

# Eskom's comments on NERSA Electricity Price Determination Methodology Rules

**Public Hearings** 

21 September 2023



### Stakeholder comments have not been considered

- **€**€skom
- Various stakeholders including Eskom have provided many alternative proposals and have illustrated the unimplementability of NERSA proposals in previous consultation papers
- NERSA proposed these ideas as far back as March 2021. The same ideas are still being pursued despite the clarification to NERSA that this approach is unsuitable and will not provide any possible advantage to electricity consumers
- Many stakeholders have significant experience in economic regulation and have provided meaningful contributions. A
  majority of the contributions made have been completely ignored and responses by NERSA to these contributions are
  inadequate.
- In this round of consultation NERSA has clarified that the challenge is terminology and not fundamental flaws stakeholders have raised with the proposed EPDM
- It is felt that for healthy development of a new approach to determining price of electricity, NERSA is obligated to provide detailed facts, evidence and experience as to why proposals being made by stakeholders are incorrect
- Conversely, NERSA is obligated to provide facts, evidence and experience on how proposals being made are viable, implementable and meeting the NERSA mandate in accordance with ERA and EPP
- NERSA has also not been able to provide any evidence or facts as to where in the world this proposed approach has been successfully implemented

# Key aspects of consultation – not in accordance with **existing** policy, legislative and regulatory requirements



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## Key risks related to what is being proposed



- Decision-making centralised within NERSA
- Radical big bang change is proposed. Not allowing for incremental changes is a risk – implementing what is already in place
- The impending changes in the policy and legislative framework may result in further changes
- Non-compliance with existing legislation
- Likely to result in further uncertainty
- This is an untested methodology
- Fiduciary responsibilities of entities are likely to be severely impacted
- The methodology is incomplete, allowance needs to be made for finalisation before implementation
- Potential non-recovery of efficient generation costs
- Non-consideration of sales forecasts
- Oversimplification of production planning process

- Misunderstanding on regulating revenue
- Convolution of many processes
- Misunderstanding of the power system dynamics
- The proposal on ROA being equal to WACC will likely result in significant price increases – does not allow for migration (as presently)
- Benchmarks that are not transparent and consulted on, will be impactful
- Existing contracts may be at risk
- Information gaps may be a challenge
- Dependence on smart meters and supporting data management systems may not materalise easily
- Focus on customers Allowance for proposed tariffs being based on competitiveness, profitability and affordability
- Lack of adequate skills in NERSA have been acknowledged
- Possible severe impacts on certain customer segments impacts not yet determined

## Unclear which methodologies and frameworks are being replaced

 It is understood that NERSA as an administrative body undertook administrative decisions to approve various methodologies and rules, this is binding on NERSA, as the public body

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- NERSA cannot suddenly replace an existing methodology/s with a new methodology without being explicit about the changes being made

   will likely create chaos due to competing regulatory instruments
- When MYPD methodology was first developed it did not contradict any existing regulatory instruments (as alluded to in consultation documents)
- It would be in order to make amendments to methodologies once the proper consultation processes have been followed
- NERSA needs to clarify the status of relevant methodologies, frameworks and rules that this EPDM rule is replacing. Elements of the extended framework that have a high likelihood of needing revision to align to a new methodology include:
  - Cost of Supply Framework for Licensed Electricity Distributors in South Africa (currently also being consulted on by NERSA)
  - South African Grid Code and the South African Distribution Code
  - Minimum Information Requirements for Tariff Applications (MIRTA)
  - Regulatory Reporting Manual (RRM)
  - Prudency Guidelines
  - Small-Scale Embedded Generation (SSEG) tariffs
  - Eskom Retail Tariff and Structural Adjustment Methodology (ERTSA)
  - Distribution Tariff code
  - Municipal tariff benchmarking and guidelines
  - Licenses awarded by NERSA

NERSA approvals are required on previous methodologies, codes, rules – prior to consultation to new ones This in a bid to avoid chaos



