



GOVERNMENT GAZETTE

OF THE

REPUBLIC OF NAMIBIA

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General Notice

COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

No. 625

2024

NOTICE OF INTENTION TO MAKE REGULATIONS PRESCRIBING QUALITY OF SERVICE STANDARDS APPLICABLE TO SERVICE LICENCEES: COMMUNICATIONS ACT, 2009

The Communications Regulatory Authority of Namibia in terms of regulation 4(3) of the Regulations regarding Rule-Making Procedures published under General Notice No. 334 of 17 December 2010 publishes this notice of intention to make Regulations Prescribing Quality of Service Standards Applicable to Service Licensees which contains the following –

- (a) a concise statement of the purpose for the proposed Regulations set out in Schedule 1; and
- (b) a draft of the proposed Regulations as set out in Schedule 2.

Members of the public are invited to make written submissions to the Authority no later than 30 calendar days from the date of publication of this notice in the *Gazette* in the manner set out below.

All written submissions must –

- (a) contain the name and full contact details (physical and postal address, email address and telephone or cell phone number) of the person making the written submissions and the name and similar contact details of the person for whom the written submission is made if different; and
- (b) be clear and concise.

In the event that a person making a written submission wishes to designate any information contained therein as confidential, the submission must be clearly marked as “CONFIDENTIAL”.

Where the Authority is of the opinion that information is not confidential it must inform the person making the written submission thereof and may -

- (a) allow the person to withdraw the information from the rule-making proceedings;
- (b) agree with the person that the submission will not be treated as confidential information; or
- (c) request a hearing on the issue of confidentiality to be conducted in accordance with section 28 of the Communications Act, 2009.

In terms of regulation 7 of the Regulations regarding Rule-Making Procedures the Authority herewith gives notice that it will hold a hearing regarding the proposed regulations as follow:

DATE: TBA
TIME: TBA
VENUE: TBA

The public is invited to make comments or oral submissions at the hearing. Notice of oral submissions to be made during the hearing must be submitted to the Authority on or before _____ (hereafter the “due date”).

All written submissions and notice of oral submissions must be sent or submitted to be received by the Authority on or prior to the due date either –

- (a) by hand to the head office of CRAN, Freedom Plaza, Courtside Building (3rd and 4th Floor), c/o Fidel Castro and Rev. Micheal Scott Streets, Windhoek;
- (b) by post to the head office of the Authority, namely Private Bag 13309, Windhoek, 9000; or
- (c) by electronic mail to legal@cran.na.

DR. T. MUFETI
CHAIRPERSON OF THE BOARD
COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

SCHEDULE 1

CONCISE STATEMENT OF PURPOSE

1. The Regulations set out the quality-of-service standards that are applicable to Individual (Comprehensive telecommunications service licences (ECNS and ECS)), Class ECS, ECNS, Class Comprehensive telecommunications (ECNS and ECS), Class Comprehensive Multiplex and Signal Distribution, Multiplex and Signal Distribution Licences. These standards are specified in the Annexures attached to the Regulations.

2. The Regulations are intended to –
 - (a) implement a quality-of-service framework, which allows the quality of service delivered by licensees to be measured, reported and published based on defined quality-of-service parameters and measurement methodologies stipulated in these Regulations;
 - (b) establish minimum mandatory performance requirements for licensees, and the methodology for measuring those minimum performance requirements in line with stated quality-of-service parameters;
 - (c) improve the quality of services offered by licensees by specifying regulatory interventions to identify service deficiencies and by encouraging, enforcing, effecting, or requiring appropriate changes and solutions;
 - (d) create conditions of consumer satisfaction by prescribing the quality of service which a licensee is required to provide and which the user has the right to expect;
 - (e) promote fairness and safeguard the interest of consumers of electronic communications services; and
 - (f) prescribe penalties for non-compliance with quality of service standards.

SCHEDULE 2

PROPOSED REGULATIONS PRESCRIBING QUALITY OF SERVICE STANDARDS APPLICABLE TO SERVICE LICENCEES: COMMUNICATIONS ACT, 2009

The Communications Regulatory Authority of Namibia has under section 37(5)(e) read with section 129(1)(e) of the Communications Act, 2009 (Act No. 8 of 2009) –

- (a) made the Regulations set out in the Schedule; and
- (b) repealed the Regulations Prescribing Quality of Service Standards Applicable to Service Licensees published under General Notice No. 152 of 21 April 2015.

