cost regions such as rural areas and lower cost urban areas may be appropriate. For example, in the context of the South African environment averaging of charges will encourage the requesting party and new entrants to compete in the underserved rural areas, as the costs of providing service in these areas will be lowered by the averaging mechanism.
- 7.3 On the other hand, unbundled costs allow the requesting party to ascertain where it would or would not be efficient to duplicate network elements. Unbundling pricing will also assist in providing competition by ensuring that an operator can purchase the necessary elements to offer its services rapidly without incurring excessive costs for elements that it does not require. Unbundling also helps to ensure that there is no unnecessary duplication of infrastructure by providing the right economic signals in terms of build or buy.

Interested Parties are invited to comment on issues relating to the pricing of interconnection services, including averaging and unbundling and their treatment in the Draft Interconnection Guidelines.

Pricing Approaches

- 7.4 The fundamental issue in relation to interconnection charging is the methodology which should be used to set the price for interconnection services. Pricing approaches can be considered in four broad categories - Sender Keeps All, Retail Prices, Revenue Sharing or Cost-based Pricing. International discussion of interconnection in high teledensity, highly developed markets is reasonably well settled, with a very distinct preference for cost based pricing.
- 7.5 However, South Africa's interconnection charges need to be set in the following environment:
- low network penetration in some parts of the country;
 - restricted costing information - Telkom's costs for providing an interconnection service are not yet identifiable or available;

- an imbalance between retail prices and costs - while some retail charges significantly exceed costs others may be held below cost by the price control regime until rebalancing has occurred.

7.6 Bearing in mind the specific considerations of South Africa, the four categories of pricing approaches may be examined.

Sender Keeps All

7.7 Under a sender keeps all approach, operators simply keep their own collected revenues, pay no interconnection charges, and terminate calls from other operators for free. However, this approach is not appropriate in South Africa, as it assumes that both operators are offering similar services, for example, both are local service providers, or both are mobile providers, that the costs of terminating services will be similar, that calling patterns are equivalent, and that operators are carrying proportionate shares of the costs. None of these assumptions are applicable in the South African context.

Retail Pricing

7.8 Under a retail pricing approach, interconnection charges are set either at retail rates or at a discount off the full retail tariff based on lower costs of service provision. The level of the discount may be limited to the discount offered to large retail users, or may be a larger discount. This methodology is most appropriate when it can be justified that the other operator is not on an equivalent regulatory level to the incumbent (eg where the other operator does not own fixed infrastructure). The retail approach is simple to devise and apply, and for this reason the approach is attractive particularly in the absence of cost data. A disadvantage of this approach is that all operators are linked to the retail pricing structure of the incumbent which themselves rarely reflect cost (i.e. because they are either very profitable or held below cost).

7.9 Generally, in the international context a retail pricing approach is seen as favouring incumbents. This may be because some incumbents have successfully applied full retail rates or minimal discounts, which may have been initially accepted by new entrants eager to start offering services. The perception that the model favours incumbents may also reflect the underlying rationale of the approach, which is that the relationship between the incumbent and new entrants is the equivalent of that between the incumbent and large retail users. As outlined earlier, this contradicts a fundamental principle of interconnection, which is that a wholesale relationship exists between interconnecting operators. However, it is an approach that is appropriate for a carrier to service provider relationships and, as outlined above, SATRA prefers this approach for VANs operators.

Revenue Sharing

- 7.10 This approach involves splitting actual revenues for interconnected calls between the operators involved in handling the calls, in an agreed proportion. If applied to local and long distance calls, each originating operator would set their own prices, but the revenues collected would be split in an agreed proportion between the operator originating the call, the operator transiting the call and the operator terminating the call. The originating operator pays a set share of the retail revenue collected to the terminating operator, and (if the originating operator does not transit the call) pays a set share to the transit operator.
- 7.11 Revenue sharing can also be applied in a way which reflects cost-based prices, and provides a possible approach to pricing where there is insufficient costing information for a fully cost-based approach to be developed. This approach is referred to as "revenue sharing in proportion to costs". This approach has the advantage that it can be simple and straightforward to develop and apply, and in the absence of full costing information and can be modelled on international benchmarks.
- 7.12 Disadvantages of revenue sharing in proportion to costs are that it reduces the incentive to rebalance prices, and it fails to deliver new entrants a clear signal as to when to build facilities as an alternative to interconnection. For example, at the commencement of the arrangement each operator may be receiving below cost termination charges which may encourage purchase rather than build. The fact that it is not cost based also means that it does not meet the requirements of the WTO principles.

Cost-Based Pricing

- 7.13 A variety of cost-based charging methodologies are available to price interconnection including short run marginal cost (SRMC), long run incremental cost (LRIC), long run average incremental cost (LRAIC), total service long run incremental cost (TSLRIC), fully distributed cost (FDC), Ramsey pricing and the efficient component pricing rule (ECPR). These access charge formulations are all in broad terms cost based although they allow the inclusion of costs of different scopes. In the case of Ramsey pricing and ECPR additional pricing components are included which are not necessarily based on actual costs incurred.
- 7.14 The prevailing charging methodology adopted in countries around the world is now typically a form of LRAIC, although many of the approaches differ. This charging formulation has been adopted in the United States, United Kingdom, Europe, Australia, Canada, Hong Kong and Singapore amongst others. Some countries such as the United

Kingdom have allowed pricing structures within a band between LRAIC and fully allocated costs with a mechanism to reduce the price to LRAIC. Long run incremental cost is also the charging formulation referred to in the current Ministerial Guidelines (although the Guidelines also refer to a number of cost components not typically incorporated within LRAIC). LRAIC is commonly regarded as efficient by economists and much of the economic debate revolves around the need for any markup to reflect the common and joint costs that may not be included in the base calculation.

- 7.15 The Draft Guidelines propose a form of LRAIC pricing based on service elements, which includes an allocation of relevant joint and common costs within the calculation. The need to recognise this element of costs as a valid component of cost-based pricing is driven by the need to preserve the economic viability of the service. If an access seeker builds its own conveyance facilities to reach the same point of origin connected by the access provider's network then it would have incurred shared costs (for example ducts and exchange buildings) common to the entire conveyance service. If these costs are excluded it may send the wrong economic signal to the access seeker.
- 7.16 Accordingly, the better option is for the LRAIC calculation to be based on the incremental cost of the entire service in question. If this is the relevant conveyance service the incremental costs will include shared costs common to all the service elements within that entire service but no other services. However, it will exclude indirect fixed costs such as corporate overheads.
- 7.17 Cost measurement may use a historical cost or a forward looking economic cost (FLEC) method. Historical costs are the costs incurred in the incumbent's network, including any inefficient costs. FLEC uses the current replacement cost of an asset with the same or better functionality as a basis for establishing the value of capital assets employed in providing a service. It attempts to measure the costs of building a network that has the same capabilities as the existing network but which uses the most cost effective technology available which can accommodate projected growth over a specified time period. FLEC is based on the best technology, due to be available, which improves efficiency by either minimising costs or buy enabling new services to be delivered in a better manner. However, FLEC can also be applied in a manner that is intended to reflect the current or replacement cost of assets that are in use in the existing network today and, in this context, no judgement is required regarding how the network may be reconfigured to ensure the most efficient technology is used.
- 7.18 It is common in calculating interconnection charges to exclude costs that have been inefficiently incurred. An access seeker should not be required to pay for any embedded inefficiencies in the access provider's network. This principle would exclude historical

costs. While significant forms of inefficiency should not be included in the interconnection charges it would also be unfair to require an unreasonable standard of efficiency that was not relevant to an efficient operator in the position of the relevant access provider. Accordingly, adopting a FLEC current costs measure of assets may produce the most balanced charging environment for South Africa.

Identifying Costs

- 7.19 Under clause 8.4 of its licence, Telkom is not required to fully engage in regulatory accounting until 7 May 2002. This makes it difficult for SATRA to calculate interconnection charges based on the historical cost accounting information of Telkom. However, Telkom should not be entitled to the benefit of the continuation of higher charges simply on the basis that it cannot produce the costing information to justify cost based charges. This would simply reward Telkom for failing to provide sufficient regulatory accounting information. Further, as discussed above a historical cost standard will not be used by SATRA except potentially as a bridging measure should historical costs be available but current costs have not been calculated.
- 7.20 In these circumstances, one option would be for SATRA to use appropriate international benchmarks, possibly with some adjustment, as a proxy until appropriate costing information was available. A variation of this approach would be for benchmarks to be applied until the actual charges were calculated and then retrospectively settle any charging differential between the benchmark and the calculated charges. SATRA may also consider retaining consultants to produce a costs study to develop proxy costs for Telkom until Telkom's actual costs are available.

Interested parties are invited to comment on the appropriate interconnection charging approach and methodology which should be adopted in the Guidelines, and on the treatment of these issues in the Draft Guidelines.

Comments are invited on the proposal that SATRA will approach the calculation of charges in the absence of appropriate regulatory accounting information from Telkom by estimating cost-oriented charges using international benchmarks.