It is understood that any NERSA methodology should provide regulatory rules that need to be followed by NERSA licensees to achieve the desired outcome. At a minimum any methodology should meet the following criteria:

- The methodology should be in accordance with prevailing legislation and policy
- The methodology must be aligned to all other NERSA regulatory requirements and NERSA licenses. It should not create any areas of contradiction
- It should be clear and precise on the requirements to be met
- It should enable the relevant licensees to be in a position to implement the requirements of the methodology
- It is essential to provide clear timing requirements for the implementation of the methodology
- It is essential to provide clarity on which licensees the methodology is applicable to
- Must be clearly implementable with transparent criteria that are replicable and well understood. Licensees and stakeholders should be able to know the outcome of the application of the methodology. Subjective criteria should be minimised
- The requisite information requirements must be known. The support mechanisms need to be known and implementable
- Reasonable times for consultation on elements of the methodology and related requirements including information and reporting requirements need to be provided in accordance with legislative requirements

NERSA has not arrived at a position where it can provide EPDM rules for licensees to implement. The present consultation document is still very much at a descriptive stage, where the possible nature of processes is being explored.







#### Licensee revenue determination ensures recovery of only efficient costs

- Only way that it is possible for a regulator to know that its tariff determination adheres to requirements of ERA s.15(1)(a) and (b), is to calculate amount of total prudent and efficient costs, for an assumed level of electricity sales and fair return
- Revenue requirement determination is essential for ensuring financial sustainability for licensees
- Revenue reflects efficient and prudent costs related to both the fixed and variable costs. Thus, when any changes in volumes of electricity materialises, it is likely that corresponding variable costs will also vary. The utilities' revenue, like any business cannot be guaranteed.

#### Separation of costs and tariffs

- There is a clear indication of the separation of costs from tariffs. These are two very different concepts and cannot be merged and used as proxies
- This is a world-wide phenomenon and has been utilised by regulators of the electricity industry globally.
- In addition, all efficient costs would need to be considered, Assumptions cannot be made on particular generating technologies supplying particular customers



#### Migrating towards cost reflectivity must be considered

- Recognition needs to be given to Eskom's revenue not being at a level where efficient costs and a fair return are recovered
- This implies that whatever the methodology is, if what is being referred to as objective costs, are recovered they will be significantly higher than presently
- This will also contribute to the adverse effects of a big bang approach. The continual migration towards cost reflectivity will allow this level of flexibility

#### NERSA will evaluate competitiveness, profitability and affordability

- The consultation paper focuses on implementation being on affordability, competitiveness and profitability of customers without considering the sustainability of the electricity supply industry. These will be determined by NERSA.
- It is assumed that a complete backward movement will be implemented where all customers will be subsidised by the taxpayer
- This once again is not keeping within the requirement of ensuring that the licensees must recover efficient costs and a fair return, as legislatively required.



#### Timeous decision-making is challenging, not methodologies

- Significant progress can easily be made if timeous decisions within the current methodologies are made after due process is followed
- NERSA already has powerful frameworks in place that could be applied to address many relevant and viable concepts that are alluded to in the consultation paper
- It is **cautioned that all decisions have impacts that need to be considered**. This also implies that timeous decision making is required. It goes without saying that due processes need to be followed

#### Mix of market or normal business proposals

- In parts of the consultation paper assumptions are that a market for generating capacity is in existence
- It is argued that a price determination methodology cannot suddenly require a market to be implemented. This is a complex process, and the legislative requirement would need to cater for such a migration
- The risk of the proposals on a market and fully commercialised entities is that having sub-cost reflective tariffs (for certain licensees) has not been factored in. The outcome could be that the generators would not declare themselves available, and the demand in the country will not be met



Without knowing the sales, and hence expected revenue flows, it makes it impossible to forecast production planning, financials and cash flows which are the cornerstone for engagements with key stakeholders including the management, the board, auditors, lenders, rating agencies, labour and government