DR. T. MUFETI
CHAIRPERSON OF THE BOARD
COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

SCHEDULE

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PART 1 INTRODUCTORY PROVISIONS

Definitions

1. In these Regulations, any word or expression to which a meaning is assigned in the Act has that meaning, and unless the context otherwise indicated –

“consumer” means any person who uses telecommunication services of a licensee and includes, where applicable a potential customer of a such licensee;

“data portal” means the electronic interface found on the landing page of the official website of the Authority by means of which a licensee is required to submit reports and other information required by the Authority;

“drive test” means a method of measuring and assessing the coverage, capacity and quality of service of a mobile radio network while the person conducting the test is being conveyed in a vehicle or in mobile motion;

“ETSI” means the European Telecommunications Standards Institute;

“ETSI EG” means a Guide issued by The European Telecommunications Standards Institute;

“force majeure” means any unforeseeable event or effect outside a licensee’s control, which renders

the performance of one or more of that licensee's obligations under these Regulations impossible including, without limitation, acts of nature such as an earthquake, flood, lightning, storm, heat wave, epidemic or pandemic, and acts of people such as an act, law, decision or requirement of any governmental authority, riot, strike, lockouts or other industrial disturbances, civil disorder, declared state of emergency, terrorist actions, and war or any similar act;

“geographic area” includes any of the following: the entire country, a region, constituency, district, city, town or village;

“key performance indicator” means a measurable value that demonstrates how effectively a licensee is achieving quality-of-service objectives;

“licensee” means a service provider to whom the Authority issued a service license referred to in regulation 3;

“mobile test probe” refers to a specialised device or tool used to measure and monitor the performance and quality of mobile networks in real time and deployed to collect data on various quality-of-service as set out in Schedules 1 to Schedule 5; and

“the Act” means the Communications Act, 2009 (Act No.8 of 2009).

“quality of service” in relation to a –

- (a) telecommunications service, means the totality of characteristics of such telecommunications service that bear on its ability to satisfy stated and implied needs of consumers; and
- (b) telecommunications network, means the main indicator of the performance of such telecommunication network and of the degree to which the network conforms to the standards of such quality of service as specified in these Regulations for specified quality-of-service parameters;

“quality-of-service data” means all data accumulated by a licensee or the Authority pertaining to the measurement of quality-of-service standards; and

“quality-of-service parameters” means a measurable indicate used to characterise the level of a certain aspect of a service being offered.

Objects of Regulations

2. The objects of these Regulations are to –

- (a) implement a quality-of-service framework, which allows the quality of service delivered by licensees to be measured, reported and published based on specified quality-of-service parameters and measurement methodologies stipulated in these Regulations;
- (b) establish minimum mandatory performance requirements for licensees, and the methodology for measuring those minimum performance requirements in line with the specified quality-of-service parameters and key quality-of-service performance indicators;
- (c) improve the quality of services offered by licensees by specifying regulatory interventions to identify service deficiencies and by encouraging, enforcing, effecting, or requiring appropriate changes and solutions;

- (d) create conditions of consumer satisfaction by prescribing the quality-of-service objectives which a licensee is required to meet and which a consumer has the right to expect;
- (e) promote fairness and safeguard the interest of consumers of electronic communications services; and
- (f) prescribe penalties for non-compliance with quality-of-service standards.

Application of Regulations

3. These Regulations are applicable to the following licence categories prescribed by regulation 5(1) of the Regulations setting out Broadcasting and Telecommunications Service Licence Categories, published under General Notice No. 124 of 18 May 2011 as amended by regulation 3 of the Amendment of Regulations setting out Broadcasting and Telecommunications Service Licence Categories, published under General Notice No. 387 of 12 August 2015 –

- (a) Individual (Comprehensive telecommunications service licence, ECNS or ECS); and
- (b) Class –
 - (i) ECS;
 - (ii) ECNS;
 - (iii) Comprehensive telecommunications service licence (ECNS and ECS).

Submission of documents to Authority

4. In these Regulations, when persons are permitted or called upon to submit information to the Authority in writing, they may do so either physically or electronically –

- (a) by hand to the head office of CRAN, Freedom Plaza, Courtside Building (3rd and 4th Floor), c/o Fidel Castro and Rev. Micheal Scott Streets, Windhoek;
- (b) by post to the head office of the Authority, namely Private Bag 13309, Windhoek 9000;
- (c) by electronic mail to QOS@cran.na;
- (d) on the Authority's data portal as found on its website; or
- (e) in any other manner or at alternative addresses set out by the Authority from time to time.

PART 2 QUALITY OF SERVICE STANDARDS

Quality-of-service performance indicators and quality-of-service parameters

- 5.** (1) The key quality-of-service performance indicators and quality-of-service parameters –
- (a) for Non-Technical Key Quality-of-Service Performance Indicators and Quality-of-Service Parameters are set out in Schedule 1;

- (b) for Technical Key Quality-of-Service Performance Indicators and Quality-of-Service Parameters are set out in Schedule 2;
- (c) for Voice Measurement Quality-of-Service Parameters are set out in Schedule 3;
- (d) for Data Measurement Quality-of-Service Parameters are set out in Schedule 4; and
- (e) for Customer Satisfaction Attributes are set out in Schedule 5.

(2) Nothing in these Regulations exempts a licensee that is required to provide any universal service from complying with the established quality-of-service criteria and quality-of-service parameters as set out in subregulation (1).

Geographic scope

6. (1) Subject to subregulation (2), a licensee must report the quality-of-service measurements contained in these Regulations to the Authority in accordance with the geographical area specified in the licence concerned, unless otherwise stated in any of the Schedules.

