



ETHIOPIAN COMMUNICATIONS AUTHORITY

TELECOMMUNICATIONS NETWORKS INTERCONNECTION DIRECTIVE

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TELECOMMUNICATIONS NETWORKS INTERCONNECTION DIRECTIVE

WHEREAS, Article 6(2) of the Communications Service Proclamation No. 1148/2019 (“the Proclamation”) confers on the Ethiopian Communications Authority (“the Authority”) the power to implement policies for Communications Services in Ethiopia;

WHEREAS, Article 6(13) of the Proclamation provides the Authority the power to regulate interconnection between Telecommunications Networks of different service providers;

WHEREAS, Article 43(1) of the Proclamation requires all interconnection agreements between Telecommunications Operators to comply with the Proclamation and the Directives to be published from time to time pursuant to the proclamation;

WHEREAS, Article 54(2) of the Proclamation confers on the Authority the power to issue directives for implementation of the Proclamation and Regulations issued pursuant to the Proclamation;

NOW, THEREFORE, the Authority hereby issues this Telecommunications Networks Interconnection Directive.

PART I

SHORT TITLE, DEFINITIONS, OBJECTIVES, AND SCOPE OF APPLICATION

1. Short Title

This Directive may be cited be as the Telecommunications Networks Interconnection Directive No. 8/2020.

2. Definitions

Words and phrases used in this Directive shall have the meaning and application given to them in Communications Service Proclamation No. 1148/2019. In this Directive, unless the context otherwise requires:

- 1) **“Authority”** means the Ethiopian Communications Authority established under the Communications Service Proclamation No. 1148/2019.
- 2) **“Interconnection”** means the physical, technical and logical linking of the Telecommunications Networks used by the same or a different Telecommunications Operator, in order to allow the users of one telecommunications operator to communicate with users of the same or another telecommunications operator, or to access services provided by another telecommunications operator. Services may be provided by the persons involved or by other persons who have access to the telecommunications network.
- 3) **“Interconnecting Operators”** means Telecommunications Operators that interconnect their respective networks.

- 4) **“Interconnection Provider”** means a Telecommunications Operator that provides Interconnection Services to another Telecommunications Operator.
- 5) **“Interconnection Services”** means services provided by one Telecommunications Operator to another for the purpose of achieving interconnection of their respective networks. Annex A provides a list of some of these services and their illustrations.
- 6) **“Point of Interconnection”** means a mutually agreed point in a Telecommunications Network where the networks of two or more Telecommunications Operators are interconnected.
- 7) **“Reference Interconnection Offer”** means a standard form for interconnection agreement.
- 8) **“Requesting Operator”** means a Telecommunications Operator that is requesting interconnection with another Telecommunications Operator.
- 9) **“Requested Operator”** means a Telecommunications Operator that has received a request for interconnection from another Telecommunications Operator.’
- 10) **“Retail Telecommunications Service”** means a Telecommunications Service that is provided directly to the end user but not to another Telecommunications Operator.

3. Objective

- 1) The primary purpose of this Directive is to provide a framework to govern interconnection agreements.
- 2) This Directive further intends to provide clarity on the rules and procedures the Authority shall follow to regulate interconnection agreements, pursuant to Articles 42 and 43 of the Proclamation.
- 3) To enable telecommunications operators to provide integrated telecommunications services throughout the Federal Democratic Republic of Ethiopia.
- 4) To allow each end user of a telecommunications network to communicate with any other end user of another telecommunications network or service provider.

4. Scope of Application

This Directive shall apply to all Telecommunications Operators in the Federal Democratic Republic of Ethiopia.

