



**FEDERAL REPUBLIC OF SOMALIA
NATIONAL COMMUNICATIONS AUTHORITY**

IN EXERCISE of the Authority granted in Articles 6 (8-d) and 52 (2-b) of the National Communications Law of 2017, the National Communications Authority of the Federal Republic of Somalia issues the following:

Telecommunications Quality of Service Regulations 2025

July 2026

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Preliminary Considerations

Article 1: The name of the Regulation

This regulation may be cited as the National Communications Authority Telecommunications Quality of Service Regulations, 2026.

Article 2 — Source of Authority

1. Article 2(g) of the Communications Law states that the Authority is responsible for issuing regulations for communications.
2. Article 3(1) of the Communications Law grants the Authority powers to manage all components of communications within the boundaries of Somalia.
3. Article 6(8)(d) of the Communications Law empowers the Authority to protect customers' rights, with special consideration for the quality and level of service.
4. Article 52(2)(b) of the Communications Law empowers the Authority, in the regulations it makes for the interconnection of networks, to govern the quality and level of service to be maintained across the interconnection between service providers.

Article 3 — Purpose of the Quality of Service Regulations

1. This Regulation is aimed at:
 - a) Establishing a clear and consistent framework, including minimum standards, key performance indicators, and target levels, for defining, measuring, monitoring, auditing, publishing, and enforcing the quality of service for telecommunications and ICT networks and services in the Federal Republic of Somalia;
 - b) Ensuring that end-users have accurate, comparable, and timely information on Licensees' service quality enables them to make informed decisions and allows the Authority to verify Licensees' claims.
 - c) Safeguarding and continuously enhancing the quality of service experienced by end-users across both competitive and non-competitive market segments, while encouraging fair competition and safeguarding consumer interests through transparent, objective, and non-discriminatory obligations.
 - d) Enabling the Authority to understand the state of the market condition by systematically collecting, analyzing, and comparing service quality data; and
 - e) Ensuring that interconnected networks function smoothly together to maintain end-to-end quality of service across all points of interconnection between Licensees.

Article 4 — Scope of Application

1. This Regulation shall apply to all Licensees that own or operate telecommunications networks, or that provide telecommunications and ICT services to the public, within the Federal Republic of Somalia.
2. This Regulation applies to the quality of service of, without limitation, the following services:
 - a) Voice telephony services for fixed and mobile networks.
 - b) Short message service (SMS) and messaging services;
 - c) Mobile data and mobile broadband Internet access services
 - d) Fixed broadband Internet access services; and
 - e) Any additional telecommunications or ICT services that the Authority may specify from time to time.
3. If any part of these Regulations conflicts with a license, these Regulations will take precedence. All parties governed by these Regulations must also comply with the Communications Law, other relevant laws, and any current or future regulations issued by the Authority.

Article 5 — Definitions

Words, phrases, or expressions in these Regulations carry the same meaning as in the Communications Law (where defined) and the following, unless the context indicates otherwise.

1. “Authority” means the National Communications Authority, Federal Republic of Somalia.
2. “Communications Law” means the National Communications Law, Law No. 005 of 2017.
3. “Quality of Service” or “QoS” refers to the set of characteristics of a telecommunications service that influence its capacity to meet both the explicit and implicit needs of the user, as outlined in ITU-T Recommendation E.800.
4. “Quality of Experience” or “QoE” means the degree of delight or annoyance of the user of an application or service (as defined in ITU-T Recommendation P.10/G.100).
5. “Network Performance” refers to a network or its segment's capacity to deliver communication functions, evaluated by metrics like latency, packet loss, and bit error rate.

