Consultation Paper No. 1/2013

## **CONSULTATION PAPER**

ON

# **Draft Quality of Service Regulation**

**Nepal Telecommunication Authority** 

12 August, 2013

#### PREFACE

Quality of service ('QoS') refers to the ability of a network or service to satisfy the end user. Various definitions of QoS exist, although the term is often used to refer to all aspects of the customer's experience of a particular service. This includes aspects such as the mobile signal strength available to users and the level of network congestion. The regulators major concerns is about the QoS that user are experiencing. As the result of a number of issues, including customer complaints, the lack of timeliness of requested information from licensed operators regarding quality of service issues and to secure the best quality service offerings for consumers, this draft guideline is prepated on the assistance from the International Telecommunications Union ('ITU'). Also, QoS guideline/regulation shall be formulated in detailed discussion with the operators as they are main entity responsible for the successful implementation of this regulation.

Nepal Telecommunication Authority (NTA) has therefore issued this consultation paper to request concerned stakeholders, experts, researchers and any other interested parties to send their comments/ suggestions or inputs either in electronic form or in written form on the various issues raised in consultation paper within 30 days from the date of the publication of this notice. The comments and inputs provided by the stakeholders will enable the Authority in formulating a QoS regulation for Nepal. The consultation paper shall be available on NTA's website (www.nta.gov.np). In case any further clarification or information is needed, please write to <u>ntra@nta.gov.np</u> or contact Mr. Udaya Raj Regmi, Deputy Director, NTA (Email: <u>urregmi@nta.gov.np</u>, Tel: 977-1-4101030) or Mr. Pradip Paudyal, Assistant Director, NTA (Email: <u>ppaudyal@nta.gov.np</u>, Tel: 977-1-4101030)

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## **EXECUTIVE SUMMARY**

In general terms, quality of service ('QoS') refers to the ability of a network or service to satisfy the end user. According to the International Telecommunications Union ('ITU'), 'quality of service' is defined as: "the totality of characteristics of a telecommunications service that bear on its ability to satisfy stated and implied needs of the user of the service."

The ultimate aim of QoS regulations and enforcement is to promote consumer interests and to encourage service providers to invest in their networks for the benefit of consumers. QoS regulation and enforcement is of particular importance to Nepal because of the significant growth it has experienced in the last few years, and will most likely continue to experience, in take-up of telecommunications services by consumers, and because of the decentralised nature of Nepal, with a significant proportion of consumers living in rural or remote areas.

The regulation defines key parameters of QoS which should be measured, and that the NTA must set clear and achievable minimum standards for each of them. In general, these standards should be applied universally in general regulations; however in the case of dominant operators it may be appropriate to include special conditions for QoS as terms of their license.

Finally, this guideline is circulated by the NTA for industry and general stakeholder consultation and finalization in order to ensure that it represents the best possible advice based on all possible information about the telecommunications sector in Nepal. Such an approach would be in keeping with global best practice.

## ACRONYMS

- EDGE Enhanced Data rates for GSM Evolution
- QoS Quality of Service
- GPRS General packet radio service
- GSM Global Systems for Mobile
- ITU International Telecommunication Union
- ITU T ITU Telecommunication Standardization Sector
- NTA Nepal Telecommunications Authority
- PESQ Perceptual Evaluation of Speech Quality
- QoS Quality of Service
- MOS Mean Opinion Score
- SMS Short Message Service
- USD United States Dollar

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#### **DRAFT QoS REGULATIONS**

#### Fixed and Mobile Quality of Service (QoS) Regulations 2013

#### Part I Preliminary

#### **1. Short Title and Commencement**

- (1) These Regulations shall be called the 'Fixed and Mobile Quality of Service (QoS) Regulations 2013'.
- (2) These regulations shall come into force from the date of gazette notification.

