1. Telkom Commentary

Telkom welcomes the opportunity to engage with the Authority and provide its commentary on the underlying cost methodologies proposed by the Authority.

In the following sections we provide Telkom's comments on the Authority's proposed cost modelling approach.

1.1 Cost modelling process

Timelines

Telkom welcomes the Authority's review of the timeline and the time afforded to operators to comment on the methodologies on the TD/BU cost models.

Telkom notes that the Authority has indicated that it will publish a briefing note on the Authority's methodology stance on the 14th of August 2023. It further proposes the date of 14 September 2023 for inputs on the questionnaires / models to be provided by the operators. It has, however not indicated when it will publish the revised cost models.

Given that the Authority has indicated that the revisions will entail the development of a new questionnaire and cost models, based on the feedback received from operators, it will have to provide operators a date on which it will provide operators with the models and questionnaire incorporating its revised methodology stance. The Authority is therefore requested to provide a date by which it will provide its revised questionnaire and models.

In providing the reviewed questionnaires and models the Authority also needs to consider operators will need sufficient time to review and populate the revised questionnaire and models. Even if the revised models and questionnaires are provided at the same time as the Briefing note on Methodology stance, we have previously indicated that operators will require more than the proposed month to

respond to the Authority's revised models and questionnaire. In deciding on the appropriate time that operators will be afforded to provide the requisite data it needs to be considered that operators were provided more than 3 months during the 2018 review.

In our submission on 7 June 2023 Telkom indicated that a minimum of 90 working days would be appropriate for the submission of data on the cost models. The period of 90 days commencing on the date when the Authority publishes its revised models.

Telkom also notes that the Authority has indicated that it will publish draft models one month after it has received the data inputs from stakeholders. It then only provides stakeholders with 10 working days to comment. Telkom submits that at least 20 working days should be provided for stakeholders to comment.

Confidentiality

Given that it is highly likely that Telkom will be the only respondent in relation to fixed voice services, Telkom is concerned that even if the Authority undertakes to provide only aggregated data Telkom's actual costs for fixed voice services will become public knowledge. Given the commercially sensitive and strategic nature of such data it would be irresponsible for the Authority and detrimental to Telkom if such data were to become available in the public domain. Telkom therefore requests that the Authority undertakes that Telkom's propriety data remain privileged and urges the Authority to clarify how it intends to protect the confidentiality of Telkom's cost and other data.

Data collection

Telkom is of the view that the level of data that is requested for the bottom-up models / questionnaire is too extensive and granular for the purposes of determining the costs of call termination. Furthermore, the level of granularity of the information requested in terms of volume information per technology / area, network element information, and cost related information is not available at the level requested by the Authority. We have elaborated further on this aspect in Annexure B attached hereto.

1.2 Fixed Termination Rate

Given that decreasing fixed call volumes is an international phenomenon and that the technology used to terminate fixed and mobile calls is becoming increasingly converged, Telkom suggests that there is no need to differentiate between fixed and mobile termination rates. The reasons for this have been spelled out in our previous submissions during this CTR review process. Notwithstanding, we highlight that:

- There has been a decrease in fixed voice minutes in South Africa and abroad due to fixed-mobile substitution. This is further exacerbated by convergence between mobile and fixed services and by subscribers increasingly moving to alternative services such as OTT voice.
- In order to support legacy voice services Telkom needs to maintain its legacy switching assets for which there is no modern equipment available in the market.
- Any new entrant building a new network to provide voice services in South Africa would build a wireless access network using mobile network technology. The modern equivalent network relevant for the purpose of calculating FTRs is therefore a mobile network.

Proposed modelling approach

Should the Authority persist with a FTR cost study, Telkom strongly suggests that it should be on the basis of a top-down (TD) model only. Any bottom-up (BU) model based on current or historical cost accounting standards would not be reflective of any actual costs incurred and would hence produce spurious results.

It needs to be considered that the current top-down model proposed by the Authority does not align with Telkom's top-down model and that Telkom's top-down model has been used for all previous reviews. In order to produce more accurate results Telkom strongly recommends that the Authority use Telkom's top-down model for the purposes of calculating the cost of fixed termination. This will also assist in avoiding an unnecessary resource-intensive process which will require retrofitting existing data.