6. “Key Performance Indicator” or “KPI” means a measurable parameter, whether technical or non-technical, used to quantify and monitor the quality of service of a network or service.
7. “Target Level” or “Target Value” means the value, or range of values, of a quality of service parameter that must be met if the quality of a service is to be regarded as satisfactory.
8. “Service Level Agreement” or “SLA” means an agreement between a service provider and a customer that specifies the level of service to be provided, including applicable quality-of-service targets and remedies for failure to meet them.
9. “Licensee” refers to an individual who holds a license granted by the Authority under the Communications Law, authorizing them to own or operate a telecommunications network or to offer telecommunications or ICT services.
10. “End-user” or “Consumer” means a natural or legal person using, or requesting, a publicly available telecommunications service.
11. “Drive Test” means a method of measuring and assessing the quality of service of a mobile network by collecting measurements from a vehicle moving through the coverage area.
12. “Crowdsourcing” means the collection of quality of service measurement data from end-user devices on a voluntary basis.

Article 6 — General Quality of Service Obligations of Licensees

1. All Licensees must deliver their services in accordance with the quality standards, key performance indicators, and target levels established by the Authority in these Regulations, including any Schedules and guidelines.
2. A Licensee shall plan, design, build, operate, upgrade, and maintain its network and services to ensure a consistent, satisfactory quality of service for all end-users at all times, including those in rural, sparsely populated areas and individuals with disabilities.
3. A Licensee shall not unfairly or unreasonably discriminate in the quality of service it provides between end-users or categories of end-users, except on the basis of objectively justifiable, transparent, and non-discriminatory criteria, such as distinct service offerings or service level agreements, that are disclosed to the end-user as required by the authority.

4. A Licensee shall remain fully responsible for the quality of the service provided to its end-users, even if the service is delivered partly or entirely through the network, facilities, or services of another licensee or third party, such as in wholesale, national roaming, infrastructure-sharing, or outsourcing agreements.
5. A Licensee shall not intentionally reduce, limit, slow down, or interfere with the quality of its services or the traffic exchanged with other licensees at interconnection points. This includes actions aimed at encouraging end-users to switch to different services or tariff plans, unless these are reasonable, proportionate, transparent, and non-discriminatory network management measures.
6. A Licensee shall maintain the quality of service at points of interconnection with other licensees so that calls and data traffic from or to other networks are not treated less favorably than equivalent traffic within its own network.
7. A Licensee shall give priority to communications with emergency services and take all reasonable and feasible actions to ensure its services remain available and of good quality during catastrophic network failures, natural disasters, or national emergencies.
8. A Licensee is responsible for covering its own expenses related to measuring, recording, reporting, publishing, and other compliance activities with these Regulations.

Article 7 — Quality of Service Parameters and Key Performance Indicators

1. The Authority shall define the quality of service parameters and key performance indicators for each service outlined in these Regulations, differentiating between technical and non-technical metrics. These parameters shall be based on relevant ITU-T Recommendations and ETSI standards and shall reflect the aspects of service quality with the greatest impact on end-users.
2. The key performance indicators, along with their precise definitions, units, and measurement formulas, are set forth in Annex A to these Regulations.
3. The Authority may, after consulting Licensees and other stakeholders, introduce, amend, or remove any key performance indicator in Annex A by a decision published on its website. Any such change shall take effect on the date specified in the decision and shall provide Licensees with a reasonable transition period of at least ninety (90) days.

Article 8 — Minimum Quality of Service Standards and Target Levels

1. The Authority shall set a minimum target levels for each key performance indicator, which could differ based on service type, technology, and geographic location, including distinctions between urban and rural regions. These target levels shall be guided by relevant ITU-T Recommendations, international benchmarks, measurement outcomes, and consultation with Licensees and other stakeholders.
2. The applicable target levels are set forth in Annex B to these Regulations and shall be published on the Authority's website. The Authority may introduce, amend, or remove any target level in accordance with the procedure in Article 7(3).
3. Every Licensee shall meet or exceed each applicable target level in every measurement period and in every geographic reporting unit, as assessed under the measurement methodologies set forth in Article 9 and Annex A.
4. A failure to meet a target level shall not constitute a contravention of these Regulations if the Licensee demonstrates that the failure was caused by force majeure or other events beyond its reasonable control, provided that the event was notified and reported in accordance with Article 15 and that the Licensee took all reasonable measures to promptly restore service.