#### 2. Scope and Applicability

(1) These regulations shall apply to all fixed and cellular mobile communication service licensees for the purpose of identifying the minimum quality of service standards and associated measurement, reporting and record keeping tasks [except packet switched or GPRS/EDGE services.]

#### 3. Definitions

- (1) In these regulations, unless context otherwise requires:
  - (a) 'Act' means the Telecommunications Act, 2053 (1997);
  - (b) 'Authority' means the Nepal Telecommunications Authority established under section 3 of the Act;
  - (c) 'Inter-network call connection' means a call interconnection between the network service of two providers;
  - (d) 'Intra-network call connection' means a call connection within the network service of one provider;

- (e) 'License' means an authorization granted by the Authority for the establishment, operation or maintenance of any telecommunication system or provision of any telecommunication service;
- (f) 'Licensee' means the grantee or holder of a mobile communication service license to which these regulations apply;
- (g) 'Mobile Communication Service' means a wireless-based telecommunications service where the terminal equipment may be connected to the telecommunications system by wireless means and used while in motion;
- (h) 'PSTN' means public switched telephone network, which is a telecommunications service involving a public circuit switched voice grade interface for the delivery of voice and data communications;
- (i) 'Quality of Service' means the main indicators of the performance of a Licensee and of the degree to which the performance conforms with the standards of such quality of service as specified in these regulations and the license for the specified parameters; and
- (j) 'Regulations' means all or any regulations issued from time to time by the Authority.
- (2) Words and expressions used but not defined in these regulations shall have the meanings respectively assigned to them in the Act or the Rules or the Regulations, as the case may be.

#### Part II Measurement, Reporting and Record Keeping

# 4. Quality of Service parameters in respect of which compliance reports are to be submitted to the Authority

- (1) Every telecommunications service licensee shall at all times meet or exceed the minimum requirements of quality of service specified in the License and in these regulations.
  - (a) Voice services (PSTN and mobile)

Service	Definition	Measurement	Benchmark
parameter			
Network downtime	The probability that mobile services are not available to the end customer.	across all sites from the Network Management	Network downtime should be < 1%.
Call connection time	The time between sending of complete call initiation information by the caller (A-party) and in return receipt of call setup notification.	Measured as $t_2 - t_1$ where $t_2 =$ point of time where connect is established (B-Party) (e.g. alerting or subscriber busy is detected by test equipment);	call connection time should be $\leq$ 5 seconds (for a local M-M call
Call completion ratio	The probability that a service, once obtained, will continue to be provided under given conditions for a given time duration or until deliberately terminated by either A-party or B-party.	Measured as the percentage of calls intentionally terminated by the end-user based on the total number of successful calls over a one-	Call completion ratio should
End-to-end speech quality	The degree of speech quality that a listener perceives at the terminal with a	on PESQ Algorithm (ITU-T P .862) or subsequent ITU	Mean opinion score (MOS)

Service	Definition	Measurement	Benchmark
parameter			
	talker at the other end.	the Authority. Average MOS values will be considered for each direction of communication for the duration of the testing for each designated area under testing.	
Intra- network call connection loss	Calls lost while attempting to connect through from an originating or trunk service to a terminating switch with a different trunk code within the network service of the same provider due to network congestion or technical faults.	of intra-network calls lost based on the total number of intra-network calls. Based on test call sampling or service observation during a busy period. Minimum sample size is 30 test calls per trunk area. Maximum interval between	connection loss should
Inter- network call connection loss	attempting to	test call sampling or service observation during a busy period. Minimum sample size is 30 test calls per trunk area. Maximum interval between	network call connection loss should

Service parameter	Definition		Measurement	Benchmark
	congestion technical faults.	or		

#### (b) Voice services (Mobile)

. ,	ee services (mobile)		
Service	Definition	Measurement	Benchmark
parameter			
Mobile	The probability that	Measured through drive	Network
network	mobile services are	test/survey in accordance	accessibility
accessibility	available to an end	with the methodology	should be >
	customer by display	provided in Annex A.	99%.
	of the network		
	indicator on the		
	mobile test		
	equipment		
	throughout the		
	entire duration of		
	the sample.		
Grade of	The probability that	Measured as the percentage	Grade of
service	the end customer	of calls that are unsuccessful	Service
	cannot access	based on the total number of	should be $\leq$
	mobile services	calls made over a one-month	2%.
	when requested if it	period.	
	is offered by display		
	of the network		
	indicator on the		
	mobile equipment.		

