

NON-CONFIDENTIAL VERSION

Submission to the Independent Communications Authority of South Africa

Comments pertaining to the Notice regarding the amendment of the ICT COVID-19 National State of Disaster Regulations

TELKOM SA SOC LTD

Submission Date: 7 May 2021

1. INTRODUCTION

Telkom welcomes the opportunity to comment on the review of the ICT COVID-19 National State of Disaster Regulations (“the Regulations”).

The Regulations were promulgated having given consideration to the Electronic Communications, Postal and Broadcasting Directions issued by the Minister of Communications and Digital Technologies in terms of Regulation 10(8) of the Disaster Management Act of 2002 (the “Directions.”). The purpose of the Directions was to facilitate the availability and use of digital technologies to combat the spread of COVID-19. The purpose of the Regulations, which followed the Directions, is to prescribe minimum standards that licensees must adhere to in order to facilitate the dissemination of information required for dealing with the National Disaster and to ensure that there is continuation of the provision of services in the Republic. The purposes as outlined in both the Directions and the Regulations respectively remains valid to date.

The purpose as outlined in both the Directions and the Regulations remains valid to date.

The Authority has also, repeatedly in its media statements relating to the various amendments to the Regulations stated that:

“The temporary release of high demand spectrum (HDS) to licensees is aimed to mitigate the impact of the national state of disaster following the outbreak of COVID-19 in 2020 mainly easing network congestion, maintaining good quality broadband services and enabling licensees to lower the cost of access to consumers.”

Telkom notes the specific written representations, including reasons thereof, that the Authority requires from interested parties and the public as outlined in section 8 of the notice calling for representations. Telkom's detailed written representations are outlined hereunder.

1.1. Ongoing National State of Disaster

The Authority is aware that the continuing date of national disaster in the country is regulated and managed in terms of the Disaster Management Act, 57 of 2002 (“the DMA”), and Regulations made thereunder. At the moment the applicable Regulations promulgated under the DMA prescribe the state of national disaster to be at Alert Level 1. It follows therefore that the state of national disaster is still of force and effect. It is also expected that the current expiry date of 15 May 2021 will again be extended until there is a level of certainty that the pandemic has been successfully contained and managed. In that event the state of national disaster will have to be terminated by means of an appropriate publication in the official gazette, in terms of section 27(5)(b) of the DMA.

As South Africa enters its annual winter season, there are widespread expectation that a third wave

TELKOM SA SOC LTD

Submission Date: 7 May 2021

of COVID-19 outbreak may occur, that could result in lockdown alert level changes or further restrictions being imposed. Resurgence of COVID-19 outbreaks are continuously occurring internationally, as is currently also seen in for example India, resulting in other nations implementing new or more stringent lockdown rules. This is also reflected in the country's international borders remaining impacted with ongoing travel restrictions, both incoming and outgoing. On 6 May 2021 South Africa recorded in excess of 2000 daily positive cases of COVID-19; this level was last seen in February 2021.

South Africa has recently started its COVID-19 vaccination programme, which is expected to take many months to be completed. Experts are of the view that, until a certain level of vaccination has been reached, South Africa remains vulnerable to new outbreaks. Also, the vaccination programme will require ICT support in the form of sending of free SMSs, zero rating of sites, etc.

Although South Africa moved from lockdown level 5 to level 1, many companies and government institutions continue to operate remotely from their ordinary places of work, as encouraged by the government for South African's to continue observing non-pharmaceutical measures, including social distancing. Some companies also continue to implement shifts, with staff working alternatively from the office and from home. Most universities also continue to operate remotely, with only selected students having returned to campus. Many schools also employ a hybrid model of rotating learners between attending classes and learning and studying from home. Virtual learning has been introduced as an additional tool to support schools in their duties to educate learners.

The continued availability of additional mobile network coverage and capacity using the temporary assigned spectrum, reducing cost to communicate, zero-rating of educational and health web sites, etc. are essential to continue to support South Africans to work and study from home or remotely and to cater with the additional data demand.

1.2. Executive summary of the main propositions in this document

- The National State of Disaster is ongoing with many companies, government institutions and universities continuing to work and function from home, even under national alert level 1. Indications are that the third wave of the pandemic is emerging, based on the increased number of cases during the last seven days. This continues to put a huge demand on Telkom's mobile network, which must be supported through the ongoing availability of the temporary assigned spectrum. The availability of additional mobile network coverage and capacity is needed to support South African citizens through the National State of Disaster. Ongoing support in the form of reduced cost to communicate, zero-rating of educational and health web sites, etc. are vital to support South Africans to work and study from home or remotely. Telkom addressed the increase demand for data due to the national lockdown through the use of its existing licensed spectrum as well as the temporary assigned spectrum.
- The interim court order does not prohibit the continued licensing of temporary spectrum under

TELKOM SA SOC LTD

Submission Date: 7 May 2021

the ICT COVID-19 National State of Disaster Regulations. The issue of the continued application and validity of temporary spectrum licences issued by the Authority upon the Direction issued by the Minister was not raised or determined through the interim interdict. It also does not render the original reasons for licensing of temporary spectrum any less valid.

- The use of the 700 MHz and 800 MHz frequency bands is limited to areas where broadcasting systems have not been deployed. In the areas where Telkom could deploy mobile IMT services, a positive effect on network coverage and throughput and therefore customer experience is obtained.
- The spectrum sharing arrangements or spectrum pooling approved through the Regulations may be beneficial for the involved operators but are not beneficial for competition and consumers. These sharing arrangements must be scrutinised carefully for potential anticompetitive effects. This is true especially when any such arrangements include spectrum or capacity sharing designed to provide extra capacity to Vodacom and MTN in the context of a highly concentrated market.

The reference to Government Gazette No. 43107, Notice 318 in para 2 of the introduction section seems incorrect. The policy directions were published on 26 March 2020 in Government 43164, Notice 417.

The rest of the submission is structured as follows:

- Section 2 addresses the impact of the National State of Disaster on Telkom's network
- Section 3 highlights the benefits in the use of the temporary spectrum
- Section 4 contains responses to the specific questions raised in the Notice.

2. IMPACT OF THE NATIONAL STATE OF DISASTER

2.1. Overall network performance:

Telkom experienced a huge increase in demand for data on its mobile network at the start of the national lockdown, which confined people to their homes, resulting in overwhelming reliance on the mobile network for work, education, information and entertainment.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Telkom's network performance during this period and in concentrated areas was impacted by Telkom not having an assignment of sub 1 GHz spectrum, meaning that the existing 1800 MHz band in those areas was configured for both coverage and capacity, versus other operators with access to sub 1 GHz, who have more flexibility from a coverage perspective. When the traffic patterns change abruptly as it did during lockdown, it added further pressure on Telkom's dual coverage/capacity configuration in 1800 MHz.

