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**Reasons document and Authority's analysis on
Stakeholder comments on the Amendment of the Call
Termination Regulations, 2024 in accordance with sections
4(7)(b) and 67(8)(a) of the Electronic Communications Act No.
36 of 2005**

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1. Executive Summary

1.1 The purpose of this document is to provide clarity in response to the Independent Communications Authority of South Africa ('The Authority/ICASA')'s Call Termination Amendment Regulations, 2024 and, to address stakeholder comments and submissions.

1.2 Key Decisions

1.2.1. After consultations on the Draft Call Termination Regulations, 2024 the Authority revised the wholesale voice call termination rates as follows:

1.2.2. **Table 1: Termination Rates**

Maximum call termination rate for Large Operators	Termination rate to a mobile location	Termination rate to a fixed location
1 July 2025	R0.07	R0.05
1 July 2026	R0.05	R0.04
1 July 2027	R0.04	R0.01

1.2.3. **Table A1 & A2: Termination Rates**

Maximum call termination rate for Small Operators	Termination rate to a mobile location	Termination rate to a fixed location
1 July 2025	R0.09	R0.05
1 July 2026	R0.05	R0.04
1 July 2027	R0.04	R0.01

1.2.4. **Table 2: Termination Rates for New Entrants**

Maximum call termination rate for New Entrants	Termination rate to a mobile location	Termination rate to a fixed location
1 July 2025	R0.09	R0.06
1 July 2026	R0.07	R0.05
1 July 2027	R0.05	R0.02

1.2.5. New entrants will qualify for asymmetry for a limited period of 3 (three) years following entry into the market.

1.3 Changes to the call termination rates ('CTR') were effected after consideration of oral and written submissions by Stakeholders. To inform the determination of the call termination rates, the Authority examined not only the scope of the cost modelling

results (i.e. cost of termination services) but also considered a range of other contributing factors. These include, but are not limited to: (i) the skewed competitive landscape, (ii) the convergent pressures on the mobile and fixed markets due to technological developments, (iii) regulatory consistency with past approaches, (iv) comparison with international precedent, (v) objectives of the Electronic Communications Act No. 36 of 2005 ('ECA'), (vi) position of the Authority as expressed in the Findings Document, (vii) inputs by stakeholders, (viii) a suitable glidepath to ease business shock, and (ix) the overall South African economic context and social realities (cost to communicate).

2. Introduction

2.1 The Authority engaged in a review of the pro-competitive conditions imposed on licensees in terms of its Call Termination Regulations, 2014. A Findings Document was published on 28 March 2022 in which the Authority reviewed the market for wholesale voice call termination services as well as the effectiveness of competition in the telecommunications market. The Authority made various determinations including the following:

2.1.1 licensees must charge cost-based pricing;

2.1.2 mobile termination rates will move to symmetry within a transitional period of 12 (twelve) months;

2.1.3 new licensees will qualify for asymmetry for a limited period of 3 (three) years following entry into the market;

2.1.4 South African licensees must charge reciprocal international termination rates for voice calls originating outside of South Africa; and

2.1.5 Fixed and mobile voice services are in separate markets. Nonetheless, the cost modelling process might reveal the impact of any convergence between fixed and mobile services.

2.2 The Authority published a notice of commencement of the cost modelling phase with respect to the review of pro-competitive conditions imposed on the relevant licensees in terms of the Call Termination Regulations, 2014 (as amended) on 26 May 2023. The Authority stated *inter alia* that, "*having determined that there are still competition issues in the call termination market that may require regulatory intervention in its Market Review Phase, the Authority is now embarking on the Cost Modelling Phase in order to determine the efficient cost of providing wholesale voice call termination*

services".¹ The purpose of this notice was to outline the next steps and the timelines with respect to the cost modelling exercise. The bottom-up ('BU') and top-down ('TD') shell models were published on the Authority's website together with the notice.

3. Stakeholder workshop, modelling guide, shell models

- 3.1 A stakeholder workshop took place on 31 May 2023, at the Authority's offices in Centurion. One-on-one meetings were held with Cell C, MTN, Telkom and Vodacom between 1 and 6 June 2023.
- 3.2 The Authority's Proposed Modelling Guide on bottom-up and top-down shell models for the determination of mobile and fixed-line wholesale voice call termination rates was published on 2 June 2023.² This guide also explained the methodology used to determine Pure Long Run Incremental Costs ('LRIC') along with describing how the modelling approach was based on "international best practices which aligns with the determinations above, while also, considering South Africa's market dynamics". The guide further explained the cost modelling approaches available to the Authority and recommended that after an "analysis of economic efficiency, distributional effects, competitive effects, and commercial and regulatory consequences" the Authority may adopt the pure LRIC approach.
- 3.3 Stakeholders submitted written comments on the notice of commencement of the cost modelling exercise on 7 June 2023, and the Authority provided written responses to those requests for clarification on 15 June 2023.
- 3.4 Stakeholders were then requested to comment on methodology aspects of the TD/BU cost models by 10 July 2023. This due date was later extended to 24 July 2023.

¹ Government Gazette No. 48660 at para 3.2, p 429. Available at <https://www.icasa.org.za/legislation-and-regulations/call-termination-rate-review-notice>.

² See Guide on bottom-up and top-down shell models for the determination of mobile and fixed-line wholesale voice call termination rates, published on 2 June 2023. Available at <https://www.icasa.org.za/legislation-and-regulations/mobile-and-fixed-termination-rates>.

4. Decision On Methodology

4.1 The stakeholder's written comments on the Authority's methodology were considered by the Authority in a process that culminated in a Council meeting on 22 August 2022. The Authority made the following decisions which were captured in a separate document titled 'ICASA Methodology Briefing Note on CTR Review 2021 Cost Modelling Phase August 2023'³ ('the Methodology Briefing Note') as follows:

- 4.1.1 the pure LRIC approach will be used to model termination costs;
- 4.1.2 economic depreciation will be applied to model termination costs;
- 4.1.3 fixed termination costs will be modelled separately to mobile termination costs;
- 4.1.4 the top-down spreadsheets will be used to sense-check and calibrate bottom-up model outcomes; and
- 4.1.5 asymmetric costs will not be modelled.

5. Bottom-Up Information Collection Process

5.1 Stakeholders were invited to submit information on the BU models by 15 November 2023, in order to provide calibration information for the BU models. The one-on-one stakeholder meetings which discussed the top-down information were as follows:

- 5.1.1 MTN on 22 November 2023,
- 5.1.2 Cell C on 24 November 2023, and
- 5.1.3 Vodacom on 24 November 2023.

5.2 Operators also provided comments on the BU model during the course of this process. Following the publication of the revised versions of the bottom-up models on 12 December 2023, stakeholders were invited to provide further comments on 15 January 2024. The following stakeholders provided further information:

- 5.2.1 Cell C;
- 5.2.2 MTN;
- 5.2.3 Telkom; and
- 5.2.4 Vodacom.

³ Methodology Briefing Note available at <https://www.icasa.org.za/legislation-and-regulations/icasa-methodology-briefing-note>.

- 5.3 The Draft Regulations were then published on 22 March 2024.⁴ The Draft Regulations requested stakeholders to provide their written comments by the 10th of May 2024. The following stakeholders submitted written comments:
- 5.3.1 Ashley Madraymuthoo;
 - 5.3.2 Cell C;
 - 5.3.3 Internet Service Providers' Association ('ISPA');
 - 5.3.4 MTN;
 - 5.3.5 Rain;
 - 5.3.6 South African Communications Forum ('SACF');
 - 5.3.7 Telkom;
 - 5.3.8 Vodacom; and
 - 5.3.9 Vox Telecom.
- 5.4 Thereafter public hearings were held on 13 June 2024 and post-hearing submissions were received from Cell C; ISPA; MTN; SACF; Telkom; Vodacom; and Vox Telecom.
- 5.5 The Authority has considered the comments below and what follows are the responses thereto.

⁴ Government Gazette No. 11680. Available at <https://www.icasa.org.za/uploads/files/GG-50325-Draft-Call-Termination-Amendment-Regulations-2024.pdf>.