## (c) Data services

Service	Definition	Measurement	Benchmark
parameter			
Service	Activation of new	Measured as a	Successful
activation	data services or	percentage of	acivations should
and	reactivation of	successful activations	be $> 95\%$ of all
provisioning	existing data	based on the total	requested
	services.	number of requested	activations.
		activations over a one-	
		month period.	Activation to
			occur within 4
			hours of request.
Data	Download attempts		Successful
download	that result in the	percentage of	
	successful	successful downloads	be $> 80\%$ of all
	transmission of	based on the total	attempted
	data.	number of attempted	downloads.
		downloads over a one-	
		month period.	
Data upload	Upload attempts	Measured as a	Successful
	that result in the	percentage of	
	successful	successful uploads	
	transmission of	based on the total	attempted
	data.	number of attempted	uploads.
		downloads over a one-	
		month period.	
Throughput	Throughput for	Measured as a	Throughput
	packet data	percentage of the	should be $> 75\%$
		subscribed network	of the
		speed averaged over a	subscribed
		one-month period.	network speed.
Data latency	The time taken for a	Measured as the	Data latency
	message to be sent	number of milliseconds	should be $< 250$
	via an exchange to	taken for the successful	ms.

the	intended	transmission of data to	
terminal.		the intended terminal	
		on average over a one-	
		month period.	

## (d)Billing and customer complaints

Service	Definition	Measurement	Benchmark
parameter			
Billing performance	The integrity and reliability of the billing system as measured by the accuracy and timeliness in resolving billing disputes. Billing disputes include any complaint relating to payments wrongly credited, double charges, late bills, non- receipt of bills and any other billing error.	Measured as the percentage of billing disputes based on the total number of bills issued over the billing period.	<ul> <li>Percentage of billing disputes should be ≤ 2% of total bills over billing period.</li> <li>90% of billing disputes should be resolved within 15 business days of receipt of complaint.</li> <li>95% of billing disputes should be resolved within 30 business days of receipt of complaint.</li> </ul>
Complaint resolution	A customer complaint is any complaint received on service matters including late or no service restoration after a report has been made, poor line quality or grade of service, complaints relating to staff or contractors, or	the total number of complaints received over a one-month	Number of complaints should be $\leq 50$ per 1,000 customers over 12- month period.

any c	other	service-	
related i	issue.		

#### 5. Measurement, reporting and record keeping requirements

- (1)For each quality of service standard that is reportable for a service, and for each reporting period, a Licensee shall perform the following measurements, reporting and record keeping:
  - (a) To monitor the quality of telecommunication service being provided by the Licensee and adherence to the criteria laid down in the License and Regulations, each Licensee shall conduct end-to-end drive tests and surveys at intervals as required by the Authority. The Licensee shall procure the test instruments and equipment as and when required for the purpose.
  - (b) The tests and surveys shall be so designed as to give the overall as well as a detailed picture of the network, and of the Quality of Service provided by the Licensee with fifteen (15) days prior intimation to the Authority.
  - (c) The Authority may specify the nature and procedure of quality tests and surveys, and may issue directions in this respect, to which the Licensee shall comply. The Licensee shall furnish the results of the quality tests and surveys to the Authority, for each quarter, in such form and manner as the Authority may specify, provided that the information for the applicable quarter is submitted by the Licensee within thirty (30) days after the close of the reporting quarter.
  - (d) The Authority may call for such special quality tests and surveys, and reports thereon, as it may deem appropriate, and the Licensee shall comply with the directives of the Authority in this regard.
  - (e) The Authority may, if deemed necessary, depute its own representative(s) to be present at the quality tests and surveys carried out by the Licensee.
  - (f) Unless otherwise stated in these regulations, the reporting periods, which are periods of time over which measurements are taken and recoded, shall be one month starting on 1 January of the applicable calendar year

or as the Authority may from time to time specify. The Licensee shall consolidate and maintain the reports for each month and submit the record of these reports on a quarterly basis.