8. CALL TYPES

- 8.1 The major call types to be considered in the current market involving one fixed line carrier and a number of carriers are :

- mobile to fixed local calls;
- fixed to mobile local calls;
- mobile to fixed national long distance calls;
- fixed to mobile national long distance calls;
- mobile to mobile local calls;
- mobile to mobile national distance calls;
- mobile outgoing international calls; and
- mobile incoming international calls.

8.2 Each of these call types are addressed below in the context of the above discussion of charging methodologies.

Mobile to Fixed Local and National Long Distance, Transit and Mobile to Mobile

8.3 SATRA is of the view that for these call types mobile carriers should:

- pay Telkom's LRAIC for terminations of mobile to fixed local and national long distance calls and for transit services;
- pay a mobile LRAIC for mobile to mobile calls whether terminated directly or using Telkom's transit services; and
- be paid a reciprocal mobile LRAIC for mobile to mobile terminations on their networks whether terminated directly or using Telkom's transit services.

Fixed to Mobile Calls - Asymmetric Charging

8.4 The current interconnection arrangements between Telkom on the one hand and Vodacom and MTN on the other reflect an asymmetric charging model. In this model, despite being the retail provider, Telkom retains its LRAIC rate and then transfers the retail revenue to the mobile network. This model has been adopted in a number of countries but is now starting to be removed in some of the more developed markets.

- 8.5 There are significant reasons why the current method of asymmetric charging for fixed to mobile calls should be retained in South Africa. It involves a transfer of revenue to the terminating end of the call (i.e. the mobile) which is helpful in establishing their businesses. Accordingly, SATRA proposes that the current system be retained and will be reviewed by 2002 with a view to LRAIC based terminations on the mobile network.

International Services

- 8.6 If, for example, Telkom's international terminating access was simply priced at LRAIC then this could result in these profits being competed away and the loss of an important cross subsidy for network rollout. For example, Telkom, MTN, Vodacom and the third mobile licensee may engage in a discounting war seeking to attract heavy users of international services, who are usually premium corporate, business and residential customers in more affluent areas. This would of course mean price benefits for those consumers. However, if SATRA has a goal of using the retail prices paid by those customers to cross-subsidise network deployment in underserved areas then this opportunity would be lost. Accordingly, it is necessary to build into these charges an allowance for a fair cross subsidy.
- 8.7 However, this raises a range of complex issues that cannot be reviewed immediately. Accordingly, SATRA would favour the existing mobile operators receiving further discounts off Telkom's retail price but not a LRAIC price (which would in this context include international settlement). This would effectively leave a component of the international revenue with Telkom for network deployment. This raises issues of whether this component should be left wholly with Telkom or partially released to compensate or provide incentives to others for rollout to underserved areas. However, this would require further review and cannot be decided at this time.
- 8.8 In summary, SATRA would expect:
- international inbound calls to involve a payment to a terminating mobile carrier that was cost based; and
 - international outbound access charges for mobile originated calls to significantly reduce but not to be subject to a LRAIC formulation; and
 - a further review of these arrangements at a later stage to ensure they are properly serving South Africa's universal access policy.

9. MOBILE ROAMING

Advantages of Roaming

- 9.1 Advantages of domestic roaming for mobile operators without full national coverage are that without the ability to roam across another network those operators would be viewed as providing inferior coverage thus making it more difficult for these operators to compete for market share. New entrants generally must be able to offer more than 90% national coverage before they will attract subscribers from many sections of the market.³⁹ Failure to achieve market share would mean that revenues would diminish impacting on the operator's ability to complete a network rollout and to enhance competition within the market⁴⁰.
- 9.2 Without the ability to roam across the incumbent's networks the new entrants will face a significant time delay as well as extremely heavy capital costs in rolling out networks that are equivalent to that achieved by the existing operators. For example the advantages of roaming include that:
- it enables increased competition to be offered more quickly;
 - it reduces the new entrants' capital outlays;
 - it allows the new entrants to choose when and where to build their infrastructure; and
 - it avoids uneconomic duplication of infrastructure especially in rural areas.⁴¹

Roaming, Duplication and Competition Entry

- 9.3 Domestic roaming is seen as an essential element of the introduction of competition in the mobile market. This is particularly so where, for economic or efficiency reasons, the replication of network infrastructure is discouraged. Countries with developed economies and high teledensities may be able to afford to replicate facilities. However, in less developed telecommunications markets such as South Africa such duplication

³⁹ David Lewin, Richard Kee "Interconnect-A global guide to effective telecommunications" 1997 Ovum report p 158

⁴⁰ Office of the Telecommunications Authority Hong Kong "Consultation Paper on Dual Band Operation and Domestic Roaming for Public Mobile Radiotelephone Services in the 800/900 MHz Band and Personal Communications Services in the 18 Ghz Band." 1998 para 11 OFTA paper

⁴¹ Ovum 159

would be an inefficient use of resources. Accordingly the arguments for mandating roaming in a country like South Africa are far stronger than in a country where there is already intense competition and full network rollout.

Forms of Roaming

- 9.4 Automatic roaming allows subscribers to make or receive calls from different networks simply by turning on their handsets. This requires a roaming arrangement to be in place between the host network and the home network.
- 9.5 Before a subscriber can complete an originating call under an automatic roaming arrangement, the host system first identifies the subscriber's home carrier by means of the subscriber's telephone number, verifies that it has an agreement with that carrier, and queries the carrier to verify that the subscriber's account is current (and in some instances to obtain other information about the subscriber, such as preferred service features). To provide an automatic terminating service, the host system typically sends a signal to the home carrier as soon as the subscriber enters its service area with the phone turned on so that the home system will know where to direct calls. This type of roaming does not usually involve hand over of calls in progress.
- 9.6 Seamless roaming is where a subscriber can move between its home and the host network while a call is in progress without having to take any action, and with no loss of service. However where there is considerable overlap between the host and home networks there may be difficulties in achieving seamless roaming because of network selection problems.
- 9.7 Handsets will generally prefer their home system and will stay locked onto that network until the last possible moment when signal is lost, rather than roaming at the point where service is reduced. Also where networks overlap and there is a problem with the home network, the handset will roam onto the host network but may not switch back to the home network when the problem is rectified so that a manual intervention by the subscriber may need to be made.
- 9.8 Seamless roaming would produce the best environment for competition in South Africa. However, a technical analysis should be undertaken before SATRA requires implementation. At this stage SATRA does not intend to mandate a specific form of roaming, simply the principles that must be observed.

The Need for Intervention

- 9.9 A number of respected reports have noted that national roaming is unlikely to be offered to rivals voluntarily unless the incumbents can charge retail prices and that regulatory action to introduce domestic roaming will be opposed on the basis that it constitutes a major competitive threat.⁴² For example, Ovum takes the view that regulators should require incumbent mobile operators to provide national roaming for new entrants and this service should be priced using the same pricing standard the incumbents use for their interconnect services.
- 9.10 Accordingly, in these specific South African circumstances allowing commercial negotiations to set the roaming arrangements is likely to fail and will not produce the policy outcome sought by the Government. Accordingly, SATRA proposes to establish guidelines for roaming at an early stage. This does not mean that the roaming arrangements will always need to be set by regulatory intervention. However, if the new mobile entrants are to launch in a workable market environment regulatory intervention is warranted at the outset.

Form of Roaming

- 9.11 At least automatic but preferably seamless roaming should be introduced in South Africa. However, a full technical study is required to address implementation issues and relative costs and benefits.

One or Two Way Roaming

- 9.12 SATRA proposes to introduce two way roaming. However, the pricing need not be reciprocal.

Pricing

- 9.13 The pricing of roaming will be a critical factor. If the purpose of roaming is to avoid facilities duplication but not to have any impact upon services competition then a relatively high price for roaming may be acceptable. However, if a new licensee is to be able to compete for customers then its wholesale price will be critical.

- 9.14 The essential questions for the price of roaming is whether the wholesale charge should be developed on a "bottom up" or "top down" basis. A bottom up price would be developed from an accepted costing methodology with some form of return and the top down approach would begin with the roaming operator's retail price and then subtract certain cost elements.
- 9.15 In our view the maximum price for roaming in any circumstance should be a mobile operators best retail price (excluding below cost offers) less avoidable costs. Any pricing methodology that sought to establish a wholesale charge that was above this charge would be motivated by a desire to minimise competition. Further, to the extent that there are avoidable costs such as marketing and other overheads then they should be subtracted from the retail price. This maximum price would then provide equivalent profit margins to the host network on a per call basis. Such a price would make roaming initially commercially possible without facilitating any price competition as a result of roaming.
- 9.16 The problem with the top down approach is that the current retail prices are not representative of future competitive practices. Existing retail prices are simply those which the market will bear within the tariff caps imposed on the cellular operators under their licences. There is evidence that they enjoy strong margins and therefore have a significant scope for cutting their prices. In this context a bottom up pricing approach may avoid the wholesale charge becoming outdated with rapid fluctuations in retail charges and also instil some degree of price competition. It would also provide more predictable pricing.
- 9.17 Accordingly, SATRA proposes to calculate the LRAIC of roaming and then set the final price at a point between the LRAIC and the lowest retail price less avoidable costs. However, this final decision should await further clarification regarding the new entrants' business plans and technical issues.

