



NERSA Public Hearing

Eskom Multi-Year Price Determination Methodology

1 November 2012

- The regulatory methodology/rules are crucial for an effective regulatory framework and this process is therefore important
- Eskom appreciates the opportunity to participate in this process
- This presentation will only highlight key issues and must be considered together with the detailed comments submitted on the Eskom MYPD Methodology Consultation Paper.*
- Generally Eskom is supportive of the Consultation Paper and will highlight areas where more clarity/emphasis is necessary

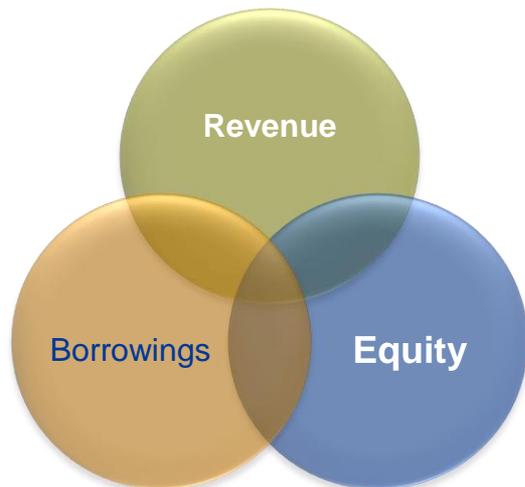
* NERSA, *Multi-Year Price Depreciation (MYPD) Methodology*. 4 September 2012.

- Context for the Regulatory Methodology
- Cost reflective pricing
- Transition towards cost reflectivity
- Specific components of the MYPD methodology
- Conclusion

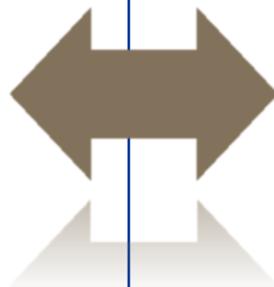


Section 1: Context

Eskom's funding model, derives from both tariffs and other funding sources



- The long term sustainability of an electricity supply industry depends on an appropriate regulatory and funding model
- This requires a holistic and integrated approach to:
 - Revenue (tariffs)
 - Borrowings
 - Equity
- ***The focus of the regulatory model is on revenue through tariffs***



Linkages between regulation and funding

- Lenders and credit agencies require sound regulatory approaches to cost recovery
- Government loans and guarantees depend on long term regulatory certainty ensuring Eskom's ability to repay debt
- Equity in the form of retained earnings can only come from a strong (regulated) revenue base

- The regulatory environment has a strong and direct impact on Eskom's stand-alone credit rating – thus on the cost and availability of funds for building needed infrastructure (illustrated below by Moody's rating factors for regulated utilities)

Moody's Rating Factor Weighting - Regulated Utilities	
Broad Rating Factors	Weighting
Regulatory Framework	25%
Ability to Recover Costs and Earn Returns	25%
Diversification	10%
Financial Strength, Liquidity and Key Financial Metrics	40%

* Source: Moody's Rating Methodology, Regulated Electric and Gas Utilities August 2009

Key factors cited by Moody's

- Predictability of regulatory decision making; the level of political intervention in the regulatory process, and the strength of the regulator's authority over regulatory issues.
- Supportiveness of regulatory environments and cost recovery mechanisms.
- Historic and projected financial performance as assessed by standard credit metrics.

- The strengthening of Eskom's stand-alone credit rating will have a positive flow-on affect to the National fiscus by reducing Eskom's reliance on state support, thereby having a beneficial impact on South Africa's sovereign credit rating and cost of Government borrowings.

What the rating agencies say about Eskom

Strengths:

- Dominant market position for the next few years
- Continued government support and the potential for government to provide additional financial support if necessary

Weaknesses:

- Eskom's highly leveraged position, given the build programme
- Regulated tariffs will not be fully cost-reflective in the short term
- Regulatory risk and government's plan to introduce IPPs
- Weak credit metrics on funding and liquidity

	Quality of Credit	Moody's	S & P
Investment Grade	Gilt Edged	Aaa	AAA
	Very High	Aa1	AA+
		Aa2	AA
		Aa3	AA-
	Upper-Medium	A1	A+
		A2	A
		A3	A-
	Medium Grade	Baa1	BBB+
		Baa2	BBB
		Baa3	BBB-
Sub-Investment Grade	Questionable	Ba1	BB+
		Ba2	BB
		Ba3	BB-
	Poor	B1	B+
		B2	B
		B3	B-

