



**MTN SA SUBMISSION TO THE AUTHORITY'S MOBILE BU MODEL
AND DRAFT CALL TERMINATION RATES AMENDMENT
REGULATIONS *PUBLISHED IN GOVERNMENT GAZETTE NO. 50325*
ON 22 MARCH 2024**

10 MAY 2024

Contents

1. Executive summary.....	3
2. Introduction.....	7
2.1 Overall comments on the mobile BU model.....	7
3. Observations around key Model Outputs and Assumptions.....	8
3.1 Site number outputs.....	9
3.2 Key assumptions.....	12
3.2.1 Spectrum assignment.....	12
3.2.2 Voice traffic distribution.....	15
3.2.3 Site coverage area calculation.....	17
3.2.4 Population coverage.....	19
4 Proposed actions.....	20
4.1 Spectrum assignment.....	20
4.1.1 Amount of 900 MHz spectrum.....	20
4.1.2 Overall spectrum assignment.....	20
4.1.3 Allocation of 900 MHz spectrum.....	21
4.2 Carrier size.....	21
4.3 Voice traffic by technology.....	22
4.4 Coverage area.....	22
4.5 Population coverage.....	23
5 Observations on the draft Regulations.....	23

1. Executive summary

Mobile Telephone Networks Proprietary Limited (“MTN”) would like to thank the Independent Communications Authority of South Africa (“the Authority”) for the opportunity to comment on the Authority’s mobile BU LRIC model (“the model”) and the Draft Amendment to the Call Termination Regulations, 2014 (“the draft Regulations”) in accordance with section 67(8) of the Electronic Communications Act, Act No.36 of 2005 (“the ECA”).

MTN believes it is necessary to comment on the Authority’s mobile BU LRIC model published 15 March 2024, as this informs the proposed mobile termination rate as provided for in the draft Regulations. MTN notes that the Authority’s mobile BU LRIC model has undergone significant changes in its cost structure throughout the consultation process. Despite these major changes, the cost per minute output has remained remarkably stable across different versions. In the latest iteration, this stable output was achieved through calibration choices and assumptions that has led to a modelled network diverging significantly from reality in key aspects such as design, coverage, site counts, spectrum availability and deployment, vendor support, and user experience/quality of service.

During the consultation process, site counts (total sites, site per geotype, and per technology) increasingly aligned with MTN’s actual figures (such alignment being expected because MTN is the closest real-world benchmark to the 33% market share operator modelled by the Authority). Yet, in this latest iteration, the gap between the model and reality has suddenly widened across all three parameters. The model now assumes 10% fewer sites than deployed by MTN, despite considerably higher coverage assumed. The discrepancies for key geotypes (e.g., 33% less urban sites than MTN) and technologies (e.g., 3G has 40% fewer modelled sites than MTN actuals in 2022) raise serious doubts about the Authority’s latest network dimensioning. Similarly, the traffic assumed by the Authority to be carried on VoLTE in 2018 (23% in the model vs 1% actual and 2% in the Authority 2018 model) is unrealistic.

Another key area of departure from what is to be expected in a modelling exercise such as this to reflect reality is the coverage network. Since coverage is required regardless of the volume of (terminated) calls, the assumed scale of the coverage network artificially reduces LRIC. The coverage network modelled by the Authority increased substantially since the previous model version, with no clear justification. It now represents 85% of the total sites deployed in 2024, implying that only 15% of sites are deployed to meet capacity requirements. This assumption applied by the Authority contradicts industry experience and technological good practice.

The size of the modelled coverage network is in part caused by a significant error in the Authority's calculations—mixing up long and short hexagon diagonals for the calculation of cell coverage—which results in cells covering 25% less area than calculated by the Authority in its 2018 model (using the same inputs). This erroneous calculation gives a false sense of reasonableness because the reported coverage KPIs are therefore significantly underestimated in the early years of modelling (7456 coverage sites reported vs 8374 actually modelled in 2018–2023). Moreover, the 2G population coverage assumed in the latest model is even higher than v4.2, at 99.8%, which far exceeds real figures (MTN's 2018 coverage was 98.7%), ITA requirements for sub-1GHz spectrum (97%), and now matches the coverage target of Lot 9 (with substantially higher sub-1GHz allocation than modelled) that remained unassigned during the last ITA due to its uneconomical coverage requirement.

The other area of significant concern is spectrum allocation. Overall spectrum usage remains significantly above the spectrum assigned to each operator in the early years of modelling (131MHz vs 76MHz in 2018). This is seemingly justified by roaming deals that were, at best, nascent in 2018. In addition, the Authority assumes availability of 3x2x11.5MHz of 900MHz spectrum, when actual spectrum licensed was 3x2x11MHz¹. In terms of spectrum technology allocation, the model assumes a 4 times higher allocation for 2G than MTN's actual. A network with such

¹ The Authority has also incorrectly used 70MHz for 900MHz spectrum availability; where based on its erroneous assumption of (3*2*11.5MHz) this only gives a total spectrum availability of 69MHz.

an allocation diverges significantly from real-world deployments, and user experience for data services would be severely impacted (so much so that commercial viability in such assumed circumstances would be at risk). The Authority unfortunately also makes unrealistic assumptions regarding carrier sizes that were not widely deployed nor supported by vendors at the time. Again, such deployments as assumed in the model would severely impact data throughput.

The Authority should not disregard data user experience and technical realities for the sole regulatory objective of modelling the lowest possible MTR. Accordingly, MTN submits the Authority needs to realign the model with equivalent real world factual circumstance by implementing the following changes and corrections:

1. Correct the error in total 900MHz spectrum availability pre-IMT900 harmonisation to 66MHz.
2. Align spectrum holdings with the actual 76MHz assigned in 2018 and phasing the deployment of any roaming spectrum over time.
3. Revert the allocation of 900MHz by technology to version 4.2 of the model, which aligned with MTN's actuals ([REDACTED]).
4. Return to U900 and L900 carrier sizes previously used in version 4.2 of the model.
5. Revert to version 3 voice traffic allocation by technology, as the percentage of traffic assumed to be carried over VoLTE since version 4.2 is significantly overstated.
6. Correct the site coverage area formula to prevent the erroneous use of the long diagonal as a short diagonal input.
7. Revert to v.3 total population coverage assumption to reflect a more plausible value.

In terms of the draft Regulations, MTN's comments are not specifically directed at the published cost-based MTR rate, in that we believe this cannot be considered to have been finalised and may change dependent on the requested model realignment.

Notwithstanding the above, MTN provides some observations in terms of the published draft Regulations. First and foremost, MTN supports the removal of asymmetric MTRs and submits this is well overdue and in line with African and European regulatory international best practices. In essence, asymmetric MTRs lessen smaller scale operators' incentives to become more productively efficient (reducing their costs), whilst also creating allocative inefficiency by distorting production and consumption decisions which is the reason for the transitory application of asymmetric rates. Operators such as Cell C and Telkom have been charging higher MTRs for almost 15 years, which is well beyond the international best practice of a transitional period and even beyond the Authorities own stated view of 3 years. In any event, the fact that Telkom and Cell C have been charging asymmetrical rates for such an extended period of time whilst experiencing very different levels of commercial success suggests that factors other than asymmetrical MTRs are more important in determining operators' ability to compete in the retail mobile market.

MTN notes that the draft Regulations refer to the implementation of the glidepath over two years (2024 and 2025), rather than using all three years of price controls as per previous regulatory implementations. To avoid unnecessary business shock, MTN submits a three-year glidepath would be more appropriate and would be aligned with previous glide paths reflected in regulation.