10. LEASED LINES

Overview

- 10.1 New entrants are required to use the leased lines of Telkom to establish their backbone transmission capacity until the market is subject to further liberalisation. In this respect the Government wishes to deliver services to remote communities and the *Telecommunications Act* provides that Telkom will hold an exclusivity for the provision of fixed lines to these communities. Telkom's level of service is currently low and there are already private networks in place that could provide better service in certain areas

than the Telkom network. The *Telecommunications Act* also allows for the sharing of facilities in circumstances where Telkom fails to provide those facilities.

- 10.2 While Telkom maintains the exclusivity over fixed transmission links, it is potentially in a position to significantly slow the deployment of the network of new entrants, which could be motivated by competitive issues. Telkom should not be penalised for providing the backbone in these areas. However, neither should it be entitled to obtain monopoly rents nor should inadequate support be encouraged.

A More Efficient System for Leased Lines

- 10.3 The most important policy objective is to establish a coherent and over-arching set of conditions which ensure that on an ongoing basis facilities can be rolled out to establish a network backbone, particularly into underserved regions. That system should be self-executing so that there is no scope for continued argument by the participants on an element by element and region by region basis. SATRA is of the view that the facilities sharing regime must observe Telkom's exclusivities but ensure that it performs to an appropriate level. This system needs to be relatively strict or it will break down in a series of disputes.

- 10.4 Accordingly, SATRA proposes to establish special guidelines for facilities access particularly in underserved areas that include the following features:

- the guidelines specify the basic performance characteristics that are required;
- a standard proficient provisioning time be specified in the guidelines;
- a new entrant operator be entitled to notify Telkom that it requires facilities in an area meeting the basic characteristics within the basic provisioning period;
- Telkom then has an appropriate period of time to respond and accept the terms of the rollout for that entire area;
- Telkom be required to pay liquidated damages should it fail to meet the target provisioning time and quality; and
- if Telkom does not accept or meet the deadline then the cellular operator is entitled to avail itself of the opportunities under section 44(7).

- 10.5** Effectively there would be a well co-ordinated right of first refusal that gave Telkom the first option to establish facilities of a sufficient quality within an appropriate time at a reasonable cost. However, if it is not willing to bind itself conclusively to do so then self-build or alternative purchase becomes a viable option. At this stage SATRA has not proposed benchmarks regarding the quality of the service and the relevant timetable as these are technical matters which will require further review.

Interested Parties are invited to comment on this treatment of leased lines and other facilities.

11. NUMBER PORTABILITY

- 11.1** Number portability is a facility that allows customers to retain their existing phone numbers when changing from one telecommunications network to another. Number portability enhances opportunities for competitive entry as it helps to create a level playing field and to remove barriers for customers who wish to churn between network operators. In the context of the proposed new mobile licensees mobile number portability would be an important tool in enabling those new entrants to capture existing market share.
- 11.2** There are a variety of ways in which number portability can be introduced and there are also questions about who bears the costs associated with number portability. SATRA intends to hold an industry forum to discuss the possible implementation of number portability.

Comments are invited on the topic of mobile number portability and the methods by which this should be introduced.

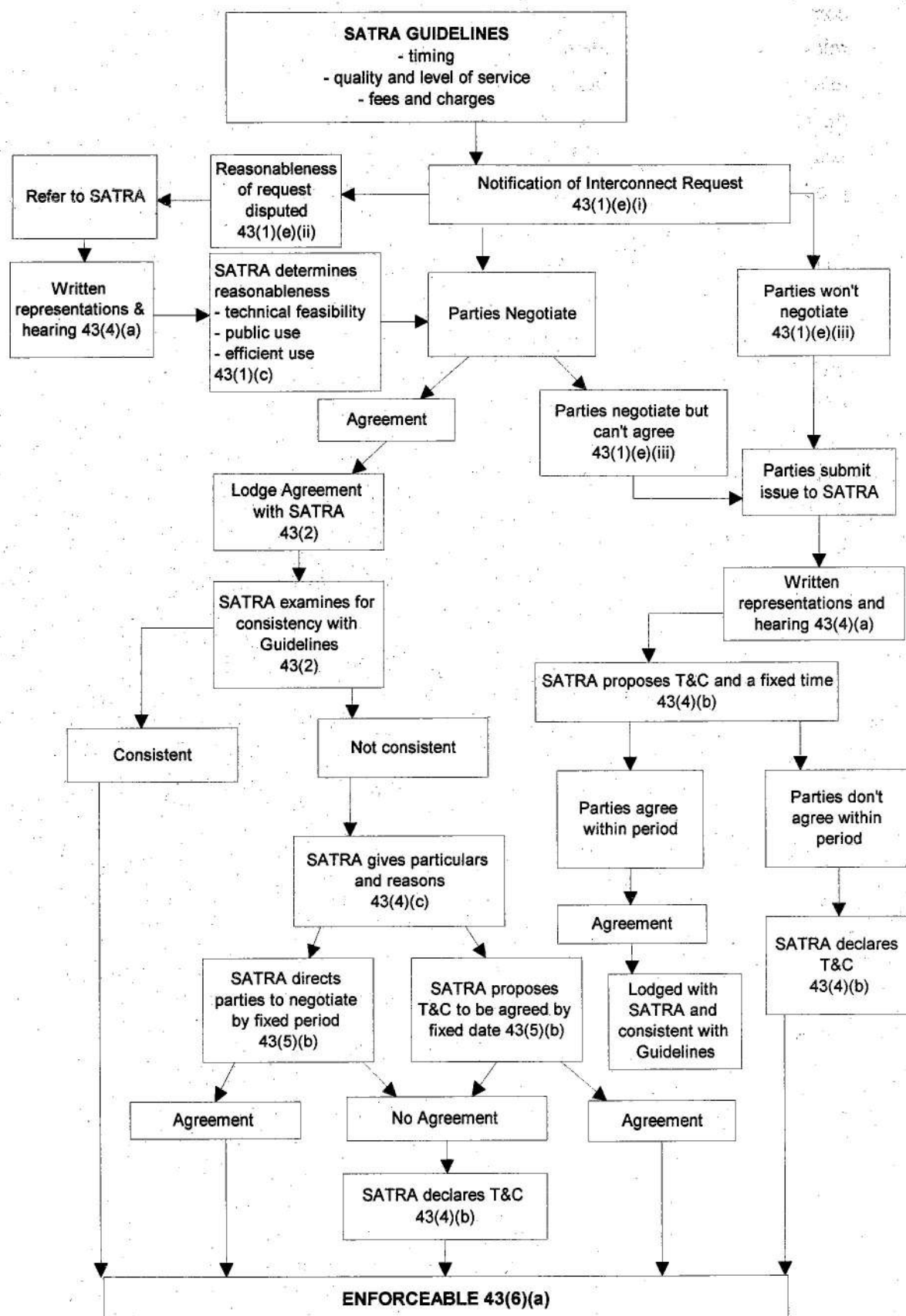
12. LEGISLATIVE PROVISIONS AND PROCEDURES

- 12.1** The Draft Guidelines also incorporate proposals as to the manner in which SATRA will carry out its role in relation to interconnection, including its function in dealing with interconnection disputes and the potential use of alternative dispute resolution (ADR) procedures. This section of the Consultation Paper raises for comment issues relating to the procedures SATRA should follow in exercising its powers and functions in relation to interconnection.
- 12.2** The legislative provisions which specifically relate to interconnection include:

- *Notification* - the parties must notify the Authority of any request for interconnection s.43 (1)(e)(i)
 - *Disputes About Reasonableness* - if there is a dispute about the reasonableness of the request the parties must refer the dispute to the Authority for its decision as to the reasonableness of the request s.43 (1)(e)(ii)
 - *Failure to Negotiate* - where the parties are unwilling or unable to negotiate or agree on any term or condition within the prescribed period or any extension, they must submit the issue to the Authority s. 43 (1)(e)(iii)
 - *Determining Consistency with Guidelines* - the parties must submit any agreement reached between two interconnecting parties to the Authority to enable it to determine whether the agreement is consistent with the guidelines created by the Authority s. 43 (2)
 - *Adjudication of Failure to Comply with an Interconnection Agreement* - the Authority shall investigate and adjudicate any alleged contravention or failure to comply with the provisions of the Act, a licence or an interconnection agreement s.100.
- 12.3 Reviewing the possible avenues for incorporating ADR into SATRA's approach to the exercise of its specific functions in relation to interconnection requires both an understanding of ADR techniques, and an analysis of how ADR techniques could be used by SATRA in the exercise of interconnection functions, given the specific procedural requirements of the legislation and regulations.
- 12.4 The substantive provisions of section 43 dealing with interconnection and section 44 dealing with the leasing of telecommunications facilities invoke a series of procedural steps which are available to parties in relation to specific disputes arising in relation to interconnection or facilities leasing. In addition to the constraints imposed by the series of procedural obligations in the *Telecommunications Act* on the proposed interconnecting parties, SATRA must observe procedural requirements under the general law.
- 12.5 Proposals for alternative ways of handling interconnection disputes must be assessed in the context of the existing statutory and regulatory provisions. In this respect the *Telecommunications Act* contains quite detailed procedural provisions that must be followed by SATRA in connection with the process of having SATRA take any of the steps outline above. Figures 4, 5 and 6 illustrate SATRA's powers and the procedural steps required in the exercise of those powers.