The application of temporary spectrum made a positive impact on Telkom's network, and even though

TELKOM SA SOC LTD

Submission Date: 7 May 2021

coverage spectrum could not be deployed everywhere needed (due to presence of broadcasting systems), it did have a limited positive impact. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Rollout of temporary spectrum is ongoing. Telkom files regular reports to the Authority on the deployment of temporary spectrum assigned to it and how it is responding to capacity demands occasioned by the changes in the traffic flow.

Overall peak network data are also split between FDD (700 MHz, 800 MHz, 1800 MHz and 2100 MHz) and TDD (2300 MHz and 2600 MHz) traffic, which is indicated in Figure 3 below.

[REDACTED]

[REDACTED]

As mentioned, the unavailability of 700 MHz and 800 MHz due to the presence of broadcasting

TELKOM SA SOC LTD

Submission Date: 7 May 2021

systems, made it impossible for Telkom to deploy mobile systems in these bands optimally at all of the critical areas of the network: 45% of intended sites had to be re-planned and re-acquired after interference studies were done together with Sentech. In addition, [REDACTED]

[REDACTED]

Site level performance is indicated below where measurement have taken place at sites where temporary spectrum could be deployed: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Telkom followed a roll-out prioritisation in underserved areas across provinces as listed in Table 1 below. The intention was to ensure that networks are extended to those areas currently not serviced through Telkom's network or where the radio coverage is less adequate.



TELKOM SA SOC LTD

Submission Date: 7 May 2021

3. BENEFITS IN THE USE OF THE TEMPORARY SPECTRUM

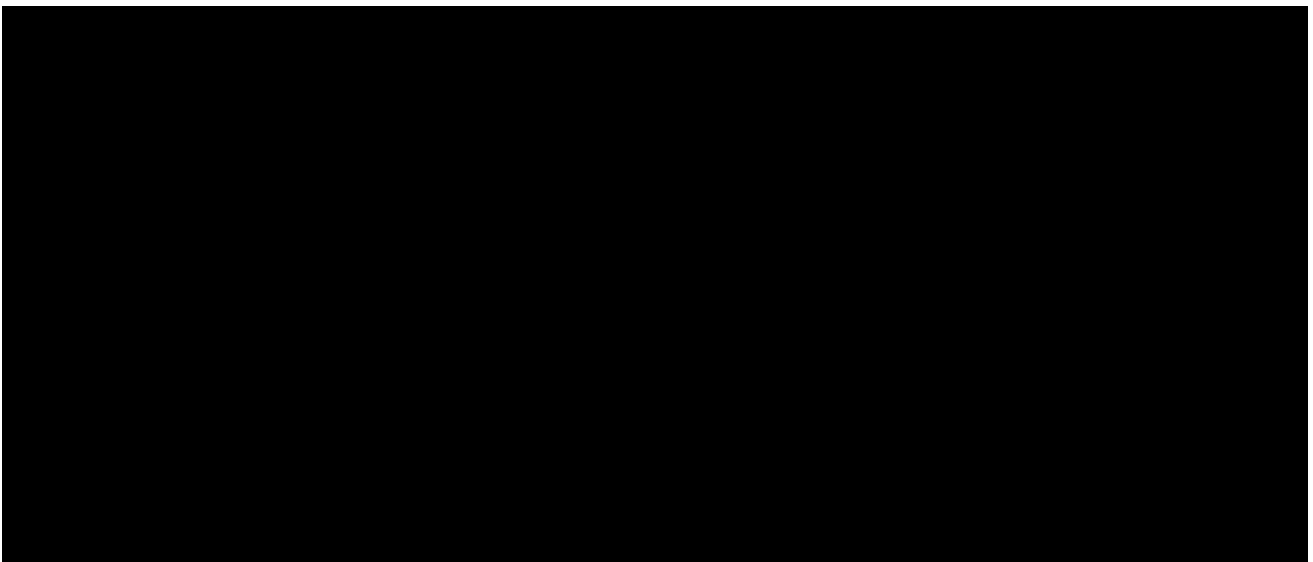
As soon as the temporary spectrum was licenced, Telkom Mobile planned, procured and started deploying these throughout the network. This was needed in order to address the increase in data demand due to the National State of Disaster, as shown in the data below.

Impact if TDD temporary licenced spectrum is removed:

The below analysis includes the TDD bands namely 2300 MHz (i.e. 2300-2385 MHz), which is licensed to Telkom, and temporarily licenced 2600 MHz (i.e. 40 MHz).

The contribution of 4CC/6CC (4CC is 4 carriers of 20 MHz each in the 2300 MHz band licensed to Telkom and 6CC refers to two additional 20 MHz carriers in the 2600 MHz band using the temporarily licenced spectrum) traffic is clearly visible in Figure 5 below. The bar graph indicates the number of sites deployed since the licencing of the temporary spectrum, [REDACTED]

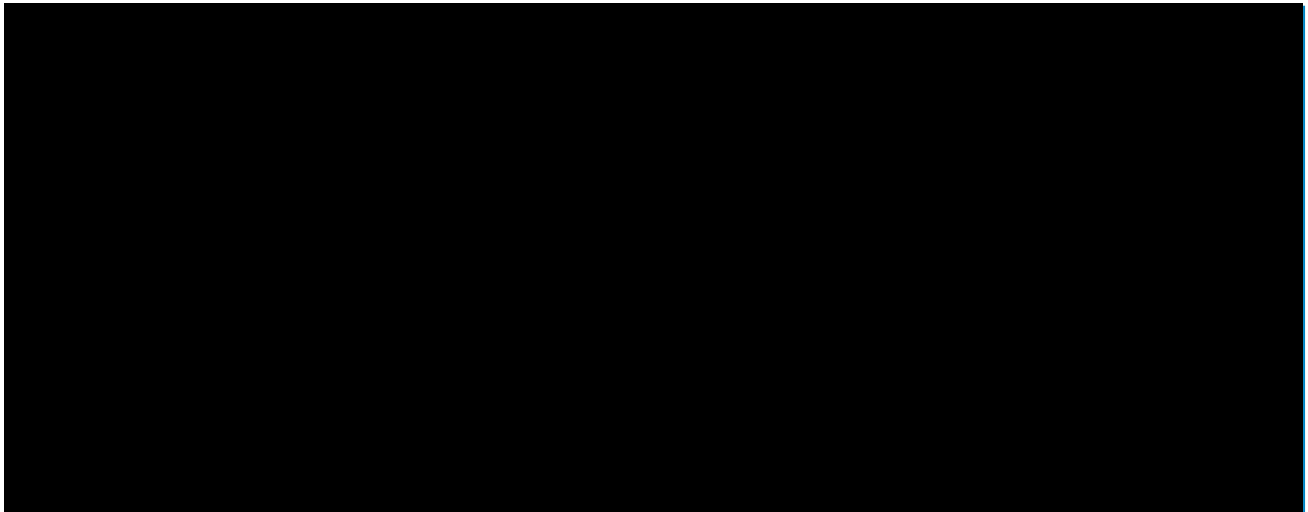
[REDACTED] Permanently assigned spectrum will not be able to cater for this, which will result in severe congestion and decrease in network quality.