Changing Telkom's data from the existing model to the one proposed by the Authority would be a highly time-consuming and resource-intensive exercise. Telkom therefore proposes that the Authority adopt a similar approach to the one during the 2018 review whereby it will be more efficient and informative for the Authority to visit the Telkom premises where it will be able to interrogate the model directly.

BU fixed model parameters

Fixed subscriber numbers are decreasing and the number of minutes per subscriber are declining. Declining volumes will result in increasing unit costs over time. Telkom is not sure how the Authority plans to use hypothetical figures to determine a fixed call termination rate and whether such hypothetical figures will be useful.

Notwithstanding Telkom's position, as highlighted above, we've provided comments on some of the parameters contained in the Authority's fixed BU model.

In the "summary" sheet it seems that the Authority will be using a 5-operator model, each with a hypothetical market share of 20%. The commercial reality is that Telkom is effectively the only provider of fixed line voice services as defined. A model assuming 5 operators may therefore not be useful.

Please refer to the table in Annexure B for additional comments on the BU modelling parameters.

1.3 Mobile Termination Rate

Proposed modelling approach

As with the fixed top-down model, the mobile top-down model proposed by the Authority does not align with the structure of Telkom's top-down model. To collect and collate Telkom's data in order to populate an alternate model, as proposed by the Authority, rather than interrogating Telkom's existing model would be a highly time-consuming and resource-intensive exercise. Telkom therefore strongly recommends that the Authority use Telkom's existing top-down model. It will also be more efficient and informative for the Authority to engage with Telkom on site where it will be able to interrogate the model directly.

Telkom's supports the use of BU costing to determine mobile call termination rates. Telkom, however, proposes that in order to achieve lower costs to communicate for the economy at large the Authority should **not** rely only on the Long-Run Incremental Cost plus (LRIC+) cost standard if it intends to remove asymmetric termination rates (AMTRs) in favour of smaller operators. Telkom has previously indicated that LRIC+ is only appropriate for achieving pro-competitive outcomes if smaller operators, with market shares lower than 20%, are awarded higher AMTRs.

Notwithstanding Telkom's submitting that AMTRs with a premium for smaller operators would be appropriate given the highly skewed telecommunications market structure in South Africa, international precedent has advised that symmetrical rates should only be charged if termination rates are at pure Long-Run Incremental Cost (LRIC) or lower. In a highly skewed market, such as the South African market, zero termination charges may be most appropriate for achieving pro-competitive outcomes if asymmetry is removed. ICASA may also want to consider that a sender keeps all ("SKA") approach will also assist in reducing the costs to communicate.

LRIC+ vs LRIC

Regulatory authorities in other countries, particularly in Europe, have analysed the mechanisms by which MTRs affect competition in the overall mobile market in detail. Broadly, they have found that:

- MTRs set above the level of LRIC reduce the effectiveness of competition between operators, and particularly to the disadvantage of smaller operators relative to larger operators; and
- Asymmetric MTRs can serve to mitigate the competitive disadvantages faced by small operators when MTRs are set at LRIC+.

Telkom supports the view that LRIC+ is only appropriate if smaller operators qualify for asymmetry and this approach is also relevant in the South African context. If the Authority decides to use the LRIC+ cost methodology to determine call termination rates, asymmetric MTRs need to be applied to prevent any competition distortion in the South African market.

MTR symmetry should only be considered if the pure LRIC methodology is used to determine call termination rates. The Authority is also urged to consider termination rates equal to zero (SKA) considering that such a rate would assist with addressing distortions in the market and reducing the costs to communicate and given that a high proportion of calls by large operators are on-net and do thus not incur a termination charge. This is further supported by the increasing use of over the top (OTT) voice, which does not incur termination charges, as an alternative to traditional voice.

BU mobile model parameters

Market shares

The table below reflects the options that are defined in the selection tab “operator scenarios” in the “summary” sheet and in the “scenarios” tab.