6. Reasons for the Amendments of the Call Termination Regulations

No	Amendments	Authority's Reason
6.1	<p>Amendment of regulation 1 of the Regulations</p> <p>Regulation 1 of the Regulations is hereby amended by the insertion after the definition of "Mobile Wholesale Voice Call Termination Service" of the following definition:</p> <p>"New Entrant" means a licensee who has been in the market for a period of less than 3 (three) years;"</p>	<p>This amendment is in line with the Authority's Findings Document which identified the need for new entrants to be allowed to charge higher asymmetric termination rates. New entrants should be eligible for asymmetry based on cost differences and for a limited transitional period of 3 (three) years in line with the glide path period.</p>
6.2	<p>Amendment of regulation 3 of the Regulations</p> <p>Regulation 3(c) of the Regulations is hereby not deleted.</p> <p><i>"(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."</i></p>	<p>After due consideration of the submissions received from various stakeholders, the Authority has decided to retain sub-regulation 3 (c) in order to undertake a separate process to deliberate on the intervention on international termination.</p>
6.3	<p>Substitution of regulation 7 of the Regulations.</p>	<p>After due consideration of the submissions received from various stakeholders, the Authority has decided</p>

No	Amendments	Authority's Reason
	<p>Regulation 7(5)(b)(ii) is hereby deleted.</p> <p><i>"(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:</i></p> <ul style="list-style-type: none"> <i>(a) less than the domestic regulated termination rates; or</i> <i>(b) higher than the international termination rates offered by an international operator."</i> 	<p>to delete regulation 7(5)(b)(ii) in order to undertake a separate process to deliberate on the intervention on international termination.</p>

7. Submissions Regarding the Process

No	Stakeholder Comment/ Issue	Authority's Response
7.1	<p>Stakeholders made submissions that the Draft Regulations for international CTR are</p>	<p>International CTRs:</p>

No	Stakeholder Comment/ Issue	Authority's Response
	<p>legally defective as the Authority failed to comply with the regulatory framework set out in the ECA. This is because in the Authority's Findings Document, international CTR were arguably added to the same market definition as domestic CTR notwithstanding the fact that the international CTR were initially excluded from the market definition in the Authority's Discussion Document. Stakeholders proposed that the Authority reassess its competition assessment considering the differences between domestic CTR and international CTR before proceeding with the final regulations.</p>	<p>After due consideration of the submissions received from various stakeholders, the Authority will undertake a separate process to deliberate on the intervention in respect of international termination.</p>

No	Stakeholder Comment/ Issue	Authority's Response
7.2	<p>One stakeholder submitted that the reasons for changing the cost modelling methodology from LRAIC+, including the benefits of doing so, were never explained by the Authority. It submitted that an impact assessment be carried out, which includes the impact of new technologies and that the regulatory objectives for the process need to be carefully considered. It also questioned whether an impact assessment had been carried out, including on consumers and on competition, and recommended that the Authority completes a socio-economic impact assessment study (SEIAS).</p>	<p>The Authority has undergone a lengthy consultation process, wherein it gathered information from stakeholders over a period of 13 months (May 2023 – June 2024). Throughout the process multiple iterations of the models were published with all the latest data and assumptions as provided by the stakeholders to ensure that there is no under-recovery on termination costs.</p>
7.3	<p>Another stakeholder submitted that there is little utility to be gained from regulating call termination rates, given the reduction in voice usage volumes in South Africa. It contended that a broader market inquiry into data services is required, as most voice calls are made using data.</p>	<p>The regulations on wholesale call termination rates are relevant as it contributes to the Authority's cost to communicate programme by ensuring that telecommunication services are accessible and affordable in South Africa.</p> <p>With regards to the reduction in voice call volumes: traditional fixed voice services still account for substantial volumes of voice traffic. For instance, fixed to mobile traffic alone accounted for 7.7bn minutes in</p>

No	Stakeholder Comment/ Issue	Authority's Response
		2022 ⁵ . This indicates that traditional voice service volumes are growing ⁶ and remain a significant source of revenue for network operators, ⁷ and therefore continue to affect competition and remain relevant for consideration by the Authority.

⁵ See ICASA State of the ICT Sector Report, 2023 at p48 , available at <https://www.icasa.org.za/legislation-and-regulations/state-of-ict-sector-report-2023-report>.

⁶ Government Gazette No. 46107 at para 4.3.1.1.8.2, p 14. Available from <https://www.icasa.org.za/legislation-and-regulations/findings-document-on-the-review-of-the-2014-pro-competitive-remedies-imposed-on-licensees-in-terms-of-the-call-termination-regulations-2014>.

⁷ For instance, in the Vodacom Group Limited Integrated Report, for the year ended 31 March 2023, it documents that: " Our core mobile services – data and voice – remain our primary revenue generator and continue to be supported by the uptake of smart devices, expanded network coverage and data bundles becoming increasingly more affordable", at 34. Available at: <https://vodacom-reports.co.za/integrated-reports/ir-2023/documents/vodacom-group-limited-integrated-report-2023-singles.pdf>.

8. Submissions Regarding the Draft Regulation

No.	Stakeholder Comment/ Issue	Authority's Response
8.1	<p>Stakeholders indicated that they would suffer significant financial harm if the new termination rates were implemented. They indicated that the Authority ought to have modelled LRAIC+ costs, which would clarify how the higher costs observed by small operators that need to be recovered.</p> <p>Furthermore, the stakeholders held that the pure LRIC model contemplates an operator with a significantly higher market share. Accordingly, this will entrench the market position of the two large incumbents.</p>	<p>Throughout the process, the Authority has requested and incorporated the latest data and reasonable assumptions as provided by the stakeholders to ensure that there is no under-recovery on termination costs. As a result, the Authority is of the view that the pure LRIC model is appropriate and sufficient.</p>
8.2	<p>Some stakeholders indicated that the mobile retail market is competitively ineffective. They argued that the Authority ought to have considered how wholesale termination rates affect competition in retail markets. They</p>	<p>The Authority has considered the market share default of 33% (thirty-three percent) after taking into account that there are more licensees that have access to International Mobile Telecommunications ('IMT') Spectrum. Additionally, there is extensive network sharing in South Africa.</p> <p>Competition in retail markets post 2016 was considered in the Authority's Methodology Briefing Note, in Section 6.7. In particular, the Authority considered how on-net and off-net price discrimination impacted on competition through tariff-mediated network effects. These effects entrench the market power of large</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>commented that using market shares as of December 2016, in the current regulations, seem to be out of date and they were unaware of an updated competition assessment.</p>	<p>networks and reducing termination rates by implementing the pure LRIC standard which mitigates this.</p>
8.3	<p>Some stakeholders argued that the exclusion of personnel costs from the BU LRIC model results in an understated output cost of terminating a call on a voice network and that they cannot absorb the cost of a termination rate below R0.05.</p> <p>Furthermore, some stakeholders argued that setting termination rates on the pure LRIC approach facilitates or allows for avoidable cost recovery for large operators but not for small operators.</p>	<p>Throughout the process, the Authority has requested and incorporated the latest data and reasonable assumptions as provided by the stakeholders to ensure that there is no under-recovery on termination costs.</p> <p>The Authority further considered the cost information submitted by some stakeholders, post public hearing, and concluded that the termination rate set using the pure LRIC cost standard was sufficient to enable full cost recovery.</p> <p>The move to symmetrical rates is in line with the Authority's findings, that mobile termination rates will move to symmetry within a transitional period of 12 (twelve) months.⁸</p>

⁸ Government Gazette No. 46107 at para 5.1.1.5.2, p 55. Available from <https://www.icasa.org.za/legislation-and-regulations/findings-document-on-the-review-of-the-2014-pro-competitive-remedies-imposed-on-licensees-in-terms-of-the-call-termination-regulations-2014>.

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>Stakeholders argued that the Authority has sufficient room to impose a longer period of asymmetry at the current 13c/9c ratio.</p> <p>Other stakeholders support the removal of asymmetry, explaining that there is no longer a cost-asymmetry that justifies higher termination rates. These stakeholders further proposed that the different market outcomes for certain stakeholders show how asymmetry is not likely to significantly improve the competitive position of smaller operators. These stakeholders argued that higher termination rates are passed on to consumers in the form of higher retail prices, because the costs need to be recovered by originating operators.</p>	

No.	Stakeholder Comment/ Issue	Authority's Response
8.4	Other stakeholders requested clarity as to the definition of 'small operator', as well as when the period of 3 (three) years is calculated from, is it the date on which a licence is issued, or from the date when an Mobile Virtual Network Operator ('MVNO') service is launched. The stakeholders proposed that the Authority reconsiders the removal of asymmetry since these only benefits smaller operators.	<p>For clarification on how a small operator is defined, the Authority refers stakeholders to Annexure A sub-regulation 2 of the Regulations.</p> <p>New <u>licensees</u> will qualify for asymmetry for a limited period of 3 (three) years following entry into the market. As such, the assumption is that the 3 (three) years starts to run when the licence has been issued.</p> <p>However, for clarity, the Authority states that MVNOs are licence exempt under the current regulatory framework.⁹</p>
8.5	A stakeholder indicated that the South African market is more competitive as it has at least 4 (four) mobile network operators, as compared to other countries that have only 3 (three). The stakeholder further stated that voice services have become more competitive over time due to the expansion of over-the-top	The issues contained in this submission were considered during the Market Review phase of the inquiry wherein, after representations, the Authority determined that OTT services do not form part of the wholesale voice call termination market. ¹⁰

⁹ See sections 6 and 47 of the ECA.

