Eskom Regulatory Clearing Account (RCA) year 5 of MYPD 3

Public Hearings - Bloemfontein

Date: 23 January 2019

RCA (Yr 5, MYPD3) Timeline

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RCAs require 3 decisions:

1. Balance decision
2. Liquidation decision
3. Reasons for decisions

RCA Year 5, MYPD 3

- 31 March 2018 End of financial year
- (1) 14 June 2018 NERSA decision on Yr 2,3,4 RCA balance
- **12 September 2018 Submitted to NERSA**
- (2) 2 October 2018 NERSA decision on Yr 2,3,4 RCA liquidation
- 19 October 2018 NERSA publishes RCA (Yr 5) for comment
- 30 November 2018 Closing date for written comments
- (3) 7 December 2018 NERSA reasons for decision on Yr 2,3,4 RCA balance
- 14 January 2019 Start of public hearings

The Regulatory Clearing Account (RCA) is the regulatory mechanism for risk management

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

NERSA Framework:

1. Differences materialise if Eskom either does not achieve or exceeds the awarded revenue (due to pricing or demand factors), or incurs costs greater or lower than those which were taken into account when NERSA calculated the MYPD allowable revenue

2. RCA balance could either be in favour of Eskom or consumer

3. RCA is subject to approval by the Regulator

4. Liquidation of the RCA as approved by the regulator may result in an increase or decrease in future electricity prices

5. The MYPD Methodology as published by NERSA in December 2012 is applicable to the MYPD3 control period

The RCA is a globally accepted regulatory principle and is part of RCA best practices; MYPD2 RCA decision made in 2014 and MYPD3 RCA Year 1 (2013/14) made in 2016. The RCA balance decision for FY2015, FY2016 and FY2017 was made in June 2018.

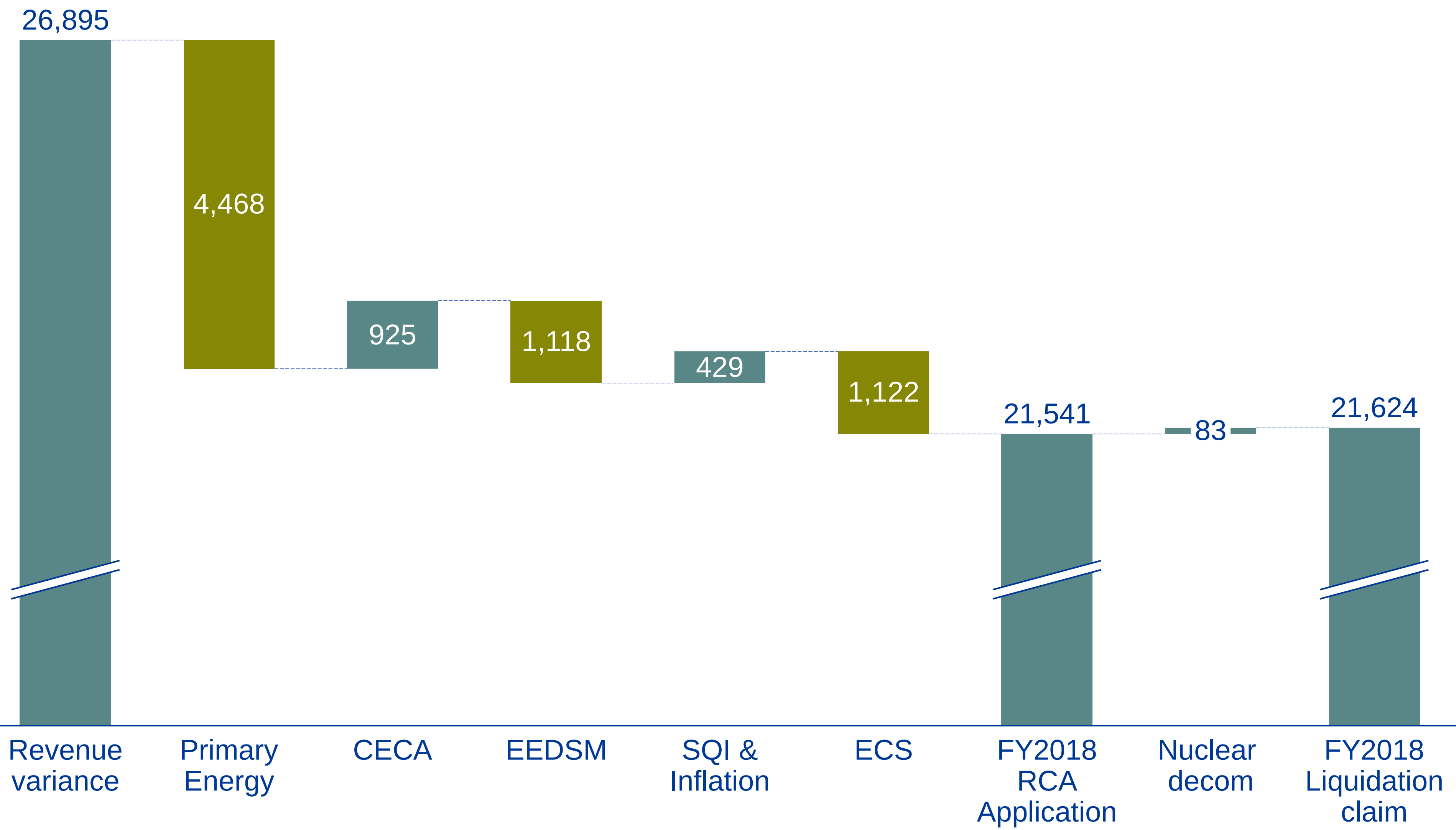
RCA Year 5 of MYPD 3 balance application