Table 1: Proposed mobile market share parameters

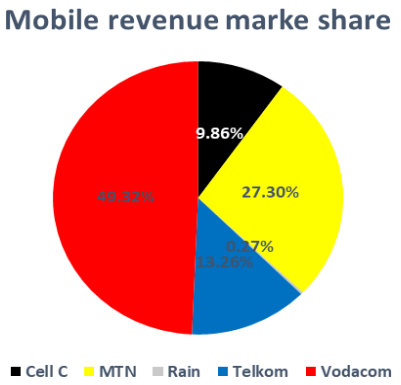
Description	Market share	Population coverage	Cost premium
1. Generic operator	20%	99%	0%
2. Large operator	30%	87%	0%
3. Small operators	15%	87%	10%
4. Fixed-wireless access	5%	56%	10%

With reference to the hypothetical market share of 20% and a large operator share of 30% (based on a 5-operator market), it seems that the Authority assumes that the mobile market is a relatively balanced market. Telkom is not sure how the Authority plans to use the proposed hypothetical figures to determine appropriate mobile call termination rates in a highly skewed market.

Notwithstanding, the current mobile market shares in South Africa reflect a skewed mobile market. Figure 1, below, shows that the two large operators: Vodacom and MTN have revenue markets shares of approximately 49% and 27% respectively (as calculated by Africa Analysis (2023) if the market is defined as the mobile market. Telkom Mobile had a revenue market share of approximately 13%, Cell C, just below

10% and Rain 0.27% in September 2022. The figures for the voice market are even more skewed as pointed out in the Call Termination Rate Discussion Document.

Figure 1: Mobile market share in South Africa



Source: Africa Analysis, January 2023

Telkom notes that given the parameters proposed in table 1, Telkom, with a market share of less than 15% and with a population coverage of less than 87%, would qualify as a "smaller operator". Accordingly, based on the Authority's cost model, Telkom, like other smaller operator should qualify for a call termination premium. Telkom, however, submits that the quantum of the premium contained in the Authority's current model is too low considering that the Authority has estimated, in its Discussion document, that the largest operator's share of the South African voice market was 56% in 2020. The current premium of approximately 45% (9c vs 13c) would therefore be more appropriate.

Other

Please refer to the table in Annexure B for more comments on the BU modelling parameters.

1.4 Depreciation method

Telkom proposes that rather than re-inventing the proverbial wheel, the Authority apply the tilted annuity depreciation method as was adopted in previous reviews, rather than an untried economic depreciation method. It has been suggested in the literature that the latter method would be more appropriate for the calculation of depreciation of assets in a less technologically dynamic environment.

The greatest risk of using the economic depreciation method for calculating the costs of termination would be that the forecast (including technology and traffic volumes) in highly uncertain and dynamic macro and microenvironments, as is the case in South Africa, is highly unlikely to be reliable over the forecast period.

2. Next Steps

Telkom will be happy to engage with the Authority further in order to achieve an optimal call termination rate regime and is willing to make as much time and resources available as necessary for the Authority to conduct its top-down exercise at Telkom's premises.

END

1. Fixed BU model

Description / reference to fixed BU model sheets
Dimensioning
Row 18 - On-net voice call and SMS provisioning / demand factor
- Telkom Fixed Line SMS is not functional (decommissioned).
Row 23 - Call assumptions - Unsuccessful calls - percentage
- Telkom would like to understand what release causes (for unsuccessfull calls) are deemed to be unsuccessful calls for ICASA in a fixed network? The assumption of 5% seems a bit low.
- Telkom would like to understand how this value will be used to calculate the FTR.
Row 24 - Call assumptions - Minutes per call
- Telkom's pre-liminary measurement is just under 4 minutes i.e., 3.75 minutes.
Row 25 - Call assumptions - Idle time
- Telkom does not measure idle time.
Row 28 - Busy hour assumptions
- Telkom needs to understand the source of the assumptions that is made on the following parameters:
- % of calls made during working days
- % of calls made in a working day during the busy hour
- % of annual traffic in the busy hour
- Telkom wants to understand how this value will be used to calculate the FTR.
Row 45, 46, 47, 48 - Proxy / Interrogating - Call session control function hardware/software
- Telkom's network uses Legacy and NGN with no internet connectivity provided by the IMS as one would find in a Mobile IMS scenario [busy hour call attempts].
Row 69, 82, 92, 105, 117, 130, 144, 155
- Telkom would like more clarify on the meaning of "Outgoing mobile traffic to fixed networks". Telkom's intepretation is "Incoming calls from Mobile and fixed networks"?