¹⁰ Government Gazette No. 46107 at para 4.3.1.1.8, p 16. Available from <https://www.icasa.org.za/legislation-and-regulations/findings-document-on-the-review-of-the-2014-pro-competitive-remedies-imposed-on-licensees-in-terms-of-the-call-termination-regulations-2014>.

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>(‘OTTs’), proposing a different market definition test. The stakeholder recommended that there should be a small but significant non-transitory decrease in quality, due to the fact that OTTs are free to the user.</p>	
8.6	<p>Some stakeholders requested further clarity on how the Authority determined the asymmetric rates applicable to new entrants.</p>	<p>The asymmetric rates charged to new entrants for a period of 3 (three) years were determined using the asymmetrical rates charged by small operators during the transitional period of 12 (twelve) months. This was meant to enable new entrants to gain traction in the market, given their cost disadvantage compared to the existing licensees. It should be noted that the Authority may review the rates in the next review cycle.</p>
8.7	<p>Stakeholders indicated that 3 (three) years is an insufficient time period for a new entrant to gain a meaningful market share, and that historically, the practice in South Africa has been that new entrants are afforded asymmetry for a much longer period.</p>	<p>The Authority is of the view that 3 (three) years is a sufficient time period for a new entrant to gain meaningful market share. The Authority notes the concern that new licensees historically have enjoyed longer periods of asymmetry, however, this should be understood in the context that termination rates were not regulated for a much longer period before 2010. This created imbalances in the market, which necessitated the Authority to impose asymmetric rates for a longer period. However, this is not the case currently as termination rates are currently regulated.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
8.8	Stakeholders also noted that it is inappropriate for certain stakeholders' mobile businesses to continue to benefit from asymmetry for a period of more than 1 (one) year, whilst smaller fixed-line voice providers are prohibited regardless that some mobile stakeholders are substantially larger voice providers than smaller fixed line providers.	The Authority has noted the observation/inconsistency in terms of the period for asymmetry and the period for the rates applicable for new entrants and has revised the rates in line with the Findings Document. ¹¹
8.9	Stakeholders stated that there is also no need to have Annexure A, at least where fixed line licensees are concerned, as no asymmetry is permitted (even for new entrants).	New fixed line entrants qualify for asymmetry. Please refer to column 3 of Table 2: Termination Rates for New Entrants.

9. Submissions Regarding the Glide Path

No.	Stakeholder Comment/ Issue	Authority's Response
9.1	Stakeholders proposed a different glide path in which mobile termination rates would decline at a slower pace, reaching symmetry at R0.04 per	The Authority has determined in its Findings Document that asymmetry will be removed within the transitional period of 12

¹¹ Government Gazette No. 46107 at para 5.1.1.4.3, p 55. Available from <https://www.icasa.org.za/legislation-and-regulations/findings-document-on-the-review-of-the-2014-pro-competitive-remedies-imposed-on-licensees-in-terms-of-the-call-termination-regulations-2014>.

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>minute in June 2028. They further raised concerns about the pace of the glide path and suggested that the smaller Mobile Network Operator ('MNO's') must obtain the reduced rates by a higher percentage than the larger MNOs. Another group of stakeholders proposed a longer glide path period, suggesting that a 3 (three) year glide path would be more reasonable.</p>	<p>(twelve) months.¹² Further, while the Authority acknowledges that the quantum in the reduction of rates experienced by smaller MNOs is higher than that of larger MNOs, it should be recognised that the larger decrease comes as a consequence of a larger base asymmetric rate of R0.13 that smaller MNOs currently enjoy.</p>
9.2	<p>Stakeholders further indicated that the proposed effective date of the Regulations, being 1 July 2024, is too soon. They requested that the glide path be implemented from January 2025 in order to mitigate the disruptions in the market. Other stakeholders proposed that the glide path towards pure LRIC should align with the time period of the glide path to symmetry.</p>	<p>Since 2010, the Authority has adopted a 3 (three)year glide-path period and as such, suggests that for purposes of regulatory certainty, this should be maintained.</p> <p>However, the Authority recognises the need for licensees to make operational adjustments in order to absorb the new glide-path, and as such, has decided that the effective date of the Regulations to be 1 July 2025.</p>

¹² Government Gazette No. 46107 at para 7.7.10.4, p 53. Available from <https://www.icasa.org.za/legislation-and-regulations/finding-document-on-the-review-of-the-2014-pro-competitive-remedies-imposed-on-licensees-in-terms-of-the-call-termination-regulations-2014>.

10. Submissions Regarding Pure LRIC vs LRAIC/LRAIC+

No.	Stakeholder Comment/ Issue	Authority's Response
10.1	<p>Stakeholders indicated that the decision by the Authority to adopt the pure LRIC model is not informed by changes observed in the competitive dynamics, particularly the differences between the pure LRIC model and the LRAIC+ model being that:</p> <ul style="list-style-type: none"> (i) the pure LRIC model will harm consumers, particularly low-income consumers; (ii) the pure LRIC model is unlikely to increase competition; and (iii) the pure LRIC model has only been implemented in a limited number of countries. 	<p>The rationale for the adoption of the pure LRIC model is clarified in the Methodology Briefing Note¹³ As follows:</p> <ul style="list-style-type: none"> (i) the changes in market dynamics are explained in section 6.3; (ii) differences between the pure LRIC model and the LRAIC+ model are explained in section 6.4; (iii) the impact on consumers is discussed in sections 6.5 and 6.6; (iv) the impact on competition is discussed in section 6.7; and (v) the international experience is discussed in section 6.8.
10.2	<p>Stakeholders indicated that there is a radical contradiction between the Authority's findings of the termination rates having only a limited impact on revenues. This is because the termination rates have a significant impact on competition.</p>	

¹³ ICASA Methodology Briefing Note, available at <https://www.icasa.org.za/legislation-and-regulations/icasa-methodology-briefing-note>.

No.	Stakeholder Comment/ Issue	Authority's Response
10.3	<p>Stakeholders commented that to the extent that the Authority persists with the adoption of a pure LRIC model approach, the Authority should proceed cautiously to ensure that the costs are not under-recovered, since the European Union ('EU') found that the risks of under-estimating the pure LRIC models are higher than the costs of over-estimating it.</p>	<p>Risks of under-estimating the costs of call termination: The cost model developed is a balanced one, resulting in a model that neither over nor under-estimates the costs of call termination. It is important to note that the risks of over and under-estimation are not equal. As explained in the Methodology Briefing Note, a high termination rate harms competition, because this prevents smaller operators from competing with on-net discounts implemented by large operators. At the same time, a low termination rate carries few risks, since:</p> <ul style="list-style-type: none"> (i) these have a negligible impact on net revenues; (ii) substantially lower termination rates in South Africa have not led to lower investment and clearly improved outcomes for consumers, and (iii) a number of countries have set mobile termination rates ('MTRs') at zero. It is thus important to ensure that termination rates do not have an upward bias.

11. Submissions Regarding Fixed and mobile similarities and difference

No.	Stakeholder Comment/ Issue	Authority's Response
11.1	Stakeholders indicated that fixed and mobile services ought to be treated in the same manner where the regulation of call termination rates is concerned. This is due to fixed call volumes declining and being replaced by mobile call volumes.	Fixed and mobile asymmetry volumes: The fact that fixed call volumes are declining, and mobile call volumes are growing does not negate the fact that the 2 (two) services have very different pure LRIC, which is the cost standard that the Authority has decided to apply. This is because relatively few costs vary with inbound calls, compared to mobile services. The services are thus typically modelled separately, including by regulators such as Ofcom in the United Kingdom ("UK") and by the European Commission.