Additionally, MTN believes whilst well intentioned, mandated reciprocal ITRs will only be meaningful once the issue of international bypass traffic has been addressed. MTN submits that the Authority's assistance is needed in regulating international bypass fraud to address disadvantages local operators face in respect of ITRs.

2. Introduction

MTN welcomes the opportunity to comment on the Authority's mobile BU LRIC model and the draft Regulations. In submitting its written comments, MTN confirms it would like an opportunity to make an oral submission to the Authority should the Authority deem it necessary to hold public hearings in this regard.

This MTN submission consists of three main components:

- 1) Insights and observations regarding the model outputs and key assumptions in comparison to MTN's observed operational network parameters which is more reflective of the hypothetical efficient operator.
- 2) Some proposed changes to address the methodological and modelling issues identified by MTN in the Authority's current version of the model.
- 3) Some observations about the draft Regulations.

2.1 Overall comments on the mobile BU model

MTN has identified significant shifts in the BU LRIC cost structure from version 2.2 to 3, 4.2 and version 5, the latest version of the model. Chart 1 below compares the cost structures in across versions, illustrating the magnitude of modifications:

Chart 1

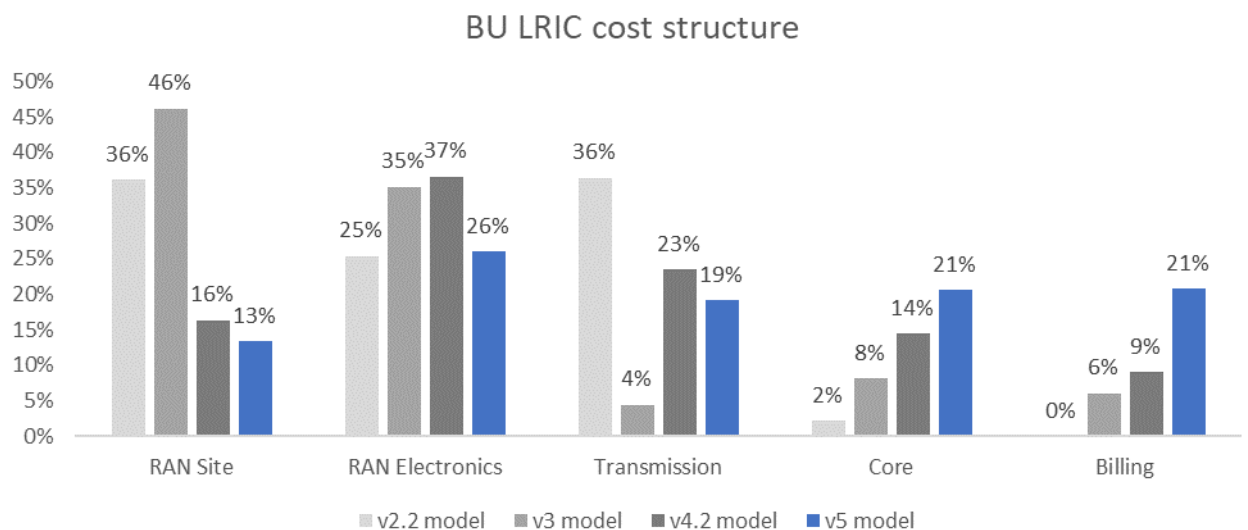
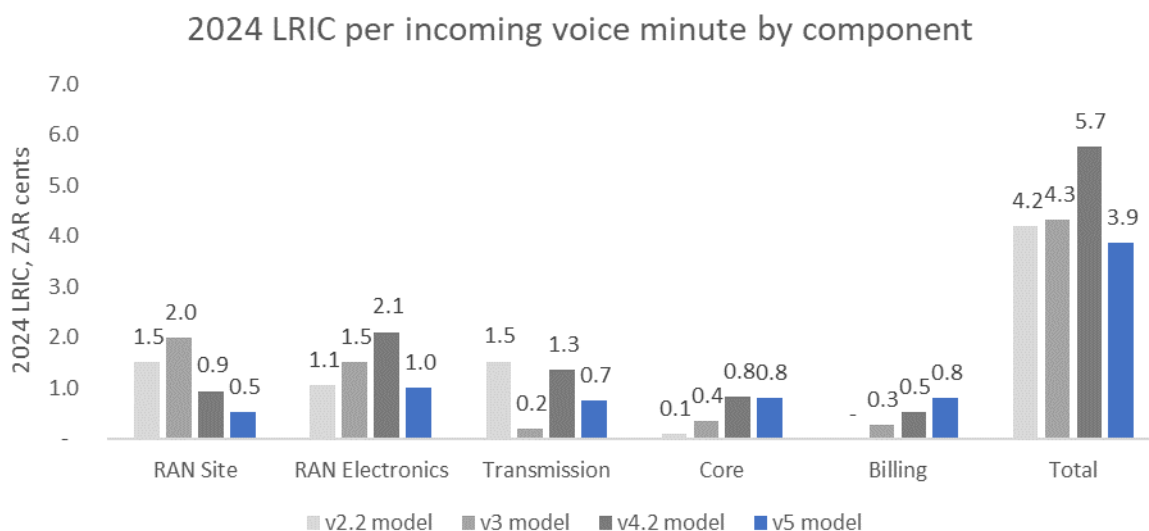


Chart 2 shows how volatile the pLRIC of network components has been across model versions, whilst the sum thereof, i.e., total pLRIC has remained comparatively stable:

Chart 2



The relative stability of the total LRIC across version, and this latest version in particular, was achieved through calibrations and assumptions which lead to a modelled network diverging significantly from reality in key aspects such as design, coverage, site counts, spectrum deployment, vendor support, and user experience, as described below.

3. Observations around key Model Outputs and Assumptions

This section compares certain model outputs and assumptions to MTN's actual network design, operational experience, and costs in 2018/2019 and 2022. Given that the operator modelled by the Authority has a similar market share and traffic levels to MTN, these observations are particularly relevant.

3.1 Site number outputs

Table 1 below compares MTN's actual RAN sites with the modelled sites for a 33% market share MNO².

Table 1

RAN sites at year end			
Year	MTN	Model	Delta

The model calculates substantially lower RAN site numbers for both years.

Further analysing the differences by geotype it becomes evident that Urban and Towns geotypes are highly under-dimensioned whereas the rural geotype is over-dimensioned in terms of site numbers.