PART II Role of the Authority

5. Role of the Authority

- 1) The Authority shall:
 - a) Facilitate the resolution of interconnection disputes, and endeavor to secure adequate interconnection of Telecommunications Operators’ networks;

- b) Provide a high degree of certainty on the rules governing interconnection between Telecommunications Operators; Direct Telecommunications Network Operators which the Authority has determined have Significant Market Power (“SMP Operator”) to propose and submit a Reference Interconnection Offer (RIO) to the Authority for approval; and,
 - c) Review and approve RIOs to ensure conformity with provisions in the Proclamation, this Directive, and any applicable Directive adopted by the Authority.
- 2) Pursuant to Article 43 of the Proclamation, the Authority may,
- a) Review interconnection agreements to ensure conformity with provisions in the Proclamation, this Directive, and any applicable Directive adopted by the Authority;
 - b) Intervene on its own instance, or if requested by a party to an agreement, and make binding decisions, ordering parties to change provisions in interconnection agreements that are inconsistent with provisions in the Proclamation, this Directive, or any applicable Directive adopted by the Authority;
 - c) Intervene on its own initiative, or if requested by a party to an agreement, whenever parties fail to achieve consensus on the terms and conditions of interconnection, or fail to interconnect within a reasonable timeframe, or as specified in this Directive, and where appropriate, set the terms and conditions of interconnection; or,
 - d) Intervene on its own initiative, or at the request of a party to an agreement, to resolve an interconnection dispute in accordance with the dispute resolution procedure set up in this Directive.

PART III

GENERAL INTERCONNECTION PRINCIPLES

6. Transparency

- 1) The Authority’s process in reaching decisions on interconnection matters shall be open and transparent.
- 2) A Telecommunications Operator which the Authority has determined to have Significant Market Power in one or more markets for the provision of Interconnection Services shall publish a RIO approved by the Authority.
- 3) The Authority shall publish the approved RIO on its website, and the Requested Operator shall make it available to the Requesting Operator free of charge.

7. Non-Discrimination

The non-discrimination principle requires that the terms and conditions of interconnection, including technical standards, reliability, quality of service and charges,

shall be comparable to how the Interconnection Provider supplies those same Interconnection Services to itself, or to any other Operator.

8. Lawful Charges

Providers of Interconnection Services shall charge lawful charges; that is, charges that are just, reasonable, and not unduly discriminatory among users or classes of users.

9. Interconnection Rights and Obligations

- 1) A Telecommunications Operator has, irrespective of the supporting technology employed, the right to demand interconnection from another Telecommunications Operator, and an obligation, when requested, to negotiate interconnection, and interconnect at technically feasible locations, with another Telecommunications Operator.
- 2) Interconnecting Operators shall have the right to request, and receive, information from each other in order to plan, construct, install, or maintain, each operator's Telecommunications Network.
- 3) Interconnecting Operators shall use information received pursuant to this Directive solely for the purpose for which it was supplied, and use its reasonable efforts to protect the confidentiality of such information.

PART IV

INTERCONNECTION PROCEDURES

10. Good Faith Negotiations

- 1) Interconnection agreements shall be negotiated in good faith between the operators involved, and the Interconnecting Operators shall use reasonable endeavors to resolve all disputes relating to interconnection.
- 2) Negotiations in good faith implies that each negotiating party shall not:
 - a) Intentionally mislead the other party;
 - b) Coerce the other party into making an agreement that it would not otherwise have made; and,
 - c) Intentionally obstruct negotiations.
- 3) A breach of the principle of negotiating in good faith shall include:
 - a) Failure to provide the other operator with all relevant information on a timely basis;
 - b) A demand to sign non-disclosure agreements that are coercive or unnecessarily broad or restrictive;
 - c) Refusal to allow the insertion of clauses in an interconnection agreement that permit future amendments;

- d) Attempt to tie terms and conditions contained in the agreement, to the resolution of other unrelated issues;
- e) Actions that are intended to delay negotiations, including, but not limited to, consistent refusal to designate a representative with authority to make binding commitments; and,
- f) Other issues as may be determined by the Authority from time to time.