No.	Stakeholder Comment/ Issue	Authority's Response
11.2	Stakeholders also argued that pure LRIC regulation is designed for modern, efficient networks. Fixed line voice networks are legacy networks and would not be replaced by new entrants. Modelling modern technology costs would result in a certain stakeholder not recovering its legacy costs. At the same time, stakeholders explained that forward-looking investments would be disincentivised if it cannot recover its costs. This results in its legacy fixed voice assets being stranded.	Modern equivalent assets: It is a standard practice that modern equivalent assets are used when setting price regulations since this mirrors outcomes in a competitive market. While Telkom suggests that there are no firms entering markets with fixed line voice services, a number of submissions have been received from Vox Telecom and ISPA, which suggests that it is natural to model the costs of modern equivalent assets.
11.3	Stakeholders raised concerns that the wholesale billing systems are not accounted for in the fixed cost models, whilst same is included in the mobile cost model.	The mitigation of any concerns about the absence of wholesale billing in the fixed cost model is that the fixed termination rate has been rounded up to the nearest cent, which likely accounts for any underestimation of fixed termination costs.
11.4	Stakeholders held the view that the Authority has modelled the fixed termination rate with reference to the mobile cost and has also differentiated between fixed and mobile services in the recovery of the costs of the last mile, permitting the last mile	Recovery of last mile costs: Regulators typically exclude access charges for fixed termination, since access charges are recovered directly from customers often as a fixed monthly charge. It is therefore unlikely that regulation of fixed call termination gave rise to the monthly access charge. In addition, the fixed access

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>costs to persist in the mobile but not in the fixed service. This, according to stakeholders, results in a change in the charging model onto Voice Over Internet Protocol ("VOIP") operators that reflects regulatory decisions.</p> <p>However other stakeholders held that fixed and mobile services have different costs because of the recovery of access costs via monthly charges, as is the case of fixed services. Accordingly, fixed and mobile services should have different termination rates, which would also be consistent with the Authority's Findings Document in the market inquiry process. Stakeholders further proposed that considering factors other than costs would be inconsistent with a cost-based approach to the regulation of termination rates.</p>	<p>line would not be avoided if there were no inbound calls, a fundamental feature of a pure LRIC regulation. In other words, operators would provide the fixed access line for internet access even if there was no voice service at all. This is in the nature of the construction of fibre to the premises networks, the last mile of which would not be avoided if inbound calls were not offered. This is different to mobile services, where some last mile costs can indeed be avoided if there were no inbound calls. Furthermore, fixed line access services in South Africa are mainly used for data services, while voice services are an important value add. As such, it is unlikely that anything but a very small proportion of the costs of fixed access lines could be accounted for by voice, even if the cost of the fixed last mile was apportioned to voice using a LRAIC approach, for example.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
11.5	<p>Stakeholders provided that the Authority has modelled fixed costs against legacy copper networks which are no longer relevant. They further proposed that the fixed and mobile voice services must converge to the same rate, in order to assist Small, Medium and Micro Enterprises ('SMME') voice providers.</p> <p>SMME voice providers typically offer flat-rated services across fixed and mobile calls, which other mobile operators have begun to implement. Mobile operators also, according to stakeholders, use WiFi networks in order to deliver a call, which is the same as what SMME voice providers do. In other words, there should be a converged fixed and mobile voice termination rate because SMME voice providers are competing with mobile operators.</p>	<p>Consistency with Findings Document and a cost-based approach: The Authority has modelled the costs of fixed and mobile services separately, and cost-based rates are then proposed from this cost-modelling process. The approach adopted is consistent with the Findings Document in this regard.</p> <p>SMME business models: while it may be that SMME voice providers are using mobile and fixed data bearers and offer flat rated services for calls to fixed and mobile, their cost structure is very different to that of mobile network operators when terminating a call. This is because the mobile operators use network resources differently for voice and data services. Thus, it is simply not the case that mobile network operators use data bearers to transmit voice traffic. There are differences in the efficiencies of voice and data on mobile networks, which are reflected in numerous stakeholder submissions and in the cost models that the Authority benchmarked, including the Euro rate and Ofcom's models, and the Authority's 2018 model. It therefore remains appropriate to permit cost recovery of differences in access network costs in respect of mobile, but not for fixed lines, where access costs are recovered by a fixed monthly charge.</p>

12. Submissions Regarding International Termination Rates

No.	Stakeholder Comment/ Issue	Authority's Response
12.1	Stakeholders provided that the regime for international termination rates ought to revert to a liberalised one, since the Authority has limited jurisdiction as the pro-competitive rationale for lower CTRs does not apply to licensees outside of South Africa.	After due consideration of the submissions received from various stakeholders, the Authority will undertake a separate process regarding possible regulatory interventions on international termination rates.
12.2	Stakeholders submitted that all licensees should be subject to the obligations of this Regulation. They further submitted that the regulation of international termination rates would not address retail prices for calls in South Africa, and so does not fall within the scope of the current process. According to stakeholders, being required to charge reciprocal international rates would limit their bargaining power with their international counterparts.	After due consideration of the submissions received from various stakeholders, the Authority will undertake a separate process regarding possible regulatory interventions on international termination rates.
12.3	Some stakeholders opposed full reciprocity, as proposed by the Authority, on the basis that it will	After due consideration of the submissions received from various stakeholders, the Authority will undertake a separate process

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>increase net outpayments by South African operators to foreign operators, and it will also be very complex to implement. According to the stakeholders, the change will result in South African consumers subsidising telecom users in other countries. This is because only international operators that are net payers of interconnection costs will charge SA operators a low termination rate, whereas operators that are net recipients will continue to charge high termination rates. According to them, this 'selection bias' will result in even greater outflows of international termination revenues from South Africa. Stakeholders provided that this is compounded by the fact that because it competes with OTTs, it is unable to raise inbound termination rates, resulting in even greater net outflows of termination revenues. The complexity involved with full reciprocity needs to also be considered, according to stakeholders, which comments that currently licensees in SA typically apply one international termination rate, whereas</p>	<p>regarding possible regulatory intervention on international termination rates.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
12.4	<p>full reciprocity will involve developing rates for many licensees in other countries. This will be costly to implement from a systems perspective, and will likely result in billing disputes, including as a result of timing differences between when individual reciprocal rates are implemented, and numbers not appearing on a licensee's master dial code plan. Stakeholders explained that after Ofcom implemented a similar reciprocity system in the UK, significant problems arose due to the complexity of the system.</p> <p>Stakeholders provided that bypass fraud had increased post-liberalisation of international termination rates in 2017. According to stakeholders, bypass fraud continues to be a problem, including in Europe, where a reciprocal termination rate regulation was imposed. Stakeholders provided further that there is substantial bypass fraud, arising from calling line identity ('CLI') manipulation. As such, it was proposed by stakeholders that a regulatory regime</p>	<p>After due consideration of the submissions received from various stakeholders, the Authority will undertake a separate process regarding possible regulatory interventions on international termination rates.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>for bypass fraud be introduced. Furthermore, there were some stakeholders that proposed that not only regulations on bypass fraud be introduced, but that they include preventing CLI manipulation and ensuring that the Authority's numbering regulations are adhered to.</p>	
12.5	<p>Some stakeholders supported the regulation of inbound international voice termination. However, the concern that transit providers are not adequately provided for in the regulations, and that the incumbents that must comply with the reciprocity rules may use this requirement as a pretext to discriminate against some stakeholders that are transit providers. This concern arises from the fact that some stakeholders are not able to determine whether transit traffic originates domestically or internationally. The large licensees have gone to some lengths, according to stakeholders, to protect their international inbound call revenues from bypass fraud, including legal protections.</p>	<p>After due consideration of the submissions received from various stakeholders, the Authority will undertake a separate process regarding possible regulatory interventions on international termination.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
12.6	<p>Stakeholders proposed that the Authority follows the same or similar approaches adopted in the UK and the EU, where reciprocity is applied on a jurisdiction basis: countries that have the same or similar termination rates to South Africa would benefit from the domestic mobile termination rate in South Africa. Where this is not the case, then SA licensees may charge more than the domestic rate. Notwithstanding its objection to the Authority's full reciprocity proposal, another stakeholder proposed that should the Authority impose a price ceiling via reciprocal international termination rates, the approach should be based on the European Commission's model. Stakeholders further proposed that should the Authority proceed with full reciprocity, it should be applied at the country-level using either the maximum or traffic weighted average international call termination rate for the country, rather than the operator-level. Depending on the approach adopted, Stakeholders proposed that lengthy implementation periods be agreed with</p>	<p>After due consideration of the submissions received from various stakeholders, the Authority will undertake a separate process regarding possible regulatory interventions on international termination.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	stakeholders affected by the new approach to international termination rates.	
12.7	Stakeholders highlighted several implementation issues that would need to be addressed by the Authority regardless of the approach to reciprocity adopted. Such issues include, but are not limited to, pricing in of transit services, billing structures varying across countries and exchange rate implications.	After due consideration of the submissions received from various stakeholders, the Authority will undertake a separate process regarding possible regulatory intervention on international termination.