Article 9 — Measurement Methodologies and Tools

1. Quality of service shall be assessed using methods aligned with international best practices and the relevant ITU-T Recommendations, including drive testing, measurement probes, network counters, end-user surveys, and crowdsourcing. The applicable measurement method, conditions, sample requirements, and measurement period for each key performance indicator shall be as prescribed in Annex A or as decided by the Authority. Any collection of measurement data from end-user devices shall comply with the Data Protection Law of 2023.
2. The Authority shall conduct all measurements using the same methodology, equipment, times, routes, and areas as those applied to all Licensees providing comparable services.
3. A Licensee shall retain all raw measurement data and supporting records for at least twelve (12) months from the end of the reporting period to which they relate, and shall make them available to the Authority, in the format the Authority specifies, upon request.

Article 10: Monitoring and Network Performance Monitoring

1. The Authority shall continuously monitor the quality of service and network performance of Licensees, using Licensee reports submitted under Article 16, measurements conducted under Article 9, incident notifications under Article 15, and analysis of consumer complaints.
2. A Licensee shall provide the Authority with such access to its network counters, key performance indicator data, and monitoring systems as is reasonably required for monitoring, and shall, upon reasonable notice, grant the Authority access to its premises, network elements, and systems, including for the installation and operation of measurement probes at such points as the Authority may reasonably determine.
3. Commercially sensitive information obtained by the Authority under this Article shall be treated as confidential and used solely for the purposes of these Regulations, without prejudice to the publication of quality-of-service results under Article 13.

Article 11 — Auditing and Verification of Quality of Service

1. The Authority may, at any time and without prior notice, audit and verify the quality of service provided by a Licensee and experienced by end-users. It can compare these results with the relevant target levels, these Regulations, and the Licensee's license obligations.
2. Audits shall be carried out by the Authority and may use any measurement methods outlined in Article 9, conduct consumer satisfaction surveys, review data and records provided by or kept by Licensees, and perform inspections as described in Article 10(2).
3. A Licensee shall fully cooperate in good faith with any audit and provide any information, data, records, or technical assistance requested by the Authority or its appointed auditor within the period specified in the request. No Licensee shall obstruct, delay, or interfere with an audit.
4. Where there is a material discrepancy between the results reported by a Licensee and the results of an audit, the audit results shall prevail unless the Licensee demonstrates, to the satisfaction of the Authority, a verifiable error in the audit measurement.
5. The costs of an audit shall be borne by the Authority, except that if an audit establishes material non-compliance with these Regulations or materially inaccurate reporting by

the Licensee, the Authority may recover the reasonable costs of the audit from that Licensee.

Article 12 — Service Level Agreements and Service Level Guarantees

1. A Licensee shall offer its customers service-level guarantees that, in clear and comprehensible terms, specify the quality of service the customer can expect, including the applicable key performance indicators, target values, the method by which performance is assessed, and the remedies for failure.
2. No service-level agreement or guarantee shall provide for service quality below the minimum target levels set out in Annex B. Any term purporting to do so shall be void, and the applicable minimum target level shall apply in its place.
3. A Licensee shall include service-level agreements, in line with ITU-T Recommendation E.860, into its interconnection and wholesale contracts with other Licensees. These agreements should specify the quality of service expected at points of interconnection and outline remedies for any failures. Such agreements shall be accessible to the Authority upon request.
4. Where a Licensee does not meet a guaranteed service level, it shall provide the affected customer the remedy or compensation outlined in the agreement, within the specified timeframe, without the customer needing to prove loss. This remedy or compensation does not affect any other legal rights of the customer or any sanctions under Article 17.