Table 2

Year 2019 Sites			
Geo-type	MTN	Model v5	Delta
Year 2022 Sites			
Geo-type	MTN	Model v5	Delta

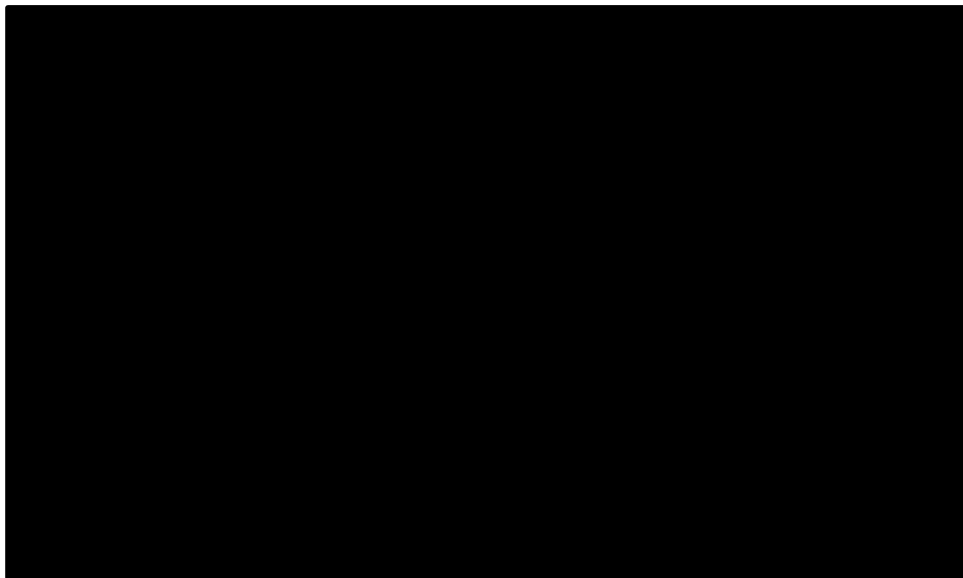
² The need for scenarios has not been explained by the Authority and their purpose is unclear in the current model. They are not robust enough either regarding their inputs, outputs, or both. Therefore, scenarios other than the 'default' 33% scenario that has been consulted upon, i.e., a 50% scenario in version 5, should not be used for any purpose.

In the case of Urban and Towns geotypes, reasons for the site deficit in the model could be the under-estimation of traffic non-homogeneity and the over estimation of realistic utilization factors given the distribution of traffic across space and time the model does not analyse.

In the case of the rural geotype the over-estimation of sites is mainly owing to an excessive coverage network dimension in the model. The over-dimensioning in Rural contributes to a false sense of reasonableness in terms of site numbers.

It is remarkable that the latest model version reconciles worse than its predecessor as the chart 3 shows.

Chart 3



Further analysing how the sites are equipped in terms of technologies, evidence greater model versus reality gaps.

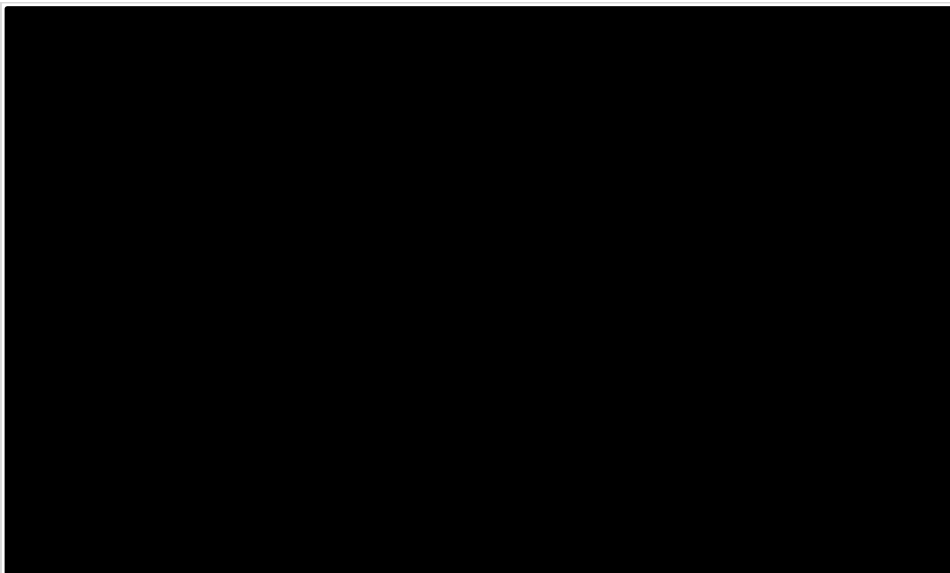
Table 3

Year: 2019 Technology	Sites MTN	Sites Model v5	Sites Delta
[Redacted]			
Year: 2022 Technology	Sites MTN	Sites Model v5	Sites Delta
[Redacted]			

This further supports the conclusion that distribution of traffic has not been considered adequately via utilization factors.

Again, compared to the previous model version the gaps have widened considerably:

Chart 4



3.2 Key assumptions

3.2.1 Spectrum assignment

3.2.1.1 900 MHz spectrum availability

MTN welcomes the Authority's decision to remove the arbitrary 0.2MHz addition to the 1800MHz band in the previous version of the model. However, MTN notes that a similar addition of spectrum has been introduced in the 900MHz band. Cell F32 of the Summary sheet of the model contains a hard coded value of 70MHz. This misrepresents the amount of 900MHz spectrum available pre IMT 900 harmonisation:

1. First, $3 \times 2 \times 11.5 \text{MHz}$ is equal to 69MHz – and not 70MHz.
2. More importantly, the amount of spectrum licensed in South Africa was in fact $3 \times 2 \times 11 \text{MHz}$: a total of 66MHz available. This is the correct value to be used pre-IMT900 harmonisation, which was only completed in March 2024.

3.2.1.2 Overall spectrum assignment

The following tables 4 and 5, compare MTN's effective spectrum assignment and use by technology with the modelled spectrum for a 33% market share MNO in year 2018. This year has been chosen by the Authority because of its relatively large impact on model results and MTN is satisfied with the chosen year. MTN's numbers are based on urban/sub-urban geo-types because they are the most prevalent in MTNs network. Conclusions do not change materially for the remaining two geo-types³.

³ [REDACTED]

Table 4

MHz paired, 2018				
Band	Tech	MTN	Model	Delta
[Redacted]				

Modelled spectrum materially exceeds MTN's, in particular in 2G and 3G, which are most relevant technologies to voice services costing as such technologies carried most of it, at least in the initial years of the modelled period. As a real concern the Authority ought not to be able to assume such spectrum holdings when in reality a shortage of spectrum availability was due to the non-assignment of high demand frequency spectrum.

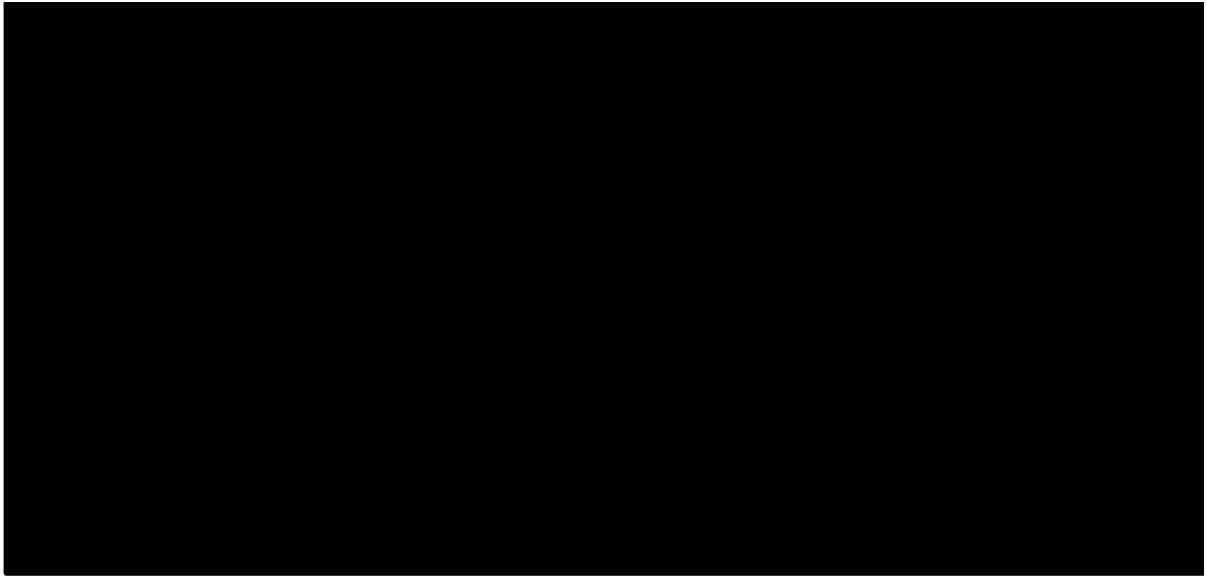
Table 5

MHz paired, 2018			
Technology	MTN	Model	Delta
[Redacted]			