13. Submissions Regarding Reference interconnect offer

No.	Stakeholder Comment/ Issue	Authority's Response
13.1	Stakeholders recommended the deletion of the reference to 'promulgation' of the regulations and replace same with 'as from the effective date'. In addition, they further proposed that the Regulations acknowledge that licensees that have already submitted their reference interconnect	The Authority has updated the Regulations in line with the proposal but used "from the date of commencement". The Authority maintains that a RIO obligation must be imposed on licensees that still continue to benefit from economies of scale and scope, and those which have a share of greater than 20% of the total terminated minutes in South Africa. This obligation is

	<p>offers need not do so again, but may do so if they wish.</p> <p>Another stakeholder stated that it does not support the Reference interconnect offer ('RIO') requirement in the Draft Regulation 7(5)(a) as it considers the competition assessment conducted by the Authority to be legally defective, thus it does not support the price control contained in the Authority's Findings Document.</p>	<p>therefore still relevant and needs to be reviewed again in this review period.</p> <p>It should be noted that the Authority retained the publication of a RIO as a pro-competitive measure. Therefore, licensees are required to comply with this requirement in line with Annexure B of the Call Termination Amendment Regulations, 2024.</p>
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14. Submissions Regarding Impact on licensees, investment, coverage, and low-income users

No.	Stakeholder Comment/ Issue	Authority's Response
14.1	<p>A stakeholder quantified the impact of lower termination rates on its business and explained that the lower MTRs and the proposed glide path would be harmful to it financially.</p> <p>Other stakeholders indicated that the fixed termination rate is below their costs and would also</p>	<p>The Authority has undergone a lengthy consultation process, wherein it gathered information from stakeholders over a period of 13 months (May 2023 – June 2024). Throughout the process, multiple iterations of the models were published with all the latest data and assumptions as provided by the stakeholders to ensure that there is no under-recovery on termination costs.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	be below the termination rates charged in other developed countries, where power is more readily available, a factor which among others impacts costs.	
14.2	One stakeholder held that the Authority has ignored the impact of lower MTRs on investment, particularly in more marginal rural areas where voice services account for a larger share of revenues. Another stakeholder held a similar view, that the change of methodology from LRAIC to LRIC+ is not adequately justified and may result in lower investment. One of the stakeholders suggested that there is a 'waterbed effect' where low-income consumers are concerned, that lower MTRs will result in higher prices for other services offered to them. Further concerns were raised that prices to consumers will have to be raised as a result of lower inbound call revenues.	Reasons for change to pure LRIC: The reasons for the change to pure LRIC are set out in the Methodology Briefing Note. ¹⁴
14.3	A stakeholder urged the Authority to consider the dynamic nature of the telecommunications sector.	The issues contained in this submission were considered during the Market Review phase of the inquiry and following representations,

¹⁴ ICASA Methodology Briefing Note, available at <https://www.icasa.org.za/legislation-and-regulations/icasa-methodology-briefing-note>.

No.	Stakeholder Comment/ Issue	Authority's Response
	In particular, that MNOs must provide the underlying infrastructure for OTTs, when the Authority comments that lower MTRs will enable MNOs to emulate the success of OTTs.	the Authority determined that OTT services do not form part of the wholesale voice call termination market. ¹⁵
14.4	A stakeholder proposed that the definition of 'large mobile operators' needs to be expanded to large, fixed operators.	The Authority has made changes to the proposed amendment and the definition currently makes reference to both large mobile and fixed operators.

15. Submissions Regarding Comments on mobile cost model

No.	Stakeholder Comment/ Issue	Authority's Response
15.1	Stakeholders have indicated that the cost model under-estimates costs. This is evidenced from the low and declining number of sites required. In particular, total sites decline from 12 000 to 8 000, and only 4 000 sites are equipped with Long Term Evolution ('LTE').	The Authority has undergone a lengthy consultation process, wherein it gathered information from stakeholders over a period of 13 (thirteen) months (May 2023 – June 2024). Throughout the process, multiple iterations of the models were published with all the latest data and assumptions as provided by the stakeholders to ensure that there is no under-recovery on termination costs.

¹⁵ Findings Document para 4.3.1.1.8, available at <https://www.icasa.org.za/legislation-and-regulations/closed-inquiries-and-regulatory-processes/call-termination>.

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>Stakeholders further indicated that the BU model outlines a network that is significantly smaller than their own networks. In terms of numbers of sites, the BU model has too many sites in rural areas, and too few in urban, towns and semi-dense areas. The over-estimation of rural sites may be due to excessive assumptions about site coverage. In addition, stakeholders further indicated that there are also too few 3G and 4G sites in the BU model compared to other stakeholders' networks.</p>	<p>Number of sites:</p> <p>With regards to the number of sites that the BU model produces, the purpose of the cost modelling exercise is not to model one or another mobile network in South Africa, but to reflect a network that is efficient. The modelled network therefore does not need to reflect the outcomes of individual networks in South Africa.</p>
15.2	<p>Stakeholders held that the lower population density within South Africa (when compared on average to the EU countries that have higher population densities), coupled with the energy crisis in South Africa makes it different to other countries and as a result of this the mobile costs are higher in South Africa.</p>	<p>The comparison between South Africa and EU countries on average, does not consider that the EU model (and the maximum termination rate applied in the EU) covers the least densely populated, highest cost countries in the EU. For instance, Norway has a population density of less than 15 (fifteen) people per square kilometre, compared to South Africa's population density of 49 (forty-nine) per square kilometre.¹⁶ The concerns about the higher costs in South Africa arising from the energy crisis, such</p>

¹⁶ See World Bank World Development Indicators, available at https://data.worldbank.org/indicator/EN.POP.DNST?name_desc=false.

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>Furthermore, the greylisting of South Africa by the Financial Action Task Force ("FATF") has had a negative impact on raising capital.</p> <p>In addition, stakeholders held that there is no evidence that investment has not been harmed as a result of lower MTRs, or that consumers have benefited from lower MTRs.</p>	<p>higher costs have been taken into account in the cost models by explicitly using cost inputs from stakeholder submissions on mobile network site costs, including additional equipment costs arising from the need for backup power. In respect of South Africa being greylisted by the FATF, it is important to note that this took place in February 2023, while the costs of capital submitted by stakeholders were submitted subsequently and have been taken into account in the model. The model thus already accommodates the higher costs of capital arising from the FATF greylisting.</p>
15.3	<p>Stakeholders further held that it is inappropriate to consider international benchmarks for termination rates in circumstances where the Authority has decided on a cost-modelling process.</p>	<p>Benchmarking is utilised as a sanity check and is used in conjunction with the results of the cost modelling exercise to inform the Authority's final decision on call termination rates.</p> <p>Stakeholders provided comments on the Authority's model and modelling outcomes, such as, site counts and cost-based termination rates in comparison with models and modelling outcomes, including termination rates, in other countries. The</p>

No.	Stakeholder Comment/ Issue	Authority's Response
		<p>Authority considered models in other countries when developing its own model. It is thus reasonable to take into account outcomes from other models, including call termination rates, when considering outcomes from the Authority's model.</p>
15.4	<p>Comments on summary tab: Stakeholders proposed that the coverage levels for the hypothetical operator have changed over time, with little explanation. Stakeholders suggested that the coverage levels are higher than its own coverage levels, and thus exceed reasonable levels. Stakeholders held that the purpose of the scenarios in the model is unclear, and the 50% (fifty percent) scenario should not be used for any purpose.</p>	<p>Comments on the summary tab: Population percentage coverage levels have now been changed, according to stakeholder submissions. As a result, geographic coverage levels reported by the mobile network operators in public disclosures have now been used in the model, in addition to changing the population coverage levels proposed by stakeholders. The 50% (fifty percent) market-share scenario is not being used for the purposes of establishing a cost-based termination rate but for sensitivity analysis.</p>
15.5	<p>Comments on tab 1 (volumes): Stakeholders proposed that using the 2018 splits are not reasonable if more recent data is available. In general, it is indicated that there is more 2G traffic over time. Stakeholders held that the traffic used over-estimates Voice over Long-</p>	<p>Comments on tab 1 (volumes): Data provided by stakeholders on volumes by technology have been used in a revised version of the cost model based on stakeholder submissions that there were limited VoLTE devices in 2018. At the same time, the reduction in the proportion of 2G calls have been accelerated in the model to be the same rate as that for 3G calls, resulting in lower 3G calls over time. In this regard,</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>Term Evolution ('VoLTE') traffic in the earlier years, since devices were not widely available.</p>	<p>it is important to note that while some licensees had higher proportions of 2G volumes in 2018, this changed significantly over time even for those stakeholders in favour of 4G. Furthermore, other licensees have a substantially higher proportion of 4G calls in their networks. In one case, only VoLTE (4G voice) is offered. It is thus reasonable to assume that a relatively high proportion of calls are VoLTE over time since this was the most efficient means of transmitting a voice call, even if this was not applied in the ICASA 2018 model, which did not at the time anticipate the entry of VoLTE-only networks. At any rate, VoLTE is the most efficient technology to assume for 4G voice services and is therefore a reasonable technology for the hypothetical efficient operator to use.</p>
15.6	<p>Over provisioning factors (maximum utilisation, non-homogeneity):</p> <p>The stakeholders suggested that adjustments to over-provisioning factors should not be done on the basis that they reflect modelling outcomes. Stakeholders proposed that the Authority should explain why its own measurements for over-provisioning have not been used. Stakeholders</p>	<p>Over-provisioning factors:</p> <p>The final over-provisioning factors, similar to those used in previous cost models and to stakeholder submissions, results in a comparable number of sites to those observed in networks in South Africa. The sources for the various factors are shown in the cost model.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>further suggested that one of the reasons that the site counts in the model do not match its own network is due to incorrect non-homogeneity or utilisation factors in the cost model. A maximum utilisation factor of 50% (fifty percent) for LTE based on precedent and stakeholder submissions was suggested.</p>	
15.7	<p>Busy hour: Stakeholders suggested that the model understates voice volumes, by using a certain stakeholder's assumptions for busy hour SMS and data volumes, but not voice.</p>	<p>Busy hour assumptions: Busy hour assumptions are based on stakeholder submissions. The proposal of different busy hour assumptions for 2G services result in a substantial over-estimation of the number of sites in the model, hence same is not used.</p>
15.8	<p>Voice-equivalent megabits per second ('mbps') conversion: Stakeholders indicated that the higher conversion rate for 4G is unexplained, and that 3G and 4G voice services operate at similar levels of efficiency.</p>	<p>3G and 4G voice equivalent mbps per second: The assertion that 3G and 4G voice services are broadly similar from a spectral efficiency perspective, is contrary to the submissions received from other stakeholders, and to industry research by the GSM Association ('GMSA'), which notes that¹⁷: "Moving to 4G (LTE) is even more important because it opens up the possibility of VoLTE. With VoLTE the spectral efficiency of voice approaches that of data."</p>