- The establishment of a sales forecast is important in price determination and is a common approach used by many regulators across the world. Even in an unregulated environment, corporate finance principles for budgeting rely on sales for determining revenue
- Hence any revenue determination methodology in line with globally accepted sound economic regulatory practice, is not silent on sales volumes but factors it into the revenue and tariff equation as an essentially uncontrollable variable. Tariff charges are also derived from the sales volumes, that is, allocated costs divided by a volume (kWh, R/kVA etc.) to get to a charge
- Eskom nor Municipalities have control over sales volumes, and both rely on customer information to develop forecasts. Eskom undertakes a detailed process to determine the projected sales. Sales volumes have to be forecast and the actual results are an outcome of a myriad of economic factors such as GDP growth, investor confidence, commodity cycles, disinvestment, de-industrialization, etc.







RCA is a balancing mechanism between what was awarded by NERSA on the basis of a forecast (MYPD), and what actually materialised (Eskom's AFS) - a backward looking reconciliation

Alternatively, either Eskom provides an initial subsidy (if the original sales are higher) or the consumer provides a subsidy (if the original sales are lower). **It is a matter of timing – not additional revenue** 

The removal of the RCA mechanism to deal with changes between forecasted parameters and actual outcome, is **contradictory to sound economic regulatory practice world-wide**. It can result in two consequences:

- 1. it will force very conservative assumptions to be made (licensee and regulator) which will increase prices to consumers,
- 2. it will dramatically increase uncontrollable risk on licensees which in turn will either result in significantly increased cost of capital and higher prices, inability to attract capital to the ESI. Failure to attract capital to an inherently capital-intensive industry would be a major failure of economic regulation and a breach of one of the objects of the ERA as set out in s.2(c).

#### With the removal of the RCA it is unclear:

- how the methodology would enable NERSA to give effect to objectives of the ERA "to achieve ... sustainable development and operation of ESI in SA; to ensure that that interests and needs of present and future electricity customers and end users are met, having regard to the long-term sustainability of the ESI; to facilitate investment in the ESI"; etc
- how NERSA would be able to confirm that it gives effect to the requirement of the ERA to allow the full efficient costs related to a licensed activity to be recovered

# Oversights in the proposed methodology



#### Information provided by the system operator (SO)

- The system operator dispatches in accordance with NERSA's Scheduling and Dispatch rules merit order
- Merit order is defined by the variable costs and not net cost of electricity
- Expectation that SO will be capturing which generator supplied what amount of power and record the duration of supply is unrealistic
- There seems to be a dependence on SO to provide information on dispatched generators to enable determination of recovery of costs by licensees. It is unclear how the process will be managed to ensure the recovery of efficient costs by licensees

#### Impact on consumers to be considered before tariff adjustments are made

- As part of any changes in tariffs, it is essential to first determine impacts of any changes before making decisions
- When changes are made to tariffs there is a likelihood that customer groupings will be impacted
- Any sudden change will have severe impacts that could result in major disputes and lengthy court reviews. A big bang approach will likely have catastrophic impact
- NERA and PAJA requires that all stakeholders are provided sufficient information to understand impacts so as to engage properly on further developments

# A request is being made by NERSA to "follow the electron"

• The request to complete demand analysis data by NERSA is simply impossible. A thorough understanding of the way an electricity system works needs to be appreciated.

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- The nature of an interconnected power system is such that all producers of electricity and all consumers of electricity participate in the exchange of power simultaneously.
- At its most fundamental, the entire power system is oscillating in synchronism and power is produced by all the generators and consumed by all the consumers at the same moment in time
- A further complication arises due to the dynamic behavior of consumers and the generators who vary their demand requirements and generated power continuously in time. This gives rise to an almost infinite number of circumstances in which different generators supply different consumers through different transmission lines.
- As demand for electricity increases, more expensive generation must be dispatched to meet this demand. The last generator dispatched does not exclusively supply the last consumer requiring power but both now participate, simultaneously, with all other generators and consumers at that moment in time.
- From the above, it is clear that no consumer or group of consumers can be mapped or be deemed to be supplied from any
  generator or group of generators.