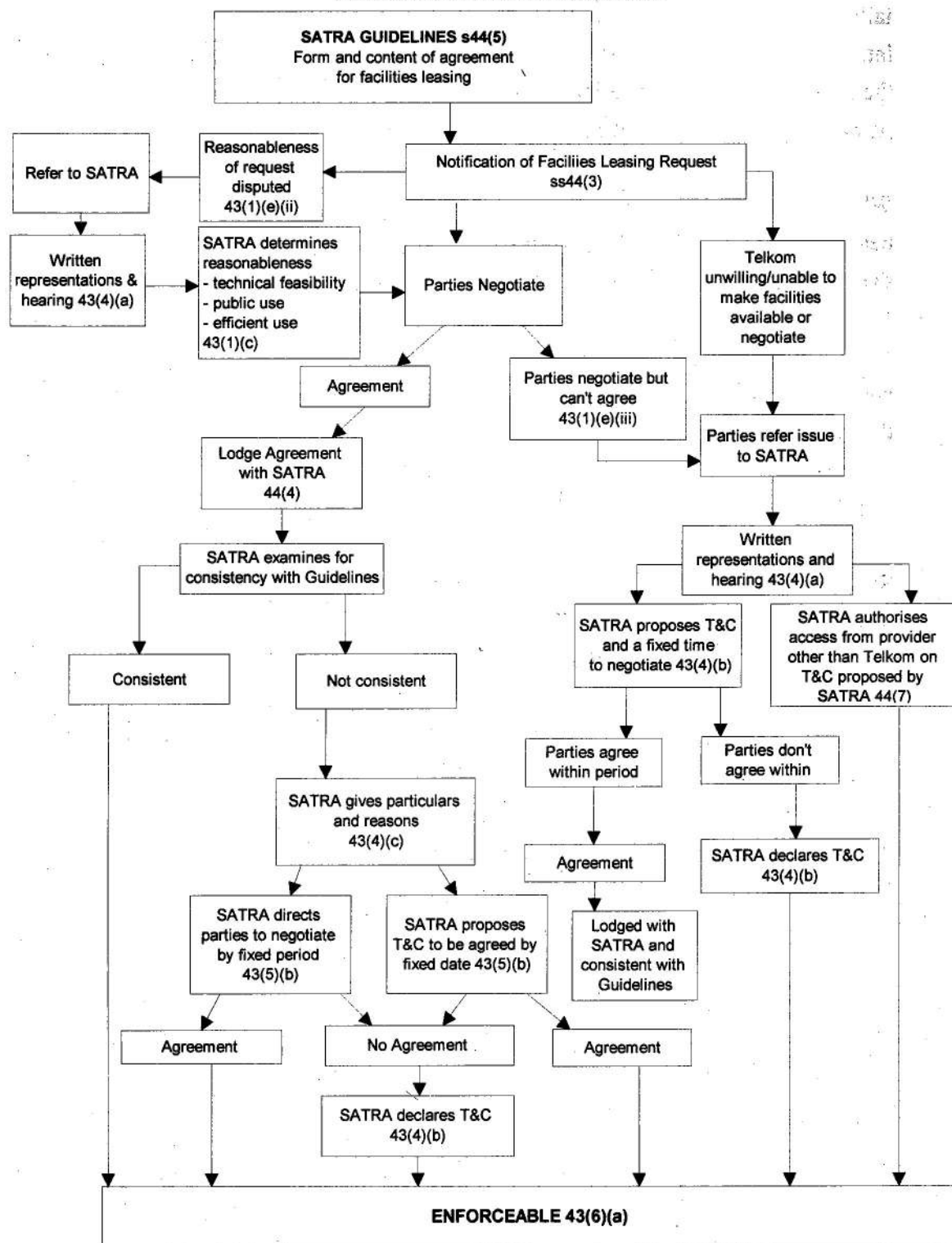
- 12.6 Where a dispute relates to the reasonableness of the request SATRA must consider written representations and oral representations from the parties and make a determination whether the request is reasonable or unreasonable according to the criteria in s43(1)(c).
- 12.7 Where a dispute relates to the unwillingness or inability of parties to negotiate, SATRA must consider written submissions and oral representations from the parties, and propose terms and conditions for interconnection to be agreed between the parties within such time frame as specified by SATRA s.43(4)(b). If the parties fail to agree on the terms and conditions proposed by SATRA, SATRA may declare those terms and conditions to be the enforceable terms and conditions on which interconnection is to be provided s.43(4)(b).
- 12.8 Where an agreement reached between two interconnecting parties is submitted to SATRA to determine its consistency with the Guidelines, SATRA must consider written representations and oral representations by the parties, and inform them that it is satisfied that the agreement is consistent with the Guidelines, or where it determines that any term or condition is not consistent with the agreement, provide the parties with a written determination with reasons s.43(4)(c). SATRA may direct the parties to negotiate and agree on new terms and conditions within a proposed time frame or may propose terms and conditions to be agreed between the parties during a proposed time frame s.43(5)(b). If the parties are unwilling to negotiate new terms and conditions then the issue must be submitted to SATRA, while if they fail to agree on the terms and conditions proposed by SATRA, it may declare that those terms and conditions will apply.

FIGURE 4: SECTION 43 PROCESSES



- 12.9 Section 100 of the Act provides that SATRA shall investigate and adjudicate any alleged contravention of or failure by a licensee to comply with a provision of this Act, the relevant licence, any relevant agreement for the interconnection or provision of telecommunication facilities as contemplated in sections 43 and 44 respectively, or any direction. The procedure for such investigation and adjudication shall be as prescribed and SATRA is endowed with powers to summon and examine witnesses and call for the production of books and objects.
- 12.10 Regulation No. R 346, promulgated in March 1998, provides SATRA with additional procedural powers relating to the resolution of disputes for the purpose of section 100, and establishes a detailed procedural basis for the process of resolving disputes arising out of a failure to comply with either the provisions of the Act, the terms and conditions of a relevant licence or an interconnection agreement.
- 12.11 The Regulation provides that where SATRA considers that a licensee has contravened or failed to comply with the provisions of the Act or terms and conditions of the relevant licence or agreement for the interconnection or leasing of telecommunications facilities then SATRA shall inform the licensee in writing of the alleged contravention or failure, require the licensee to submit written representations within 14 days after receipt of the notice, and investigate the matter in any lawful manner. This includes summoning and examining witnesses, ordering the production of documents, and engaging and utilising the services of experts.

FIGURE 5: SECTION 44 PROCESSES



- 12.12 In addition under the Regulation, a "party aggrieved" by an alleged contravention or failure to comply with the provisions of a licence or an agreement dealing with interconnection or leasing of facilities may complain to SATRA setting out the details of the contravention and the relief sought. Prior to lodging the complaint with SATRA the party should serve a copy of the complaint on the alleged contravener.
- 12.13 Where SATRA determines that the alleged contravention or failure merits a formal hearing it shall advise the licensee of this fact, and of the date, time and the place where the hearing will be held and of the fact that the licensee is entitled to legal representation. Where the complaint does not merit a formal hearing SATRA shall advise the licensee of this fact and then proceed to hear the matter summarily. SATRA shall after due consideration of all evidence and reports before SATRA, make an appropriate order or determination, including issuing a directive, or imposing a fine of up to R500 000.

Leasing or Making Telecommunications Facilities Available

- 12.14 Similar statutory provisions to the interconnection provisions apply to the leasing or making telecommunications facilities available. Parties are obliged under section 44 to notify SATRA of any request to make telecommunications facilities available, and where the reasonableness of a request is disputed refer the dispute to SATRA for its decision. Where the parties are unwilling or unable to negotiate terms and conditions within the prescribed or extended period set by SATRA, the parties must submit the issue to SATRA. Parties must also lodge any agreement for the leasing or making available of telecommunications facilities to SATRA to enable it to determine whether the agreement is consistent with the guidelines.
- 12.15 Where a dispute relates to the reasonableness of the request SATRA must consider written and oral representations, and make a determination whether the request is reasonable or unreasonable according to the criteria in s43(1)(c).
- 12.16 Where a dispute relates to the unwillingness or inability of parties to negotiate or agree, SATRA must consider written and oral submissions and propose terms and conditions for interconnection to be agreed between the parties within such time frame as specified by SATRA. If SATRA is of the view that Telkom is unwilling or unable to make suitable facilities available, instead of preparing terms and conditions, it may authorise the requesting party to obtain any necessary facilities from a source other than Telkom on conditions determined by SATRA.
- 12.17 Where an agreement reached between two interconnecting parties is submitted to the parties for consistency SATRA must consider written and oral representations and inform

the parties that it is satisfied that the agreement is consistent with facilities leasing guidelines developed by SATRA under s.44(5), or where it determines that any term or condition is not consistent with the guidelines, provide the parties with a written determination with reasons. SATRA may direct the parties to negotiate and agree on new terms and conditions within a proposed time frame or may propose terms and conditions to be agreed between the parties during a proposed time frame.