Article 13 — Publication and Transparency of Quality of Service Information

[Drafting note: Require publication of QoS results to inform consumers and enable comparison between operators – on the Authority’s website and by Licensees to their subscribers. Specify format, frequency and comparability.]

1. The Authority shall publish the results of quality of service measurements and audits on its website at least quarterly, by Licensee, service, and geographic area, in a way that allows easy comparison between Licensees. This publication shall be fair and consistent for all Licensees, regardless of their market power.
2. A Licensee shall publish its service quality performance relative to the target levels on its website and regularly inform subscribers of this performance, following the format, frequency, and method specified by the Authority.

3. A Licensee shall inform end-users about the expected quality of service, including any significant coverage or quality limitations in their area, both in subscriber contracts and shall not advertise or claim levels of quality that they cannot reasonably provide.
4. Prior to publication under clause 13(1), the Authority shall provide the Licensee with a reasonable opportunity to comment on the accuracy of the results. An objection that the Authority does not accept does not justify any delay in publication.

Article 14 — Consumer Protection and Complaint Management

1. A Licensee shall establish and operate a transparent procedure, free of charge and easily accessible to all end-users including persons with disabilities, for receiving, handling, and resolving consumer complaints relating to quality of service. The Licensee shall acknowledge each complaint within two (2) working days, resolve it within five (5) working days, and inform the complainant of the outcome.
2. A Licensee shall keep records of all quality of service complaints, including their subject, location, and resolution, for not less than twelve (12) months, and shall include complaint statistics in its periodic reports under Article 16.
3. A complainant who is dissatisfied with the Licensee's resolution, or whose complaint is not resolved within the period in paragraph 1, may refer the complaint to the Authority, which shall handle it in accordance with Article 18 or such complaint procedures as the Authority may establish.
4. The Authority may conduct or commission consumer satisfaction surveys, the results of which may be used for monitoring under Article 10 and for publication under Article 13, and may require Licensees to provide information and undertake measures to support consumer awareness of service quality.

Article 15 — Incident, Fault and Outage Notification

1. A Licensee shall notify the Authority of any unplanned outage, major fault or security breach affecting the quality of service within two (2) hours of its occurrence, followed by a detailed report within five (5) working days, including the cause, impact, and corrective measures taken. A major outage means any incident that:
 - (a) lasts thirty (30) minutes or more and affects the lesser of ten thousand (10,000) end-users or five per cent (5%) of the Licensee's end-users in any region;

- (b) lasts thirty (30) minutes or more and results in the unplanned outage or complete isolation of the lesser of twenty (20) network sites or five per cent (5%) of the Licensee's total network sites; or
 - (c) regardless of duration or scale, affects communications with emergency services, an international gateway, or a point of interconnection with another Licensee, or results in the complete loss of any service in an entire district or region.
- 2. A Licensee shall notify the Authority at least seven (7) working days in advance of any planned activity expected to cause a service disruption exceeding fifteen (15) minutes.

Article 16 — Reporting

1. Each Licensee shall report quality of service reports to the Authority quarterly, within 15 days after each quarter's end, or according to other intervals and formats the Authority approves. The Authority shall publish the reporting forms and deadlines on its website and may modify the reporting requirements when necessary.
2. Periodic reports shall include, at a minimum:
 - (a) measured values of each applicable key performance indicator, by service and, where relevant, by geographic reporting unit;
 - (b) the Licensee's level of compliance with the applicable target levels;
 - (c) quality of service incidents, outages, and faults during the reporting period, including those below the notification threshold in Article 15(1), and the corrective measures taken;
 - (d) Complaint statistics in accordance with Article 14(2); and
 - (e) such other information as the Authority may require.
3. Every report submitted under this Article shall be certified by a duly authorized senior officer of the Licensee as complete and accurate.
4. The Authority may, by written notice, require a Licensee to submit additional or more frequent reports, or reports on specific services or areas, where it has reason to believe that the quality of service is, or risks becoming, unsatisfactory.