Headline Rating	
Standalone Rating	

- As noted in NERSA’s Consultation Paper, the legal basis for the MYPD methodology lies in the Electricity Regulation Act, 2006 (Act No. 4 of 2006).
- Section 16(1)(a) and (b) is of particular relevance to the methodology in prescribing that the regulation of revenue:
 - “a) Must enable an efficient licensee to recover the full cost of its licensed activities, including a reasonable margin or return;
 - b) Must provide for or prescribe incentives for the continued improvement of the technical and economic efficiency with which the services are to be provided;”

- The principles of the ERA regarding the setting of regulated revenues are further defined by the Electricity Pricing Policy (EPP). Policy Position 1 is of particular relevance in that:
 - *“The revenue requirement for a regulated licensee must be set at a level which covers the full cost of production, including a reasonable risk adjusted margin or return on asset valuation methodology that accurately reflects the replacement value of those assets.....*
 - *In addition, the regulatory methodology should anticipate investment cycles and other cost trends to prevent unreasonable price volatility and shocks while ensuring financial viability, continuity, fundability and stability over the short, medium and long term assuming an efficient and prudent operator.”*
- Within such prescribed framework, the function of regulatory rules therefore are to set out and define “full cost”, “efficiency”, “prudence”, “reasonable return”, “incentives”, detailed mechanisms, processes etc., to give effect to the legislative and policy principles.

- The regulatory methodology not only gives effect to Nersa's legal obligations but at the same time provides a crucial foundation for the sustainability of Eskom and the industry



Section 2: Cost reflective pricing

- Acquisition cost of asset
- Operating and maintenance cost (fixed cost)
- Fuel cost (variable cost)

The basic regulatory formula to recover these costs over the life cycle of the assets consist of four 'building blocks':

$$\text{AR} = \text{PE} + \text{O\&M} + \text{Depreciation} + \text{Return on Capital}$$

(i.e. %ROA x RAB)

$$\text{AR/sales volume} = \text{ave. tariff}$$

AR = allowed revenue

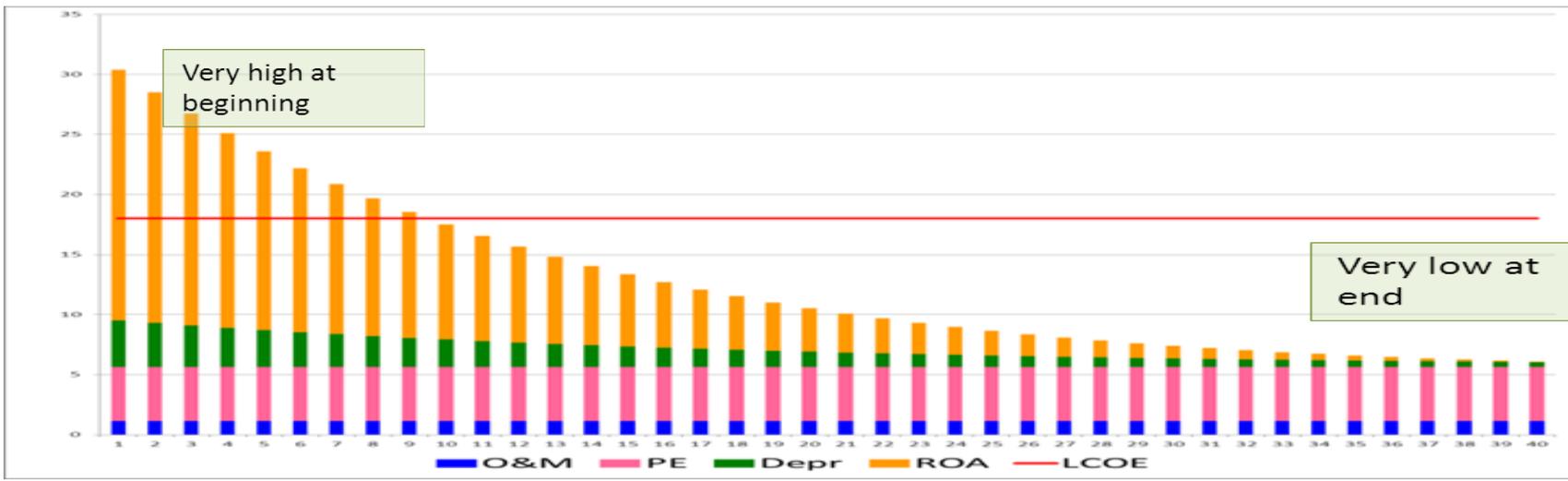
All four building blocks are required in order to recover full life cycle cost. This is very much standard regulatory approach.