11. Interconnection Requests

- 1) When a Telecommunications Operator requests interconnection with another operator, the Requesting Operator shall make such request as follows:
 - a) In writing to the Requested Operator;
 - b) Contain sufficient information, including but not limited to, the form of interconnection, the suggested date for commencement of negotiations, the date for which the interconnection is required, and an estimate of the interconnection capacity required; and,
 - c) Inform the Authority in writing within five (5) working days of the request.
- 2) Within fifteen (15) working days of receipt of a request for interconnection, the Requested Operator shall inform the Requesting Operator in writing, if it is able to:
 - a) Commence negotiations related to the interconnection request on the proposed date;
 - b) Supply the form of interconnection requested; and
 - c) Undertake interconnection within the time frame requested by the Requesting Operator.
- 3) Where the Requested Operator has informed the Requesting Operator that it is able to provide the requested interconnection, it shall provide a copy of an approved RIO, and initiate negotiations not later than fifteen (15) working days after receipt of the interconnection request.
- 4) The Requested and Requesting Operators shall negotiate in good faith, and using their best efforts to complete negotiations and execute an interconnection agreement, not later than thirty (30) working days after initiating negotiations, or within a reasonable timeframe agreed by both parties.
- 5) A request for interconnection shall be refused only on grounds that it is not technically feasible, or as determined by the Authority, and shall be justified in writing by the Requested Operator, not later than fifteen (15) working days after receiving a request for interconnection.
- 6) A copy of a refusal of an interconnection request shall be filed with the Authority by the Requested Operator, not later than seven (7) working days after the refusal has been submitted to the Requesting Operator.

- 7) Pursuant to Article 43 (2) of the Proclamation, where the Requested Operator rejects the interconnection request, or if parties fail to reach an interconnection agreement, or fail to complete interconnection within a reasonable timeframe, either party may appeal to the Authority, or the Authority may intervene on its own instance, to make a binding ruling pursuant to Articles 35-38 of the Proclamation, or in accordance with the Authority's Dispute Resolution Directive.

PART V
INTERCONNECTION AGREEMENTS

12. Interconnection Agreements

- 1) All interconnection agreements between operators shall be made in writing and shall:
 - a) Be in accordance with the principles set out in Articles 7 and 8 of this Directive;
 - b) Comply with the terms and conditions of the licenses of the Interconnecting Operators;
 - c) Conform to generally accepted industry standards and standards adopted by the Authority; and,
 - d) Be consistent with the Proclamation, this Directive, or any applicable Directive adopted by the Authority.
- 2) An interconnection agreement shall not directly or indirectly, prohibit, or frustrate the provision of a Telecommunications Service that an Interconnecting Operator is lawfully able to provide.

13. Filing of Interconnection Agreement

- 1) After an interconnection agreement is executed, the Requested Operator shall file with the Authority a copy of such agreement not later than seven (7) working days from the date of the agreement's execution.
- 2) The Authority may request from Interconnecting Operators additional information which it deems necessary to evaluate the terms and conditions in the agreement.
- 3) The Authority may publish on its website the filed interconnection agreements, paying due regard to the confidentiality of commercially sensitive information of Interconnecting Operators, and shall use its reasonable efforts to protect the confidentiality of such information.

14. Amendment of Interconnection Agreements

- 1) The parties to an interconnection agreement may amend or modify such agreement by mutual accord. The modified agreement shall be filed with the Authority not later than seven (7) working days from the date of the execution of such modification.
- 2) Pursuant to Article 43 (2) of the Proclamation, the Authority may intervene to order modifications to the terms and conditions of an interconnection agreement, at its own

- instance, or following a request from either party to an interconnection agreement, if the agreement or any provision thereof, is either:
- a) Inconsistent with provisions in the Proclamation;
 - b) Inconsistent with this Directive;
 - c) Inconsistent with provisions in any applicable Directive adopted by the Authority;
or,
 - d) Not in the public interest.
- 3) If the Authority decides to intervene, it shall determine the appropriate modifications in a transparent manner, in accordance with Articles 36 and 37 of the Proclamation, and adhere to the following procedure:
- a) Issue a Public Notice, informing interested parties that it is initiating a regulatory proceeding to amend an existing interconnection agreement. The Notice shall be accompanied by a clear statement indicating which provision in the agreement, and why, is either:
 - i) Inconsistent with provisions in the Proclamation;
 - ii) Inconsistent with provisions in this Directive;
 - iii) Inconsistent with provisions in any applicable Directive adopted by the Authority; or,
 - iv) Not in the public interest.
 - b) The said statements provided in Sub-Article (3) (a) of this Article shall also include the proposed modification and provide a justification for such modification.
 - c) The Authority shall give interested parties no less than twenty-one (21) working days to respond to any comment on the proposed changes to the agreement.
 - d) After receiving comments from interested parties, the Authority shall respond to the comments received within twenty-one (21) working days, and either:
 - i) Provide a response addressing each comment and issue a final determination;
or
 - ii) Provide a response addressing each comment, modify the proposed changes to the agreement if needed, and allow interested parties to submit comments again, using the same time frame as in the first round, before issuing a final decision.
 - e) The Authority may, at its own discretion, allow more than two rounds of revisions and comments from interested parties before issuing a final determination.
 - f) During the regulatory proceeding, the Authority shall publish its responses to comments received, and its final decision on the Authority's website.