Article 17 — Compliance, Monitoring and Enforcement

1. The Authority shall enforce the Communications Law, these Regulations, and the terms of any relevant license through graduated and proportionate measures, including written warnings, compliance orders, fines, compensation orders, and any other sanction available under the Communications Law.
2. Without limitation, the Authority may impose sanctions for:
 - (a) failure to meet the applicable target levels;
 - (b) failure to perform measurement, reporting, record-keeping, or incident notification as required by these Regulations;
 - (c) failure to provide the compensation or remedies required by Articles 12 and 15;
 - (d) submission or publication of false or misleading quality of service information; and
 - (e) obstructing an audit, investigation, or monitoring activity of the Authority.
3. A contravention shall be subject to a fine of USD 20,000 for contraventions under paragraph 2(d) or 2(e), repeated contraventions within twelve (12) months, or failure to comply with a compliance order. Each reporting period in which a contravention continues constitutes a separate contravention.
4. Before imposing a fine or other sanction, the Authority shall notify the Licensee in writing and allow it fourteen (14) days to respond. Payment of a fine does not relieve the Licensee of the duty to remedy the contravention.
5. For serious or persistent contraventions, the Authority may suspend or withdraw the license under Article 48 of the Communications Law.
6. All persons subject to these Regulations shall comply with any request for information made by the Authority.

Article 18 — Dispute Resolution

1. In the event of a dispute over service quality between a Licensee and end-users or between Licensees, any party can seek resolution from the Authority. However, an end-user must first complete the Licensee's complaint process as outlined in Article 14.
2. The parties shall submit their positions and proposed resolutions within thirty (30) days of the petition's filing. The Authority may seek to resolve the dispute through

mediation or a technical committee appointed under the Communications Law before issuing a determination.

3. The Authority shall issue a written, reasoned Decision within ninety (90) days after the parties submit their cases. This Decision will be binding on all involved parties, though it can be appealed under the Communications Law. Until the appeal is decided, the Decision stays in effect unless the Authority or a competent court.
4. Disputes between Licensees regarding service quality at interconnection shall be resolved following the interconnection rules of the Communications Law, using the quality of service obligations outlined in these Regulations.

Article 19 — Review of the Regulations

1. The Authority shall review these Regulations, including quality of service metrics, key performance indicators, and target levels in Annexes A and B, at least every three years, to ensure they remain appropriate in light of technological advancements, market trends, measurement outcomes, and international best practices.
2. Each review shall include consultation with Licensees and other stakeholders, with the Authority then publishing the review results on its website. Nothing in this Article limits the Authority's authority to amend Annex A or Annex B between reviews, as per Article 7(3).

Article 20 — Entry into Force

These Regulations shall enter into force upon publication on the Authority's website.

Annex A: Quality of Service Parameters and Key Performance Indicators

Part 1 — General Provisions

1. This Annex prescribes, pursuant to Articles 7 and 9 of these Regulations, the key performance indicators, including their definitions, units, measurement formulas, and methods. The target levels are specified in Annex B.
2. The KPI definitions in this Annex are based on ITU-T Recommendations E.802, E.804, E.804.1, E.806, P.863, and Y.1540, as well as ETSI EG 202 057. If a detail is not specified in this Annex, the applicable Recommendation should be consulted.
3. Measurement methods (per Article 9): NC = network counters / OSS statistics provided by the Licensee; FT = field testing (drive test or stationary probes) following ITU-T E.806 standards, carried out by the Authority; OR = operator records (service orders, fault dockets, billing, and call-center systems); CS = consumer survey.
4. Measurement period: one calendar quarter, unless the Authority specifies a different timeframe. Reporting units are each region, reported separately for urban and rural areas when instructed by the Authority. Busy-hour values should be identified for congestion-sensitive KPIs.
5. All ratios are expressed as percentages and calculated based on the total number of events during the measurement period and within the reporting unit. Field-test campaigns must use the same routes, times, equipment, and settings for all Licensees offering comparable services (Article 9(2)).