Life cycle revenue profile of four 'building blocks' : historical cost basis



'Constant' Rand billion

HC method

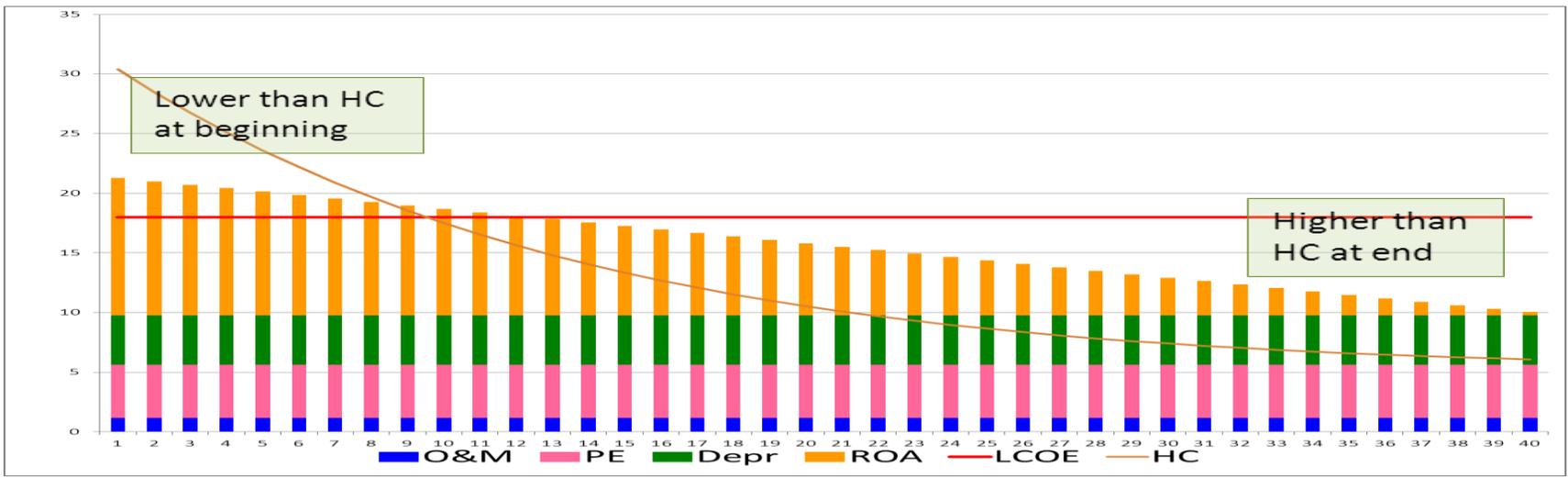


The four building blocks as shown in the graph do nothing more than to recover the full life cycle cost, however with steeply declining tariff.