- 12.18 Either party may request SATRA to determine whether a particular part of that party's written or oral representations discloses confidential, commercial information and should therefore not be disclosed to the other party. If SATRA determines the documents do not contain this type of information, the party may exclude the information from their representations.

Inquiry Procedures

- 12.19 In addition to the specific procedural provisions relating to interconnection, SATRA has wide powers under the legislation to conduct inquiries. Since these inquiry procedures allow SATRA to conduct an inquiry into any matter relevant to the performance of its functions under the Act, SATRA could rely on this provision if it planned to conduct an inquiry into an aspect of interconnection relating to its functions under s.43 or s.44.
- 12.20 Section 27 of the Act states that SATRA may from time to time conduct an inquiry into any matter that is related to the achievement of the objects of the Act or the performance of its functions under the Act. The procedure that needs to be followed in respect of such an inquiry includes SATRA notifying its intention to conduct an inquiry by publishing a notice in the gazette (27(2)), which indicates the subject of the inquiry and invites interested persons to make written submissions within a given period, and state whether they wish to make oral representations. Written representations should be publicly available, although confidentiality can be claimed.
- 12.21 Under the provision, SATRA shall conduct oral hearings and make a determination. SATRA shall also publish its findings or recommendations and conclusions in the Gazette.

Requirements for Valid Administrative Action

- 12.22 In addition to following the procedures established in the legislation and regulations, SATRA must also follow the general requirements of constitutional and administrative law with respect to the making of administrative decisions.

- 12.23 In summary, in carrying out its administrative decision making functions, including in relation to interconnection, SATRA is required to comply with a series of requirements imposed by the Constitution and administrative law. These include ensuring procedural fairness and providing written reasons for decisions, although oral hearings may not be required for all decisions, unless the legislation specifically provides that an oral hearing must be available.

An ADR Model for SATRA

- 12.24 In light of the extensive procedural requirements which the Act and the Regulation imposes on SATRA in exercising its interconnection functions, considering whether ADR could be used for the benefit of the industry in relation to SATRA's exercise of its interconnection functions requires a review of each of those functions to determine whether there is any scope for an ADR approach to supplement existing procedural requirements, and the potential value or relevance of utilising such an approach.
- 12.25 Reviewing the possible avenues for incorporating ADR into SATRA's approach to the exercise of its specific functions in relation to interconnection requires both an understanding of ADR techniques, and an analysis of how ADR techniques could be used by SATRA in the exercise of interconnection functions, given the specific procedural requirements of the legislation and regulations.
- 12.26 Alternative dispute resolution is a general term which incorporates a range of techniques which can be used in resolving disputes without resorting to litigation. ADR may be selected by the parties as a means they will use to resolve disputes and incorporated into an agreement, or selected as an option which avoids litigation after a dispute arises. Procedures which incorporate ADR techniques may also be imposed on parties in relation to particular disputes, by legislation.
- 12.27 The most common types of ADR are mediation, conciliation, expert appraisal and arbitration. Mediation can be described as a "process by which the participants, together with the assistance of a neutral person or persons, meet or exchange views in an interchange in order to systematically isolate disputed issues, for the purpose of developing options, considering alternatives and reaching a consensual settlement that accommodates their needs."⁴³ Mediation can involve a formal structured meeting, or be an informal session to discuss the issues.

⁴³

Folberg J and Taylor A, *Mediation: A Comprehensive Guide to Resolving Conflict Without Litigation*, Jossey Bass, San Francisco, 1984, p 7

- 12.28 Conciliation although more difficult to define is a consensual process in which a neutral third party conciliator attempts to bring disputing parties to a resolution of their dispute by agreement between them. To achieve this the conciliator may meet and discuss matters with the parties both independently and jointly and may indicate to the parties the strength and weaknesses of their position and may suggest solutions.⁴⁴ Both mediation and conciliation are generally private processes, and both can only operate successfully where both parties consent. Neither process "imposes" a solution on the parties, so any outcome must be mutually agreed. Both procedures build on commercial negotiation techniques, and aim to deliver a result that both parties can accept, without the cost, delay and procedural complexity of a court hearing into the dispute.
- 12.29 In relation to disagreements arising over interconnection, some regulators have found it valuable to engage in informal mediation sessions with the parties in an initial attempt to try and resolve disputes. As disputes emerge, such an approach allows the regulator to take early informal action to bring the parties together and assist in shaping a resolution of the problem.
- 12.30 Independent expert appraisal is a process whereby the parties agree that the decision in their dispute should be made by an agreed expert or panel of experts, making an objective, independent and impartial determination of disputed facts or issues. It is up to the parties to determine whether the expert's decision is to be binding or if it is only to be used as a basis for negotiations.
- 12.31 Arbitration represents a more court-like and adversarial process in which an independent third party makes an award binding upon the parties. Arbitration is often a formal procedure, subject to legislative requirements covering such matters as hearings, document production, witnesses, cross-examination, and the powers of the arbitrator. Provisions relating to arbitration are also often found in contracts, requiring the parties to submit disputes to arbitration rather than going to court. The parties may agree to appoint their own arbitrator in some cases, and agree on procedures. The approach is not necessarily consensual.
- 12.32 For interconnection, an arbitration role might arise under legislation, with the regulator having a statutory role arbitrating certain disputes, or alternatively, an interconnection agreement might provide that the parties submit disputes arising under the agreement to an arbitrator they jointly select. In contrast to court proceedings, however, arbitration is a private process.

- 12.33 In the area of interconnection, marked by difficulties in reaching agreement and disputes between parties with differing interests and divergent levels of market power, ADR procedures have been widely used by regulators and operators internationally. The approaches which have been followed include the regulator assisting in negotiations between the parties, and conciliating or mediating disputes. Regulators may generally have legislative powers to act as arbitrators, with the power to make binding determinations on certain issues. These powers are available to SATRA.
- 12.34 In considering which method of ADR might be appropriately used by SATRA in the exercise of its interconnection functions, it is relevant to note that it is difficult for consensual ADR processes which do not necessarily deliver a binding outcome to bring about a final resolution of disputes between parties with widely different bargaining power. In particular mediation with its neutral third party and consensual approach, can result in the decision simply reflecting the existing power relationship between the parties.
- 12.35 The limitations of ADR may be especially pronounced in relation to the resolution of interconnection disputes in the telecommunications industry because the industry is characterised by:
- vertically integrated incumbent(s) who have little or no incentive to provide access;
 - the sensitivities of the provision of new telecommunications service to delay; and
 - the information asymmetry between the access provider and access seeker, and the access provider and the third party mediator or arbitrator.
- 12.36 In choosing the method of ADR, the limitations placed upon parties by the above characteristics are critical, and it is important to ensure that not only is the most appropriate ADR model chosen, but that there are appropriate powers or requirements for disclosure and exchange of information as part of any ADR process.
- 12.37 Under its statutory provisions, SATRA is effectively acting as an arbitrator exercising statutory powers when it carries out a number of its functions relating to interconnection. These include deciding whether a request is reasonable, or determining a dispute which arises between two parties under an interconnection agreement. In these instances, SATRA's formal procedures in exercising these powers are largely determined by the Act and the Regulation, but it would be possible to supplement the statutory arbitration-

like procedural scheme by adding an informal mediation process, which would take place prior to SATRA formally exercising any statutory powers.

- 12.38 The possibility of SATRA acting as a mediator in these situations raises the issue of whether such a combination of ADR roles is appropriate for the regulator in an interconnection regime. As noted above, some regulators have adopted practices which allow for informal private mediation-like meetings with parties in attempts to resolve issues prior to those issues moving into a formal dispute resolution process. Other regulators have taken the view that such informal processes cannot be successfully combined with their statutory functions, or even taken the view that their statutory powers preclude this approach.
- 12.39 ADR may have a beneficial role to play in relation to SATRA's exercise of functions which directly involve disputes between parties. In exercising its "eligibility" function determining the reasonableness of a request for an interconnection agreement, SATRA is acting in a classic dispute situation where two parties have opposing views. The function of determining the terms and conditions of an interconnection agreement is in the same category, with SATRA performing a dispute resolution role. In both cases, SATRA is effectively acting as an arbitrator, with the power to make a final decision which is binding on the parties. For both functions, the procedures outlined in the Act require submissions and hearings, although SATRA may otherwise determine how these proceedings are conducted.
- 12.40 As discussed above, the issue of whether SATRA should offer parties the opportunity to have informal mediation meetings with SATRA prior to the exercise of its arbitration function arises, as mediation in these circumstances could be an effective, fair and efficient means of delivering faster solutions to industry disputes. It is also relevant to consider that since mediation, as a consensual process, may merely reflect the existing balance of power between parties, that there may be little to be gained from investing SATRA with a mediation role as well as that of arbitrator, and it might be more effective develop further procedures which will enable it to fulfil its arbitration role more effectively.
- 12.41 For SATRA's exercise of its adjudication function, such as where one party complains about another party's failure to comply with an interconnection agreement, the legislative and regulatory provisions provide a more detailed procedural scheme, covering hearings, evidence, witnesses, document production, experts and legal representation. Again SATRA is acting in the role of an arbitrator, and the level of detail in the procedures suggests that mediation was not envisaged. A mediation option could however be added by requiring the parties to discuss the matter with SATRA in an informal meeting prior to

the arbitration. Again, this raises the issue of the appropriateness of combining these roles.