Part 2 — Network and Service (Technical) KPIs

Section A — Network Availability and Coverage

ID	Key Performance Indicator	Definition	Measurement Formula / Unit	Method
A1	Network availability	Percentage of time the radio network is available to offer service (ITU-T E.804 “radio network unavailability”, inverted).	$100 - (\text{cumulative cell downtime} \div (\text{total cells} \times \text{period hours})) \times 100$; per cent (%)	NC
A2	Cell/site downtime	Cumulative duration a cell or site is out of service during the measurement period.	Time restored – time of fault, summed per site; hours	NC
A3	Coverage (signal strength)	Received signal level in the coverage area, measured per technology (2G/3G/4G/5G), reported for outdoor, in-vehicle and indoor conditions.	Field-strength measurement; dBm	FT

Section B — Mobile Voice Telephony

ID	Key Performance Indicator	Definition	Measurement Formula / Unit	Method
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B1	Call setup success rate (CSSR)	Ratio of successful call attempts to all call attempts (ITU-T E.804 7.3.6.1, “telephony service non-accessibility”, inverted, per ITU-T E.804.1).	$(\text{Successful call attempts} \div \text{total call attempts}) \times 100; \%$	FT
B2	Dropped call rate (DCR)	Probability that a successfully established call is ended by a cause other than the intentional termination by either party (ITU-T E.804 7.3.6.5, “cut-off call ratio”).	$(\text{Dropped calls} \div \text{successfully established calls}) \times 100; \%$	FT
B3	Call setup time	Time from sending of complete address information to receipt of call set-up notification (ITU-T E.804 7.3.6.2).	Mean and 95th percentile; seconds	FT
B4	Speech quality	End-to-end speech quality on a call basis, scored per ITU-T P.863 (POLQA) on the MOS scale (ITU-T E.804 7.3.6.3; E.804.1 7.2.1).	Mean MOS-LQO per reporting unit; MOS (1–5)	FT

Section C — SMS

ID	Key Performance Indicator	Definition	Measurement Formula / Unit	Method
C1	SMS delivery success ratio	Ratio of SMS delivered to the recipient to SMS sent (ITU-T E.804 7.4.4.4, “completion failure ratio”, inverted).	$(\text{SMS delivered} \div \text{SMS sent}) \times 100; \%$	FT
C2	SMS end-to-end delivery time	Time from sending an SMS to its receipt by the recipient (ITU-T E.804 7.4.4.5).	Mean and 95th percentile; seconds	FT

Section D — Mobile Data / Mobile Broadband

ID	Key Performance Indicator	Definition	Measurement Formula / Unit	Method
D1	Data service access success rate	Ratio of successful data session establishments (attach and PDP/PDN/PDU session activation) to attempts (ITU-T E.804 7.3.3–7.3.5).	$(\text{Successful sessions} \div \text{attempts}) \times 100; \%$	FT
D2	Data session drop rate	Ratio of data sessions ended by a cause other than intentional termination (ITU-T E.804 cut-off ratios).	$(\text{Dropped sessions} \div \text{established sessions}) \times 100; \%$	FT
D3	Download throughput	Mean user data rate, downlink, HTTP transfer (ITU-T E.804 7.3.8.7; E.804.1).	Mean and 10th percentile; Mbit/s	FT
D4	Upload throughput	Mean user data rate, uplink (ITU-T E.804 7.3.8.7; E.804.1).	Mean and 10th percentile; Mbit/s	FT
D5	Latency (round-trip)	IP packet transfer delay, round trip, to a national reference measurement point (ITU-T Y.1540, IPTD).	Mean; milliseconds	FT
D6	Packet loss ratio	Ratio of lost IP packets to transmitted IP packets (ITU-T Y.1540, IPLR).	$(\text{Lost packets} \div \text{transmitted packets}) \times 100; \%$	FT
D7	Jitter	IP packet delay variation (ITU-T Y.1540, IPDV).	Mean; milliseconds	FT
D8	HTTP session failure ratio	Ratio of web-browsing sessions not completed successfully	$(\text{Failed sessions} \div \text{session attempts}) \times 100; \%$	FT