(2) The Authority may direct a licensee to take and report quality-of-service measurements in one or more geographic areas.

PART 3 LICENSEE OBLIGATIONS

Duty to customers

7. A licensee must –
- (a) establish and maintain information or data to assist customers with queries relating to the services offered, installation and access requirements, processes, and customer support facilities;
 - (b) provide customers with equal access to services within the applicable geographic area at the same quality of service and at the same tariff;
 - (c) notify all its customers of the terms and conditions of the contract referred to in section 79(3) and (4) of the Act and thereafter provide services based upon the contract;
 - (d) submit to the Authority samples of the contract referred to in paragraph (c) which must contain the minimum quality-of-service standards customers are entitled to, and the remedies and compensation available when the quality of service is below such standards; and
 - (e) notify each customer in writing of any modification to an existing contract.

Performance obligations

8. (1) Every licensee must establish quality-of-service measurement systems consistent with these Regulations.

(2) Each licensee must deliver services at a performance level that meets or exceeds the quality-of-service parameters stipulated in these Regulations.

Obligations relating to service interruption or degradation

9. (1) Subject to subregulation (2), a licensee must not in the normal course of business intentionally interrupt or hinder the operation of its services unless a force majeure event makes the rendering of its services impossible.

(2) Notwithstanding subregulation (1), a licensee must report to the Authority all interruptions or degradations affecting its services in the form set out in the Annexure.

(3) The report referred to in subregulation (2) must be made in the case of –

- (a) scheduled maintenance, at least 48 hours before the outage;
- (b) unplanned service interruptions or degradations, within 12 hours after such interruption or degradation.

(4) A licensee must give its customers notice at least two days in advance of any planned service interruption or degradation, by publishing a notice by text message, email, other online application or print media.

(5) Where an unplanned service interruption or degradation occurs which may extend beyond 12 hours, the affected licensee must notify –

- (a) the Authority within 12 hours at the email address: QOS@cran.na;
- (b) its customers via social media platforms, SMS, local radio stations, television or other appropriate means.

(6) The notification referred to in subregulation (5) must include the following information:

- (a) The services affected by the service interruption or degradation;
- (b) the expected duration of the service interruption or degradation;
- (c) the geographic areas affected;
- (d) network elements and nodes affected;
- (e) percentage of traffic affected by the service interruption or degradation;
- (f) the reasons for the service interruption or degradation; and
- (g) the possible effects of the service interruption or degradation on the affected customers.

(7) A licensee must within 10 days of an unplanned service interruption or degradation occurring submit a report to the Authority setting out –

- (a) a qualitative description of the service interruption or degradation, including the initial causes thereof, affected network elements and nodes, affected transmission links and consequences for voice, data and internet traffic;
- (b) a quantitative evaluation of the number of affected end users, network elements and nodes, transmission links and each telecommunication service or retail product sold by the licensee;

- (c) the duration of the service interruption or degradation and whether it's continuing; and
- (d) a description of the long-term action plans the licensee will implement to improve network resilience to prevent a repeat of the service interruption or degradation.

Reporting obligations

10. (1) For each reporting period described in subregulation (4), every licensee must prepare a quality-of-service compliance report that includes, as a minimum the following:

- (a) name and type of service;
- (b) geographic scope;
- (c) reporting results (e.g., values of the quality-of-service parameters in the reporting period);
- (d) history of previous results with comparison in time to follow the quality-of-service progression including a clear statement of improvements made;
- (e) details on the methodology, such as the source of network measurements; and
- (f) details on the calculation of the quality-of-service parameters, time span and spatial distribution of the observations made to arrive at the quality-of-service results indicated in the compliance report.

(2) If a licensee has not met the quality-of-service parameters referred to in regulation 5, the licensee must submit to the Authority the following:

- (a) statement outlining the reasons including whether any force majeure events occurred during the reporting period;
- (b) the remedial actions undertaken or planned;
- (c) the time period within which the licensee will attain the required quality-of-service parameters; and
- (d) any preventive actions taken to avoid similar issues in the future.

(3) A licensee must submit quality-of-service compliance reports to the Authority on the data portal.

(4) A quality-of-service compliance report referred to in subsection (3) must be submitted to the Authority on a quarterly basis within one month after the end of each reporting period in accordance with the Table below:

Reporting period	Latest date for submission of quality-of-service compliance reports
1 January to 31 March	30 April of the same year
1 April to 30 June	31 July of the same year
1 July to 30 September	31 October of the same year
1 October to 31 December	31 January of the next year

(5) A licensee who fails or refuses to comply with the directive of the Authority issued under subsection (1),(2), and (3) commits an offence and on conviction is liable to a penalty provided for in regulation 16.

PART 4 MEASUREMENT AND MONITORING

Measurement of quality-of-service obligations

11. (1) Every licensee must, in accordance with its established quality-of-service measurement systems, measure across their networks all quality-of-service parameters stipulated in these Regulations.

(2) Measurement and monitoring of quality-of-service parameters must be done in accordance with the measurement mechanisms contained in Schedules 1 to 5, and any other methods that may be determined by the Authority from time to time.