Life cycle revenue profile of four 'building blocks' : replacement value basis

'Constant' Rand billion

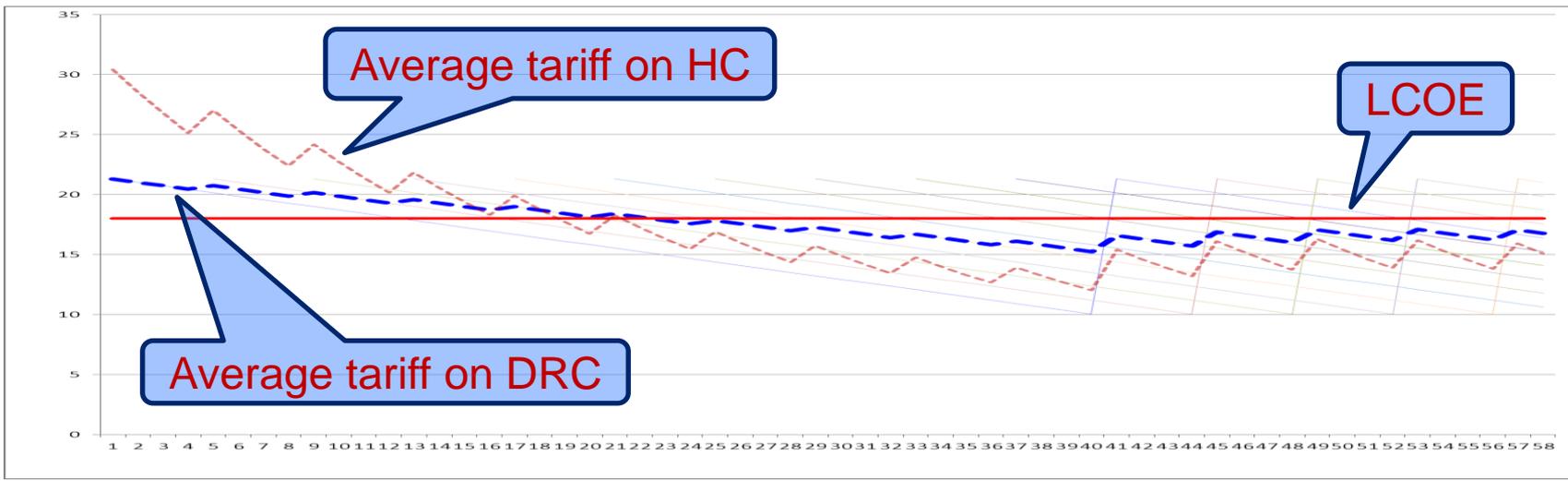
DRC method



The four building blocks as shown in the graph do nothing more than to recover the full life cycle cost, but with much flatter tariff profile.

Average fleet tariff on either method will stabilise at LCOE

'Constant' Rand billion



Both HC and DRC only recover the full life cycle cost, however HC is very vulnerable to severe tariff instability with 'lumpy' investment.

- Capital has a single cost in the economy, risk-adjusted for the particular application
 - The public sector is not exempt from the economic problem of *scarcity*
 - Public projects access the same pool of capital as private sector projects
 - Whether or not it is costed properly into electricity tariffs, public capital tied up in the provision of electricity still has a real opportunity cost:
 - E.g. benefits that are forgone from other public projects not undertaken; existing public debt not repaid; higher taxes that are paid by corporations and individuals in order to repay such public capital (principle and interest)
 - Scarcity implies that trade-offs have to be made. The true opportunity cost to society has to be reflected in prices, to enable optimum trade-off decisions to be made (allocative efficiency).

- The unintended consequences of under-pricing equity capital:
 - The resulting lower cash flows will put downward pressure on credit ratings, increase the cost of debt, and reduce debt capacity.
 - Further state support will be required to assist with funding capacity expansion forcing it to increase taxes or other charges, or to decrease services
 - The resultant subsidy will be regressively allocated
 - This subsidy will be represented in Eskom's bulk power costs
 - The domestic and rural customer categories (who are already intentionally targeted for subsidies), will not capture much of this benefit because bulk energy costs make up a smaller portion of their expenditure .
 - The subsidy will primarily benefit large users of power
- The statutory and policy frameworks recognise this basic economic theory and thus require tariffs to reflect the true cost of capital
 - Electricity Regulation Act & Electricity Pricing Policy

- A cost reflective prices allows for the recovery of efficient costs and an appropriate return
- An appropriate return must be based on a proper valuation of assets and the true cost of capital
- Even an SOE requires a return



Section 3: Transitional price path toward cost reflectivity

- Cost reflectivity is required by the Electricity Regulation Act. The EPP required tariffs to become fully cost reflective within a stipulated period.
- Eskom's current tariffs are not yet reflective of costs:
 - For MYPD 2 NERSA determined that the correct rate of return for Eskom during this period was 8.16% (pre-tax, real).
 - **However** the rates of return that NERSA allowed when setting the allowable revenue were:

2010/11	2011/12	2012/13
0.08%	2.8%	4.2%

- Because NERSA used a reduced regulatory asset base and reduced depreciation for the above calculation, the actual rates of return were even lower.

- The MYPD methodology is a cost-of-service based approach, designed to set tariffs at cost reflective levels (i.e. reflects the targeted 'end state').
 - As it stands the MYPD methodology does not provide the rules or mechanism for a systematic and predictable phasing-in of cost reflectivity in tariffs.
- The outcome of tariffs below cost-reflective levels in the MYPD2 decision was achieved by making a number of adjustments that were not reflected in the methodology, or subsequently incorporated therein.
 - These adjustments, affected in a number of areas, were not sufficiently transparent
 - The current and proposed regulatory framework provides no systematic mechanism regarding how cost reflectivity will be achieved.
- Under the present adverse climate in the capital markets Eskom believes that an *ad hoc* approach can not be sustained.