3.2.1.3 Allocation of spectrum by technology

The latest model has not only failed to align spectrum assignments with reality but has further widened the gap in 2G and 3G, which leads to a decline in pLRIC for incoming voice, ceteris paribus. This is shown in chart 5 below:

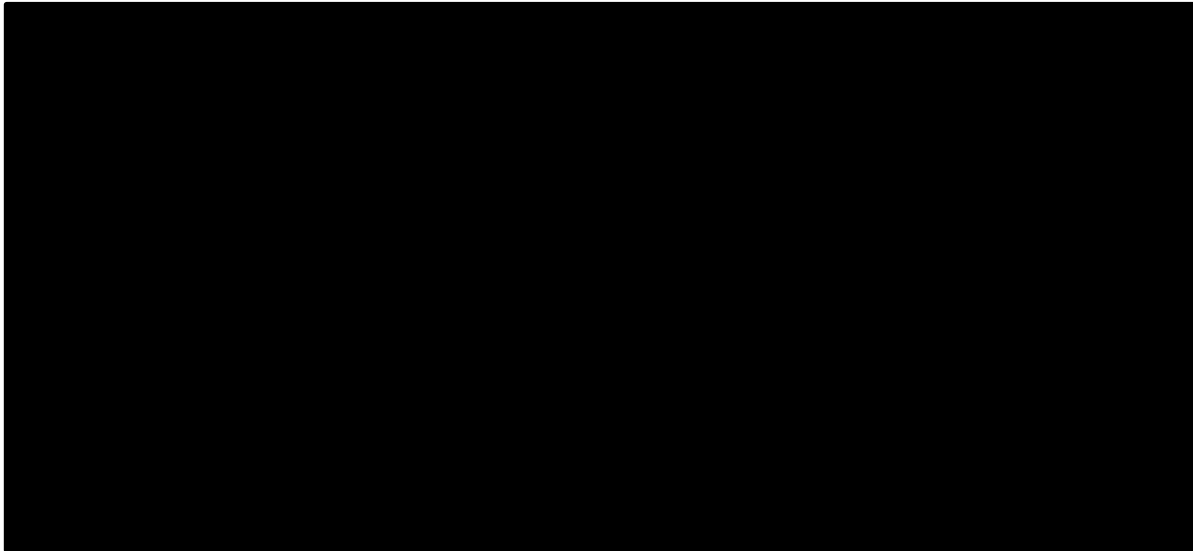
Chart 5



The assumed spectrum assignments may be optimal to minimize pure LRIC of incoming voice services, but highly inefficient with regards to the quality and cost of data services. MTN estimates that moving from MTN's (already compressed) [REDACTED] [REDACTED] used for LTE in the 900MHz band to the 6MHz modelled would have resulted in a reduction of average data throughput speeds on the downlink of ~4 Mbps to 2.5 Mbps, whilst peak rates would have fallen from ~7 Mbps to 4 Mbps, with a substantial cost to the South African economy. It is not plausible to assume that operators optimize spectrum holdings and operations in general to minimize the pLRIC of incoming voice when this comes at an enormous cost to network quality, society, including themselves.

Chart 6 shows how the latest model version has misaligned the use of spectrum by technology for at least the period between 2018 and 2023 when the 900MHz band was key to providing reasonable data speeds to most South Africans.

Chart 6



3.2.1.4 Carrier size

Carrier bandwidth has changed in version 5 of the model and the Authority has not explained the reasons for this change, which has a material impact on the unit cost of incoming traffic. The Authority merely states the following:

" 3.2.2.3.1 Carrier bandwidth size for LTE in the 900MHz band is 2x3MHz.

3.2.2.3.2 Carrier bandwidth size for 3G in the 900MHz is 2x3.8MHz, to make more efficient use of spectrum given the assumed volumes."

Previously, the model assumed 4.4 and 4.2MHz, respectively. MTN submits that the latest carrier bandwidths assumed by the Authority were not the norm in South Africa but very exceptional and that such extreme carrier compression was, if at all, only used temporarily i.e., very short periods of less than a year.

The change is both not reflective of how networks were deployed in the modelled period and not at all explained in the case of L900 carriers or vaguely justified.

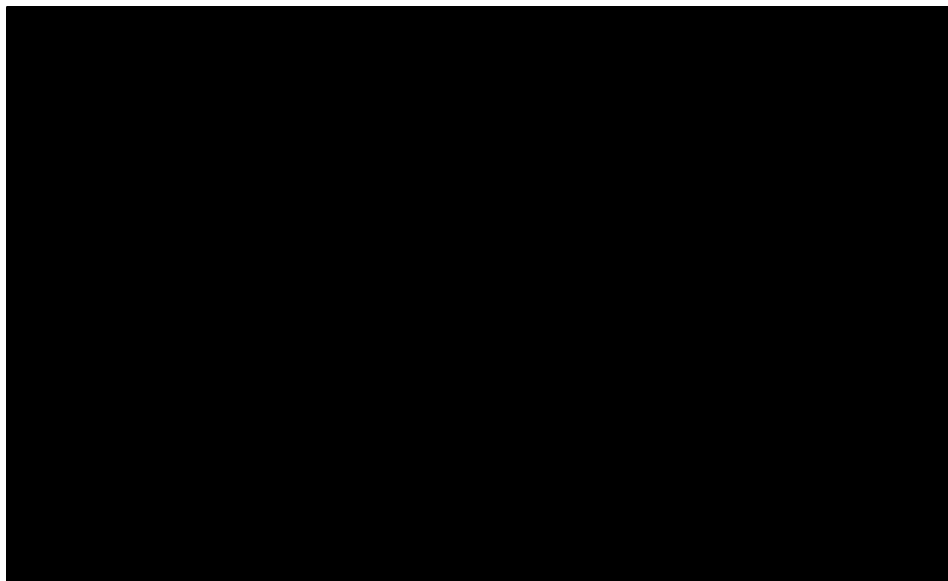
3.2.2 Voice traffic distribution

Voice traffic distribution by technology was significantly changed in v4.2 and despite MTN's previous change proposal has remained at entirely unrealistic levels as the Authority has chosen to reject MTN's proposal on the following grounds:

“Geotype technology splits for 2017-2022 have been adjusted based on stakeholder submissions, the Authority’s 2018 model, and overall subscriber technology splits. Since only one stakeholder provided detailed information on this and given that another stakeholder requested that the 2018 model data ought to be used, a reasonable proportion of the latter stakeholder’s information was used in combination with subscriber technology splits and the Authority 2018 data.”