[REDACTED]

TDD network performance in terms of resource block utilisation and average daily throughput is indicated in Figure 6 below. The positive impact on the network since the start of deployment of the

temporary spectrum is clear.



Removal of the temporary spectrum, while the National Disaster is still ongoing, will have a negative impact on Telkom's network and therefore in customers. Both improvement as a result of the

temporary TDD spectrum and destruction if same is removed, are indicated in Table 2 below.

[REDACTED]					
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Impact if FDD temporary licenced spectrum (i.e. 700 MHz and 800 MHz) is removed:

The IMT700 and IMT800 frequency bands are occupied by analogue and digital television transmitters, as reflected in the Terrestrial Broadcasting Frequency Plan 2013, as amended. In accordance with Telkom’s Temporary Radio Frequency Spectrum Licence (IMT/TEMP/RF003/APR/20), sharing and coexistence in these bands are to be implemented systematically through a geographic separation of mobile IMT systems and broadcasting services (para 5.6 of the spectrum licence). If harmful interference is experienced in the IMT700 and IMT800 radio frequency bands, Telkom shall switch off the affecting site and coordinate again with the broadcasters (para 5.7 of the spectrum licence).

Telkom did extensive analysis and calculations pertaining to the coordination of its planned mobile system deployments with the existing broadcasting systems deployed in the 700 MHz and 800 MHz frequency bands. Measurements of broadcasting signals were also performed in the field to ascertain the availability of the licenced spectrum for IMT mobile use. Notwithstanding these efforts, harmful interference was caused to some broadcasting systems, which was reported by the Authority and Sentech to Telkom for resolution. Telkom had to switch off 88 mobile base stations in some areas in order to remove harmful interference. In these areas, the use of the licenced spectrum for mobile is not possible due to the presence of broadcasting signals.

The use of 700 MHz and 800 MHz has been limited due to the presence of broadcasting services operating within these bands. In some areas, for example large parts of Cape Town and Pretoria, Telkom could not deploy sub 1 GHz mobile systems due to the presence of broadcasting systems. It

TELKOM SA SOC LTD

Submission Date: 7 May 2021

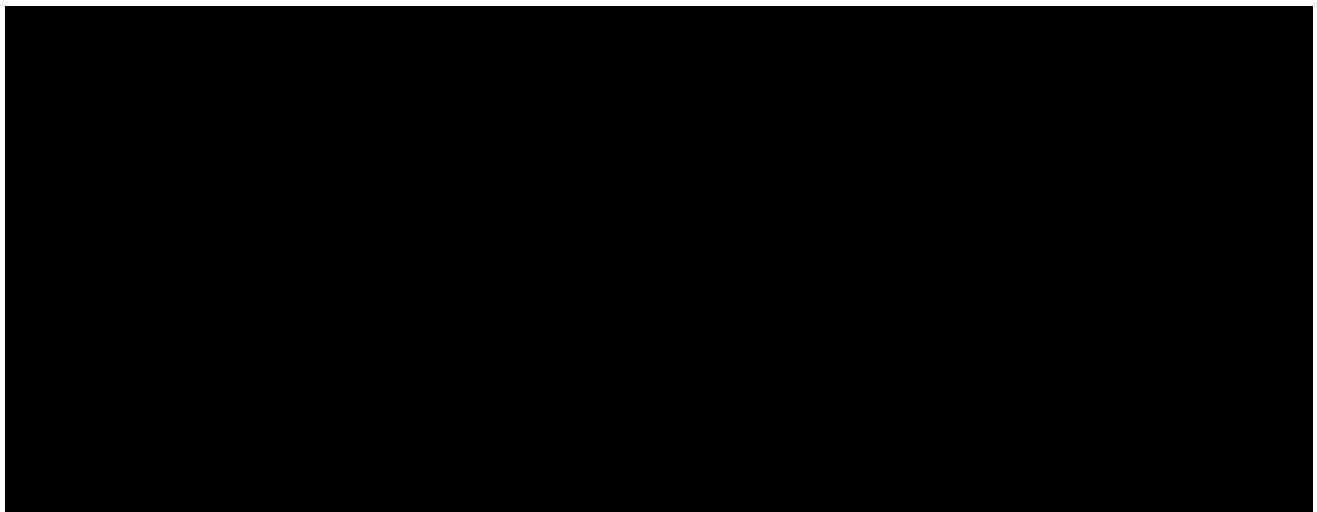
was therefore impossible for Telkom to implement 700 MHz and 800 MHz optimally at all the critical areas of the network: 45% of intended sites had to be re-planned and re-acquired after interference studies were done together with Sentech.

The below analysis includes the FDD bands namely 700 MHz (2x10 MHz), 800 MHz (2x10 MHz), 1800 MHz (2x10 MHz used for LTE) and 2100 MHz (2x5 MHz used for LTE). Spectrum currently used for GSM and 3G in the 1800 MHz and 2100 MHz bands respectively are excluded.