Section E — Fixed Broadband Internet Access

ID	Key Performance Indicator	Definition	Measurement Formula / Unit	Method
E1	Service availability	Percentage of time the fixed access service is usable during the measurement period.	$100 - (\text{outage time} \div \text{period time}) \times 100$; %	FT
E2	Achieved vs. advertised speed	Ratio of measured download/upload speed to the advertised speed of the subscribed plan	$(\text{Measured speed} \div \text{advertised speed}) \times 100$; %	FT
E3	Latency / packet loss / jitter	As D5–D7, measured on the fixed access service.	ms / % / ms	FT

Section F — Interconnection

ID	Key Performance Indicator	Definition	Measurement Formula / Unit	Method
F1	Interconnection route utilization	Carried traffic on a route to another network relative to route capacity, at busy hour	$(\text{Carried traffic} \div \text{route capacity}) \times 100$; %	NC
F2	Interconnection answer seizure ratio	Ratio of answered calls to seizure attempts on interconnection routes.	$(\text{Answered calls} \div \text{seizure attempts}) \times 100$; %	NC
F3	Time to repair interconnection route	Time from fault notification to full restoration of the interconnection route (Ghana NCA 2016 model).	Restoration time – notification time; hours	OR

Part 3 — Non-Technical (Customer-Facing) KPIs

ID	Key Performance Indicator	Definition	Measurement Formula / Unit	Method
G1	Service activation time	Time from accepted (and, where applicable, paid) service request to working service (ITU-T E.802, supply time).	% of orders activated within the Annex B period; days	OR
G2	Fault report rate	Faults reported per 100 subscribers per measurement period.	$(\text{Fault reports} \div \text{subscribers}) \times 100$; faults/100 subscribers	OR
G3	Fault repair time	Time from fault report to restoration of service (ITU-T E.802; Ghana TTR model).	% repaired within the Annex B period; hours	OR
G4	Billing accuracy / billing complaint rate	Ratio of bills or charging events disputed and upheld as erroneous (ITU-T E.802, charging and billing parameters).	$(\text{Valid billing complaints} \div \text{bills issued}) \times 100$; %	OR
G5	Call centre response time	Waiting time from selection of the operator option (after IVR) to answer by a human agent (Ghana model; ITU-T E.802, complaint management accessibility).	% answered within the Annex B time; seconds	OR + FT
G6	Complaint resolution time	Time from receipt of a complaint under Article 14 to resolution notified to the complainant.	% resolved within the Article 14(1) timelines; days	OR

G7	Customer satisfaction index	Proportion of surveyed customers rating overall service quality as good or better (Ghana model; ITU-T E.802).	$(\text{Satisfied respondents} \div \text{total respondents}) \times 100; \%$	CS
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Part 4 — Amendment

The key performance indicators in this Annex may be introduced, amended, or removed in accordance with the procedure set out in Article 7(3) of these Regulations.

DRAFT

Annex B: Minimum Quality of Service Standards and Target Levels

Part 1 — General Provisions

- This Annex details, as per Article 8 of these Regulations, the minimum target levels for each key performance indicator listed in Annex A. Compliance is evaluated for each measurement period and geographic reporting unit, in accordance with Article 8(3) and the measurement methods specified in Annex A.
- If a target differentiates between urban and rural areas, the Authority will publish the classification on its website. If no such distinction is specified, the target applies equally across all areas.
- The target levels in this Annex are initial targets, set with regard to the benchmarks provided and the current state of networks in the Federal Republic of Somalia. The Authority will review these targets as outlined in Article 19 and may gradually tighten them, following the process described in Article 7(3), as measurement results become available.