#### In Eskom's experience this has not been done anywhere else in the world

# Basic premise that underpins "load type" principle is questionable

- Eskom
- NERSA is proposing moving away from "time-of-use" to "load type" based on 4 load types and allocating generation costs based on load type
- This approach of allocating the cheapest generation to load type 1 customers seems to be giving preferential treatment to one customer category over the other, ignoring that at any point in time, it is the mix of generation that is used to supply all the load
- The Electricity Supply Industry is designed to meet all consumers' requirements in a way that recognises the "portfolio effect" of aggregated demand (where peaks in demand by certain customers coincide with troughs in demand by others) in a way that minimises the overall cost to all customers.
- Whilst it is true that:
  - the unit cost of peaking plants is generally higher than other plants
  - peak demand coincides with higher consumption by certain categories of customers (households, in particular), peaking capacity is economically more viable in short bursts (rather than having idle other plants).
  - Accordingly, the more expensive peaking capacity is to the benefit of all energy users and all customers should contribute towards the cost of utilising peaking capacity.
  - Load type-pricing would fundamentally send an incorrect price signal for consumers that have a constant demand

Complexities of numerous variables would make implementation of load type impossible, resulting in unintended consequences that would be difficult to manage

# Existing NERSA methodologies can achieve key objectives

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Applicable to Eskom only, Municipalities have a separate process

Relevant NERSA methodologies are already in place Required to be fully and consistently applied and timeous decisions made.

# The existing MYPD Methodology...

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# Steps outlined in cost to supply studies are exactly same as EPDM





However, the EPDM is not implementable Recommend implementation of what is available



#### It is not only a matter of methodology but implementation of methodology

- The existing economic regulatory methodologies are globally accepted. They do not expire.
- Similar methodologies to the MYPD are applied across the world. The challenge that South Africa has been facing is the implementation and interpretation of these methodologies. This has been clarified in the several court outcomes
- In addition, not all licensees have been in a position to provide submissions based on revenue including cost of supply studies. Enforcing such submissions will assist NERSA in better implementing its existing methodologies

#### Eskom Retail Tariff Plan (RTP) allows timeous implementation of further objectives

- The RTP is in compliance with policy, legislation and other NERSA regulatory frameworks. This plan is implementable without need for any further information, meters, billing systems revisions, etc.
- The impacts of implementation have been defined for all stakeholders to engage with. Customers have been provided with models to do comparisons, brochures, presentations and stakeholder engagements.
- The proposals in the RTP is a move in the right direction reflecting Eskom's unbundled costs, updating tariffs and tariff structures to be more cost-reflective in structure and responding to changing energy environment.



#### Benefits of time-of-use (TOU) signals

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- TOU tariffs and signals are proven internationally and provide both benefit to the customers and to Eskom
- About 80% of Eskom's current sales are on a TOU basis. More than half of that is to municipalities, who do not all offer TOU tariffs to their customers
- A better approach would be for NERSA as to propose standard tariff structures including TOU to be migrated towards over time
- TOU tariffs are cost-reflective on average (they align with marginal costs) and provide appropriate signals for when electricity is used (as referenced in the EPP). Removing TOU signals in tariffs is, therefore, not cost-reflective and would have a serious impact on managing the electricity system

#### Transitional arrangements need to be consulted on

- Should NERSA wishes to implement the proposed methodology transitionally, the details need to be clarified upfront. All stakeholders need to be aware of transitional requirements and these would need to be consulted on.
- It is still necessary to first have a complete methodology and related regulatory requirements. This is required prior to establishing transitional arrangement and all stakeholders need to be aware of these arrangements. These cannot be subjectively applied.
- The entire spectrum of applicability needs to be known prior to implementation.