The contribution of LB (low band or sub 1 GHz) traffic, in the limited cases where it was possible to deploy, is indicated in the figure below. The bar graph indicates the number of sites deployed since the licencing of the temporary spectrum, [REDACTED]

[REDACTED]

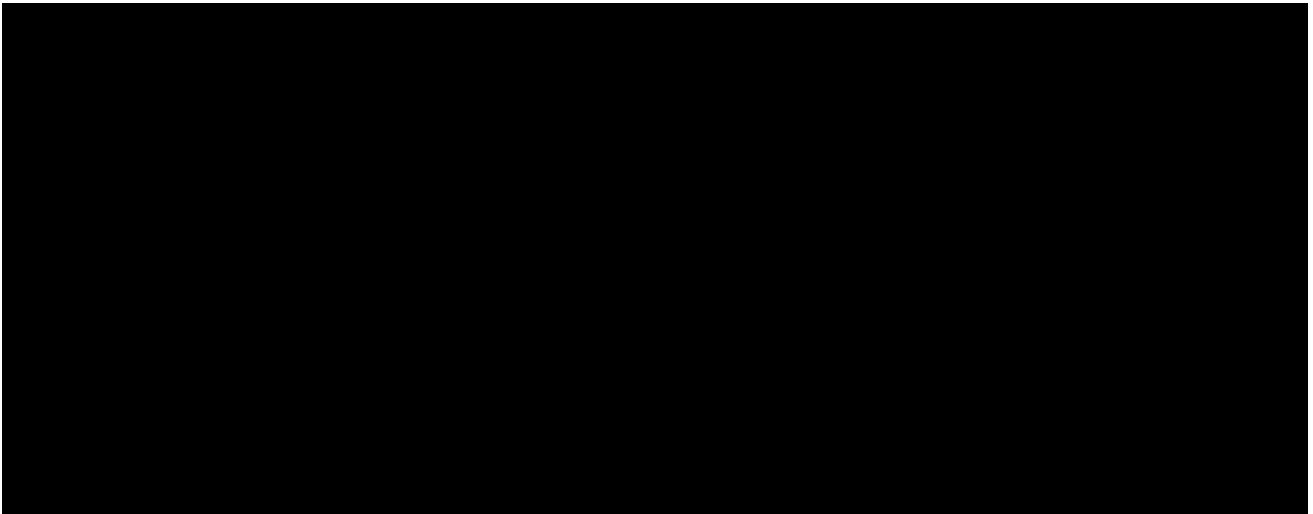
[REDACTED] The impact of COVID-19 lockdown is also clearly visible.



[REDACTED]

FDD network performance in terms of resource block utilisation and average daily throughput is indicated in Figure 8 below. The impact of the COVID-19 lockdown on the network on daily downlink

resource block usage and average daily throughput is clearly visible in the figure below.



[Redacted Section Header]

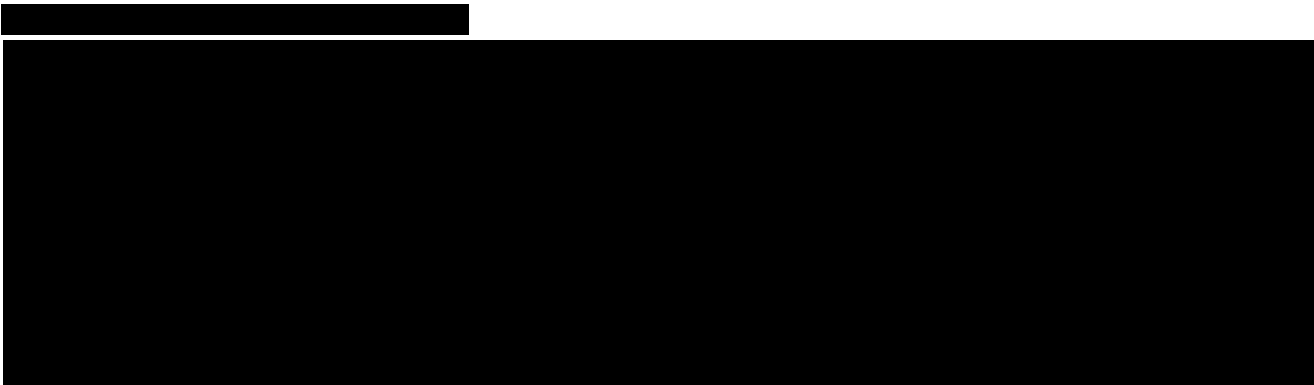
Removal of the temporary licenced sub 1 GHz spectrum will have a negative impact on Telkom's network and therefore its customers in the limited areas where it could be deployed. It will also negatively impact upon other persons who communicate with Telkom's customers for business, commercial, educational purposes, and also for service delivery purposes. Both the improvement resulting from the grant of the temporary FDD spectrum and negative consequences flowing from the

withdrawal or non-renewal of such spectrum are indicated in the table below.

[REDACTED]					
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

The coverage improvements due to the deployment of sub 1 GHz per province and per area type is indicated in Table 4 below. An improvement of around 131% between 1800 MHz and sub 1 GHz bands are observed through link budget calculations (i.e. cell radius of 1.9 km versus 0.82 km for sub 1 GHz and 1800 MHz respectively). Therefore, where the sub 1 GHz bands are available for mobile

use, it does improve network coverage and throughput to the benefit of customers in those areas.



Overall impact of temporary spectrum deployment:

Despite significant traffic increases, and associated negative network impacts stated earlier, as stated previously, the temporary spectrum has enabled Telkom Mobile to substantially improve network performance. These notable network improvements have been widely acknowledged by both our customers and the South African media. To determine the effect of the COVID-19 temporary spectrum on Telkom Mobile’s network, Mybroadband measured our average network performance across three time periods:

- 1 January to 31 May 2020: Before the temporary spectrum was rolled out
- 1 June to 31 August 2020: Immediately following the roll-out of temporary spectrum
- 1 September to 30 November 2020: The months following this rollout

As captured in Table 5 below, Mybroadband found that Telkom Mobile’s network had improved significantly due to the COVID-19 temporary spectrum allocation made by ICASA.

Table 5: Telkom’s national network performance impact of COVID-19 spectrum¹

	Before spectrum	Immediately after spectrum	Months after spectrum	Improvement since start of lockdown
Download	20.45 Mbps	23.78 Mbps	27,39 Mbps	34%
Upload	5.01 Mbps	7.20 Mbps	8.14 Mbps	62%
Latency	44 ms	29 ms	29 ms	34%

Telkom Mobile supported Government’s emergency crisis management initiatives and improved offerings to connect South Africans during the pandemic, by zero-rating more than 1,000 sites for the

¹ MyBroadband: How additional spectrum improved Telkom’s network performance’ – 21 September 2020

National Department of Basic Education and Department of Higher Education and Training (DHET). In addition, we also offered substantial discounts on data as follows:

- Data bundles at cost price to all Universities, Technical and Vocational Education and Training (TVET) Colleges
- 40GB² of data at ZAR99 to identified groups
- 803 779 data bundles offered to multiple Universities in South Africa until March 2021 at discounted price.
- Introduced prepaid LTE offering; starting with a 10GB (5GB + 5GB) LTE product at ZAR99 for both pre-and-post-paid customers and we launched a 1TB package at ZAR999 to support increased requirements for big data bundles.
- Reduced the Business Hours Unlimited LTE package from R599 to R399.