- g) To the extent the information provided by interested parties to the Authority during the course of this proceeding may be confidential, the Authority shall use its reasonable efforts to protect the confidentiality of such information.
- 4) The provisions in Sub-Article (3) shall not prejudice the exercise of the supervisory and monitoring powers of the Authority.

15. Termination of an Interconnection Agreement

- 1) The termination of an interconnection agreement shall be strictly in accordance with the terms in such agreement.
- 2) If a party to an interconnection agreement intends to terminate such agreement, it shall give no less than sixty (60) working days written notice to the other party, specifying the grounds for termination and where there is breach, the operator providing the notice shall give the other party no less than thirty (30) working days to remedy the breach, and if the party in breach fails to remedy such breach within that period, it may then terminate the agreement, or seek the Authority's intervention in accordance with the Authority's Dispute Resolution Directive.
- 3) A party to an interconnection agreement that has been terminated may seek the Authority's intervention in accordance with Authority's Dispute Resolution Directive.
- 4) Notwithstanding any provision of this Directive, a party terminating an interconnection agreement shall notify the Authority in writing not later than seven (7) working days after the termination of such agreement, and provide a copy of the notice of termination.

16. Reference Interconnection Offer (RIO)

- 1) All Telecommunications Operators which the Authority has determined have Significant Market Power ("SMP Operator") in one or more markets for Interconnection Services, shall file a RIO with the Authority for approval. A RIO shall be filed not later than forty-five (45) working days after being directed to do so by the Authority.
- 2) A RIO shall adhere to, and incorporate the principles for interconnection agreements indicated in Articles 6 through 8 and provisions set forth in this Directive.
- 3) The Authority shall review a proposed RIO and decide whether it shall approve it for publication, or intervene to change the terms and conditions of a proposed RIO within sixty (60) working days. If the Authority does not reject the request for approval, or intervene to change the proposed RIO within a sixty (60) working day period, a proposed RIO shall be deemed approved.
- 4) An approved RIO shall remain in effect until a modified RIO is approved, unless otherwise determined by the Authority.
- 5) A SMP Operator with an approved RIO, shall file an amended RIO with the Authority for approval.

- 6) The Authority shall, within thirty (30) working days, review a modified RIO and decide whether it shall approve it for publication. If the Authority does not reject the request for approval, or does not intervene to change a modified RIO within the thirty (30) working day period, a modified RIO shall be deemed approved.
- 7) The Authority may intervene to modify the terms and conditions of a filed or approved RIO, at its own instance, or following a request from a Telecommunications Operator, if:
 - a) A RIO or any provision thereof, is inconsistent with provisions in the Proclamation, this Directive, or any applicable Directive adopted by the Authority, or
 - b) The Authority considers that it is in the public interest for it to intervene.
- 8) If the Authority decides to intervene to modify a filed, or approved RIO, it shall determine the appropriate modifications in a transparent manner, in accordance to Articles 36 and 37 of the Proclamation, and adhere to the following procedure:
 - a) Issue a Public Notice, informing interested parties that it is initiating a regulatory proceeding to amend a RIO. The Notice shall be accompanied by a clear statement indicating which provision in the RIO, and why, is either:
 - i) Inconsistent with provisions in the Proclamation;
 - ii) Inconsistent with provisions in this Directive;
 - iii) Inconsistent with provisions in any applicable Directive adopted by the Authority; or,
 - iv) Not in the public interest.
 - b) The said statement in Sub-Article (8) of this Article shall include the proposed modification and provide a justification for such modification.
 - c) The Authority shall give interested parties no less than twenty-one (21) working days to respond and comment on the proposed changes.
 - d) After receiving comments from interested parties, the Authority shall have no more than twenty-one (21) working days to respond to the comments received, and either:
 - i) Provide a response addressing each comment and issue a final determination; or,
 - ii) Provide a response addressing each comment, modify the proposed changes if needed, and allow interested parties to submit comments again using the same time frame as in the first round, before issuing a final determination.
 - e) The Authority may, at its own discretion, allow more than two rounds of revisions and comments from interested parties before issuing a final determination;
 - f) During the regulatory proceeding, the Authority shall publish its responses to comments received and its final decision on the Authority's website.