- All stakeholders need greater certainty on the method by which Eskom's tariffs will be determined, including over the transitional period, in order to reduce business and financing risk and enable them to plan their affairs.
- The framework for phasing-in cost reflective tariffs should therefore be clearly set out in the MYPD methodology in order to:
 - promote good regulatory governance
 - maintain regulatory integrity; and
 - provide regulatory certainty for Eskom, its lenders and ultimately its customers

- Eskom supports a phasing in of cost reflective pricing as this will support economic growth
- However, it is important that the methodology used in determining the rate of transition be clarified and transparent.
- It also needs to take into account Eskom's financial viability and credit rating implications

- Recommendations:
 - The mechanism to phase-in cost reflectivity be consolidated into a single transparent variable, namely as a discount on the benchmark WACC (all other components of allowable revenue should be calculated strictly according to the 'end state' methodology i.e. when cost reflectivity is achieved)
 - The framework should include the formal monitoring of Eskom's key financial and credit risk metrics, and linking of the transitional path to a stipulated value band on such metrics.
 - The framework should stipulate the completion date for the phasing-in process



Section 4: Specific components of the MYPD methodology

- The MYPD is based on a ‘cost of service’ methodology whereby:
 - prudent and efficient costs (including cost of capital) are recovered through tariffs; and
 - incentive mechanisms are provided having the aim to improve technical and economic efficiency.
- The cost of service methodology is consistent with:
 - Other regulatory regimes applied to South African state owned enterprises such as Transnet and Airports Company South Africa.
 - Regulatory practices found globally.

- NERSA has set out an “allowed revenue formula” in the Consultation Paper that is to be used in determination of the annual revenue allowance for each of Eskom’s licensed activities
- The formula is supported

- The Regulatory Asset Base (RAB) is a fundamental input to the build-up of the MYPD revenue allowance.
- Some of our more fundamental proposals on these components of the MYPD methodology are set out in Eskom's written submission



- Given the transitional nature of MYPD 3 to cost reflective pricing, the allowed rate of return applied for MYPD 3 may be significantly less than the benchmarked (risk-adjusted WACC) value that would be calculated under the MYPD methodology.
- Nevertheless, the benchmark rate of return (and therefore the methodology used to calculate these values) is important in that it:
 - provides a reference point and target in transition to cost reflective pricing
 - provides guidance to credit rating agencies and lenders as to the long term ability of Eskom to service repayments on debts;
 - posts a reference point for private sector participants to take account of, in regard to investment in the industry; and
 - facilitates competitive entry into the market vis-à-vis Eskom ('level playing field').
- A proposal for calculating the cost of capital has been provided



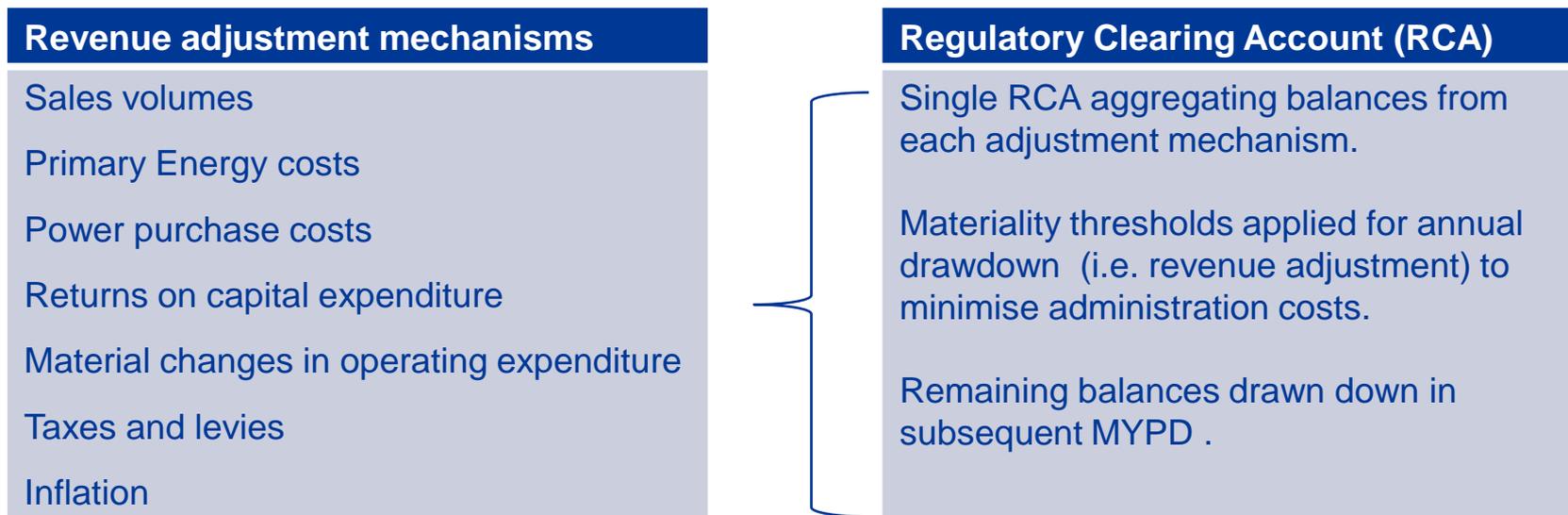
- The current MYPD methodology, and that proposed by NERSA in its Consultation Paper, calls for an incentive / risk sharing mechanism relating to Primary Energy costs.