Monitoring of quality-of-service obligations

12. (1) In monitoring compliance, the Authority may use any one or more of the following methods:

- (a) a drive test;
- (b) a mobile test probe;
- (c) a consumer survey;
- (d) review and analysis of raw and processed data from the operation support systems of a licensee or other relevant sources; or
- (e) any other generally accepted monitoring method.

(2) The Authority will notify a licensee, where appropriate, which of the methods referred to in subregulation (1) it will use in monitoring compliance by a licensee and will also inform such licensee of the standards and processes the Authority will employ in a specific case.

PART 5 ENFORCEMENT AND SANCTIONS

Assessment of quality-of-service compliance report

13. (1) Within 30 days after a licensee submitted a quality-of-service compliance report in terms of regulation 10, the Authority must assess the report for compliance with these Regulations and in writing notify the licensee that the Authority –

- (a) accepts the quality-of-service compliance report; or
- (b) rejects the quality-of-service compliance report, specifying reasons for such rejection including why the Authority disagrees with the reasons provided by the licensee for any failures to achieve quality-of-service obligations, or with any other matter in the quality-of-service compliance report.

(2) If the Authority provides a notice to a licensee under subregulation (1)(b) the licensee must, to the extent and by the date required by the Authority in the notice –

- (a) resubmit a revised quality-of-service compliance report, whereupon the Authority must assess the report and notify the licensee as set out in subregulation (1); and
- (b) comply with regulation 17 in respect of any remediation or other action specified by the Authority in the notice.

(3) If the Authority provides a notice to a licensee under subregulation (1)(a), or the Authority does not respond to a quality-of-service compliance report or a revision thereof within 30 days of its submission by a licensee, such report is deemed to be accepted .

Verification of quality-of-service compliance report

14. (1) The Authority may take the necessary steps and utilise the necessary methods to verify the accuracy of a quality-of-service compliance report submitted by a licensee under regulation 10(1).

(2) The Authority may direct a licensee in writing to submit additional information or documents to verify the information that the licensee submitted in a quality-of-service compliance report.

(3) A licensee must, within 14 days of receipt of a written direction from the Authority referred to in subregulation (2), submit the additional information or documents to the Authority in accordance with its directions.

(4) The Authority may conduct an investigation to verify the information submitted in a quality-of-service compliance report or any additional information submitted under subregulation (3).

(5) An investigation referred to in subregulation (4) may be triggered by –

- (a) inconsistencies between the measurements reported by a licensee and those measured by the Authority; or
- (b) a licensee’s sustained non-compliance with quality-of-service parameters.

(6) Within seven days of receipt of written notification of an investigation by the Authority, a licensee must be prepared to demonstrate that –

- (a) the licensee’s measurements and reporting requirements have been complied with;
- (b) the quality-of-service parameters are calculated according to the methodology stated in the quality-of-service compliance report;
- (c) its support systems involved in making, processing and reporting the quality-of-service measurements do so accurately; and
- (d) the operations of the licensee has performed in making, processing and reporting the quality-of-service measurements can be traced back for individual measurements.

(7) If the Authority is dissatisfied with the outcome of an investigation under subregulation (4), the Authority may require the licensee concerned to carry out any remediation or other action under regulation 17 to ensure that a licensee complies with these Regulations, failing which the Authority may seek the imposition of a penalty under regulation 16.

(8) On completion of the verification process set out in this regulation, the Authority may approve a licensee's quality-of-service compliance report for publication in accordance with regulation 18(2).

Audits

15. (1) The Authority may conduct audits and may for that purpose contract a third party to assess a licensee's compliance with these Regulations.

(2) In conducting an audit, the Authority may perform validity controls in respect of a licensee –

- (a) to verify the accuracy and sufficiency of a licensee's quality-of-service results;
- (b) to verify the internal procedures and methodologies used by the licensee to collect quality-of-service measurements, including interviews with its staff members to verify that its internal procedures have been correctly followed; or
- (c) by launching queries on the licensee's system to obtain relevant raw data.

(3) The purpose of an audit conducted under this regulation is to –

- (a) verify if the licensee has accurately and sufficiently measured and reported quality-of-service results; and
- (b) determine if any remediation or other action is necessary under regulation 17 or if an investigation will be required under regulation 14(4).

(4) The Authority must provide to a licensee who has been subjected to an audit with an audit report within 30 days of concluding such audit, containing –

- (a) the results of the audit;
- (b) the Authority's determinations and conclusions from the audit;
- (c) directions to the licensee to furnish the Authority with written explanations regarding any issue identified during the audit, including reasons for any failure to accurately or sufficiently measure and report quality-of-service results;
- (d) any remediation that the licensee is required to carry out.

(5) A licensee must respond to any determination, conclusion or request for explanation in an audit report within 30 days of receipt thereof, failing which any determinations or conclusions contained in the audit report must be deemed to be correct.

(6) If an audit report requires a licensee to carry out any remediation or other action under regulation 17, it will constitute a notice to the licensee under that regulation.