¹⁷ See GSMA The Benefits of Technology Neutral Spectrum Licences June 2019, available at <https://www.gsma.com/connectivity-for-good/spectrum/wp-content/uploads/2019/06/Benefits-of-Technology-Neutral-Spectrum-Licences.pdf>.

No.	Stakeholder Comment/ Issue	Authority's Response
15.9	<p>Stakeholders proposed that the minimum spectrum carrier size in 1800MHz is 2x10MHz, and not 2x5MHz, for 4G services. There are considerable inefficiencies with smaller carrier sizes. Furthermore, according to stakeholders, Time Division Duplex ('TDD') carriers are not suitable for voice. Stakeholders indicated that 2x11.5MHz in the 900MHz is not a reasonable assumption since it does not have this spectrum and only the total spectrum assignment should be used, and no more. Stakeholders also indicated that the spectrum usage does not comply with carrier sizes that were widely supported by vendors and does not conform with optimal user experience. Furthermore, stakeholders noted</p>	<p>Rather, a more relevant formula which more closely reflects the greater spectral efficiency associated with 4G voice has been adopted in the model.</p> <p>Use of TDD spectrum for voice services: It is not reasonable to assume that TDD spectrum cannot be used for LTE voice services. For example, in the GSM (an association of more than 1 000 mobile operators and other businesses¹⁸) VoLTE implementation guide, 19 TDD bands are listed on frequency bands in use¹⁹. Nowhere in the guide is it suggested that TDD bands should not be used for VoLTE. It is therefore reasonable to conclude that TDD spectrum can be used for LTE.</p>

¹⁸ See GSMA available at <https://www.gsma.com/about-us/>.

¹⁹ See VoLTE Implementation Guide April 2020, available at <https://www.gsma.com/get-involved/working-groups/wp-content/uploads/2020/05/VoLTE-Implementation-Guide.pdf>

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>that the spectrum sharing assumptions should be removed and its assignments be used. Stakeholders considered that the implied quality of data services assumed in the cost model for 3G and 4G arising from spectrum allocations would have meant far slower data speeds.</p>	
15.10	<p>Comments on tab 2b (routing factors): Stakeholders proposed that the routing factors imply that a great proportion of shared costs are allocated to 4G services and suggested that the Authority consider the routing factors in the Euro rate model to adjust this. Stakeholders further proposed that the effort in the model to allocate costs to different technologies is wasteful, since there is only one increment.</p>	<p>Tab 2b (routing factors): The proposal by the stakeholders to allocate shared site costs between 2G, 3G and 4G technologies has been implemented for shared sites in a revised specification of the model, by weighting routing factors for shared Radio Access Network ('RAN') facilities by spectral efficiency, following the approach in the Euro rate model. As is apparent from the latter approach, regulators do allocate call termination costs to different technologies when modelling the costs of voice call termination.</p>
15.11	<p>Stakeholders indicated that the only network equipment that ought to be modelled is that for a single 2G transceiver per site.</p>	<p>Comments on tab 4a, network sites / RAN: Modelling 2G, 3G, and 4G coverage: The previous models were reviewed to prepare the current model, including the ICASA 2018 model, the Euro rate model and the Ofcom model, modelled standard coverage networks for 2G, 3G and 4G networks using</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>Furthermore, stakeholders indicated that there are miscalculations in the areas covered by the coverage sites in the model. This is because, according to the stakeholders, the short-side of the hexagon ought to be used in the formula, rather than the long side. Stakeholders explained that this error results in too many coverage sites. Stakeholders further commented that the number of reported coverage sites under-estimates coverage sites actually used in the model, which can be calculated when volumes are set to zero.</p>	<p>standard network parameters. The same approach was thus followed.</p> <p>Regarding cell radii, the formulae have been updated to reflect that the cell radius measurement is on the short-side of the hexagon, and not the long side, following stakeholder comments. The coverage area calculations from the ICASA 2018 model, which are consistent with the Ofcom 2021 model, are therefore used.</p> <p>When volumes are set to zero in the model, the number of physical coverage sites remains the same.</p>
15.12	<p>Comments on tab 4b, backhaul: Stakeholders indicated that the sharing of backhaul links with other services is unprecedented in other models. Furthermore, stakeholders highlighted the flaws in the modelling of backhaul links that led to unrealistic outcomes and overstated backhaul costs.</p>	<p>Comments on tab 4b, backhaul: Actual coverage and capacity sites have been used, and a revised specification of the backhaul links have been used rather than sites demanded, following stakeholder suggestions. The approach to average usage per site is similar to the approach used in the ICASA 2018 model.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
15.13	<p>Comments on tab 4c, Base Station Controller ('BSCs'), Radio Network Controller ('RNCs'), links:</p> <p>Stakeholders indicated that BSCs and RNCs are not applicable to LTE technology, and therefore the links connecting BSCs and RNCs to the core network should not be included in the model.</p>	<p>Comments on tab 4c (BSC, RNCs, links):</p> <p>No LTE usage of transmission links: The computation of transmission from BSCs/RNC sites also takes into account LTE traffic demand, in the calculation of average traffic demanded from such aggregation point sites. The model thus accounts for aggregation of LTE traffic at shared BSC / RNC sites. It is thus reasonable to allocate part of the costs of transmission to LTE.</p>
15.14	<p>Comments on tab 4d, core:</p> <p>Stakeholders held that, among other changes over time, the wholesale billing system cost as a proportion of the total cost of wholesale call termination has risen significantly. Some stakeholders indicated that the share of wholesale billing, at more than 20% (twenty percent) of the costs of call termination, is high. Accordingly, this is anomalous, since the fixed model does not account for wholesale billing costs at all.</p> <p>Stakeholders also indicated that the number of SBCs is very high compared to the Ofcom 2021 model.</p>	<p>Comments on tab 4d (core):</p> <p>Wholesale billing systems and core as a proportion of overall cost: The comments to the effect that the wholesale billing system as a proportion of overall costs have been growing and been mitigated in a revised specification of the model by using the same routing factor parameters used in the ICASA 2018 model, from which the costs of the wholesale billing system were drawn.</p> <p>Wholesale billing costs have been reduced due to a reduction in the core routing factor to follow the routing factor and cost structure in the ICASA 2018 model.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
15.15	<p>Comments on ED tabs:</p> <p>Price trends: Stakeholders indicated that unit prices for telecommunications typically decline over time, while the model assumes that costs increase over time in the ED tabs. Stakeholders proposed removing price trends from the calculation of service volumes.</p> <p>Macrocell costs: Stakeholders suggested that the costs of 4G macrocells ought to be higher. Furthermore, the efficiencies of providing voice services do not improve significantly between technology improvements since the focus is always on data.</p>	<p>Comments on ED tabs:</p> <p>Price trends on volumes: While some stakeholders argue for the removal of price trends from the ED tabs where the volume calculation is concerned, other stakeholders have proposed the opposite. Including the fact that price trends in volumes does not under-estimate termination costs, but rather distributes those costs over time in a more appropriate way. This follows the standard approach used for economic depreciation calculation. The present value of call termination revenues calculated in the model covers the present value of termination costs, which shows that the resulting calculations are correct.</p> <p>4G macrocells: Stakeholder submissions on 4G costs are used in the model, since the cost estimates submitted by local stakeholders resulted in similar present values, and so are likely more reliable than costs in the Euro rate model.</p> <p>Cell references in ED tabs: The stakeholders' suggestion is incorrect. The cell references for opex and capex should not refer to asset demand, but to actual assets in place (for opex) and new assets purchased (for capex), as referenced in version 5.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	Transmission: Stakeholders indicated that there are some errors in some cross-references.	