### Way forward



#### The EPDM rules are:

- Not within the prevailing legislation
- Not implementable
- Proposal is using tariffs to determine costs not possible
- Clarity on which methodologies and frameworks are being replaced and why
- If implementable, information requirement is extensive and not possible in current environment
- It is proposed that the country continue to employ prevailing methodologies to migrate towards cost reflectivity at revenue and tariff level
- Critical to implement Eskom's Retail Tariff Plan in FY 2025
  - Allows for further unbundling and cost reflectivity at tariff level
  - Ensures customers are provided with information about different services provided
  - Cannot miss opportunity to timeously make adjustments
- The 5 steps outlined in the EPDM is exactly the same in the existing framework for revenue to tariff setting
  - The key is in implementation of the various methodologies
- In the long term an industry task team be assembled by NERSA to develop more specific approaches for the key segments of the electricity value chain



# Retail Tariff Plan





#### Eskom unbundling

Updating tariffs with the latest cost-to-serve study (CTS)
 – last done in 2012 to reflect divisional costs

#### Optimising customer response and use of the system

- Modernising and revising pricing signals to reflect the current system and evolving customer needs and technology
- · Foundation for moving to more dynamic tariffs

#### **Reducing volume risk**

Increasing fixed charges to reflect fixed costs

#### Simplifying tariff options

Removing Inclining Block Tariff (IBT) and rationalising municipal tariffs

#### Start the journey...



#### What has changed since 2012 and now

- Tariff not updated with CTS only average increases
- Unbundling of Eskom
- Introduction of IPPs and rooftop solar
- Battery storage
- Load-shedding
- Volume impact on charges was not an issue

# Designing a tariff should be balanced with what we are trying to achieve and what we want to avoid



#### What tariffs should do

1. Reflect regulated revenue



- 2. Reduce volume risk
- 3. Provide pricing signals that promote efficient usage by incentivising customer behaviour and reflect future cost drivers
- 4. Respond to a changing environment
- 5. Respond to business and customer needs
- 6. Address affordability
- 7. Balance the needs of all customers in as equitable manner as possible
- 8. Minimise customer impacts

#### What tariffs should not do

1. Under recover regulated revenue



- 2. Create unintended consequences
- 3. Create untargeted and non-transparent subsidies
- 4. Be discriminatory
- 5. Be unable to respond to the changing environment
- 6. Be so inflexible or too complex that customers don't see benefits

To change or introduce new tariffs, we are guided by the Electricity Pricing Policy (EPP), the Tariff Codes, Eskom's own Pricing Strategy and changing business and stakeholder needs

# Tariff unbundling process





## What does unbundling of the tariffs mean?



 In simple terms - its where the different divisional costs are separately charged for and where different costs and cost drivers have different charges

- Eskom's most unbundled tariff in structure is Megaflex but charges are NOT aligned to divisional costs (current Megaflex)
- However, due to the application of average price increases across all charges, the different charges are not reflective of divisional costs or cost drivers
- This gets corrected ONLY when tariff restructuring is done

LPU – Large Power User; LV – Low Voltage; NCC – Network Capacity Charge; NDC – Network Demand Charge; POD – Point of delivery; TOU – Time of Use