Offences and penalties for non-compliance

16. (1) A licensee must comply with the obligations provided for in these Regulations.

(2) A licensee commits an offence if –

- (a) it fails to comply with subregulation (1);
- (b) it fails to submit during a time period specified in these Regulations or by the Authority, information required under these Regulations;
- (c) it submits or publishes false or misleading information relating to quality of service; or
- (d) it obstructs or prevents an investigation by the Authority on the quality-of-service measurement, reporting or record keeping procedures.

(3) If a licensee fails to comply with subregulation (1), the Authority may direct the licensee to remedy its breach of these Regulations in accordance with regulation 17.

(4) If a licensee commits an offence referred to subregulation (2), the Authority may deal with the matter as contemplated by Chapter X of the Act.

(5) Upon conviction for an offence referred to in subregulation (2) a licensee is liable to –

- (a) a fine not exceeding N\$250,000; or
- (b) if the offence is a continuing offence, a further fine not exceeding N\$10,000 for every day that the offence continues after conviction; or
- (c) amendment or withdrawal of its licence as provided for in section 115(4)(c) of the Act.

Remediation required by Authority

17. (1) Within 30 days of receipt of a written notice by the Authority requiring remediation within the period stated in the notice, or the carrying out of any other action in connection with –

- (a) an assessment of quality-of-service compliance report under regulation 13;
- (b) a verification of quality-of-service compliance report under regulation 14;
- (c) an audit under regulation 15;
- (d) an investigation under regulation 14(4);
- (e) a complaint or series of complaints,

the licensee must carry out the remediation or other action as required by the notice.

(2) If a licensee fails to carry out the remediation or other action as required by the notice referred to in subregulation (1), the Authority may deal with the matter as contemplated by Chapter X of the Act.

PART 6 GENERAL

Publication of quality-of-service information

18. (1) Without limiting the Authority's power to publish quality-of-service information, the Authority may publish on its website or in any other manner –

- (a) a licensee's quality-of-service results;
- (b) comments on a licensee's quality-of-service results which the Authority considers necessary to better explain the results in order to assist end users to understand the licensee's quality-of-service results or to put such results in context;
- (c) comparisons between the quality-of-service results of all licensees within the same sector;
- (d) international quality-of-service benchmarks.

(2) The Authority may include in its annual report referred to in section 26 of the Act a report on the state of quality of service in Namibia pertaining to licensees, based on their quality-of-service results for the preceding year as approved, measured, audited or otherwise determined by the Authority.

Record keeping

19. (1) A licensee must retain quality-of-service records in English for a minimum period of five years after the end of the reporting period or until such time as the Authority may direct.

(2) For purposes of this regulation, "quality-of-service records" include any quality-of-service data, all measurements and any other document relating to the quality-of-service standards of a licensee.

(3) A licensee that contravenes or fails to comply with subsection (2) commits an offence is liable on conviction to a penalty provided for in regulation 16.

Extension of time

20. (1) If a licensee is unable to comply with any period set out in these Regulations, it may request the Authority in writing for an extension of at least seven days prior to the time set out or within any other time agreed by the Authority upon good cause shown.

(2) The Authority must respond to the request for condonation as soon as practicable and may in its sole discretion either grant or deny the request taking into account the nature and the reasons for non-compliance with the time set out.

ANNEXURE

NETWORK OUTAGE REPORT FORM		
CONTACT INFORMATION		
Name of Reporting Licensee:		License No.
Name of Primary Contact Person:		E-Mail Address:
	Contact No:	

OUTAGE INFORMATION**TYPE OF OUTAGE** Unplanned Planned

Date of Incident (dd/mm/yyyy): _____

Local Time Outage Began (24-hr hh:mm): _____

Outage Duration: ____ hrs ____ min

Outage status when filling this report: _____

Local Time Outage Resolved (24-hr hh:mm): _____

EFFECT OF OUTAGE

Network Element(s) Affected: _____

Percentage of Traffic Affected (If known): _____

Geographical Area Affected:

 Cities: _____ Affected Sites: _____**DESCRIPTION OF THE OUTAGE:**

EXPLANATION OF OUTAGE DURATION:

CAUSE:	
<hr/> <hr/> <hr/> <hr/> <hr/>	
ACTIONS:	
<hr/> <hr/> <hr/> <hr/>	
DECLARATION	
Signed by: At _____ in his/her capacity as: _____ _____ duly authorised and warranting such authority and warranting that the information provided herein is true and correct, on the _____ day of _____ 20 _____. _____ Signature	
ACKNOWLEDGEMENT OF RECEIPT BY CRAN (OFFICIAL USE ONLY)	
Full Name	
Date	
Place	
Signature	

Schedule 1

(Regulation 5(1)(a))

Non-Technical Key Quality-of-Service Performance Indicators and Quality-of-Service Parameters

For purposes of this Schedule –

“**fault**” means the failure of a service to the extent that the service or some aspects of the service is unavailable.