- 12.42 The Guidelines as presently drafted reflect that SATRA may exercise a mediation mode prior to a formal determination. Parties who are involved in protracted negotiations may ask SATRA to exercise this function, or SATRA may probably suggest that it is willing to assist as mediator. The Guidelines attempt to deal with uses of confidentiality and conflict of interest.

Interested Parties are asked to comment on the proposed guidelines in relation to SATRA's ADR role.

13. VARIATION OF THE GUIDELINES

Adjusting Regulation To Meet Market Developments

- 13.1 As a policy maker, SATRA is seeking to deliver sustainable long term benefits to consumers in terms of connectivity, price and quality. Competition is a means to this end and, in a fully functioning competitive market, regulation would arguably be unnecessary. However, South Africa does not have fully functioning telecommunications markets and enjoys only limited competition. In addition, even fully functioning markets will not meet all of the important societal goals set by the Act. Therefore there is a need for SATRA to intervene in these markets, to both promote these societal goals and to encourage fair competition.
- 13.2 If the South African telecommunications markets are functioning in a manner that does not deliver enhanced connectivity and operators are making super normal rates of return after capital expenditure on their rollout commitments this may signal policy concerns. Service providers should derive fair competitive returns and be able to prosper and invest in the expansion of their networks. However, supernormal profits in the absence of increased consumer welfare through improved connectivity, prices and quality would require further consideration as it may indicate that underlying policy settings require adjustment. Accordingly, SATRA reserves the right to amend the Guidelines where it believes that such an amendment may enhance the achievement of the objectives of the Act.

ANNEXURE ONE

TELECOMMUNICATIONS ACT INTERCONNECTION AND FACILITIES LEASING PROVISIONS

- 43(1) (a) *Telkom shall, when requested by any other person providing a telecommunication service, interconnect its telecommunication system to the telecommunication system of that person unless such request is unreasonable.*
- (b) *With effect from a date to be fixed by the Minister by notice in the Gazette, every person who provides a telecommunication service shall, when requested by any other such person, interconnect its telecommunication system to the telecommunication system of such other person unless such request is unreasonable.*
- (c) *For the purposes of paragraphs (a) and (b), a request contemplated in those paragraphs is not unreasonable where the Authority determines that the requested interconnection is technically feasible and will promote increased public use of telecommunication services or more efficient use of telecommunication facilities.*
- (d) *An agreement between the parties contemplated in paragraph (a) or (b) relating to interconnection shall be entered into within the prescribed period or such extended period as the Authority may allow in any particular case.*
- (e) *The parties concerned shall, unless exempted by the regulations -*
- (i) *notify the Authority if any request contemplated in paragraph (a) or (b), as the case may be, is made;*
 - (ii) *where the reasonableness of any such request is disputed, refer the dispute to the Authority for its decision;*
 - (iii) *where the parties are unwilling or unable to negotiate or agree on any terms paragraph (d), submit the issue to the Authority.*
- (2) *Every agreement for the interconnection of telecommunication systems, including any agreement contemplated in subsection (1), shall, unless exempted by the regulations, be lodged by the parties with the Authority to enable it to determine whether the agreement is consistent with the guidelines contemplated in subsection (3).*
- (3) *The Authority shall prescribe guidelines relating to the form and content of interconnection agreements, and such guidelines shall determine, among others:*
- (a) *the time by or period within which interconnection pursuant to the agreement shall be carried out;*

- (b) *the quality or level of service to be provided by means of the one telecommunication system for the other telecommunication service;*
- (c) *the fees and charges payable for such interconnection:*

Provided that within 12 months after the date of commencement of this Act the Minister shall determine by notice in the Gazette such guidelines in respect of Telkom, and such guidelines shall be in force until the third anniversary of the date on which the Minister issued a licence to Telkom in accordance with section 36(1)(a).

- (4) *The Authority shall, after considering any written representations and after hearing the parties:*
 - (a) *in the case of a dispute relating to reasonableness as contemplated in subsection (1)(e)(ii), make a determination as contemplated in subsection (1)(c);*
 - (b) *in the case of unwillingness or inability by the parties to negotiate or agree, propose terms and conditions in accordance with the guidelines contemplated in subsection (3) which, subject to renegotiation, shall be agreed by the parties within such period as the Authority may specify, failing which the Authority shall declare the terms and conditions so proposed, subject to any variation which the Authority deems fit, to be applicable between the parties;*
 - (c) *in the case of an agreement lodged as contemplated in subsection (2), inform the parties that it is satisfied that the agreement is consistent with the guidelines contemplated in subsection (3), or, where it determines that any terms and conditions of the agreement are not consistent with those guidelines, furnish the parties in writing with particulars of those terms and conditions and the reasons for its determination.*
- (5)
 - (a) *The Authority may, on the request of either party, determine that a particular portion of that party's written or oral representations discloses confidential commercial information and should on that account not be disclosed to the other party, and the requesting party shall be entitled, where the Authority refuses such request, to exclude such information from his or her representations.*
 - (b) *Where the Authority determines that any terms and conditions are not consistent with the guidelines contemplated in subsection 93), it may direct the parties to negotiate and agree on new terms and conditions within such period as the Authority may specify, or itself propose terms and conditions consistent with those guidelines and which, subject to renegotiation, shall be agreed by the parties within such period as it may specify, and the provisions of subsections (1)(e)(iii) and (4)(b) shall apply with the necessary changes.*

- (6)
 - (a) *Terms and conditions declared to be applicable under subsection (4)(b) shall be enforceable between the parties.*
 - (b) *Terms and conditions determined under subsection (4)(c) to be inconsistent with the guidelines contemplated in subsection (3) shall not be enforceable between the parties.*
 - (7)
 - (a) *The provisions of subsections (1) to (6) shall apply, with the necessary changes, in relation to an amendment or proposed amendment of any term or condition contemplated in this section.*
 - (b) *For the purposes of paragraph (a), any interconnection agreement entered into before the commencement of this Act, including terms or conditions relating to interconnection referred to in section 42(3)(a), shall be deemed to be terms and conditions contemplated in this section.*
 - (8) *This section shall not be construed as preventing negotiations for interconnection before the issue of a licence authorising the provision of any telecommunication service.*
 - (9) *The provisions of section 39(4) shall apply, with the necessary changes, to the fixing of dates by the Minister in terms of this section.*
- 44.
 - (1)
 - (a) *Until a date to be fixed by the Minister by notice in the Gazette, Transnet and Eskom shall, when requested by Telkom, lease or otherwise make available to Telkom any of their telecommunication facilities so requested, on terms and conditions to be negotiated and agreed between the parties without undue delay and approved by the Authority, unless such request is unreasonable having regard, among others, to the provisions of this subsection.*
 - (b) *Transnet and Eskom shall make available their facilities as contemplated in paragraph (a) unless there is no spare capacity on those facilities.*
 - (c) *Telkom shall make a request contemplated in paragraph (a) if its own facilities are inadequate and it cannot itself obtain the necessary additional facilities economically, technically and timorously, or if the use of Transnet's or Eskom's facilities will in any manner facilitate the provision by Telkom of services.*
 - (d) *The provisions of paragraphs (a), (b) and (c) shall also apply in relation to the leasing or otherwise making available by Telkom of its telecommunication facilities to Transnet and Eskom.*
 - (2) *Telkom and any other provider of a public fixed telecommunication service shall, when requested by any other person providing a telecommunication service, including a private*

telecommunication network, lease or otherwise make available telecommunication facilities to such other person pursuant to an agreement to be entered into between the parties, unless such request is unreasonable.