- g) To the extent that information provided by interested parties to the Authority during the course of this proceeding may be confidential, the Authority shall use its reasonable efforts to protect the confidentiality of such information.
- 9) A RIO shall include detailed terms and conditions of the Interconnection Services to be provided, the technical standards, as well as standards for safety and security to be implemented by the provider of Interconnection Services.
- 10) A RIO shall include provisions on how to modify the terms and conditions of service.
- 11) A RIO shall include at least the following sections.
 - a) Framework agreement;
 - b) Description of Interconnection Services offered;
 - c) A description of all Points of Interconnection and conditions of access thereto, for the purpose of physical collocation;
 - d) Technical specifications required to ensure successful interconnection;
 - e) Specification of transmission technologies, technical standards or protocols, to be used for network interconnection;
 - f) Procedures for implementation of initial interconnection, as well as operational procedures, functional testing, including, ongoing service provisioning, planning, network traffic, and fault management and maintenance procedures;
 - g) Commercial aspects including one-off charges, recurring charges, payments, billing procedures, and terms and conditions; and,
 - h) Service level agreement which includes provisioning timeframe of interconnection services, quality of service requirements, and penalties in case of non-compliance.

PART VI
INTERCONNECTION CHARGES

17. Interconnection Charges

- 1) Charges for Interconnection Service shall:
 - a) Be in accordance with the principles set out in Articles 6 through 8 of this Directive;
 - b) Be sufficiently unbundled to ensure that a Requesting Operator is not required to pay for network elements or facilities not strictly required for the services requested; and,
 - c) Be lawful in accordance to Article 45 of the Proclamation, and any applicable Directive adopted by the Authority.
- 2) Interconnection charges shall distinguish and separately account for:
 - a) Fixed one-off charges for the establishment and implementation of physical interconnection;

- b) Periodic rental charges for on-going use of equipment, network elements, or facilities;
 - c) Capacity or usage-based charges for the conveyance of traffic; and,
 - d) Variable charges for supplementary services.
- 3) Where the Authority has determined that a provider of Interconnection Services holds significant market power in the provision of those services, the SMP Operator shall file its interconnection service tariffs with the Authority for approval.
 - 4) Pursuant to Article 45 (4) of the Proclamation, the Authority may direct a SMP Operator to delay the effectiveness of any interconnection tariff until the Authority has approved said tariff.
 - 5) Within thirty (30) working days from the receipt of a request for approval of interconnection tariffs, the Authority shall respond in writing, and either, approve said tariffs, or announce its intention to initiate a regulatory proceeding to review and ensure that those tariffs are lawful pursuant to Article 46 of Proclamation.
 - 6) If the Authority does not respond to a request for approval of interconnection tariffs within the thirty (30) working day period, such tariffs shall be deemed approved.
 - 7) If the Authority decides to open a regulatory proceeding pursuant to Article 46 of the Proclamation, it shall do so in accordance with the procedures established in Articles 36 and 37 of the Proclamation, and adhere to the following procedure:
 - a) Issue a Public Notice informing interested parties that it is initiating a regulatory proceeding to review and set interconnection tariffs to ensure that they are lawful in accordance with Article 45 of the Proclamation, this Directive, or any applicable Directive adopted by the Authority;
 - b) The Public Notice shall be accompanied by a statement, or discussion paper, indicating the nature of the interconnection tariff review, and the approach the Authority intends to undertake to set tariffs to a level it considers lawful.
 - c) The Notice shall also include the period within which interested parties may submit comments along with filing requirements, and a timeframe for the public consultation.
 - d) The Authority shall give interested parties no less than twenty-one (21) working days to respond and comment on the consultation document;
 - e) After receiving comments from interested parties, the Authority shall have no more than thirty (30) working days to respond to the comments received and either:
 - i) Provide a response addressing each comment and render a final determination; or,