QoS KPI	Definition	Measurement Method	Parameter	Applicability
Supply time for initial fixed line service connection-post-paid and prepaid (Voice/data/ADSL/Fibre/FTT)	ETSI EG 202 057-1 (clause 5.1) The duration from the instant of a valid service order being received by a direct service provider to the instant a working service is made available for use. This should exclude cancelled orders.	Include the following scenarios- a) A new connection. b) An existing connection taken over by another customer. c) An additional connection provided to a customer who already has an existing service, including any upgrades in service. A valid service request may be in writing. Where a licensee and customer agree that an order for multiple connections each agreed delivery time counts as a separate service request for measurement purposes.	95% of service request to be completed within 7 elapsed days and 100% of service requests to be completed within 10 elapsed days.	Individual licensees Class Comprehensive ECS/ECNS licensees Class ECNS licensees
Supply time for initial Mobile service connection- post-paid and prepaid	ETSI EG 202 057-1 (clause 5.1) The duration from the instant of a valid service order being received by a direct service provider to the instant a working service is made available for use. This should exclude cancelled orders.	Include the following scenarios- (a) A new connection. (b) An existing connection taken over by another customer. (c) An additional connection provided to a customer who already has an existing service, including any upgrades in service. (d) A valid service request may be in writing. Where a licensee and customer agree that an order for multiple connections each agreed delivery time counts as a separate service request for measurement purposes.	95% of service request to be completed within 3 elapsed days and 100% of service requests to be completed within 5 elapsed days.	Individual licensees Class Comprehensive ECS/ECNS licensees Class ECNS licensees
Fault Repair Time <i>(This is applicable to faults reported by users detected and reported by network monitoring elements.)</i>	The time (elapsed hours) by which a valid fault on network is repaired.	The time by which valid faults on networks are repaired and the percentage of faults cleared in the time specified in any service level agreement or contract must be reported separately.	a) Fixed: 95% of faults to be repaired within 2 elapsed days from the time reported and 100% of faults to be repaired within 7 elapsed days. b) Mobile: 95% of faults to be repaired within 24 elapsed hours from the time reported and 100% of faults to be repaired within 48 elapsed hours.	Individual licensees Class Comprehensive ECS/ECNS licensees Class ECNS licensees

Response time for administration and billing enquiries	Duration from the instant when the address information required for setting up a call is received to the instant the human operator answers the calling user to attend to the enquiry.	Enquiries attend to by Interactive Voice Response (IVR) only is excluded from this measurement. Any enquiry transferred from an IVR system to a human operator to attend to the enquiry is included in the measurement. The duration period in the definition includes waiting time because attendants are busy. Time duration handle the enquiry itself is excluded from the measurement. The parameter is applicable to all administration and billing enquiries made to a call centre by a customer via fixed, mobile, direct and/or indirect services.	95% of calls must be answered within 20 seconds.	Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees
Billing Correctness	ETSI EG 202 057-1 (clause 5.11) The proportion of bills resulting in a customer complaint about the correctness of a given bill per service.	ETSI EG 202 057-1 (clause 5.11.3) Measured by percentage of bills resulting in a customer complaint. A bill correctness complaint is an expression of dissatisfaction with the accuracy of the bill received from a customer. Statistics should include all billing complaints received in the reporting period regardless of the validity of the complaint and the dates of calls or any other form of communication that are the subject of the complaint.	Less than 2% of bills should result in customer complaints.	Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees

Schedule 2

Regulation 5(1)(b))

Technical Key Quality-of-Service Performance Indicators and Quality-of-Service Parameters

For purposes of this Schedule –

“**busy time**” means a set of the same three (3) hours in each of the same days in the reporting period, during which the highest average traffic for a service is measured or expected;

“**packet loss**” means the failure of one or more transmitted packets to reach their final destination;

“**SMS**” means Short Message Service.

QoS KPI	Definition	Measurement Method	Parameter	Applicability
Mobile / Wireless Service Coverage per Cell	Percentage of test route over which a minimum signal strength of -100 dBm is achieved per cell.	The test route will be determined by the Authority depending on the network coverage provided by licensees Measurements will be taken in a reporting area within the network coverage area of the licensee from time to time as determined by the Authority	A minimum of -100 dBm must be achieved for 95% outdoor and 85% indoor service coverage following a predetermined test route	Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees Class ECNS licensees
Unsuccessful Call Ratio (% of call attempts)	ETSI EG 202 057-2 (clause 5.1) ETSI EG 201 769-1 (clause 5.4) Unsuccessful call ratio is defined as the ratio of unsuccessful calls to the total number of call attempts in a specified time period.	ETSI EG 202 057-2 (clause 5.1.3) ETSI EG 201 769-1 (clause 5.4.2) It is measured by: a) The percentage of unsuccessful calls for national calls; b) The percentage of unsuccessful calls for international calls; c) The number of observations used for national and international calls together with absolute accuracy.	a) Less than or equal to 1% percentage On-Net National unsuccessful calls must be at busy time. b) Less than or Equal to 2% percentage of unsuccessful international call at busy time.	Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees Class ECNS licensees
Call Setup Success Rate	Portion of call attempts with an indication of call connection (alerting, busy tone or announcement) within 12 seconds from the instant the user initiates a request.	The number of unsuccessful call attempts should be divided by the total number of call attempts. The following category statistics should be provided separately: - a) The percentage of unsuccessful calls for local calls/on-net b) The percentage of unsuccessful calls for national calls cross-network c) The statistics should be calculated from Measurements on all real traffic; or d) Measurements on real traffic for outgoing calls in a representative population of local exchanges to a representative set of destinations; or e) Test calls in a representative population of local exchanges or Network Termination Points to a representative set of destinations; or A combination of the above.	a) No less than 95% for national calls. b) No less than 95% for international calls.	Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees Class ECNS licensees