			Me	gatiex					
Transmission zone	Voltage	High-demand season TOU active energy charges			Low-demand season TOU active energy charges			Generation	Transmssion
		Peak	Standard	Off-Peak	Peak	Standard	Off-Peak	charge R/kVA	network charge R/kVA
<300km	<500V	348.54c	87.13c	58.09c	144.64c	81.32c	58.09c	R 30.15	R 8.31
	≥500V & <66kV	342.88c	85.71c	57.15c	142.29c	80.00c	57.15c	R 69.78	R 8.13
	≥66kV & <132kV	320,90c	80.22c	53.48c	133,17c	74.87c	53.48c	R 60.03	R 7.52
	>132kV*	302.77c	75.69c	50.46c	125.65c	70.64c	50.46c	R 70.28	R 11.14
>300km to <= 600km	<500V	352.02c	88.00c	58.67c	146.09c	82.14c	58.67c	R 30.15	R 8.40
	≥500V & <66kV	346.30c	86.57c	57.72c	143,71c	80.80c	57.72c	R 69.78	R 8.22
	≥66kV & <132kV	324.10c	81.02c	54.02c	134.50c	75.62c	54.02c	R 60.03	R 7.59
	>132kV*	305,78c	76.44c	50,96c	126.90c	71.35c	50.96c	R 70.28	R 11.26
>600km to <= 900km	<500V	355,50c	88.87c	59.25c	147.53c	82.95c	59.25c	R 30.15	R 8.48
	≥500V & <66kV	349.72c	87.42c	58.29c	145.13c	81.60c	58.29c	R 69.78	R 8.27
	≥66kV & <132kV	327.30c	81.82c	54.55c	135.83c	76.37c	54.55c	R 60.03	R 7.67
	>132kV*	308.80c	77.20c	51.47c	128.15c	72.05c	51.47c	R 70.28	R 11.37
>900km	<500V	358.97c	89.74c	59.83c	148.97c	83.76c	59.83c	R 30.15	R 8.57
	≥500V & <66kV	353.14c	88.28c	58.86c	146.55c	82.40c	58.86c	R 69.78	R 8.38
	≥66kV & <132kV	330.50c	82.62c	55.08c	137.16c	77.12c	55.08c	R 60.03	R 7.74
	>132kV*	311.82c	77.95c	51.97c	129.41c	72.76c	51.97c	R 70.28	R 11.48
WEPS rate excluding losses		301.98c	75.49c	50.33c	125.32c	70.46c	50.33c		

Distribution network charges Urban			Dx Subsidies	
Voltage	NCC R/KVA	NDC R/kVA	LV subsidy charge R/kVA (All LPU)	
<500V	R 31.53	R 31.98	0.00	
≥500V & <66kV	R 29.96	R 27,80	0.00	
≥66kV & <132kV	R 10.76	R 11.83	R 2.83	
>132kV*	R.O	PL 0	R 2.83	
*132kV/Transmission connected				

Re	etail	
Urban retail charges based on MUC (All LPU)	Service charge R/POD/day	Admin charge R/POD/day
≤ 100 kVA	R 10.95	R 0.83
> 100 kVA & ≤ 500 kVA	R 71.69	R 13.00
> 500 kVA & ≤ 1 MVA	R 233.22	R 19.17
> 1 MVA	R 233.22	R 19.17
Key customers	R 788.40	R 19.17

Transmission
Ancillary
service
charge
c/kWh (All
LPU)
0.22c
0.22c
0.21c
0.19c

Subsidies	
ERS charge c/kWh (All LPU)	Affordability subsidy charge c/kWh (All LPU)
7.16c	1.82c

#### Distribution

Reactive energ (high demand se	y c/kVArh eason only)
Megaflex	Miniflex

The misalignment between cost increases since 2012 and the tariff charges is based on the cost to serve





## Changes linked to the Cost to Serve





#### peak pricing

GCC – Generation Capacity Charge; LV – Low Voltage; POD – Point of delivery; TOU –Time of Use; TUOS - Transmission Use of System





# Conclusion



# Back-up

# It needs to be corrected that MYPD is a methodology with legal status



The following statement made in this consultation paper is of concern:

"In the past, the MYPD was a methodology with no(t) legal status, beyond the precedent set by its usage"

- This is in violation of a NERSA approved methodology that has been deposed by NERSA in several affidavits including a recent one and has been confirmed by a recent High Court judgement
- The legal basis of the MYPD Methodology is referred to:
  - in the NERSA MYPD methodology itself, as published in 2016
  - by NERSA, in its answering affidavit to the review application made by the Democratic Alliance and others:
     *"The legal basis for the methodology (referring to the MYPD methodology) is provided in section 4 (a) (ii) of the ERA which, as indicated earlier states that the "Regulator must regulate prices and tariffs"*
  - has been further ratified by a High Court Judgement (CASE NO 51550/2021) related to the processing of Eskom MYPD 5 revenue application for FY 2022/23 as handed down in December 2021

*"Legal basis* 

3.1 The legal basis for the MYPD Methodology is provided in the Electricity Regulation Act, 2006 (Act No. 4 of 2006) ('the Act'). Section 4(a)(ii) of the Act states that 'the Regulator must regulate prices and tariffs."