- ii) Provide a response addressing each comment, issue a modified discussion paper if needed, and give interested parties no less than twenty-one (21) working days to submit comments, before issuing a final decision.
- f) The Authority may, at its own discretion, allow more than two rounds of revisions and comments from interested parties before issuing a final determination.
- 8) Notwithstanding any provision in Articles 17(1)-(7), the Authority may, on its own motion, and at any time, initiate a proceeding to review and ensure the lawfulness of any tariff for interconnection services, in accordance with Article 46 of the Proclamation, this Directive, or any applicable Directive adopted by the Authority.
- 9) Pursuant to Article 45 of the Proclamation, the Authority may adopt Directives establishing standards and procedures by which it shall determine the lawfulness of tariffs, and set interconnection charges.

18. Accounting Separation

- 1) Where an Interconnection Provider, also provides Retail Telecommunications Services, the Interconnection Provider shall keep separate accounts as if the Interconnection Services were in fact carried out by legally independent companies, so as to identify all elements of cost and revenue attributable to such services.
- 2) The Authority may, at its own discretion, adopt Directives prescribing how the account separation shall be implemented by Interconnection Providers that also provide Retail Telecommunications Services.

PART VII

TECHNICAL ASPECTS OF INTERCONNECTION

19. Points of Interconnection

- 1) The Requesting Operator shall notify to the Requested Operator, in sufficient detail, the point or points where it wishes to interconnect, to enable the Requested Operator assess the system conditioning and other requirements for establishing such Points of Interconnection.
- 2) Points of Interconnection shall be established as soon as practically possible following a request for interconnection.
- 3) Unless otherwise determined by the Authority, Interconnecting Operators shall be responsible for the cost of building and maintaining their own Points of Interconnection along with associated equipment and switching capacity to support the interconnection, and for the cost of transporting their own network traffic to the Points of Interconnection.
- 4) Where a Requesting Operator requests that its facilities for interconnection be collocated with the facilities or premises of the Requested Operator, such collocation may be provided, and the cost of such collocation shall be mutually agreed by the parties, unless otherwise directed by the Authority.

20. Infrastructure Sharing and Collocation for Interconnection

- 1) Pursuant to Article 44 (6) of the Proclamation, the sharing of infrastructure applies to both passive and active infrastructure.
- 2) To the extent that infrastructure sharing and collocation are required, interconnection agreements and RIOs, shall include sections specifying in detail the form of collocation and infrastructure sharing offered, and the terms and conditions for that arrangement.
- 3) An interconnection agreement shall include provisions for the procedures to follow by Interconnecting Operators to obtain access to facilities and sites. In addition, they shall include provisions for the procedures to follow to collocate equipment.
- 4) An interconnection agreement shall include sufficient information on the location of facilities and the capacity available for sharing, as well as a price list for access to key infrastructure.
- 5) The terms and conditions for collocation, and the arrangements for infrastructure sharing, shall be in accordance with the principles of transparency, non-discrimination, and lawful tariffs set out in Articles 6 through 8 of this Directive, and with any applicable Directive adopted by the Authority.
- 6) Pursuant to Article 44 of the Proclamation, a Telecommunications Operator may request physical collocation of its equipment for the purpose of providing a Telecommunications Service to the public, at the premises of another operator which the Authority has deemed to hold significant market power in a relevant market.
 - a) The operator receiving such request shall accommodate such request to the extent it is technically feasible, and shall negotiate in good faith a lawful tariff for such collocation space.
 - b) In the event that parties are unable to reach an agreement, the Authority may intervene at its own instance, or at the request of any of the parties involved, to set the terms and conditions for such collocation, pursuant to the procedure established in Articles 35 through 38 of the Proclamation, or any applicable Directive adopted by the Authority.
- 7) Pursuant to Article 44 (7) of the Proclamation, a Telecommunications Operator which the Authority has deemed holds significant market power in a relevant market shall be required to share both passive and active infrastructure upon a reasonable request from another Telecommunications Operator.
 - a) The operator receiving such request shall accommodate such request to the extent it is technically feasible, and shall negotiate in good faith a lawful tariff for such sharing of infrastructure.
 - b) In the event that parties are unable to reach an agreement, the Authority may intervene at its own instance, or at the request of any of the parties involved, to set the terms and conditions for such sharing of infrastructure, pursuant to the

procedure established in Articles 35 through 38 of the Proclamation, or any applicable Directive adopted by the Authority.