16. Submissions Regarding Comments on fixed cost model

No.	Stakeholder Comment/ Issue	Authority's Response
16.1	<p>General:</p> <p>Stakeholders provided that the fixed cost model gives rise to very low termination rates compared to fixed termination rates in other jurisdictions.</p> <p>Other stakeholders provided that the Authority proposed applying a rate 60% (sixty percent)</p>	<p>General:</p> <p>While international comparisons can provide useful information from a cost modelling process and outcomes perspective, the fixed cost modelling process and the resulting recommended rate of R0.01 results in a similar termination rate to that applied in the EU and in the UK. The fixed termination rate is also above the zero-rated bill-and-keep jurisdictions including Canada, Hong Kong, India, Singapore, and the United States.</p> <p>While rounding does result in a rate that is above cost, a similar approach to rounding has been applied in the BU mobile cost model, and this also follows the approach in both past review processes as well as the Euro rate model, where the rate applied</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>above costs due to rounding, whereas Ofcom (UK) applies a pure LRIC rate of 0.0356 pence per minute (GBP 0.00356 per minute), or ZAR 0.0081 per minute.</p> <p>Stakeholders provided that voice networks are built to handle both inbound and outbound calls, and costs cannot be apportioned to either inbound or outbound traffic. If inbound calls are excluded from total traffic volume, then the costs of outbound calls increases proportionally.</p>	<p>was rounded up from the highest—cost country modelled in the EU.</p> <p>Stakeholder comments on the fixed voice networks are built for inbound and outbound calls mean that the costs of fixed networks do not vary when inbound calls are switched off. This implies that the pure LRIC of fixed voice termination is in fact zero.</p> <p>This view appears to be based on a fully-allocated cost model, which takes into account all costs, including personnel costs, and divides these by call volumes to arrive at a cost per minute. This is very different to the approach under pure LRIC, which seeks to evaluate only those costs that vary with inbound calls. This is discussed in more detail in the Authority's Methodology Briefing Note.</p>
16.2	<p>Volumes: Stakeholders provided that the volumes used in the fixed model appear to be high and speculative, whereas actual data from the International Telecommunications Union ('ITU') shows a declining trend. According to</p>	<p>Volumes: Volume forecasts have been adjusted in a revised specification of the model to reflect the ranges of volume changes over the past years. In the base case (medium growth) scenario, volumes are declining over time.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>stakeholders, estimates show that fixed volumes halved over the period 2017 to 2021, and this is consistent with some stakeholders' experience.</p> <p>Furthermore, stakeholders held that there ought to be an uplift factor where concurrent sessions are concerned to accommodate the fact that the number of peak concurrent sessions is likely to be higher than the average.</p> <p>Stakeholders suggested that its voice volumes are substantially lower than the volumes in the Authority's model, and that it has lower economies of scale.</p>	<p>In order to accommodate differences between peak and average concurrent sessions, a non-homogeneity factor has been added to the fixed model for concurrent sessions.</p> <p>While some stakeholders may well have significantly lower volumes than the base case scenario and thus a smaller market share, the termination rate proposed far exceeds the costs reflected in the model regardless of operator size.</p>
16.3	<p>Dimensioning: Stakeholders presented different dimensioning assumptions for network elements used in the cost model.</p>	<p>Dimensioning: While different dimensioning assumptions were provided, it appears as though significantly lower usage volumes are assumed and are linked to licensee specific operating expenditure patterns, which does not conform to the overall methodology which is to consider a hypothetical efficient operator. The dimensioning assumptions used are predominantly from the Euro rate model and</p>

No.	Stakeholder Comment/ Issue	Authority's Response
16.4	<p>Cost trends: Stakeholders held that the cost trend should be increasing given the depreciation in the Rand over time, and the fact that equipment is typically imported.</p>	<p>from other stakeholder submissions, and result in comparable termination costs observed in other countries for fixed termination rates. In the absence of evidence of sources of the alternative cost structures proposed or their justification, using these alternative costs would not be appropriate.</p> <p>Cost assumptions: The capital expenditure costs take into account the fluctuating value of the ZAR / EUR exchange rate in a revised version of the fixed cost model.</p>
16.5	<p>Opex and capex: Some stakeholders held that they have very different business models to that assumed in the cost model, with a different combination of opex and capex. Furthermore, the cost model does not consider personnel costs, which are substantial. In addition, according to stakeholders, once these specific costs are considered, the costs of terminating fixed calls far exceeds 1c per minute.</p>	<p>Regarding personnel costs, it is important to note that the pure LRIC modelling approach considers only costs that are avoided when incoming calls are reduced to zero. In the absence of any evidence to the contrary, personnel costs are not relevant for the pure LRIC model.</p> <p>Concern regarding the use of an opex cost model, is not clear how the significantly higher operating expenditure can be justified. In the absence of evidence of such costs and alternative pure LRIC modelling approaches to estimating the costs that a hypothetical efficient operator would incur in terminating fixed line voice calls, it would be unreasonable to amend the fixed cost model in this way.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
16.6	<p>Model updates:</p> <p>Stakeholders noted that a number of the changes they previously proposed have now been made, including on upward adjustment to volumes, on unit equipment costs, and an error in lookups for incoming minutes. Stakeholders also accepted the change in assumed market share of the hypothetical operator, which has a minimal impact. In addition, stakeholders indicated that costs have increased substantially in version 5 of the model, while network design parameters have not in many cases, suggesting that such cost increases are inappropriate.</p>	<p>Changes in costs and dimensioning parameters between model versions:</p> <p>The fixed cost model was changed to reflect stakeholder inputs on costs and dimensioning parameters, and also considering cost models in other countries. Stakeholder submissions indicated significantly higher costs compared to costs used in the previous draft of the model. In the absence of alternative costs and dimensioning parameters provided by stakeholders, there is little reason to make further adjustments to the model. Furthermore, even though costs increased as a result of the change, they remain within 1c, which is reasonably comparable with fixed termination rates in other countries, such as the fixed termination rate in the EU (approximately ZAR 0.0138)²⁰ and that in the UK (approximately ZAR 0.0082).²¹ The costs applied in the model are therefore appropriate.</p>

²⁰ See Maximum fixed mobile termination rates: Question and answers available at <https://digital-strategy.ec.europa.eu/en/faqs/maximum-fixed-and-mobile-termination-rates-question-and-answers#ed-inpage-level-of-the-applicable-termination-rates>.

²¹ See Ofcom regulated prices available at <https://www.ofcom.org.uk/phones-and-broadband/telecoms-infrastructure/regulated-prices/>.

17. Submissions Regarding Wording and structure of the Regulations and Draft Regulations

No.	Stakeholder Comment/ Issue	Authority's Response
17.1	<p>Stakeholders recommended that the following definitions that have not been used should be removed:</p> <p>(i) "Fixed Wholesale Voice Call Termination Service" means a wholesale voice call termination service provided by an electronic communication network service ('ECNS') or electronic communication service ('ECS') licensee to a fixed location; and</p> <p>(ii) "Mobile Wholesale Voice Call Termination Service" means a wholesale voice call termination service provided by an ECNS or ECS licensee to mobile subscriber equipment enabled by wireless technology.</p>	<p>The Authority agrees with the proposals and has deleted the definitions.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
17.2	Stakeholders recommended inserting the following new definition to define the term "Licensee" used in, amongst other, Regulations 3a and 3b of the Regulations: "Licensee" refers to licensee as defined in the ECA.	The Authority does not deem it necessary to define terms that are already defined in the ECA. Furthermore, the Authority has already stated in the preamble that the amendments are made in terms of the ECA.
17.3	Stakeholders recommended inserting the following new definitions that it uses in its proposed amendment of Market definitions in Regulations 3a and 3b of the Regulations: (i) "South African Mobile number" means mobile number as defined in the Numbering Plan Regulations ²² . (ii) "South African Fixed geographic number" means geographic number as defined in the Numbering Plan Regulations.	The Authority notes the recommendations. However, the inclusion of such definitions in the Call Termination Amendment Regulations, 2024, is not, in the Authority's view, necessary as they are not included in the body of the Regulations.