As network expansion continues through the deployment of both current and temporary licensed spectrum, network congestion related complaints have decrease significantly. The monthly customer issues, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

² 20GB Telkom Mobile Anytime Data + 20GB Telkom Mobile Night surfer data

4. SPECIFIC COMMENTS PERTAINING TO THE REGULATIONS

4.1. Ad section 8 (Temporary radio frequency spectrum licences)

- (a) Should the Authority consider further extending the duration of the temporary radio frequency spectrum licences beyond 31 May 2021 despite the issues raised in the pending litigation and the interdict which has been granted against it.

The Authority seems to suggest that the interim interdict which prohibits it from proceeding with the auction and licensing of the WOAN pending the Court's determination of the reviews launched extends to the use of the temporary spectrum. This is incorrect.

The pending litigation relates to the ITA process and not the temporary assignment of spectrum and the licensing process thereof. The Authority has itself, in the Clarification responses stated that these are two different processes.

Although the Authority refers to "issues raised in the pending litigation", which allegedly impact on the temporary licensing of spectrum, it does not state what those issues are. Neither Telkom nor e.tv in their founding papers referred to the ITA process impacting on the temporary licensing process. The Authority itself, in both its answering affidavits in the pending litigation, did not refer to any issues which relate to or in any way have any effect on the temporary licensing regime. The interim interdict order does not impact on the temporary licensing process and therefore the Authority is not restricted or prohibited from continuing with the temporary licensing of spectrum under the Regulations.

If the temporary spectrum is not extended beyond 31 May 2021, and while the auction has not taken place, the impact on Telkom's network will be severe. Not extending the temporary spectrum will not be in the interest of consumers and the public, who cannot take advantage of this spectrum, which will be unused pending the auctioning of the spectrum. It will also undermine the government's measures to contain the spread of the COVID-19 virus. There is no justification for such action, especially considering the ongoing COVID-19 National State of Disaster. The Authority should assist Government in facilitating the availability and use of digital technologies and ensuring that there is continuation of the provision of services, especially during the ongoing national disaster period.

Telkom proposes that the right of use of the temporary spectrum should be extended as originally contemplated by the Regulator, i.e. until the process of licencing spectrum (through the ITA or other mechanism) to operators has been concluded.

- (b) The appropriate extension period.

The temporary spectrum should be extended for at least 3 months after the end of the National State of Disaster or until the licensing of spectrum on a permanent basis have been concluded.

- (c) The spectrum fees which should be applicable to the extension period.

Licensees, including Telkom, provide extensive public support during the State of Disaster in the form

TELKOM SA SOC LTD

Submission Date: 7 May 2021

of zero-rating of education and health sites, deployment of virtual classrooms, sending SMS's, etc. With the extension of the use of the temporary spectrum, the Authority decided that spectrum fees must be paid by licensees, without providing any reason for such decision.

Telkom's preference was and remains not to pay for the use of the temporary licenced spectrum but rather to add additional consumer benefits to directly assist South Africans during the pandemic.

If the Authority insists on charging for the use of the temporary spectrum, Telkom supports the calculation of the use of the temporary spectrum fees based on the prescribed regulations. Telkom also supports the "discount" given to the use of the 700 MHz and 800 MHz seeing that these bands are not available nationally for use for mobile services due to the presence of broadcasting services in the band.

The spectrum fees for temporary use of these bands should however not be determined based on the spectrum valuations done by the Authority in preparing for the auction, including the Authority's determined reserve prices for these frequency bands. The spectrum band valuations were done considering the availability of these bands on a national basis and the licencing thereof over a 20-year period. The obligations considered in the ITAs are also different than those applicable under the Regulations and therefore not comparable. There is no relationship between the spectrum valuation done for the auction and the temporary use of these bands for purposes of addressing the National State of Disaster and the former can therefore not be used.

(d) Competition impact and proposed remedies, if any, of the further extension of temporary radio frequency spectrum licences.

Vodacom received the largest portion of the temporary spectrum assignments (i.e. 160 MHz), with MTN a close second (i.e. 140 MHz). Telkom received only 92 MHz (not considering the 2300 MHz band, which is already licensed to Telkom). Liquid and Rain received 4 MHz and 30 MHz respectively.

The Authority determined through its MBSI process that Vodacom and MTN are dominant in the mobile market. The assignment of the bulk of spectrum on a temporary basis to the duopoly, in addition to the access they have to additional capacity through the spectrum arrangements, will further entrench their dominance. This spectrum allowed Vodacom and MTN to deploy 5G services. Telkom cannot match this due to limited 3500 MHz assignment, part of which is available only on a regional basis.

It is not clear to Telkom to what extent Vodacom and MTN use their temporary assigned spectrum in terms of the bands licenced to them or the number of sites where this spectrum has been deployed. Nevertheless, it is clear to Telkom that Vodacom does not use its 2300 MHz temporary assignment as no frequency coordination with Telkom has been done since the licensing of the temporary spectrum. Also, MTN in their application to extend the temporary use of the spectrum, indicated the benefits and use of their 2600 MHz and 3500 MHz temporary assignments. There is however no

indication that they are using their 700 MHz/800 MHz assignments.

For the benefit of consumers and efficient use of spectrum, Telkom requests the Authority that the 20 MHz temporary assignment of 2300 MHz to Vodacom be revoked and that Telkom be allowed to use this bandwidth to further augment its existing 2300 MHz network. Adding the additional bandwidth (i.e. 13 MHz or 2387-2400 MHz) to Telkom’s existing network will cost effectively add additional capacity to its mobile network for purposes of addressing the network requirements of the State of Disaster to the benefit of its customers specifically and consumers in general. Telkom will also be able to assess the compatibility between IMT operating at the top end of the 2300 MHz band and Wi-Fi systems operating in the 2400 MHz band (i.e. in the band 2400-2483.5 MHz).

Also, Telkom may request the Authority to allow it to use its existing 28 MHz licenced in 3500 MHz in areas where it is currently not licensed, as needed. This will allow Telkom to use the temporary licenced 12 MHz more effectively throughout the country where needed (will provide 40 MHz assignment which is not enough for full 5G capability but will allow Telkom to better use this spectrum and start deploying 5G services). Telkom’s commercial 5G Proof of Concept (POC) has proven that the additional capacity enabled through EN-DC (E-UTRAN New Radio - Dual Connectivity) deployment together with 2300 MHz has assisted greatly in areas where fixed services can’t be deployed quickly. With ongoing COVID-19 waves and associated lockdowns, this remains a key enabler to provide high-speed throughput in specific areas where fibre services can’t be rolled out in time.