International Call Connectivity	The relationship between the number of seizures that result in an answer signal and the total number of seizures (ASR) for a specific country.	ASR to be measured on a country-by-country basis over time as determined by the Authority.	The ASR on a country-by-country basis should be more than 60%.	Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees Class ECNS licensees
Dropped Calls Per Cell Ratio	<p>ETSI EG 202 057-3 (clause 6.4.2) The proportion of incoming and outgoing calls which, once they have been correctly established and therefore have an assigned traffic channel, are dropped, or interrupted prior to their normal completion by the user, the cause of the early termination being within the operator's network.</p> <p>3GPP TS 32.454 clause 5.2.1</p> <p>Call drops for IMS session.</p> <p>Applicable for IMS (VoLTE KPI).</p> <p>The number of dropped sessions divided by the number of successful session establishments.</p>	<p>ETSI EG 202 057-3 (clause 6.4.2.2)</p> <p>When using the measurements based on network element counters, the following statistics should be provided: the percentage of dropped calls, calculated from all the calls in the period.</p> <p>When using test calls, the following statistics should be provided: the percentage of dropped calls, together with the number of observations used and the absolute accuracy limits for 95% confidence calculated from this number.</p> <p>3GPP TS 32.454 clause 5.2.1</p> <p>It is measured by a percentage.</p> <p><i>Note: Calls ended as a result of depleted credit shall be excluded from the numerator and denominator.</i></p>	<p>a) No more than 5% of successfully established voice calls should be dropped per cell.</p> <p>b) No more than 5% of successfully established video calls should be dropped per cell</p>	Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees Class ECNS licensees
Successful SMS Ratio	ETSI EG 202 057-2 (clause 5.6.1) Probability that a user can send a Short Message successfully from a terminal equipment to a Short Message Centre.	ETSI EG 202 057-2 (clause 5.6.1.3) The percentage of successfully sent short messages, together with the number of observations used and the absolute accuracy limits for 95% confidence calculated from this number.	95% of SMS messages must be send successfully in busy time.	Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees Class ECNS licensees

SMS delivery time	<p>ETSI EG 202 057-2 (clause 5.6.3)</p> <p>The end-to-end delivery time for SMS is the period starting when sending a SMS from a terminal equipment to a Short Message Centre and finishing when receiving the very same SMS on another terminal equipment. ETSI EG 102 250-2 (clause 7.4.5)</p>	<p>ETSI EG 202 057-2 (clause 5.6.3.3)</p> <p>It is measured by:</p> <p>a) the mean value in seconds for sending and receiving short messages;</p> <p>b) the time in seconds within which the fastest 95 % of short messages are sent and received; c) the number of observations performed. ETSI TR 102 529.</p>	95% of SMS's must be completed successfully.	<p>Individual licensees</p> <p>Class</p> <p>Comprehensive ECS/ECNS licensees</p> <p>Class ECS licensees</p> <p>Class ECNS licensees</p>
Jitter	<p>ITU-T Y.2617</p> <p>Jitter is measuring time difference in packet inter-arrival time. It is the variation in the latency on data packet inter-arrival time between the sending and receiving points. When some data packets take longer to travel from sending to the receiving end. The lower the measure of jitter the more stable a connection is and latency is important to VoIP and VoLTE end users. Jitter results from network congestion, timing drift and route changes</p>	<p>Measured by measuring the difference in the end-to-end latency, in milliseconds (ms), between data packets send and received.</p>	<p>a) No more than 300ms difference in the end-to-end latency between data packets local specified server.</p> <p>b) No more than 100ms difference in the end-to-end latency between data packets international specified server.</p>	<p>Individual licensees</p> <p>Class</p> <p>Comprehensive ECS/ECNS licensees</p> <p>Class ECS licensees</p> <p>Class ECNS licensees</p>