²² Government Gazette No. 39861. Available at <https://www.icasa.org.za/legislation-and-regulations/numbering-plan-regulations>.

No.	Stakeholder Comment/ Issue	Authority's Response
	(iii) "South African Fixed non-geographic number" means non-geographic numbers as defined in the Numbering Plan Regulations, other than South African Mobile numbers.	
17.4	Stakeholders recommended inserting the following new definitions that it uses in its proposed new definitions for fixed, mobile and international termination rates: (i) "South African number" means a number allocated by ICASA as per the National Numbering Plan Regulations ²³ corresponding to the E.164 country code for the geographic area belonging to the territory of South Africa ²⁴ .	The Authority notes the recommendations. However, the inclusion of such definitions in the Call Termination Amendment Regulations, 2024 is not, in the Authority's view, necessary as they are not included in the body of the Regulations.

²³ Government Gazette No. 39861. Available at <https://www.icasa.org.za/legislation-and-regulations/numbering-plan-regulations>.

²⁴ Article 2.1.c of the EU Commission Delegated Regulation 2021/654 of 18 December 2020, states "Union-number' means a number from national numbering plans corresponding to E.164 country codes for geographic areas belonging to the territory of the Union" at p 14. Available at <https://digital-strategy.ec.europa.eu/en/news/commission-adopted-delegated-regulation-eu-wide-voice-call-termination-rates#:~:text=Maximum%20termination%20rates%20defined,avoiding%20significant%20disruptions%20for%20operators>.

No.	Stakeholder Comment/ Issue	Authority's Response
17.5	<p>(ii) "Non-South African number" means all numbers other than South African numbers.</p> <p>Stakeholders recommended inserting the following new definitions in the proposed simplification of Draft Regulation 7(2) below:</p> <p>(i) "Fixed termination rate" means the rate for fixed voice termination service markets, as defined in Regulation 3b, for calls originating from South African numbers from inside South Africa.</p> <p>(ii) "Mobile termination rate" means the rate for mobile voice termination service markets, as defined in Regulation 3a, for calls originating from South African numbers from inside South Africa.</p> <p>(iii) "International mobile termination rate" means the rate for mobile voice termination service markets, as defined in Regulations 3a, for calls originating from:</p> <ul style="list-style-type: none"> o Non-South African numbers, regardless of whether the call originates from 	<p>The Authority does not consider it appropriate to revise the relevant market definitions as the proposed new definitions exclude the focal product identified by the Authority, which is the wholesale call termination services.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>inside or from outside of South Africa;</p> <p>or</p> <ul style="list-style-type: none"> o South African numbers from outside South Africa. <p>(iv) "International fixed termination rate" means the rate for fixed voice termination service markets, as defined in Regulations 3b, for calls originating from:</p> <ul style="list-style-type: none"> o Non-South African numbers, regardless of whether the call originates from inside or from outside of South Africa. o South African numbers from outside South Africa 	
17.6	<p>Stakeholders recommended amending the following definition to read: "New Entrant Licensee" means an ECNS Licensee that operates its own radio access network and who has been in the relevant market as defined in Regulation 3a of the Regulations for a period of less than 3 (three) years".</p>	<p>The Authority notes the recommendations. However, it deems that the proposed amendment of the definition in the Call Termination Amendment Regulations, 2024, limits the scope of the type of new entrant that may enter the market and is therefore, in the Authority's view, not necessary.</p>

No.	Stakeholder Comment/ Issue	Authority's Response
17.7	<p>Stakeholders recommended amending Regulation 3 as follows:</p> <p><i>Market definition</i></p> <p>(a) Mobile voice termination service markets: The market for wholesale voice call termination services within the Republic of South Africa on the network of by each Licensee or person providing a service pursuant to a licence exemption, with the ability to control termination and set the termination rates, for calls to South African mobile location numbers within the Republic of South Africa.²⁵</p> <p>(b) <i>Fixed voice termination service markets: The market for wholesale voice call termination services within</i></p>	<p>For the reasons provided in the Findings Document, the Authority does not consider it appropriate to revise the market definitions.</p>

²⁵ Article 2.1.a. of the EU Commission Delegated Regulation 2021/654 of 18 December 2020, p 13. Available at <https://digital-strategy.ec.europa.eu/en/news/commission-adopted-delegated-regulation-eu-wide-voice-call-termination-rates#:~:text=Maximum%20termination%20rates%20defined,avoiding%20significant%20disruptions%20for%20operators.>

No.	Stakeholder Comment/ Issue	Authority's Response
	<p><i>the Republic of South Africa on the network of by each Licensee or person providing a service pursuant to a licence exemption, with the ability to control termination and set the termination rates, for calls to South African Fixed geographic numbers or South African Fixed non-geographic numbers location within the Republic of South Africa.</i></p>	
17.8	<p>Stakeholders recommended amending Regulation 6 as follows: <i>The Authority declares that each individual ECNS and individual ECS Licensee or person providing a service pursuant to a licence exemption that offers wholesale voice call termination services is dominant and has SMP in its own market for wholesale voice call termination.</i></p>	<p>The Authority does not consider it appropriate to amend Regulation 6 because licence exempt licensees do not provide wholesale voice call termination services directly to other licensees.</p>
17.9	<p>Stakeholders recommended removing the provision for pro-competitive terms and</p>	<p>The Authority believes that these provisions are essential for maintaining a fair and competitive market. However, we</p>

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>conditions by deleting Draft Regulation 7(5)(a) in its entirety and Annexure B in its entirety. Stakeholders noted that should the Authority retain the pro-competitive terms and conditions, it should apply symmetry across all SMP Licensees.</p>	<p>understand the importance of symmetry and fairness across all Significant Market Power licensees. Therefore, if we retain these terms and conditions, we will ensure they are applied equally and consistently to all SMP licensees to promote a balanced market. The Authority does not agree with the proposal given that Regulation 7(5)(a) is in line with the Authority's finding.²⁶</p>
17.10	<p>Stakeholders recommended the "simplification" of the price control terms and conditions by deleting Annexure A in its entirety and amending Draft Regulations 7(2) and 7(5)(b) as follows: <i>"7. Pro-competitive terms and conditions</i> <i>(2) In order to address the market failures identified in sub-regulation (1) above, an ECNS and ECS licensee must charge fair and reasonable prices for wholesale voice call termination consistent with Annexure A, i.e.:</i></p>	<p>The Authority disagrees with the suggestion to delete Annexure A in its entirety. Annexure A provides important details and clarity necessary for maintaining fair and reasonable pricing across different types of licenses (small/big).</p>

²⁶ See Government Gazette No. 46107 at para 4.6.5.2, p 48. Available from <https://www.icasa.org.za/legislation-and-regulations/findings-document-on-the-review-of-the-2014-pro-competitive-remedies-imposed-on-licensees-in-terms-of-the-call-termination-regulations->

No.	Stakeholder Comment/ Issue	Authority's Response
	<p>(a) Mobile termination rates not exceeding the cost-based rates contained in tables 1 and 2;</p> <p>(b) Fixed termination rates not exceeding the cost-based rates contained in table 3; and</p> <p>(c) International mobile termination rates not (i) less than the rates contained in table 1 and 2 below; or (ii) higher than the rates offered by an international operator to terminate, on Non-South African mobile numbers, voice calls originating from S.A. numbers.</p> <p>(d) International fixed termination rates not (i) less than the rates contained in table 3 below; or (ii) higher than the rates offered by an international operator to terminate, on Non-South African fixed geographic or Non-South African fixed non-geographic numbers, voice calls originating from S.A. numbers.</p> <p>To ensure the correct application of this Regulation, Licensees or persons providing the</p>	

No.	Stakeholder Comment/ Issue	Authority's Response
17.11	<p>Stakeholders recommended deleting Regulations 7(3) and 7(4) in its entirety. Draft</p>	<p>For the reasons provided in the Findings Document, the Authority does not consider it appropriate to make these deletions.²⁷</p>

²⁷ See Government Gazette No. 46107 at para 5.1.1.5, p 55. Available from <https://www.icasa.org.za/legislation-and-regulations/findings-document-on-the-review-of-the-2014-pro-competitive-remedies-imposed-on-licensees-in-terms-of-the-call-termination-regulations->