The Authority’s assumption that 23% of voice traffic in 2018 was VoLTE traffic is inconsistent with both MTN’s own traffic distribution submitted to the Authority and the 2018 Authority model. In both cases, the VoLTE proportion is at least 20 percentage points smaller than in model version 5 as shown in chart 7 below:

Chart 7

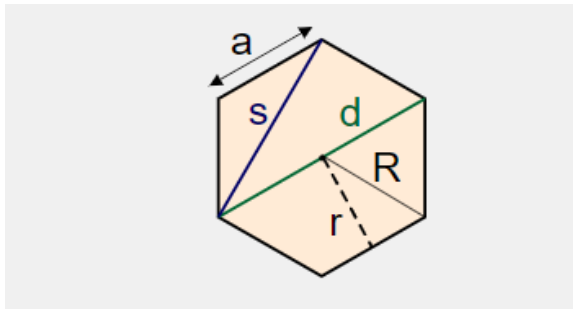


As mentioned in our previous submission, since version 4.2, the model assumes a much higher 4G traffic proportion than is consistent with reality, or plausible at such an early stage.

3.2.3 Site coverage area calculation

The 2024 Authority model (V4.2) assumes the same cell radii as the 2018 Authority model. However, it calculates cell coverage areas that are 25% lower⁴ as it wrongly assumes that the cell coverage radius is the long diagonal of a hexagon.

The following figure illustrates how the area of a hexagon is calculated for a cell radius of 8km, which is what the model assumes for rural 900MHz coverage.



Side (a)	4.619 km ▾
Area	55.43 km² ▾
Perimeter	27.713 km ▾
Long diagonal (d)	9.238 km ▾
Short diagonal (s)	8 km ▾
Circumcircle radius (R)	4.619 km ▾
Apothem (r)	4 km ▾

The cell radius refers to the short diagonal (s) instead of the long diagonal (d) as assumed in the current Authority model.

In its latest model paper, Version 5, the Authority justifies ignoring our suggestion of using the correct formula as it has done in the past as follows: “However, the number of sites to build a coverage network applying these assumptions is so small

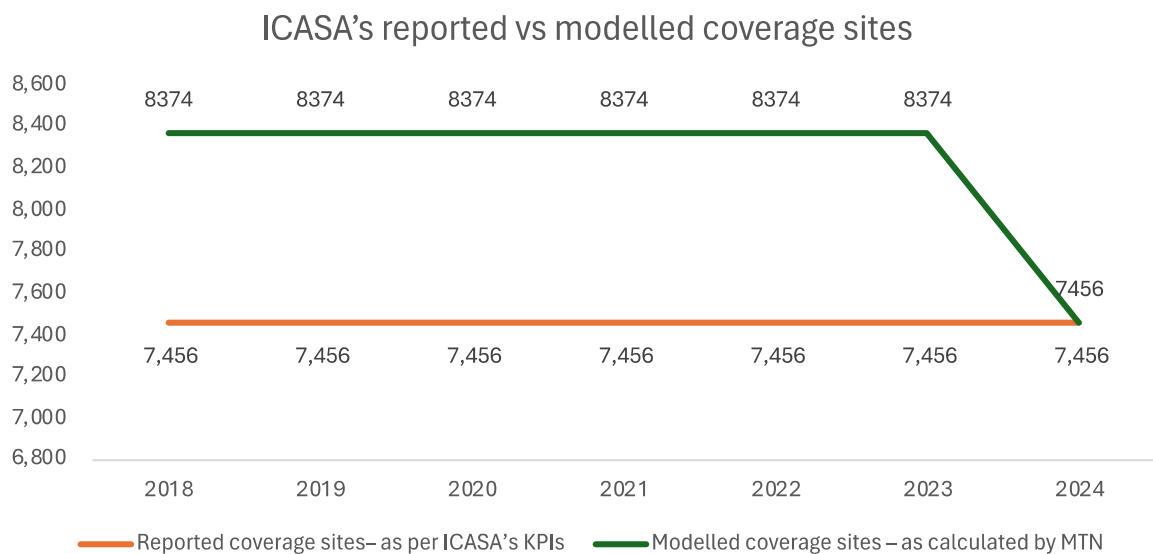
⁴ Refer to the Authority 2018 model, e.g., cell [DRAFT FINAL BU Mobile Model - 29_06_2018.xlsx] Network1325, which shows that the coverage area of a cell with a radius of 8 km is 166 sq km, not 125 square km as assumed in V4.2 for the same cell radius.

as to be implausible. The radii used in the Authority 2018 model applied using the formula explained above for coverage, which reduces the area covered in the current model, are a reasonable approximation in the context of previous pure LRIC models.” This implies that the Authority believes the coverage site numbers stated in the model to be reasonable. They are shown in the following screenshot:

	2018	2019	2020	2021	2022	2023	2024
Total sites demanded - coverage and capacity	10,353	11,208	11,092	11,653	9,952	9,129	8,713
Total coverage-only sites (no cell loading)	7,456	7,456	7,456	7,456	7,456	7,456	7,456

Chart 8 compares the coverage sites reported in the model with the coverage sites actually used in the model. These can be obtained by using the model information correctly to calculate coverage sites or by setting all service volumes in the volumes sheet of the model to 0.

Chart 8



Coverage sites reported in the model are wrongly reported for the first six years of the model, which account for the vast majority of pLRIC. This misreporting gives the Authority a false sense of reasonableness regarding its coverage network assumptions and calculations.

Be it as it may, in the previous version 4.2, the amount of coverage sites amounted to just 7,058.

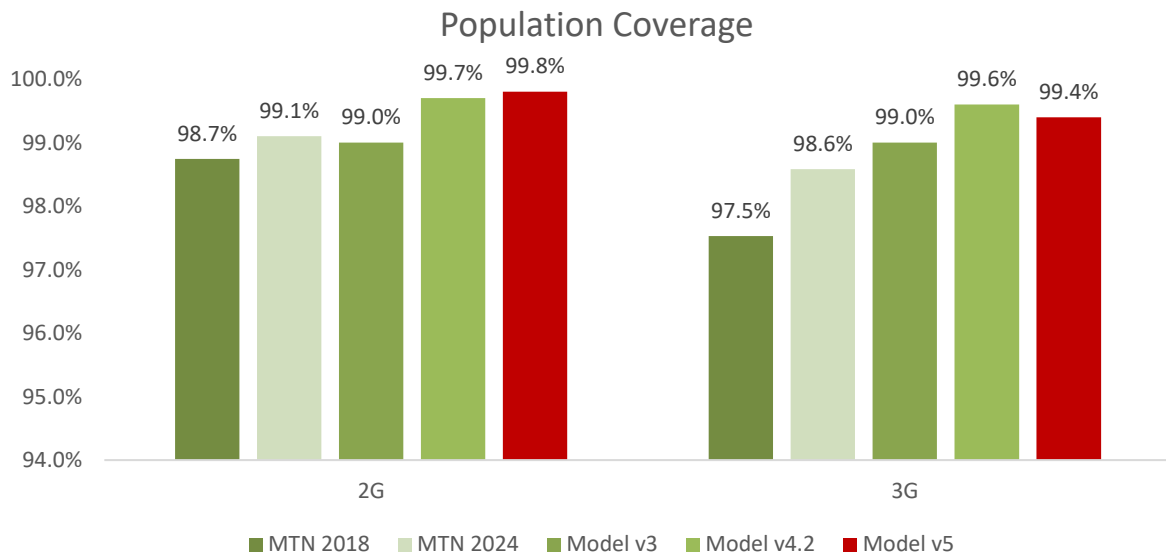
	2018	2019	2020	2021	2022	2023
Total sites in operation - coverage and capacity	10,855	11,761	11,771	11,986	12,282	12,282
Macrosites (Towers, rooftops)	5,448	6,170	6,178	6,369	6,567	6,567
Total coverage-only sites (no cell loading)	7,058	7,058	7,058	7,058	7,058	7,058

The Authority has not justified this substantial increase in network coverage sites, which materially reduces pure LRIC unit costs, ceteris paribus (all other things being equal).