#### Part III Monitoring by the Authority

#### 6. Inspections and performance audit for Quality of Service

- (1) The Authority shall conduct inspections, surveys and tests, or carry out surprise checks, as specified in Annex A, through its designated officers, or conduct performance audits for Quality of Service of the Licensee from time to time, to ensure that users of telecommunications services get such Quality of Service standards as laid down in these Regulations and the License.
- (2) The inspections may be carried out with or without a representative of the Licensee.
- (3) The Licensee shall extend full co-operation and provide all assistance to the inspecting officer(s) in carrying out the tests and surveys, including provision of test instruments, technical support, unhindered access to the Licensee's premises, and shall make available network management system and records, whether electronic or manual or both, whenever required by such officer(s).
- (4) The Authority may engage, if circumstances so require, third parties or consultants to conduct quality of service auditing.
- (5) The inspecting officer shall prepare an inspection report for the quality of service inspection, also comprising the shortfalls, if any, observed during such inspection.
- (6) This report shall be provided to the Licensee in the format as specified in these regulations as Annex B.

- (7) The Licensee shall immediately take all remedial measures to remove the shortfalls identified in the inspection report and shall submit a compliance report within thirty (30) days of the issuance of the inspection report, in confirmation that all stated shortfall have been removed, provided that the Authority has provided the opportunity to remove the shortfalls identified in the inspection report for the same city.
- (8) The Authority shall measure the performance of the Licensees using modes for collection of data or documents, including but not limited to; surprise drive tests etc. The main aspects of the methodology for taking measurements through drive tests shall be as specified in Annex A to these regulations. The Authority may review or define new thresholds as and when required.

## Part IV Miscellaneous

#### 7. Publication of Quality of Service Reports

- (1) Without prejudice to anything contained in or any action required under these regulations, the Authority may publish such survey results, service audit results, and/or rating of Licensees for the information of the general public with or without additional notes or comments on its website and/or in any form or manner, as it considers appropriate.
- (2) For each parameter that is reportable for a service, for each reporting area and for each reporting period, measurements as published by the Authority under this regulation shall be set out in the format comprising the following information for each Licensee:
  - (a) The name of service;
  - (b) An identification of the reporting area for which the measurements were taken;
  - (c) The measurements submitted by the Licensee or measured by the Authority;

- (d) An indication of any target for the parameter and service that has not been reached by the Licensee;
- (e) Any explanatory remarks by the Licensee, if accepted by the Authority, including but not limited to remarks about changes in operational conditions that could not have reasonably been foreseen by the Licensee; and
- (f) Any other information or comparison of service quality that the Authority determines to be appropriate, possibly including information to help consumers to assess the performance of Licensees.

#### 8. Provision of Information

(1)All Licensees shall ensure the provision of complete information to the authority regarding any aspect of any provision under these regulations as and when required by the Authority.

#### ANNEX A

#### DRIVE TEST AND SURVEY MEASUREMENT METHODOLOGY

- 1. Voice calls
  - a. Kathmandu
  - b. Tier 1 (major regional centres)
  - c. Tier 2 (other regional centres)
  - d. Tier 3 (all other locations)
- 2. SMS
- 3. Percentage of ON-net and OFF-net calls/SMS
  - a. On-net
  - b. Off-net
- 4. A and B party
  - a. A party (originating number)
    - i. Moving continuously during drive test
  - b. B party (terminating number)
    - i. Moving continuously during drive test
    - ii. Static
- 5. Call size/window
  - a. Call window
  - b. Pause between calls
- 6. Conduct of survey

NTA will carry out the survey independent of the network operator.