Methodology	Eskom 's comments
<p>Primary Energy costs - MYPD regulatory rules provide for a risk sharing mechanism for pass through of a proportion of variances in actual coal burn costs as compared to those forecast in calculation of the Eskom's revenue allowance (i.e. NERSA's "PBR formula").</p> <p>The 'PBR amount' then becomes the adjusted total coal cost amount which is allowed to be recovered, with the variances vs. original allowed amount transferred to the Regulatory Clearing Account (RCA) to be recovered / paid back through that mechanism.</p>	<p>Eskom supports the principle of the PBR mechanism, but wish to note that we have provided comment and proposals in regard to the technical specification of the PBR formula in our response to NERSA.</p> <p>Eskom also request that the all predetermined parameter values making up the mechanism are published by NERSA in the final Determination on the MYPD revenue allowance.</p>

Revenue adjustment and regulatory clearing accounts

MYPD rules currently provide for revenue adjustment mechanisms to account for variance in certain parameters during the course of the MYPD, and various ‘clearing accounts’ related to pass through of allowed amounts to Eskom or customers.

The Consultation Paper proposes that the various adjustment mechanism be consolidated within one Regulatory Clearing Account as illustrated by us below.



Eskom supports the consolidation of the various clearing accounts – but request that the revised methodology states which rules are to take precedence, and in which cases they are to be revised or deleted. We have provided detailed comments on this matter in our response document.

Methodology	Eskom 's comments
<p>Operating costs - MYPD regulatory rules provide an incentive mechanism in the form of an earnings band trigger:</p> <p><i>“15.2.5 In addition to the RCA trigger, an earnings band trigger will be introduced. A re-opener will be triggered when the actual earnings after taking into account the allowed pass-through and incentives in the RCA deviates by more than 1% from the allowed return.”</i></p>	<p>We understand that:</p> <ul style="list-style-type: none">• the earnings band is the nexus of the incentive mechanism contained in the methodology.• the mechanism works by enabling operating cost variances, not earmarked for inclusion in the RCA, to affect earnings (return on equity) within an allowed band, thereby creating an incentive to save costs to the extent that the increased earnings will fall within the earnings band. <p>We request that:</p> <ul style="list-style-type: none">• Given the phasing-in of cost reflectivity, that the incentive mechanism contains a lower floor to protect against further earnings losses, and allows a larger upside scope for incentivised cost savings.

- It is acknowledged that NERSA needs the ability to apply its discretion and reasonable judgement on matters
- The challenge is to balance this flexibility with the need for predicatability
- One way of achieving this balance is to consider the parameters and criteria that would guide such judgement – beyond what is stated

- The current total MYPD methodology has been developed over time and sits within various regulatory instruments published by NERSA over a period
- Further development of a comprehensive MYPD methodology is important in that it will:
 - Enhance regulatory certainty through the provision of a well defined, transparent, and coherent set of regulatory rules.
 - Lead to objective and consistent regulatory outcomes based on a systematic and stable revenue/tariff setting methodology.
 - Provide a sound and predictable regulatory environment supportive of investment in South Africa's electricity supply industry.
- Further codification of the many complex rules which drive regulatory outcomes is therefore a natural and necessary component of regulatory development.