3.2.4 Population coverage

Chart 9 below compares population coverage in MTN's network in 2018 and 2023 with the model assumptions pre 2024.

Chart 9



In version 5 of the model, the Authority has further increased coverage assumptions for 2G, further increasing the gap with reality.

It is important to note that the Authority's assumptions greatly exceed the coverage requirement outlined in the 2022 ITA, set at 97%. Additionally, Lot 9, referred to as the 'Coverage Lot,' which mandated a 99.8% population coverage within 5 years, remained unsold during the spectrum auction due to lack of economic viability, even considering the much higher sub-1GHz holdings than

currently modelled by the Authority. This clearly illustrates that the newly adopted coverage values are unreasonable.

The Authority has not explained how it has established the population coverage percentages. They do not reflect MTN's experience and should be lowered to around the levels used in version 3, which were generally more plausible.

4 Proposed actions to address modelling issues identified by MTN

Based on the issues identified in the previous sections, this section suggests changes to mitigate the most material modelling deficiencies that can be easily implemented within the current model structure.

4.1 Spectrum assignment

4.1.1 Amount of 900 MHz spectrum

Cell F32 of the Summary sheet should reflect the 3x2x11MHz spectrum actually available (and licensed) in SA before IMT900 harmonisation, i.e., 66MHz total. The Authority cannot model a network based on spectrum that was not available at the time.

4.1.2 Overall spectrum assignment

For reasons stated in its previous submission MTN reiterates its proposal that Cell-C's, Vodacom's or MTN's spectrum holdings, i.e., **76MHz**, be used as the HEO's spectrum holdings before 2023. All three operators had the same holdings making their spectrum holdings the most prevalent ones amongst significant MNOs with more than say 2% market share. Spectrum holdings after 2022 could be based on the average holdings of the four largest MNOs and should not exceed existing ITA caps because the HEO should be an operator bound by regulatory constraints as all operators in South Africa effectively are. To the extent that roaming spectrum is considered, these arrangements should be phased in, rather than assumed to be fully operational across all bands from 2018.

4.1.3 Allocation of 900 MHz spectrum

Owing to the material reduction in data speeds for a large proportion of the population and its misalignment with reality in 2018 and the lacking or at least vague justification of the Authority's change, MTN proposes reverting to the previous model version (model v4.2) inputs shown in table 6 below.

Table 6

MHz paired; 900MHz			
Technology	Proposed values	Model v4.2	Model V5
■	■	■	■
■	■	■	■
■	■	■	■

4.2 Carrier size

Carrier sizes for U900 and L900 have been modified in cells D227 and F227 in sheet 2a Network parameters, respectively. Previously, the model assumed 4.2 and 4.4MHz, respectively. This change has not been explained at all in the case of L900 and only vaguely ("to make more efficient use of spectrum given the assumed volumes.") in the case of U900. The assumed carrier sizes were not widely used in South Africa. To the extent that they were supported by equipment vendors, they were used exceptionally and only temporarily in the initial years of the modelled period. In addition, further reducing the carrier sizes in the proposed manner (4.4MHz L900 in use was already a compressed carrier) would have reduced both peak and average throughput speeds substantially, leading to an inefficient use of the spectrum, contrary to the efficiency claimed by the Authority.

For these reasons and because the new values have not been consulted upon, the Authority should revert to the values it has been using so far, i.e., **4.2MHz for U900 and 4.4MHz for L900** in cells D227 and F227 in sheet 2a Network parameters, respectively.

4.3 Voice traffic by technology

Voice traffic distribution by technology has been significantly changed since v4.2 of the model compared to the previous model version v3, which was plausible for the South African market based on the Authority's 2018 model as well as MTN's observations regarding the prevalence of VoLTE (4G voice) in South Africa.

The Authority has only vaguely explained how it got to a VoLTE proportion of 23% of voice traffic in the first years of the modelled period when both the Authority 2018 model and MTN have reported less than 2%. The Authority seems to have used a subscriber distribution by technology to estimate the 23% value.

However, subscriber numbers for LTE correlate poorly with VoLTE volumes as these depend on both availability of VoLTE which was only commercially launched in late 2018 by some operators and handset capabilities as only high-end devices were VoLTE capable at least at the beginning of the modelled period.

In any case, it is not necessary to guesstimate VoLTE traffic percentages in 2018 as they have been reported by MTN and estimated for the entire market in the Authority's 2018 model. As version 3 of the model broadly aligns with the VoLTE percentages of both the Authority's 2018 model and MTN's measurements, we propose again to use **Model version 3 voice traffic distributions by technology** as stated in rows 16-173 of sheet '1 Volumes' of file "BU mobile cost model v3.xlsx".

4.4 Coverage area

The Authority has used cell radii from the 2018 model, and these represented the short diagonal of a hexagon, not the long one as implied by the area calculation in the current Authority model. As a result, the Authority's current model calculates an incorrect coverage area and justifies it using the incorrect formula only on the grounds of what the Authority now (not in 2018) considers a plausible amount of coverage sites (quote: "the number of sites to build a coverage network applying these assumptions is so small as to be implausible. "). However, the number of

coverage sites calculated in the latest model is substantially higher than the number reported in the model Summary sheet. This additional error may have led the Authority to believe the number of coverage sites using the correct coverage area formula was implausible.

Therefore, the Authority **should revert to the 2018 site coverage area formula** which Ofcom also have in their mobile LRIC costing studies.

4.5 Population coverage

In version 5 the Authority has further increased coverage assumptions for 2G, further increasing the gap with reality. The lack of bids for the coverage lot is a strong indicator for the absence of a 99.8% coverage network in South Africa. Furthermore, the Authority has not explained the variations in coverage introduced in the latest model.

Therefore, it should revert to population coverage assumptions of Model v3 which aligned reasonably well with reality in South Africa.

5 Observations on the draft Regulations

5.1 The move to symmetrical MTRs in month 13

MTN supports the Authority's move away from asymmetrical MTRs in month 13 for established operators. The move away from asymmetrical rates is consistent with the Authority's published briefing notes on asymmetry issued in 2014⁵ and 2018⁶ which raised concerns with the indefinite provision of asymmetry. Unfortunately, despite the Authorities own expressed concerns, factually new entrants in South Africa have now had the benefit of 15 years of asymmetry.

⁵ ICASA's Briefing note on asymmetry in mobile and fixed wholesale voice call termination. Date of issue: 27 August 2014, page 3.

⁶ ICASA's Briefing note on asymmetry in mobile and fixed wholesale voice call termination. Date of issue: 22 June 2018, page 3.

MTN supports the Authority's view that asymmetric rates should only be employed as a transitory measure which is also in line with international best practice. See the ERG's Common Position on Symmetry, which recommends that asymmetries be removed as soon as possible⁷:

"The right of new entrants to recover their costs should be reconciled with the regulatory objective of achieving the maximum level of efficiency in the supply of termination services. Hence, asymmetries should not remain in force for too long and each operator's TR should be brought down to the cost of an efficient operator as soon as possible."