7. City Coverage

The drive test/survey will be conducted based on the maps provided by the operator detailing their coverage boundaries.

#### ANNEX B

### **OPERATOR QOS SURVEY INSPECTION REPORT**

Name of operator:

#### Part A: General Information

Location			
Date			
	HH	MM	SS
Timings			
Number of Call			·
Attempts			
Numbers (Caller			
and Called)			

#### Part B: Drive Test/Survey Results

#### Voice (PSTN and mobile)

Indicator	Minimum Target	Results
Network down-time	< 1%	
Call connection time	$\leq$ 5 seconds	
Call completion ratio	> 98%	
End-to-end speech quality (Mean	> 3	
Opinion Score for A2B and B2A)		
Intra-network call connection loss	$\leq$ 3%	

Inter-network call connection loss	$\leq$ 3%	
------------------------------------	-----------	--

## Voice (Mobile)

Indicator	Minimum Target	Results
Mobile network accessibility	> 99%	
Grade of service	$\leq 2\%$	

## Data

Indicator	Minimum Target	Results
Service activation and provisioning Data download attempt success	<u> </u>	
rate		
Data upload attempt success rate Minimum download speed	<ul><li>&gt; 75%</li><li>To be measured</li><li>for each plan by</li></ul>	
	the service provider and	
	reported to the NTA	
Throughput	> 75% of the subscribed speed	
Data latency	< 250 ms	

## Billing and complaints

Indicator	Minimum Target	Results
Billing performance	$\leq 2\%$	
Complaints resolution	$\leq$ 50 per 1,000	

#### ANNEX C

## PROPOSED GLIDE PATH FOR IMPLEMENTATION OF NEPAL'S QOS REGULATIONS

The proposed QoS regulations provided in this Appendix provide a comprehensive set of standards that are well suited to Nepal's needs at to the current state of the Nepalese market. However, the move to a new set of QoS regulations will require a significant adjustment on the part of network operators. To ensure that the regulations produce the desired effect in terms of improving service quality, it may be necessary to allow operators to adjust to the benchmark measures in a gradual way.

Exhibit A.C.1 below sets out a proposed glide path that is designed to allow operators to make scaled improvements to their QoS outcomes across the specified parameters over a two- or three-year period. This will allow operators to put in place any additional measures that may be required to satisfy the new regulations and avoid regulatory shock, which could potentially have a negative effect on the market.

Service	Description	Final	Glide path	Notes
parameter		benchmark	benchmark	
			S	
Voice (PSTN	V & mobile)			
Network	The probability	Network	< 10%	
downtime	that mobile	downtime	< 5%	
	services are not	should be <		
	available to the	1%.		
	end customer.			
Call	The time	Call	< 10	Current Service
connection	between sending	connection	seconds	Access Delay
time	of complete call	time should	< 7.5	target is $\leq 15$

Exhibit A.C.1: Proposed glide path for Nepal's QoS benchmarks

	initiation	be $\leq$ 5	seconds	seconds. NTA
	information by	seconds (for a		may determine
	the caller (A-	local M-M		proposed
	party) and in	call for a non-		glidepath is too
	return receipt of	roamer).		high.
	call setup			C
	notification.			
Call	The probability	Call	For PSTN:	Call Completion
completion	that a service,	completion	> 80%	Ratio for PTSN
ratio	once obtained,	ratio should	> 90%	services is $> 45\%$
	will continue to	be > 98%.		and Call Setup
	be provided		For	Success Ratio for
	under given		mobile:	mobile services is
	conditions for a		> 90%	> 90% under
	given time		>95%	current regulation.
	duration or until			NTA may
	deliberately			determine
	terminated by			proposed
	either A-party or			glidepath for
	B-party.			PSTN is too high.
End-to-end	The degree of	Mean opinion	Glidepath	
speech	speech quality	score (MOS)	determined	
quality	that a listener	should be >	by NTA.	
	perceives at the	3.		
	terminal with a			
	talker at the			
	other end.			
Intra-	Calls lost while	Intra-network	< 6%	If operators are
network	attempting to	call	< 4.5%	meeting current
call	connect through			3% benchmark for
connection	from an	loss should		the Call Drop
loss	originating or	be $\leq$ 3%.		Ratio under
	trunk service to a			current regulation,
	terminating			this should be the