- With the above in mind, Eskom supports NERSA's review of the various rules applying to the MYPD, and consolidation into a single and comprehensive MYPD methodology.
- To illustrate some of the issues at hand, a comprehensively codified methodology will:
 - Stipulate the definitions and formulas used in setting the regulatory revenue allowance.
 - Set the criteria under which operating & fuel cost and invested capital is to be recovered through tariffs.
 - Specify exactly how incentive mechanisms are to work.
 - Define how the annual revenue allowance is to respond to unanticipated changes in costs, sales volumes, inflation rates and other assumptions and parameters during the course of the control period.
 - Provide administrative rules for adjusting allowed revenue and tariffs during a MYPD period.
 - Set out the criteria and process for re-opening a Revenue Determination.
 - Prescribe reporting requirements.
- Most importantly, it will remove the potential for conflicting rules



Section 5: Concluding thoughts

- Regulatory rules that are sound, transparent, predictable and consistent are crucial to financial stability, sustainability and investor confidence
- Eskom is supportive of the Consultation Paper Methodology and the objective being pursued. In particular:
 - The key principle to ensure cost reflectivity on the basis of prudently incurred costs and earning a risk adjusted return
 - Providing clarity to deal with variances between assumptions and actuals over periods of five years and more into the future.
 - The appropriate valuation methodology for assets
- Areas to address include the following:
 - The nature of discretion and reasonable judgement
 - the need for a comprehensive and complete methodology.
 - Ensuring adequate rules in the transition period
 - The total revenue adjustment below cost reflective levels should be reflected in only in one building block (return)
- It is acknowledged that further work will be required and it is likely that the development and evolution of the comprehensive methodology will continue for some time.

- As already stated Eskom views the development of a comprehensive revenue methodology as a critical contribution to an effective and predictable regulatory framework
- While it requires further development, we believe that the NERSA MYPD methodology is capable of meeting this challenge.



Thank you

Asset valuation

- Eskom's proposal for the starting RAB for MYPD 3 is that:
 - Eskom's starting RAB for MYPD 3 will be fully valued on the basis of its replacement cost, adjusted for the remaining life of assets (i.e. Depreciated Replacement Cost).
 - Eskom agrees that replacement cost be calculated based on the Modern Equivalent Asset (MEA) value. The revalued RAB will be used in measurement of Eskom's revenue allowance, with adjustments for a transitional price path accommodated in the allowed return on capital (as discussed elsewhere in this presentation)
 - Eskom proposes that the RAB clearly recognises the four classes of assets:
 - Indexed depreciable (e.g. operational plant) – real rate of return
 - Indexed non depreciable (e.g. WUC, excl IDC) – real rate of return
 - Non-indexed depreciable (e.g. vehicles and equipment) – nominal rate of return
 - Non-indexed non-depreciable (e.g. fuel stock, working capital, future fuel) – nominal rate of return

Roll forward of the RAB

- The MYPD applies a ‘real return’ to an indexed asset base.
 - Indexing of the asset base is needed when providing a real return on assets (as opposed to a higher nominal return) so as to allow for the recovery of the inflation component of capital costs.
 - Indexing the asset base is standard regulatory practice when applying the real returns model.
- Eskom’s therefore supports NERSA’s proposal that the initial (revalued) RAB will be indexed annually by CPIX.

Periodic review

- Over time the replacement cost of assets may vary from the CPIX indexed value.
 - A process allowing for periodic review of the need for further MEA valuations would be applied, with the RAB indexed to CPIX otherwise.

- In calculating the benchmark cost of capital Eskom proposes that:
 - The cost of debt is calculated with reference to a generic nominal risk free rate (i.e. yield on a Government bond such as the R186); and a company debt premium over the risk free rate.
 - The nominal cost of equity is estimated by use of the Capital Asset Pricing Model which provides for a premium above the risk free rate capturing the risk characteristics of equity investment.
 - Parameter values would be based on forward looking estimates / benchmarked rates applying to comparable regulated utilities (**NB:** on a stand-alone basis).
 - Using the methodology sketched out above – the benchmarked pre-tax *nominal* WACC will be transformed to a pre-tax *real* WACC by use of the Fisher formula so as to provide a ‘real return’ on the indexed asset base.

** Again noting that the allowed value for MYPD 3 may likely be adjusted downwards in transition to cost reflective pricing.*