In addition, when commenting on MTR determinations by national regulators, the European Commission has similarly stated⁸:

"The fact that an MNO entered the market later and has therefore a smaller market share can only justify higher termination rates for a limited transitory period. The persistence of higher termination rate [sic] would not be justified after a period long enough for the operator to adapt to market conditions and become efficient and could even discourage smaller operators from seeking to expand their market share."

Consequently, removing the ability for established operators to charge higher asymmetrical rates is long overdue and would bring ICASA's approach in line with international best practice. It is further worth noting the fact that the vast majority of African countries have also moved to symmetric rates. Specifically, out of 36 countries considered by Frontier Economics, 28 use symmetric MTRs⁹. This includes many countries with much lower average income levels than South Africa.

⁷ European Regulators Group, *ERG Common Position on Symmetry of Fixed Call Termination Rates and Symmetry of Mobile Call Termination Rates*, 2008, page 4.

⁸ Case BE/2006/0433 and Case FR/2006/0461.

⁹ Frontier Economics, *ICASA's Market Review of Termination Services – Expert Report on Asymmetric Mobile Termination Rates*, January 2022, Section 2.1.2.

Table 7: Use of symmetric/asymmetric MTRs in African markets

Country	MTRs
Algeria	Symmetric
Benin	Symmetric
Botswana	Symmetric
Burkina Faso	Symmetric
Chad	Symmetric
Congo, Dem. Rep.	Symmetric
Côte d'Ivoire	Symmetric
Equatorial Guinea	Symmetric
Gabon	Symmetric
Guinea	Symmetric
Kenya	Symmetric
Lesotho	Symmetric
Liberia	Symmetric
Malawi	Symmetric
Mauritania	Symmetric
Mayotte	Symmetric
Mozambique	Symmetric
Niger	Symmetric
Réunion	Symmetric
Rwanda	Symmetric
Senegal	Symmetric
Sierra Leone	Symmetric
Tanzania	Symmetric
Togo	Symmetric
Tunisia	Symmetric
Uganda	Symmetric
Zambia	Symmetric
Zimbabwe	Symmetric
Cameroon	Asymmetric
Cape Verde	Asymmetric
Congo, Rep.	Asymmetric
Eswatini	Asymmetric
Mali	Asymmetric
Morocco	Asymmetric
Nigeria	Asymmetric
South Africa	Asymmetric

Source: *Frontier Economics, cited above.*

An important argument for cost based symmetric termination rates is that asymmetric pricing can foster inefficient behaviour and generate productive inefficiencies. Productive efficiency takes place when a good is produced at the lowest cost possible. Indefinitely rewarding an established operator with asymmetric MTRs based on scale, discourages innovation and cost efficiency on the part of the smaller operator. Consequently, South African consumers end up paying higher prices than would otherwise be the case in a situation of cost based symmetric termination rates. This is because the higher termination rates have to

be recovered by the originating operators and will presumably be passed onto consumers in the form of higher retail prices. This effectively creates a subsidy from lower-cost operators and their consumers to their less efficient rivals, thereby generating allocative-efficiency concerns. Given that the stated purpose of the regulation of wholesale termination charges is to prevent a negative impact on consumer welfare, it is counter-intuitive to indefinitely apply a remedy that also generates allocative and productive inefficiencies.

It is further worth noting that international best practice is particularly dismissive of economies of scale as a justification for asymmetry. In the European Commission's Explanatory Note to the Commission's Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, the Commission stated¹⁰:

"It is difficult to see how arguments regarding financial imbalances resulting from differences in traffic volumes and differential on-net/off-net pricing would justify setting asymmetric termination rates. This is because asymmetric wholesale pricing is likely to reinforce the asymmetric pricing observed at the retail level. That is, the off-net retail prices of the incumbents will likely rise to compensate for the increased cost of off-net wholesale termination to the new entrants. As long as traffic imbalances persist, asymmetric pricing will likely only contribute to perpetuating any resulting financial imbalances."

In any event, the Authority has consistently maintained that once termination rates for larger operators are regulated at efficient cost-based MTRs this would reduce the negative externalities faced by smaller operators, as off-net costs approach on-net costs once MTRs approach marginal cost. Consequently, the regulation of efficient cost-based MTRs in South Africa invalidates the justification for continued asymmetric MTRs based on scale economies.

¹⁰ Explanatory Note accompanying the European Commission's Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU (2009/3359), page 20.

5.2 MTR Glidepath

MTN notes that the draft Regulations refer to the implementation of the glidepath over two years (2024 and 2025), rather than using all three years of price controls as per previous regulatory implementations. To avoid unnecessary business shock, MTN submits a three-year glidepath would be more appropriate.

MTN submits that the Authority has been engaged by operators on several occasions and various platforms in respect of the financial pressures facing operators. These include:

1. The effects of protracted loadshedding and concurrent vandalism and theft of critical network infrastructure which has resulted in major restructuring of budgets towards resilience efforts;¹¹
2. The downward trend in pricing since the cost to communicate debate, which has stimulated uptake and increased traffic volumes on networks;
3. The increase in traffic volumes, which has necessitated further network rollout, upgrades and further resilience efforts to manage the additional capacity, thus increasing related CAPEX and OPEX;
4. Consistent hikes in inflation rates and fuel prices, which have added to the challenges, especially in light of network resilience efforts; and
5. The weakening Rand, which has also contributed to aggressive hikes in operators' costs due to the fact that most network equipment used by network operators to increase capacity, to meet demand, is imported and is subject to foreign denominated pricing.

All these macroeconomic events have contributed to higher costs and pressures on operators revenues. These financial pressures have had real impact on network operators and service providers which can be noted by recent publication of price

¹¹ The State of the ICT Sector Report, March 2024, page 30 and MTN's Response to ICASA's Loadshedding Inquiry 08022024

increases¹², as well as employment effects. In 2023, MTN announced that it was providing voluntary separation packages¹³, as did Telkom¹⁴, while Rain announced forced retrenchments¹⁵. By March this year, both Vodacom¹⁶ and Cell C¹⁷ had announced retrenchment initiatives in an effort to curb aggressive increases in costs.

During this time, when operators are facing significant financial pressures, as evidenced by cost saving behaviours in the industry, the Authority has proposed an almost immediate implementation date of 1 July 2024. The Authority is aware that annual budgets are set at least 12 months in advance but has only alerted operators of its intended implementation date of 1 July 2024, three months before. As such, MTN request that the new glide path and CTR regulation commence in January 2025 to avoid further unnecessary business shock. In addition, the Authority has not provided sufficient reasons which justify a departure from a glide path.

¹² <https://www.itweb.co.za/article/mtn-hikes-postpaid-contract-prices-in-sa/DZQ58vV8zL9MzXy2>
<https://www.vodacom.co.za/vodacom/shopping/plans/red-price-plans-update>
<https://www.itweb.co.za/article/vodacom-hikes-postpaid-fibre-prices/KPNG878NyZNq4mwD>
<https://www.telkom.co.za/deals/cpi-increase>
<https://mybroadband.co.za/news/cellular/513231-cell-c-announces-contract-price-hikes-and-new-data-plans.html>
<https://mybroadband.co.za/news/cellular/531305-rain-increases-prices-for-uncapped-4g-services.html>
<https://liquid.tech/wp-content/uploads/2023/06/Q4-FY23-PRESS-RELEASE.pdf>

¹³ <https://www.itweb.co.za/article/mtn-sa-initiates-early-voluntary-retirement-packages/WnpNgM216Ed7VrGd>

¹⁴ <https://businesstech.co.za/news/business/695793/telkom-cuts-close-to-1200-jobs-with-more-to-come/>

¹⁵ <https://bandwidthblog.co.za/2023/08/01/rain-retrenchments-johannesburg-cape-town/>

¹⁶ <https://www.itweb.co.za/article/vodacom-sa-employees-face-retrenchments/VgZey7JleeEqdJX9>

¹⁷ <https://techpoint.africa/2024/01/17/cellc-considering-workforce-reduction/#:~:text=In%20June%202020%2C%20it%20announced,protest%20approximately%20a%20year%20prior.&text=Its%20workforce%20had%20shrunk%20from,900%20as%20of%20September%202023.>

A three-year glide path has been a sustained feature of the Authority's Call Termination Regulations until now and exists because the Authority is cognisant of the adverse effects that business shock would have on operators. The adverse effects on operators have not been balanced against a benefit which would be achieved through the departure from a glide path. Further, MTN submits that there is no rational connection between the proposal to depart from a glide path and the purpose of the regulation and therefore submits that the Authority should consider the provision of a 3 year glide path which would be aligned with previous glide paths reflected in regulation.