(e) Consumer benefits in respect of spectrum obligations that the Authority should consider regarding further extension.

As indicted above, the temporary spectrum significantly improved network coverage and capacity and therefore supported the increase network demand while also improving network quality and experience.

Zero-rating of educational sites:

Telkom zero-rated URLs received from the DCDT on behalf of the Department of Basic Education (DBE) and the Department of Higher Education and Training (DHET), where new sites are added on a weekly basis. As on 12 April 2021 a total of 1,002 educational URL’s/IP’s have been zero-rated. The total data consumed through zero-rated sites as well as the associated monthly costs is reflected in the table below. The total accumulative amount pertaining to zero-rating of sites is almost R212 mil.

	Mar – 20	Apr – 20	May – 20	Jun – 20	Jul – 20	Aug – 20	Sep – 20	Oct – 20	Nov – 20	Dec – 20	Jan – 21	Feb – 21	Mar – 21
Data Usage	6.47 TB	148.88 TB	118.69 TB	696.99 TB	695.72 TB	796.46 TB	800.83 TB	784.07 TB	927.21 TB	1 273.43 TB	1 266.31 TB	747.20 TB	1820.74 TB
Total Cost R0.02 MB	R 135 734	R 3 122 158	R 2 489 051	R 14 616 909	R 14 590 398	R 16 702 919	R 16 794 605	R 16 443 157	R 19 445 037	R 26 705 741	R 26 556 396	R 15 669 898	R 38 183 593

The exponential growth in data since middle March 2021 is reflected in the table above where costs

TELKOM SA SOC LTD

Submission Date: 7 May 2021

in March 2021 jumped to R38m.

Telkom has seen some massive volumes in the educational data that we have zero-rated due to some hosting services sharing IPs. The management as well as control of an open-ended zero-rating model is proving both challenging as well as time consuming, very often done on a re-active manner. A traffic analysis performed on top users revealed that several users are using in excess of 100 GB per week accessing zero-rated URL's/IP's.

The uncontrolled explosion in data use through zero-rated sites must be addressed, especially where it is evident that IPs are shared, or non-educational material are downloaded. Whereas some of this growth may be as a result of the academic year starting and therefore more students accessing the zero-rated sites, it may also be due to sharing of IPs for content other than education such as gaming and other non-educational content. It is with this concern in mind that Telkom made some proposals for consideration by the Authority when amending the regulations, which is provided in Telkom's response to section 15 of the Regulations. Telkom is investigating this with the assistance of the DCDT.

In addition to the zero-rating of educational sites, Telkom also provided customers with free access to 187 Government websites and nine COVID-19 websites. Telkom has also, through its subsidiary BCX, partnered with various organizations to make primary and secondary school content available via the www.bcxlearn.com platform.

Zero-rating of COVID-19 sites:

In addition to the zero-rated sites pertaining to health, Government and education, as indicated above, Telkom also zero rated eight COVID-19 specific sites as requested by the DCDT namely:

- COVID-19 Corona Virus South African Resource Portal
- Western Cape Government COVID-19 response
- Mpilo Department of Health App
- Government Corona Virus website
- National COVID-19 screening platform
- National Institution for Communicable Diseases
- National Institute for Occupational Health
- COVID Alert SA

TELKOM SA SOC LTD

Submission Date: 7 May 2021

4.2. Ad section 9 (Spectrum pooling arrangements)

(a) Spectrum sharing / pooling arrangements on a temporary basis which ICASA should consider.

Telkom did not apply for spectrum pooling under the Regulations and does not contemplate this at this stage.

(b) Competition impact and proposed remedies, if any, which ICASA should consider regarding the spectrum sharing arrangements.

Telkom is concerned about the finding by the Authority in the Mobile Broadband Services Inquiry (MBSI) that the spectrum arrangements between the major players and smaller licensees promotes competition. This finding is not backed by any evidence. Telkom reiterates that these arrangements consolidate the duopolistic structure of the mobile market to the long-term detriment of competition in the sector. It is now trite that Vodacom and MTN are dominant and possess significant market power in the markets investigated by the authority. Thus, any arrangement that has the potential to enhance their dominance merits regulatory scrutiny.

Telkom is also concerned that the Authority has also concluded that there has not been any change of control of spectrum licensed to the smaller operators as a result of the arrangements they have entered into with the major players. The Authority made this finding without any regard to any evidence on the mechanics of each of the affected arrangements.

Telkom filed an application with the Competition Tribunal that the Vodacom/Rain spectrum arrangement constitutes a transfer of control and therefore should have been notified. One aspect of the arrangement between Vodacom and Rain possibly indicating a transfer of control, is the implementation of carrier aggregation (CA) between the spectrum licenced to Vodacom and that licenced to Rain. CA is implemented through spectrum pooling. The Competition Commission is currently investigating this transaction. Rain has 20 MHz permanently assigned in the 2600 MHz band while it obtained an additional 30 MHz through the temporary assignments bringing its total to 50 MHz. Vodacom was also assigned 50 MHz in the 2600 MHz band on a temporary basis, which give them potentially access to 100 MHz in the 2600 MHz. Telkom received only 40 MHz temporary assignment in this band.

Telkom understands that MTN applied under the Regulations for implementation of spectrum pooling of their 1800 MHz spectrum and the 1800 MHz spectrum licenced to Liquid Telecom. It is well known that a permanent arrangement between MTN and Liquid involving Liquid's 1800 MHz spectrum have been concluded between MTN and Liquid. Implementation of CA through spectrum pooling by MTN, a dominant player in the market, using the spectrum of a smaller player, will further entrench the dominance of MTN in the market. Access to Liquid's spectrum through spectrum pooling provides MTN a substantial additional advantage over other players, even if for purposes of addressing the

TELKOM SA SOC LTD

Submission Date: 7 May 2021

National State of Disaster.

Approval of spectrum pooling arrangements involving Vodacom and MTN as part of the temporary use of spectrum may further entrench the dominance of Vodacom and MTN and should be considered carefully by the Authority. MTN's access to Liquid Telecoms 1800 MHz spectrum through spectrum pooling, adds to their 140 MHz direct temporary spectrum assignment bringing their total to 164 MHz.