- 8) Notwithstanding the provisions in Sub-Articles (6) and (7) of this Article, nothing prevents a Telecommunications Operator from requesting collocation or infrastructure sharing to a Telecommunications Operator that the Authority has not determined to have SMP in a relevant market. In the event that such request is made, the parties shall seek to negotiate the commercial and technical terms and conditions of such collocation and infrastructure sharing.

21. Quality of Interconnection Services

- 1) An interconnection agreement shall include minimum standards of service levels, reflect sound international industry practices, and provide reasonable remedies for any failure to meet those service levels.
- 2) Interconnection quality, and service level, shall conform with the non-discrimination principle, to ensure that the quality and service level offered by the Requested Operator shall be comparable to the quality and service level it supplies to itself or to any other Operator.
- 3) Interconnection agreements, including a RIO, shall include a service level agreement specifying:
 - a) Service configuration and technical characteristics, such as, Points of Interconnection, routing and signaling;
 - b) Operational and maintenance conditions and associated performance measures;
 - c) Quality of service indicators; and,
 - d) Charges and penalties for non-compliance with the service level agreement.

22. Technical Specifications of Interconnection

- 1) An interconnection agreement, or a RIO, shall include, at a minimum, the following technical information:
 - a) Physical Form of Interconnection
 - i) The forms of physical interconnection offered; namely, interconnection at the Requested Operator's site, or at the site of the Requesting Operator, or between each operator's site.
 - ii) A list of locations offered for interconnection, including maps and network diagrams to enable both parties make efficient choices on the selection of the Points of Interconnection.
 - iii) All relevant technical specifications and standards for each Point of Interconnection.
 - iv) All relevant technical specifications and standards for network planning.

- v) Procedures for establishing, relocating or removing Points of Interconnection in the Requested Operator's network.
- b) Switching Network Interconnection
 - i) Rules and procedures to meet the switching capacity requirements for interconnecting traffic.
 - ii) Identify the level at which switching Points of Interconnection will take place (international gateway, city node, local exchange, etc.), or in the case of IP interconnection at what transport layer interconnection will take place.
- c) Links and Routing

Interconnection links connecting the networks of two operators shall specify (a) route capacity, (b) route dimensioning, (c) route diversity.
- d) Signaling

Interconnecting Operators shall agree on signaling standards that conform with generally accepted international industry standards
- e) Interoperability
 - i) Interconnecting Operators shall ensure end to end provision of services with industry standards level of reliability.
 - ii) Interoperability testing rules and procedures to verify network integrity and interoperability of Interconnection Services
- 2) An Interconnection Provider shall give an Interconnecting Operator sufficiently advanced notice of any expected or planned changes to the interconnection Services, and seek to minimize any adverse effect of any expected changes on the Interconnection Service it provides.

23. Numbering

Interconnecting Operators shall provide each other with information about numbers on their respective networks.

PART VIII PUBLICATION

24. Publication of Interconnection Information by the Authority

- 1) The Authority shall, from time to time, publish or ensure that there is published, adequate and up-to-date information on interconnection issues, including interconnection agreements and RIOs.
- 2) Where the Authority has determined that an Interconnection Provider holds significant market power in a relevant market for an Interconnection Service, such Interconnection Provider shall file its tariffs for those interconnection services with the Authority, and the Authority may publish such information on its website.

- 3) All operators shall provide to the Authority all specific information on interconnection as the Authority may reasonably require, and the Authority shall pay due regard to the confidentiality of commercially sensitive information of interconnecting parties, and shall use its reasonable efforts to protect the confidentiality of such information.