5.3 Amendment of Regulation 1 of the draft Regulations

"New Entrant" means a licensee who has been in the market for a period of less than three (3) years."

MTN supports the Authority's definition of a "new entrant". In practice, it is important that the Authority clarify that none of the existing operators in the mobile market (i.e., Vodacom, MTN, Cell C, Telkom Mobile, Rain Mobile nor Liquid Telecom) would be classified as "new entrants", given that they have all been offering mobile services for more than 3 years.

5.4 Amendment of Regulation 3 of the draft Regulations

MTN notes the deletion of Regulation 3 sub-section (c) which states:

"(c) The market definitions contained in this regulation do not include internationally originated voice traffic terminating on a mobile and /or fixed location within the Republic of South Africa."

MTN is not in agreement with this latest amendment and submits regulation 3 sub-section (c) should not be deleted. MTN supports the Authority's previous CTR review finding that voice calls originating outside of South Africa and terminating in South Africa are not applicable as the analysis of harm performed by ICASA to

inform its proposed pro-competitive remedies does not apply to markets and operators outside South Africa.

5.5 Regulation 7(5)(a)(i) of the draft Regulation

MTN notes that Regulation 7(5)(a)(i) states :

“All licensees referred to in sub-regulation (4), must comply with the following additional pro-competitive terms and conditions:

(a) Publication of a Reference Interconnection Offer (“RIO”):

(i) Licensees identified in sub-regulation (4) must submit a RIO to the Authority for approval within forty-five (45) days of the promulgation of these Regulations.”

MTN submits that Large Operators are required to submit a RIO within 45 days of the effective date of the Regulations rather than the promulgation of the Regulation.

In any event, MTN has submitted its RIO during previous regulated time periods. As such it ought not to be compelled, yet again to submit a RIO. The Authority is urged to consider an inclusion in the regulations to make it clear that Operators that have already submitted RIO's during past regulatory periods are not obliged to submit New RIO's but may submit new RIO's.

5.6 Regulation 7 (5)(b)(ii) of the draft Regulation

MTN notes the amendment of Regulation 7(5)(b)(ii) states:

*“(ii) A licensee identified in sub-regulation (4) **must** (our emphasis) charge reciprocal international termination rates for voice calls originating outside of South Africa. The International termination rates charged by a licensee must not be: (a) less than the domestic regulated termination rates; or (b) higher than the international termination rates offered by an international operator”.*

MTN believes that ITRs should remain outside the scope of price regulation and supports ICASA's previous CTR review finding that voice calls originating outside

of South Africa and terminating in South Africa are not applicable as the analysis of market harm performed by ICASA to inform its proposed pro-competitive remedies does not apply to markets and operators outside of South Africa.

MTN notes the introduction of mandated reciprocal ITRs but submits that whilst well intentioned, this intervention is meaningless unless the issue of inbound international bypass fraud in South Africa is addressed. The real concern regarding ITRs, is the occurrence of international bypass fraud experienced by South African local operators that are actively regulated by the Authority. These practices enable international operators to obtain lower termination rates by bypassing local operators ITRs (through the manipulation of the originating number to reflect as a local originating number) when landing calls in South Africa.

International bypass fraud has resulted in significant international traffic imbalances for MTN where outbound international traffic far exceeds international inbound traffic.

As stated above, MTN believes that certain operators are currently using various fraudulent bypass methods i.e., via Simboxing, spoofing (Call Line Identification manipulation), and/or refiling (calls which use SIP gateways and blended traffic using Call Centres) to divert international incoming calls onto local operators' networks to evade the payment of ITRs. Accordingly, MTN submits regulation is required to address these bypass practices and we request that the Authority set clear rules on what is permitted in respect of the use of operator numbers in Call Transit and Call Forwarding scenarios to ensure these types of calls are not contravening South Africa's Numbering Plan Regulations (i.e., CLI manipulation). Regulations addressing international bypass would also be in the interest of national security as the use of incorrect CLIs means local law enforcement agencies are unable to determine the true identity of the calling party.

In addition, the challenge with mandating ITRs is that various international operators charge higher ITRs than MTN. Mandating operators in South Africa to reciprocate high foreign ITRs will mean MTN will have to increase their ITRs more

often than decrease its ITRs. Additionally, the Authority cannot prevent international operators' from continuously increasing their ITRs to retain their margin's once a reciprocated rate is reached. More specifically, if MTN is mandated to charge the same as an international operator in circumstances where the international operator charges a higher rate, the moment that MTN matches (reciprocates) that rate, the international operator will increase its rates because that operator wishes to offset increased expenditure with increased revenues. That means that MTN would by necessity through mandated reciprocity be obliged to increase its rates again to match the operator's new rate. As such, the rates will just be on a continuous cycle of increases which is the opposite to what we believe the Authority wishes to achieve.

Consequently, MTN rather supports the ability to reciprocate ITRs within the parameters set by the Authority i.e., licensees may charge international inbound rates which can be as high as the international partner's but never below the regulated local call termination rate.

Additionally, MTN believes there is no justification why the amendment only applies to Telkom, MTN and Vodacom and submits reciprocal ITRs should apply to all South African licensees. Accordingly, MTN would recommend Regulation 7(5)(b)(ii) be amended as follows:

~~"(ii) A licensee identified in sub-regulation (4) must charge reciprocal international termination rates for voice calls originating outside of South Africa. The International termination rates charged by a licensee must not be: (a) less than the domestic regulated termination rates; or (b) higher than the international termination rates offered by an international operator".~~

5.7 Regulation 7 (5)(b)(iii) of the draft Regulation

MTN notes Regulation 7 (5)(b)(iii) of the draft regulation states:

"(iii) New entrants will qualify for asymmetry for a limited period of three years after entry into the market. "

Additionally, MTN notes Table 2 in the draft Regulation states new licensees can charge R0.07 to a mobile location and R0.04 to a fixed location from 1 July 2024. However, while the Authority maintains licensees must charge cost based rates, it is not clear how the Authority arrived at the proposed asymmetric rates for new licensees and submits this should be qualified by the Authority.

5.8 Short Title and Commencement

Regulation 7 suggests the Regulations will be effective from 1 July 2024. MTN submits that this date will obviously depend on the extent of submissions received; any ensuing public hearings; and the date by which final Regulations are published. In any event, MTN submits that at the earliest, these regulations should only apply from 1 January 2025 to give MTN the necessary time to gets its affairs in order to include the revised termination rates in its budgetary process.