In light of the spectrum pooling and arrangements involving MTN and Vodacom, Telkom requests the Authority to:

- Revoke the 20 MHz in 2300 MHz band licenced to Vodacom on a temporary basis and licence this to Telkom. This will allow Telkom to further augment (by an estimated ~15% improvement in throughput) its existing 2300 MHz network. Adding the additional bandwidth (i.e. 13 MHz or 2387-2400 MHz) to Telkom's existing network will cost effectively add additional capacity to its mobile network for purposes of addressing the network requirements of the State of Disaster to the benefit of its customers specifically and consumers in general;
- Licence an additional 2 X 5 MHz in 800 MHz to Telkom, to allow further expansion of the coverage footprint while the migration of television services have not been finalised. Noting that, apart from Telkom's assignment in the 800 MHz band, the rest of the band has been licenced to Vodacom and MTN, Telkom is prepared to share its use of the proposed additional 2x5 MHz with Vodacom and/or MTN, in areas where they are not using their assignments and where there are no broadcasting systems present. This flexibility may allow Telkom an opportunity to deploy 800 MHz in areas such as Cape Town and Pretoria, if the sharing with broadcasting systems is possible.

(c) Consumer benefits in respect of spectrum obligations that the Authority should consider regarding the spectrum sharing arrangements.

The MBSI findings document draws the conclusion that because these spectrum sharing arrangements benefit operators, they are beneficial in general, i.e., beneficial to competition and consumers, and not just to operators. It may be in the interests of two operators to share, but the effects thereof may not be in the best interests of consumers. Telkom believes that the Authority must scrutinise these sharing arrangements carefully for potential anticompetitive effects. This is true especially when any such arrangements include spectrum or capacity sharing designed to provide extra capacity to dominant incumbents in a highly concentrated market. If the spectrum arrangements result in the two largest operators further entrenching their market positions, they will boost their profits at the expense of customers and the national economy for many years to come.

Spectrum sharing arrangements by the duopoly allows those operators to add additional capacity to the network in a highly cost-effective manner, thereby catering for the zero-rated obligations more

TELKOM SA SOC LTD

Submission Date: 7 May 2021

easily. National roaming customers, such as Telkom, doesn't have automatic contractual recourse for the zero rating of education and/or COVID-19 related websites used by subscribers during roaming, and therefore must still pay its national roaming partner a wholesale fee for this zero-rated data, even though Telkom provides the data for free. Wholesale operators must therefore also pass the zero-rated benefit to their customers such as Telkom. This will provide an end-to-end zero-rating of access to these web sites.

4.3. Ad section 10 (Obligations relating to IMT Radio Frequency Spectrum licensees)

(a) Consumer benefits in respect of spectrum obligations, including reducing cost to communicate, which the Authority should consider regarding further extension.

Sending SMS:

Telkom collaborates with the Government Communication Information System (GCIS) and Cut2Black, an agency which was appointed by the DCDT, to issue a series of daily Public Service Announcements (PSAs). Telkom sent messages via SMS's based on lists received from Cut2Black.

Telkom has highlighted, as did other licensees, that due to technical capacity limitations, Telkom can send only one PSA or SMS per day to its subscriber base. Telkom request the Authority to amend the Regulations accordingly.

The table below provides a summary of the number of SMSs sent to date.

Description	Volume
COVID-19 Govt SMSs Phase 1	22 400 000
COVID-19 Govt SMSs Phase 2	24 000 000
MMS's Telkom Group - staff messages	229 388
SMBS emailers	1 500 000
COVID-19 Govt SMSs Phase 3	6 000 000
COVID-19 Govt SMSs Phase 4	10 770 000

WASP Services including SMS, SMS Short Codes, USSD and Please Call Me provided (summary of volumes and costs in table below):

- **South African Social Security Agency (SASSA):** requested Telkom to zero rate the short codes 49953 (SMS), *134*7737# (USSD) and provide BulkSMSes for social relieve grants. This was done through a WASP Always Active Technologies (AAT), which is the WASP of choice for SASSA. Telkom provided a full credit in respect of the AAT account for these services.

TELKOM SA SOC LTD

Submission Date: 7 May 2021

- **Post office:** requested Telkom, through Cellfind (WASP), to zero rate USSD (*130*545#) for social relief grants.
- **DOH:** The Department of Health requested Telkom to send Covid-19 awareness messages via Please Call Me messages.

Month	Shortcode (49953) 0811601535		USSD (*134*7737#) 0811606237		USSD (*130*545#)	BulkSMS Bind (0811609747)	
Apr-20							
May-20	R6 479.72	12 959	R1 588 111.56	1 656 756	R0.00	0	
Jun-20	R11 645.02	23 290	R110 487.93	552 440	R16.00	R99 447.06	552 484
Jul-20	R11 049.46	22 099	R331 118.34	1 655 592	R21.00	R84 188.40	467 713
Aug-20	R8 761.32	17 523	R252 276.56	1 261 383	R6.00	R81 934.98	455 194
Sep-20	R8 688.06	17 376	R87 514.98	437 575	R24.00	R33 407.64	185 598
Oct-20	R17 347.74	34 696	R55 704.59	27 823	R0.00	R19 802.16	110 012
Nov-20	R19 072.74	38 146	R89 693.31	448 447	R0.00	R23 196.90	128 872
Dec-20	R18 718.08	37 436	R88 443.39	442 217	R0.00	R26 104.98	145 028
Total	R3 073 261.92						

Licensees will have to continue sending SMS's pertaining to the National State of Disaster including for example messages pertaining to Governments vaccination programme. It is therefore important that this obligation remains in place.

Data services at reduced prices:

Telkom provides the following to customers:

- 40GB of Data (20GB Telkom Mobile Anytime Data + 20GB Telkom Mobile Night Surfer Data) at R99 to identified groups, mostly comprising public and private institutes from the DHET. Approximately 803 779 bundles were sold at discounted price.
- To further enable connectivity, Telkom introduced a deeply discounted suite of DSL products from R199 for a 4Mbps entry level product.
- Telkom also doubled the speeds for both DSL and Fibre customers at no cost.
- Telkom introduced LTE prepaid propositions commencing at R99 for 10 GB data for both pre- and post-paid customers.
- Telkom launched the 1TB package at R999 in support of big bundle data requirements.
- Reduced the Business Hours Unlimited LTE package from R599 to R399

While the National State of Disaster persist and many people continue to work and study from home,

TELKOM SA SOC LTD

Submission Date: 7 May 2021

they will depend on access to mobile networks for data including streaming of online conferencing systems such as MS Teams, Zoom, etc. Licensees will have to continue providing sufficient mobile network infrastructure, including that provided through the licenced temporary spectrum.

Virtual classrooms:

Telkom is in the process of concluding the necessary vendor and service provider approvals and contracts, where after the deployment of the virtual classroom solution at the identified schools will commence.

4.4. Ad section 11 (Type approval relaxation measures)

(a) The validity period of temporary Type Approval authorisation.