Inter- network call connection loss	switch with a different trunk code within the network service of the same provider due to network congestion or technical faults. Calls lost while attempting to connect through a network from an originating point of interconnection to a terminating switch with a different trunk code in the network service of a different provider due to network	call connection loss should	< 6% < 4.5%	final target. However, NTA may determine glidepath from 6% may be appropriate. If operators are meeting current 3% benchmark for the Call Drop Ratio under current regulation, this should be the final target. However, NTA may determine glidepath from 6% may be appropriate.
Voice (mobi	le)	L	<u> </u>	
Mobile network accessibilit y	The probability that mobile services are available to an	Network accessibility should be > 99%.	> 80% > 90%	
J	end customer by display of the network			

Grade of	indicator on the mobile test equipment throughout the entire duration of the sample. The probability	Grade of	< 10%	
service	that the end customer cannot	Service should be $\leq$	< 5%	
	access the	2%.		
	mobile services			
	when requested if it is offered by			
	display of the			
	network			
	indicator on the			
	mobile			
<b>D</b> · · ·	equipment.			
Data service	<b>i</b>	G	> 900/	
Service activation	Activation of new data	Successful acivations	> 80% > 90%	
and	services or	should be >	> 90 %	
provisionin	reactivation of			
g		requested		
	services.	activations.		
		Activation to		
		occur within		
		4 hours of		
		request.		
Data	Download	Successful	> 60%	
download	attempts that		> 70%	
	result in the successful	should be > 80% of all		
	Successiul	0070 OI all		

	transmission of	attempted		
	data.	downloads.		
Data	Upload attempts	Successful	> 55%	
upload	that result in the	downloads	> 65%	
uproud	successful	should be >	2 00 /0	
	transmission of	75% of all		
	data.	attempted		
		uploads.		
Throughput	Throughput for	Throughput	> 55%	
	packet data	should be >	> 65%	
	1	75% of the		
		subscribed		
		network		
		speed.		
Data	The time taken	Data latency	Glidepath	
latency	for a message to	should be <	determined	
	be sent via an	250 ms.	by NTA.	
	exchange to the			
	intended			
	terminal.			
Billing and c	complaints			
Billing	The integrity and	Percentage of	10%	Operators who
performanc	reliability of the	billing	5%	have provided
e	billing system as	disputes		data appear to be
	measured by the	should be $\leq$		meeting these
	accuracy and	2% of total		targets, therefore
	timeliness in	bills over		the glide path is
	resolving billing	billing		more challenging.
	disputes. Billing	period.		
	disputes include		80%	
	any complaint		85%	
	relating to	billing		
	payments	disputes		
	wrongly	should be		

				<u>_</u>
	credited, double	resolved		
	charges, late	within 15		
	bills, non-receipt	business days		
	of bills and any	of receipt of		
	other billing	complaint.		
	error.		85%	
		95% of	90%	
		billing		
		disputes		
		should be		
		resolved		
		within 30		
		business days		
		of receipt of		
		complaint		
Complaint	A customer	Number of	< 100	Operators that
resolution	complaint is any	complaints	complaints	have provided
	complaint	should be $\leq$	per 1,000	data appear to be
	received on	50 per 1,000	customers	meeting these
	service matters	customers		targets, therefore
	including late or	over 12-	< 75	the glide path is
	no service	month period.	complaints	more challenging.
	restoration after	-	per 1,000	
	a report has been		customers	
	made, poor line			
	quality or grade			
	of service,			
	complaints			
	relating to staff			
	or contractors, or			
	any other			
	service-related			
	issue.			