Part 2 — Network and Service (Technical) Target Levels

Section A — Network Availability and Coverage

ID	Key Performance Indicator	Minimum Target Level
A1	Network availability	$\geq 99.0\%$ per region per quarter (urban); $\geq 98.0\%$ (rural)
A2	Cell/site downtime	No single site outage > 24 hours; cumulative ≤ 48 hours per site per quarter
A3	Coverage (signal strength)	In declared coverage areas, $\geq 95\%$ of samples at: 2G ≥ -92 dBm; 3G RSCP ≥ -95 dBm; 4G RSRP ≥ -105 dBm (outdoor)

Section B — Mobile Voice Telephony

ID	Key Performance Indicator	Minimum Target Level
B1	Call setup success rate (CSSR)	$\geq 95\%$
B2	Dropped call rate (DCR)	$\leq 2\%$
B3	Call setup time	≤ 10 seconds for 95% of calls; mean ≤ 8 seconds
B4	Speech quality	Mean MOS-LQO ≥ 3.0 per reporting unit

Section C — SMS

ID	Key Performance Indicator	Minimum Target Level
C1	SMS delivery success ratio	$\geq 95\%$
C2	SMS end-to-end delivery time	≤ 30 seconds for 95% of SMS

Section D — Mobile Data / Mobile Broadband

ID	Key Performance Indicator	Minimum Target Level
D1	Data service access success rate	$\geq 95\%$
D2	Data session drop rate	$\leq 3\%$
D3	Download throughput	4G: mean ≥ 5 Mbit/s (urban), ≥ 2 Mbit/s (rural); 3G: mean ≥ 1 Mbit/s; 10th percentile ≥ 1 Mbit/s (4G)
D4	Upload throughput	4G: mean ≥ 1 Mbit/s
D5	Latency (round-trip)	Mean ≤ 100 ms to the national reference point
D6	Packet loss ratio	$\leq 3\%$
D7	Jitter	Mean ≤ 40 ms
D8	HTTP session failure ratio	$\leq 5\%$

Section E — Fixed Broadband Internet Access

ID	Key Performance Indicator	Minimum Target Level
E1	Service availability	$\geq 99.0\%$ per quarter
E2	Achieved vs. advertised speed	Measured speed $\geq 70\%$ of advertised speed, download and upload, for 95% of measurements
E3	Latency / packet loss / jitter (fixed)	Mean latency ≤ 50 ms (national); packet loss $\leq 1\%$; jitter ≤ 30 ms

Section F — Interconnection

ID	Key Performance Indicator	Minimum Target Level
F1	Interconnection route utilization	$\leq 85\%$ at busy hour; capacity augmentation required where exceeded in two consecutive quarters
F2	Interconnection answer seizure ratio	$\geq 50\%$
F3	Time to repair interconnection route	90% within 4 hours; 100% within 24 hours

Part 3 — Non Technical (Customer Facing) Target Levels

ID	Key Performance Indicator	Minimum Target Level
G1	Service activation time	Mobile: 95% of activations within 24 hours of accepted request. Fixed broadband: 90% within 7 working days
G2	Fault report rate	≤ 5 faults per 100 subscribers per quarter
G3	Fault repair time	85% within 24 hours; 100% within 7 days
G4	Billing accuracy / billing complaint rate	≤ 0.5% of bills issued; 100% of valid billing complaints resolved within 30 days
G5	Call centre response time	80% of calls answered by a human agent within 60 seconds
G6	Complaint resolution time	95% of complaints acknowledged and resolved within the Article 14(1) timelines
G7	Customer satisfaction index	≥ 80% of surveyed customers rating service as good or better

Part 4 — Amendment

The target levels in this Annex may be introduced, amended, or removed in accordance with the procedure set out in Article 7(3) of these Regulations.