Latency	<p>ITU-T Y.2617 The time between the first bit of a packet of a source entering a network, being received by the destination, which immediately sent a bit back to the source, and then the last bit of the packet arriving at the source across the network (round trip delay).</p>	<p>It is recommended that delay is measured using:</p> <p>a) UDP with ICMP or TCP as fall-back option, b) at least 10 measurements, and c) calculated as an average of recorded roundtrip time values (typically expressed in milliseconds).</p> <p>The measurement server should return any UDP packet payload immediately, allowing the client to calculate delay. The Unix echo service could be used for this function. The measurement setup should be insensitive to (user) clock changes during the measurement.</p>	<p>a) The average latency shall not be more than 300ms to transmit a data packet end to end from a public server (international IXP). b) the average latency shall not be more than 100ms to transmit a data packet end to end from a public server (local IXP).</p>	<p>Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees Class ECNS licensees</p>
Packet Loss Ratio	<p>ITU-T Y.2617 The total number of packets failing to deliver through the network divided by the total number of transmitted packets within a specific time window.</p>	<p>Packet is not received back within a certain timeout (e.g. 3 seconds), it is considered as lost for the purpose of packet loss measurements. Recommended to send a large number of IP packets (e.g. at least 1000). Delay and packet loss measurements are typically performed over a longer period of time in order to allow for the time varying nature of network performance in packet-switched networks.</p>	<p>a) Less than or Equal to 95% milliseconds (ms) for national. b) Less than 250 Millisecond (ms) for international reference.</p>	<p>Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees Class ECNS licensees</p>

Unsuccessful data transmission ratio <i>(As per package subscription)</i>	<p>The ratio of unsuccessful data transmissions to the total number of data transmission attempts in a specified time period.</p>	<p>A data transmission is successful if a test file is transmitted completely and with no errors. The statistics should be calculated from test transmissions made according to the measurement set-up stipulated in ETSI EG 202 057-4. Additional measurements will be taken in a reporting area within the network coverage are of the licensee from time to time as determined by the Authority.</p>	<p>95% of all data transmissions must be successful within a specified time period.</p>	<p>Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees Class ECNS licensees</p>
Data transmission achieved <i>(As per package subscription)</i>	<p>The data transmission rate is achieved separately for downloading and uploading specified test files between a remote website and user equipment,</p>	<p>The test file shall have at least twice the size (in kb) of the theoretically maximum data transmission rate per second as advertised by the licensee for a specific service.</p> <p>Additional measurements will be taken in a reporting area within the network coverage are of the licensee from time to time as determined by the Authority.</p>	<p>Data transmission speed achieved must be at least 80% of that advertised by the licensee during busy time.</p>	<p>Individual licensees Class Comprehensive ECS/ECNS licensees Class ECS licensees Class ECNS licensees</p>

Schedule 3

Regulation 5(1)(c)

Voice Measurement Quality-of-Service Parameters

For purposes of this Schedule –

“**mean opinion score**” or “**MOS**” means a numerical indication of the perceived quality of received media after compression and/or transmission. The MOS is expressed, as a single number in the range 1 to 5, where 1 is lowest perceived quality, and 5 is the highest perceived quality.

Voice Call Quality-of-Service Parameters	Description
Accessibility: Short Call	Call Duration (10 seconds) + 30 seconds (for setup and release phase) + 30 seconds (for minimum pause interval)
Retainability: Long Call	Call Duration (120 seconds) + 30 seconds (for the setup and release phases) + 30 seconds (for the minimum paused interval)
Call setup Time	Time taken to setup a call – Target is 20 seconds
Voice Quality	Average Speech Quality of Mean Opinion Score (MOS must be greater than 3)

Schedule 4

Regulation 5(1)(d)
Data Measurements Quality-of-Service Parameters

For purposes of this Schedule –

“**FTP**” means file transfer protocol;

“**HTTP**” means Hypertext Transfer Protocol;

“**DL**” means Download

“**UL**” means Upload

Test Description	3G	4G	5G
FTP Download	FTP DL (5 MB)	FTP DL (15 MB)	FTP DL
FTP Upload	FTP UL (1 MB)	FTP UL (5 MB)	FTP UL
HTTP Download	HTTP Get (2 MB)	HTTP Get (15 MB)	HTTP Get
HTTP Upload	HTTP Put (1 MB)	HTTP Put (5 MB)	HTTP Put
Ping sessions with size of 32 bytes payload	Ping (32 Bytes)	Ping (32 Bytes)	Ping (32 Bytes)
Video streaming from YouTube for 60 seconds	Video: YouTube	Video: YouTube	Video: YouTube
Download content from the test server	HTTP Browsing: TBD	HTTP Browsing: TBD	HTTP Browsing: TBD
Download content from live web page	Live Web Browsing	Live Web Browsing	Live Web Browsing
Packet Delay ping to web pages e.g. www.google.com.na	Ping (32 Bytes)	Ping (32 Bytes)	Ping (32 Bytes)

Schedule 5

Regulation 5(1)(e)
Customer Satisfaction Attributes

A licensee in respect of the following Quality-of-Service benchmarks be subject to periodic assessment by the Authority through customer satisfaction surveys, which may be conducted by the Authority either through its own officers or employees or through any agency appointed by Authority.

Parameter Name	Target
% of customers satisfied with the service availability	>90%
% of customers satisfied with the service accessibility	>90%
% of customers satisfied with the reliability	>90%
% of customers satisfied with billing performance	>90%
% of customers satisfied with the help/ enquiry services	>90%