2. Mobile BU model

Description / reference to mobile BU model sheets
Summary
Frequency allocation above 1 GHz only allocates spectrum to TDD. Telkom currently has 2 FDD carriers in this space.
Volumes
Telkom's volumes are not split between technologies.
Dimensioning
Row 33 - No provisiong is made for LTE TDD where Telkom is carrying VoLTE. The ratio for downlink (DL) needs to change for TDD carriers.
Row 40 - Telkom has decreased the number of GSM carriers in use in the network to typically 1 carrier where GSM is equipped, currently Telkom has 1500 sites where GSM may be equipped on 1 or 2 sectors.
Row 76 - Telkom has a combination of LTE TDD and FDD carriers in its network. Telkom has 3 FDD LTE and 3 TDD LTE carriers in use in its network
Row 147, 148, 149 - Telkom has different values; These values change y-o-y.
Row 327 - Busy Hour calculation, the spread merely takes a 24 hour period and divides the number. This is not representative of the real busy hour that most networks would encounter, it is merely an average of any day in a 24 hour cycle. The cell value shows "=D264*MB_GB*mb_min_2g/mins_hour"
Geography
Telkom's classification of geotypes is as follows - Metro, Metro-fringe, Tier2 cities, sub-urban, rural, which is different from ICASA's classification.
Section key parameters - this makes no allowance for frequency. Low frequencies have better penetration but higher frequencies are more prone to attenuation. Also makes no allowance for clutter types in the radio planning space.
Coverage sites - classification of sites has been raised in Telkom's submission for clarification.
Row 35 - Cell radius values appear questionable as they do not factor frequency ranges or clutter types into account. These are mathematical formulas not actual radio planning data, also they do not account for antenna types on the BTS, i.e. Omni antenna compared to Panel antenna.
Row 62 - Telkom does not split traffic between site types by geotype? Telkom would like to understand how the split is relevant to calculating the MTR.
Row 77 - Telkom does not measure traffic between geotypes?
Row 88 - Telkom does not measure traffic volumes by technology/geotype.

Mobile BU model (cont.)

4A Network Demand - RAN
Row 18 - Where GSM is equipped - there is only 1 channel per sector.
Row 24, 25 - Telkom currently only has 2 MHz assigned to GSM.
Row 57 network demand traffic - Telkom will not be able to define the sites at the level of classification requested.
Row 166 - Telkom would like to understand how this caters for sites with TDD/FDD LTE.
Row 237, 240, 243 - Telkom would like to understand how type of tower information is relevant to calculating the MTR.
Row 311 - Telkom does not intend building any new BSC's.
4B Network Demand – Core; 5A cost capital; 5B cost capital; Core cost
Telkom would like to understand how GGSN is relevant to calculating the MTR.
Telkom would like to understand how SGSN is relevant to calcuating the MTR.
Telkom would like to understand how SGW is relevant to calculating the MTR.
Telkom would like to understand how PDN/PGW is relevant to calculating the MTR.
5A cost capital
There is no individual costing for 2G / 3G / LTE radios because they are combined into a single RRU (Remote Radio Unit).
RAN details - Tranceiver, Controller, Backhaul
Row 14 (C14) - All Telkom Mobile equipment is located in the same radio for 1800/2100 MHz.
Row 19 (C19) - No new BSC's built in the last 9 years.
Spectrum license fees
Rows 46 - 63 Telkom mobile procures all Microwave links via Openserve.
Fixed links
Rows 21 - 29 and 46 - 51. Telkom mobile procures all Microwave links via Openserve.
SA Geography – MP
see comment above - first row under "Geography" (highlighted in red)
Row 8 (O8) - This implies that South African has in excess of 85 million people ?
Row 7 (O7) - This indicates that no population is located in the rural area's. This disputes the number reported.
The last full population census was conducted in 2011 - Telkom is not sure if Column F is accurate ? Stats SA indicated that the number of people in 2021 was 60 million.