**PART IX
DISPUTE RESOLUTION**

25. Interconnection Dispute Resolution

- 1) A party to an interconnection agreement that considers the other party, to be in breach of an interconnection agreement, or had unfairly terminated an interconnection agreement, may request the Authority to intervene in such dispute.
- 2) Following a written request to intervene, the Authority shall respond to the requesting party, not later than thirty (30) working days after receiving such request, whether it:
 - a) Requires additional information from the parties involved before deciding whether to intervene or not;
 - b) Has decided not to intervene and provide a written response with a justification for not intervening; or,
 - c) Has decided to intervene in accordance with the procedures established in the Authority's Dispute Resolution Directive.
- 3) Under no circumstances an interconnection shall be interrupted by either party while an interconnection dispute is being resolved by the Authority, in accordance with the Dispute Resolution Directive.

**PART X
MISCELLANEOUS**

26. Amendment

The Authority may, at any time it deems it necessary, and consistent with the Proclamation, amend this Directive.

27. Effective Date

This Directive comes into force as of ____, 2020.

DONE IN ADDIS ABABA, ON _____ DAY OF _____ 2020

ENGINEER BALCHA REBA
DIRECTOR GENERAL
ETHIOPIAN COMMUNICATIONS AUTHORITY

ANNEX A

ILLUSTRATION OF CATEGORIES OF NETWORK INTERCONNECTION SERVICES

The following categories of services are offered as an illustration of the kinds of common Network interconnection services. This list does not include ancillary services; nor does it include collocation services which are generally needed to effect interconnection.

- 1) **Wholesale Fixed Call Termination Service:** Refers to a call conveyance service provided by a Telecommunications Operator that offers fixed voice service (the “Terminating Operator”) to its subscribers. The service is provided to another Telecommunications Operator, but may also include another operator located outside of Ethiopia. The Terminating Operator’s network is handed over a call that originated on another operator’s network, including calls originating outside of Ethiopia. The Terminating Operator conveys that call over its network and terminates it on the called party, which is a subscriber of the Terminating Operator.
- 2) **Wholesale Mobile Call Termination Service:** Refers to a call conveyance service provided by a Telecommunications Operator that offers mobile voice service (the “Terminating Operator”) to its subscribers. The service is provided to another Telecommunications Operator, but may include another operator located outside of Ethiopia. The Terminating Operator’s network is handed over a call that originated on another operator’s network, including calls originating outside of Ethiopia. The Terminating Operator conveys that call over its network and terminates it on the called party, which is a subscriber of the Terminating Operator.
- 3) **Short Messaging Service (SMS) Termination Service:** Is a message conveyance services provided by a Telecommunications Operator. The service is provided to another Telecommunications Operator, but may also include another operator located outside of Ethiopia. The Terminating Operator’s network is handed over a SMS that originated on another operator’s network. The Terminating Operator conveys that SMS over its network and terminates it on the receiving party, which is a subscriber of the Terminating Operator.
- 4) **Multimedia Messaging Service (MMS) Termination Service:** Is a message conveyance services provided by a Telecommunications Operator. The service is provided to another Telecommunications Operator, but may also include another operator located outside of Ethiopia. The Terminating Operator’s network is handed over a MMS that originated on another operator’s network. The Terminating Operator conveys that MMS over its network and terminates it on the receiving party, which is a subscriber of the Terminating Operator.
- 5) **Wholesale Transit Interconnection:** Refers to a call conveyance service, provided by a Telecommunications Operator whose network is not present where the call originated, and neither is the Terminating Operator. The service is provided to another Telecommunications Operator or another operator located outside of Ethiopia.
- 6) **Wholesale Fixed Call Origination Service:** Refers to a call conveyance service, provided by a Telecommunications Operator that offers fixed voice service to its subscriber (the “Originating Operator”). The Originating Operators conveys the call on its network to a point of interconnection where it hands over the call to another operator for wholesale transit or

wholesale call termination. The wholesale fixed call origination service is required to enable provision of Carrier Selection Service. This service allows subscribers physically connected to a Telecommunications Operator's network to select a different services provider for their fixed voice calls.

- 7) **Internet Transit Service:** Internet transit or IP transit services refers to a service provided by the Requested Operator (which is an Autonomous System) to a Requesting Operator (which is another Autonomous System) that ensures Internet traffic from the Requesting Operator will be able to reach the global Internet.
- 8) **Peering Service:** A service where two separate Telecommunications Operators, which each, being Separate Autonomous Systems, are able to exchange traffic between themselves and connect to the global Internet. Peering could be settlement free or paid.