Telkom supports the existing provisions as contained in the Regulations, i.e. that temporary type approval certificates remain valid for 3 months after the end of the National State of Disaster.

Telkom did not make itself use of the temporary type approval regime as per the Regulations. Nevertheless, a vendor of Telkom did use the provisions in the Regulations to obtain temporary Type Approvals on an expedited basis for equipment deployed by Telkom during the National State of Disaster. With the application for temporary type approval, the vendor also applied for the standard Type Approval as per the prescribed regulations. The relaxation of the regime for temporary Type Approval therefore assisted in a fast introduction of equipment to support connectivity under COVID-19. Telkom recommends that the regime for temporary Type Approvals under the Regulations remains in place for the duration of the National State of Disaster.

(b) Decommission period for temporary Type Approved equipment.

According to the Regulations, a supplier needs to obtain type approval of the equipment as per the prevailing Type Approval Regulations, if it wishes to continue using the equipment beyond this period. Sufficient time should be allowed to “normalise” the continued use of temporary type approved equipment, depending on the amount of equipment that was deployed during the National State of Disaster. Rather than decommissioning equipment, suppliers should apply for permanent type approval if the equipment does comply to the prescribed standards.

One of Telkom’s vendors did make use of the temporary arrangement for type approval; however, they at the same time also applied for the “permanent” type approval soon thereafter. The equipment deployed are therefore covered through type approval certificates obtained through the normal prescribed processes.

4.5. Ad section 12 (Complaints resolution)

(a) Timelines required to resolve complaints in light of the eased lockdown restrictions.

Telkom supports the existing provisions as contained in the Regulation 12(1) that Licensees are exempt from resolving complaints within the prescribed time frames. Telkom continues to be met with challenges in gaining access to customer premises where technicians need to conduct on-site testing and, in some instances, customers are not available at the times of the proposed schedules.

To finalize dismantlement requests for fixed services and cancellation of mobile services, Telkom must recover the equipment from customer premises equipment (CPE) / devices and issue the last invoice to be settled by the customers. For fixed, a technician must be dispatched, and for mobile either we send courier to collect the device or ask the customer to drop off the device at a Telkom store. There are instances where technicians struggle to gain entry to customer premises or customers are unavailable. Similarly, for mobile services it takes a while to arrange for collection due to customer unavailability and or customers refusing to drop off the devices at the Telkom Stores leading to delays in resolution turnaround. Repairs are delayed by the collection of CPEs / devices, booking into the warehouse, delivery of the device, and customer availability. These challenges continue to prevail even in lockdown level 1.

To resolve network related complaints such as slow speed, service out of order, network, etc. a technician must be dispatched to do on-site testing / diagnosis. Due to more customers working from home during lockdown, Telkom has experienced network related complaints caused by congestion, which are difficult to resolve speedily. To resolve such, there may be a need for a network / site upgrade, which Telkom may not have planned for in the current financial year. It also takes a while to repair and or replace damaged / vandalised infrastructure either due to budgetary or limited human resources capacity constraints thus affecting the resolution time. Furthermore, the installation of towers and optimisation of signals to improve connectivity and coverage is dependent on spectrum availability. Customers use more data than before from different sites that were provisioned for home use and they now find themselves depleting their data more quickly than before. The replacement of faulty CPEs / devices has also been a challenge as it is dependent on stock availability, scheduling, access to property, and testing of sites. There has been challenges with stock availability (CPEs / devices) from device manufacturers affecting sales requests and activation of services.

Telkom has also seen an increase in billing queries as a result of charges levied for e.g. out of bundle services, reconnection fees for suspensions as customers struggle to pay their bills on time and in full, early termination penalties due to customers cancelling their services due to network related problems, and customer delays in submitting required documents and waiting for the refund to reflect in their accounts. Resolution of fault related/out of service refunds get delayed by technical reports that must be generated after an inspection by a technician. Furthermore, there have been delays with the installation of new services, which depend on customer availability, availability of Openserve technicians, and infrastructure availability; problems with access to premises and scheduling of

TELKOM SA SOC LTD

Submission Date: 7 May 2021

appointments delays installation. Time to install new services are sometimes delayed by a limited number of technicians servicing more faults.

4.6. Ad section 13 (Tariffs and Fees)

(a) Timelines required to file tariffs and fees in light of the eased lockdown restrictions.

Telkom supports the continuation of the status quo i.e. that tariffs may be lodged with the Authority one day prior to launch, during the period of National State of Disaster. Telkom used this flexibility to file tariffs on short notice to support consumers during the COVID-19 pandemic. This arrangement should apply for tariff decreases and increases.

4.7. Ad section 14 (Deployment of Electronic Communications Facilities)

(a) Timelines for submission of notifications to ICASA regarding new installations of electronic communications facilities.

Telkom submits reports in this regard frequently on an ongoing basis. However, the prescribed 7-day period for submitting reports is not practical due to the time needed to plan, procure, build and operationalise network equipment. Also, many base stations are upgraded or built at the same time although the project plans and time needed for each will be different. Telkom therefore submitted reports in batches as work was completed, rather than sending a report strictly on a weekly basis. Telkom recommends that the time period either be changed to sending reports “frequently” or “monthly”.

4.8. Ad section 15 (Zero-rating services)

(a) Further considerations the Authority should take into account with respect to zero-rating.

Telkom would like to raise the following proposals for consideration by the Authority. The objective would be to ensure that Telkom can continue offering these services for free but simultaneously also limit the financial risk on Telkom:

1. In order to prevent Telkom carrying the cost for services where IP's are shared, all the existing and new zero-rated institutes should provide the SNI (Server Name Indication) information for their respective website. This will allow Telkom to reconfigure the service in a more secure manner.
2. The requests channelled via the ISPA's are largely unvetted and therefore it does contain

TELKOM SA SOC LTD

Submission Date: 7 May 2021

some shared IPs, which breakout into peer-to-peer and content applications contributing to the excessive costs. In cases where institutions are using services hosted by cloud providers, these should be highlighted in the request and the relevant SNI information provided.

3. The Authority must consider implementing a fair usage policy per individual SIM, that will ensure that all individuals will be able to access the free information while avoiding abuse by some. Consideration should be given to, for example, a 10 GB data cap per month per individual SIM. Also, throttling heavy users is an alternative to be considered to prevent abuse by some users.
 4. Wholesale operators must also pass the zero-rated benefit to their customers. Currently, Telkom must still pay its national roaming partner a wholesale fee for this zero-rated data, even though Telkom provides the data for free. The proposal is that for zero-rated data, wholesale cost between operators should also be zero-rated.
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