- (3) *The provisions of section 43(1)(c), (d) and (e) shall apply, with the necessary changes, in relation to any request and agreement contemplated in subsections (1) and (2).*
- (4) *Every agreement for the leasing or otherwise making available of telecommunication facilities, including any agreement contemplated in subsections (1) and (2), shall, unless exempted by the regulations, be lodged by the parties with the Authority to enable it to determine whether the agreement is consistent with the guidelines contemplated in subsection (5).*
- (5) *The Authority shall prescribe guidelines relating to the form and content of agreements for the leasing or other manner in which telecommunication facilities are made available as contemplated in section 43(3), with the necessary changes.*
- (6) *The provisions of section 43(4) to (8) shall apply, with the necessary changes, in relation to the leasing or other manner in which telecommunication facilities are made available.*
- (7) *In the application of section 43(1)(e)(iii) and 4(b) in relation to making the telecommunication facilities of Telkom available to another person and where the Authority is satisfied that Telkom is unwilling or unable to make suitable facilities available to that person within a reasonable period of time, the Authority may, instead of proposing terms and conditions as contemplated in section 43(4)(b), authorise that person to provide or obtain any necessary telecommunication facilities other than from Telkom on conditions determined by the Authority, notwithstanding the provisions of sections 37(2)(c), 38(2), 40(2) and 41(2)(a) and this section.*
- (8) *The provisions of section 39(4) shall apply, with the necessary changes, to the fixing of dates by the Minister in terms of this section.*

ANNEXURE TWO**TELECOMMUNICATIONS ACT OBJECTIVES**

The primary object of this Act is to provide for the regulation and control of telecommunication matters in the public interest, and for that purpose to:

- (a) *promote the universal and affordable provision of telecommunication services;*
- (b) *promote the provision of a wide range of telecommunication services in the interest of the economic growth and development of the Republic;*
- (c) *make progress towards the universal provision of telecommunication services;*
- (d) *encourage investment and innovation in the telecommunications industry;*
- (e) *encourage the development of a competitive and effective telecommunications manufacturing and supply sector;*
- (f) *promote the development of telecommunication services which are responsive to the needs of users and consumers;*
- (g) *ensure that, in relation to the provision of telecommunication services, the needs of the local communities and areas are duly taken into account;*
- (h) *ensure that the needs of disabled persons are taken into account in the provision of telecommunication services;*
- (i) *ensure compliance with accepted technical standards in the provision and development of telecommunication services;*
- (j) *ensure fair competition within the telecommunications industry;*
- (k) *promote the stability of the telecommunications industry;*
- (l) *encourage ownership and control of telecommunication services by persons from historically disadvantaged groups;*
- (m) *protect the interests of telecommunications users and consumers;*
- (n) *encourage the development of human resources in the telecommunications industry;*
- (o) *promote small, medium and micro-enterprises within the telecommunications industry;*
- (p) *ensure efficient use of the radio frequency spectrum;*
- (q) *promote the empowerment and advancement of women in the telecommunications industry.*

ANNEXURE THREE**PARTIES WITH WHOM SATRA AND SATRA CONSULTANTS HAD PRELIMINARY CONSULTATIONS
REGARDING INTERCONNECTION ISSUES**

NAME	ORGANISATION	DATE
Mr Anthony Brooks	ISPA	6/5/98
Mr David Rodman Mr Graham de Vries	MTN	6/5/98
Mr Mike van den Bergh	VANS	6/5/98
Mr Alf Schultz Mr Danie Botha Mr Zolisa Masiza Mr Richard Andrews	Transtel	6/5/98
Mr Paul Roos Mr Basil van Jaarsveldt	Vodacom	7/5/98
Mr Jurg Schoeman Mr Thinus Nel	FleetCall	7/5/98
Mr Allan Bester	Operator	8/5/98
Mr Al Todd Mr Shan Manickam Ms Pinky Moholi Mr Gabriell Celli Mr Mike Vella	Telkom	8/5/98

ANNEXURE FOUR**DESCRIPTION OF EXISTING INTERCONNECTION AGREEMENTS****Telkom - Mobile Agreement**

The Interconnection Agreement between Telkom and each of the mobile operators signed on 16 February 1994, and subsequently amended, deals with a wide range of issues relating to interconnection including the following.

- The billing procedures and the prices which will be paid by each operator for the interconnection of international, national, and manually connected national calls, as well as setting the prices for leased lines. The Agreement does not stipulate the basis on which the prices have been set.
- The establishment of an interconnection review committee to consider the principles of cost based tariffing and any other matter relating to interconnection which it deemed appropriate. In consultations, the parties indicated that the review committee was not active and did not currently play a significant role in relation to interconnection issues.
- The provision of information between the parties concerning the technical network aspects of the respective telecommunications systems, including any proposed modifications or additions which would be relevant to interconnection. The Interconnection Agreement provides in clause 4.16 for a process which will apply where a party intending to modify its telecommunications network in a way which would affect the interconnecting party, and imposes a notice and consultation process.
- Calls originating on either network when passed across a point of interconnection shall be treated by the other network operator no less favourably than a similar call originating and conveyed on their own network. The obligations of the parties with respect to fault reporting, testing and operation and maintenance issues are also detailed in the Agreement.
- The confidentiality provisions in the Agreement, contained in clause 31, require the parties to keep secret and not disclose to any third party all confidential information. Clause 31.3 provides that confidential information shall be used only for the purpose for which it was disclosed or for the purpose of performing the obligations of the parties under the Agreement.

Clause 2.6 provides that the mobile operator will provide Telkom with a forecast for its specified link requirements annually. If Telkom fails to provide the fixed links requested, or delays in providing such links, the relevant penalties are detailed in clause 9 of the Agreement.

The Agreement's appendices list the points of interconnection and capacity provided, and set out the specifications, services and technical procedures for points of interconnection, including provisions which will apply to the request for quotations and orders for interconnection links and grade and quality of service.

Telkom-Swiftnet Agreement

The Interconnection Agreement between Telkom and Swiftnet signed on 26 March 1996 records Swiftnet's intention to construct maintain and operate a national wireless data network, and covers the provisions of Leased Connections and X.25 Connection to SAPONET-P by Telkom to Swiftnet.

The Agreement specifies the connections and facilities Telkom will provide, and contains procedures for forecasting and quoting on the facilities required. The Agreement provides for an installation time of 90 days following a request, with discounts for delays in the provision of facilities. Billing procedures and the pricing of services is specified in the Agreement, and is expressed in condition 8.3 to be subject to variations in Telkom's normal tariff adjustments from time to time. The Agreement also contains detailed operation, fault handling and maintenance provisions with respect to the interface between Swiftnet and Telkom.

ANNEXURE FIVE

SOUTH AFRICA'S WTO COMMITMENTS

GATS COMMITMENTS BY COUNTRY

South Africa: Communication Services - Telecommunication Services - Voice Telephone Service

Modes of Supply: 1) Cross-border, 2) Consumption Abroad, 3) Commercial Presence, 4) Presence of natural Person

Sector	Limitations on Market Access	Limitations on National Treatment
Facilities based and public switched telecommunication services:	1) Only through the network of Telkom monopoly or subsequent duopoly on international traffic.	1) None
(a) Voice services, except over value-added network	Telkom monopoly to terminate not later than 31.12.2003, thereafter duopoly.	
(b) Packet-switched data transmission services	2) None 3) Telkom monopoly to terminate not later than 31.12.2003; thereafter duopoly	2) None 3) None
(c) Circuit-switched data transmission services	Foreign investment in suppliers permitted up to a cumulative maximum of 30 percent	
(d) Telex services		
(f) Facsimile services	4) Unbound, except as indicated in the horizontal section	4) Unbound, except as indicated the horizontal section.
(g) Private leased circuit services	Additional Commitment(s): <i>South Africa undertakes the attached additional commitments on regulatory principles.</i>	

Authorities to consider by 31/12/2003 the feasibility of suppliers ad to the duopoly.

Liberalisation of resale services to take place between 2000 and 2003 with authorities to define terms and conditions as well as the maximum limit for foreign investment.

- Mobile Cellular, including mobile data

1) Only through the network of Telkom monopoly or subsequent duopoly on international traffic. Telkom monopoly to terminate not later than 31.12.2003; thereafter duopoly.

1) None

2) None

2) None

3) Services supplied on a duopoly basis. One additional mobile cellular licence will be granted within two years.

3) None

Foreign investment in suppliers permitted up to a cumulative maximum of 30 percent.

4) Unbound, except as indicated in the horizontal section.

4) Unbound, except as indicated in the horizontal section.

Additional Commitment(s):

Authorities to examine feasibility of additional suppliers by 31/12/2002

- Satellite-based services

1) Only through the network of Telkom monopoly or subsequent duopoly on international traffic. Telkom monopoly to terminate not later than 31.12.2003; thereafter duopoly.

1) None

2) None 2) None

3) Supplied only by Telkom monopoly until 31.12.2003; thereafter duopoly. 3) None

Foreign investment in suppliers permitted up to a cumulative maximum of 30 percent.

4) Unbound, except as indicated in the horizontal section. 4) Unbound, except as indicated in the horizontal section.

Additional Commitment(s):

Authorities to examine feasibility of additional suppliers by 31/12/2003.

GATS COMMITMENTS BY COUNTRY**South Africa: Attached Notes****ADDITIONAL COMMITMENTS BY SOUTH AFRICA REFERENCE PAPER****Scope**

The following are definitions and principles on the regulatory framework for the basic telecommunications services.

Definitions

Users mean service consumers and service suppliers.

Essential facilities mean facilities of a public telecommunications transport network or service that:

- (a) are exclusively or predominantly provided by a single or limited number of suppliers; and
- (b) cannot feasibly be economically or technically substituted in order to provide a service.