#### **Data Regulations**

It is proposed that there be a 6 month grace period from the implementation of general regulations until the implementation of data regulations. This is to prevent licensees from being subject to a major jump in the number of regulations they must comply with within a relatively short space of time. Such a situation would likely make it more difficult for licensees to meet any regulations at all. It is also proposed that there be a glide path for the introduction of data regulations as set out in Exhibit A.C.2 below.

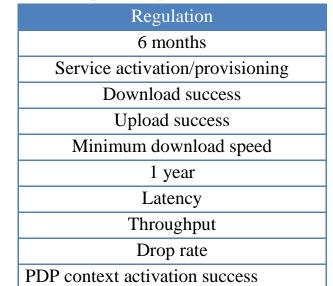


Exhibit A.C.2: Proposed implementation of data regulation

#### Penalties

It is proposed that in addition to QoS targets being subject to a glidepath that there should be a phased implementation of penalties as well. Based on global precedents we propose the following possible timetable for the implementation of penalties for QoS regulation breaches.

Time	Maximum Penalty	Explanation
Frame		
First 6	No penalties	In order to prevent punitive penalties from
	1	
months	imposed	impeding the ability of licensees to meet
		the new targets it is proposed to grant an
		amnesty period where they will not be
		subject to penalties.
6 months	1.5m NPR (approx	This maximum penalty is below global
	17,000 USD)	standards, however it is thought to be
		appropriate given the aim of not
		jeopardising QoS by imposing excessive
		penalties.
2 years	2m NPR (approx	Increases of this level should not be unduly
	23,000 USD)	burdensome to licensees but should
		appropriately incentivise maintenance of
		appropriate QoS services.
3 years	2.5m NPR (approx	Increases of this level should not be unduly
	29,000 USD)	burdensome to licensees but should
		appropriately incentivise maintenance of
		appropriate QoS services.
5 years	3.5m NPR (approx	This penalty would be broadly in line with
	35,000 USD)	global practises and would not be
		unreasonable given the length of time
		licensees would have to meet QoS
		requirements

## Exhibit A.C.3: Proposed penalty glidepath

#### **Issues for Consultation**

- 1. At present, QoS monitoring and enforcement is carried out taking the NTA approved QoS benchmark as a reference. What is your view on carrying out QoS monitoring and enforcement through Regulation?
- 2. Give your opinion on the QoS benchmarks for voice services (PSTN and mobile) which is specified in section part II 4.1 (a)? If you have alternatives, please suggest them with appropriate justification.
- 3. Give your opinion on the QoS benchmarks for voice services (Mobile) which is specified in part II 4.1 (b)? If you have alternatives, please suggest them with appropriate justification.
- 4. Give your opinion on the QoS benchmarks for data services which is specified in part II 4.1 (c)? If you have alternatives, please suggest them with appropriate justification.
- 5. Do you agree with the QoS benchmark for billing and customer complaints which are specified in part II 4.1 (d)? If you have alternatives, please suggest them with appropriate justification.
- 6. For each quality of service standard that is reportable for a service, and for each reporting period, a Licensee shall perform the measurements, reporting and record keeping which is specified in part III section 5 of the Regulation. If you have any comments and suggestion, please state that with good justification.
- 7. Without prejudice to anything contained in or any action required under these regulations, the Authority may publish such survey results, service audit results, and/or rating of Licensees for the information of the general public with or without additional notes or comments on its website and/or in any form or manner, as it considers appropriate which is specified in part IV.7. Do you agree with that? Please comment.
- 8. State any other comments and/or suggestions with justification if you have.