A major supplier is a supplier which has the ability to materially affect the terms of participation (having regard to price and supply) in the relevant market for basic telecommunications services as a result of:

- (a) control over essential facilities; or
- (b) use of its position in the market.

1. COMPETITIVE SAFEGUARDS**1.1 Prevention of anti-competitive practices in telecommunications**

Appropriate measures shall be maintained for the purpose of preventing suppliers who, alone or together, are a major supplier from engaging in or continuing anti-competitive practices.

1.2 Safeguards

The anti-competitive practices referred to above shall include in particular:

- (a) engaging in anti-competitive cross-subsidisation;
- (b) using information obtained from competitors with anti-competitive results; and
- (c) not making available to other services suppliers on a timely basis technical information about essential facilities and commercially relevant information which are necessary for them to provide services.

2. INTERCONNECTION

2.1 This section applies to linking with suppliers providing public telecommunications transport networks or services in order to allow the users of one supplier to communicate with users of another supplier and to access services provided by another supplier, where specific commitments are undertaken.

2.2 Interconnection to be ensured

Interconnection with a major supplier will be ensured at any technically feasible point in the network. Such interconnection is provided.

- (a) under non-discriminatory terms, conditions (including technical standards and specifications) and rates *1 and of a quality no less favourable than that provided for its own like services or for like services of non-affiliated service suppliers or for its subsidiaries or other affiliates;
- (b) in a timely fashion, on terms, conditions (including technical standards and specifications) and cost-oriented rates that are transparent, reasonable, having regard to economic feasibility, and sufficiently unbundled so that the supplier need not pay for network components or facilities that it does not require for the service to be provided;
- (c) upon request, at points in addition to the network termination points offered to the majority of users, subject to charges that reflect the cost of construction of necessary additional facilities; and

2.3 Public availability of the procedures for interconnection negotiations

The procedures applicable for interconnection to a major supplier will be made publicly available.

2.4 Transparency of interconnection arrangements

It is ensured that a major supplier will make publicly available either its interconnection agreements or a reference interconnection offer.

2.5 Interconnection: dispute settlement

A service supplier requesting interconnection with a major supplier will have recourse, either:

- (a) at any time; or
- (b) after a reasonable period of time which has been made publicly known,

to an independent domestic body, which may be a regulatory body as referred to in paragraph 5 below, to resolve disputes regarding appropriate terms, conditions and rates for interconnection within a reasonable period of time, to the extent that these have not been established previously.

3. UNIVERSAL SERVICE

Any Member has the right to define the kind of universal service obligation it wishes to maintain. Such obligations will not be regarded as anti-competitive per se, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more than burdensome than necessary for the kind of universal service defined by the Member.

4. PUBLIC AVAILABILITY OF LICENSING CRITERIA

Where a licence is required, all the licensing criteria and the terms and conditions of individual licences will be made publicly available.

The reasons for the denial of a licence will be made known to the applicant upon request.

5. INDEPENDENT REGULATORS

The regulatory body is separate from, and not accountable to, any supplier of basic telecommunications services. The decisions of and the procedures used by regulators shall be impartial with respect to all market participants.

6. ALLOCATION AND USE OF SCARCE RESOURCES

Any procedures for the allocation and use of scarce resources, including frequencies, numbers and right of way, will be carried out in an objective, timely, transparent and non-discriminatory manner. The current state of allocated frequency bands will be made publicly available, but detailed identification of frequencies allocated for specific government uses is not required.

*1) The authorities may determine different rates in respect of different services rendered in different areas under different circumstances or may determine rates which may be higher or lower than the normal rates providing that the determination of such rates is done on a non-discriminatory basis.

ANNEXURE SIX**CURRENT MINISTERIAL GUIDELINES****MINISTERIAL DETERMINATION
ON INTERCONNECTION GUIDELINES**

Pursuant to Section 43 of the Telecommunications Act, 1996 (Act No. 103 of 1996) (the "Telecommunications Act"), I hereby determine as follows:

1. Application of this Determination

- (a) This Determination shall be applicable to the content and form of any interconnection agreement ("Interconnection Agreement") entered into between Telkom SA Limited ("Telkom") and any other person providing a telecommunication service pursuant to the Telecommunications Act (the "Interconnecting Party").
- (b) In this Determination, unless the context indicates otherwise, all terms shall have the meanings assigned to such terms in the Telecommunications Act or the licence (the "Licence") issued to Telkom pursuant to Section 36 of the Telecommunications Act.
- (c) This Determination shall become effective on the Effective Date but shall lapse, in favour of interconnection guidelines prescribed by the Authority pursuant to Section 43, on or after the third anniversary of the Effective Date.
- (d) Telkom shall use its reasonable endeavours to amend any existing Interconnection Agreements to conform to the guidelines set out in this Determination as soon as practicable. For the avoidance of doubt, Telkom shall not be treated as in contravention of this Determination if any such amendment cannot be effected.

2. Interconnection with the Public Switched Telecommunication Network

- (a) Telkom shall be required to interconnect another person's telecommunication system with the Public Switched Telecommunications Network as provided for in Section 43 of the Telecommunications Act only if Telkom and the other person have entered into an Interconnection Agreement and if the requested interconnection is not unreasonable in that it is technically feasible and will promote the increased public use of telecommunications services or more efficient use of telecommunication facilities.

- (b) Telkom shall use its best endeavours to provide to the Interconnecting Party a Point of Connection at the appropriate switch nearest to the point at which the call originated in a manner which shall be agreed from time to time between Telkom and the Interconnecting Party and which duly takes account of what is technically feasible given the functionality of the respective networks of Telkom and of the Interconnecting Party from time to time.
- (c) Network Connection Equipment, where reasonably practicable, shall, if requested by the Interconnecting Party, be located within the same space in order to maximise the efficient use of space in Telkom's premises and to minimise the cost and inconvenience to Telkom and the Interconnecting Party. If Telkom demonstrates that physical co-location is not reasonably practicable, Telkom shall, if requested, instead offer interconnection on terms equivalent to physical co-location in terms of economic, operational and technical conditions by a date as soon as reasonably practicable which shall be agreed between Telkom and the Interconnecting Party. All directly attributable costs associated with the provision of equipment and space by Telkom in satisfaction of these requirements shall be included in the charges permitted pursuant to Section 5 of this Determination.
- (d) Interconnection pursuant to any Interconnection Agreement shall be carried out as soon as practicable but in any event not later than ninety (90) days from the date when such agreement is entered into pursuant to Section 43 of the Telecommunications Act.
- (e) Telkom and the Interconnecting Party shall comply with all relevant international standards, including, without limitation, those of the ITU.

3. Quality of Service

- (a) Unless otherwise agreed to by Telkom and the Interconnecting Party, the quality of Interconnection Services provided by Telkom shall be at least of the same standard and quality as comparable services or activities in the operation of the Public Switched Telecommunication Network.
- (b) Telkom shall use its best endeavours to provide sufficient numbers and capacity of Points of Connection to support the grade of service reasonably required by the Interconnecting Party to meet actual and reasonably forecasted demand for its telecommunication services.

4. Provision of Information

- (a) Telkom and the Interconnecting Party shall provide each other with relevant information concerning the technical network aspects of their respective telecommunication systems

which is reasonably requested and necessary to enable Points of Connection to be established together with information concerning any proposed modifications or additions to their respective networks relevant to interconnection, together with information relevant to the operations of their respective telecommunication systems relating to the proposed modifications or additions to such systems.

- (b) Prior to the provision of any information pursuant to subsection 4(a), Telkom and the Interconnecting Party shall enter into a non-disclosure agreement to incorporate similar protections in any Interconnection Agreement and protect the confidentiality of proprietary information of, and relating to, the other party's telecommunication network and operations provided pursuant to this Determination for purposes of interconnection and shall use such proprietary information only for such purpose.

5. Interconnect Charges

- (a) Telkom's interconnection charges shall as soon as practicable be based on its long run incremental costs (LRIC) and interconnection charges based on LRIC shall be introduced after consultation with Telkom in a manner consistent with condition 8.4 of the Licence. Interconnection charges based on LRIC shall duly take account of all relevant costs and cost related elements, including, without limitation, common and stand-alone costs, cost of capital, costs of maintaining and replacing assets and economic depreciation. For the purposes of this Determination "common costs" shall mean costs that are incurred in the supply of all or a group of services provided by the firm and cannot be directly attributed to any one service and "standalone costs" shall mean the cost of providing a single service.
- (b) Notwithstanding the provisions of subsection (a) above, providers of Value Added Network Services, as such, shall be entitled to volume discounts at levels below prevailing retail prices but shall not be entitled to Interconnection Services on the basis of charges described in subsection 5(a). Such discounts shall duly take account of operational savings which may arise from dealings with providers of Value-Added Network Services relative to the costs of supply to the generality of retail customers. For the purposes of this Determination "retail prices" means the fees and charges by which Telkom offers telecommunication services to its retail customers pursuant to Section 45 of the Act.

J Naidoo

Minister for Posts, Telecommunications and Broadcasting

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