- RCA submission is **based on MYPD3 Methodology decision and reasons for decision for MYPD 3 RCA 2013/14**
- Is **driven substantially by revenue under-recovery due to lower sales** as assumed in the MYPD 3 decision for FY 2018..
- The determined **RCA application of R21 541 million** is **motivated with facts and evidence** to enable prudency assessments by NERSA
- Cost variances relate predominantly to **primary energy costs** which **off-set the revenue variance** related to sales
- **Opex variances are not included in RCA as it is not re-measurable** in terms of the MYPD 3 methodology (has been changed in revised methodology)
- **Energy Conservation Scheme** (ECS) adjustments **~ R1 100 million** of sales variance
- Nuclear spent fuel decommissioning costs of R830 m incurred in 2013/14 approved for recovery over 10 years resulting in R83m being included in the total RCA claim for liquidation purposes of R21 624 million (i.e R21 541m + R83m)

MYPD Year 5 RCA application: Revenue variance makes up majority of the balance

RCA for 2017/18 (Year 5 of MYPD3)	MYPD3 Decision	Actuals 2017/18	Variance to MYPD3	RCA adjustments	RCA 2017/18
Total Revenue R million	205 213	175 041	30 172	-3 277	26 895
Primary Energy , R million					
Coal	49 914	46 992	-2 922	-15	-2 937
Open Cycle Gas Turbines (OCGTs)	1 724	328	-1 396		-1 396
Other primary energy	6 766	7 576	810	-	810
Independent Power Producers	23 018	19 317	-3 701	1 983	-1 718
International Purchases	470	2 768	2 298		2 298
Environmental levy	9 746	8 061	-1 685		-1 685
Demand Market Participation (DMP)	-	160	160		160
Total primary energy , R million	91 638	85 202	-6 436	1 968	-4 468
CECA for RCA , R million	33 667	34 592	925	0	925
EEDSM for RCA , R million	1 244	142	-1 102	-17	-1 118
Operating costs for RCA , R million	47 764	51 892	4 128	-4 128	-
SQI for RCA , R million				390	390
Inflation adjustments , R million				39	39
ECS (Electricity conservation scheme) adjustment				-1 122	-1 122
FY2018 RCA application for year					**21 541**
Nuclear decom - RCA 2013/14 phased 10 years for liquidation					83
FY2018 Liquidation claim , R million					**21 624**

Summary of RCA 2017/18



Purpose of sales volume adjustment in RCA ensures that **fixed cost** per NERSA decision is not under- or over-recovered

Illustrative assumptions for purposes of MYPD revenue determination

Volume (number of units sold)	**100**			
Cost				
Variable cost	30			
Fixed cost	70			
Total cost	**100**			
Price				
Variable cost component recovered through tariff	0.3			
Fixed cost component recovered through tariff	0.7			
Total price per unit	1.0			
Revenue (volume x price)	**100**			

Purpose of sales volume adjustment in RCA is to ensure that **fixed cost** per NERSA decision is not under- or over-recovered

Illustrative

***Scenario:** sales volume **HIGHER** than assumed for purposes of revenue determination:*

		Actual	
Volume (number of units sold)	**100**	**110**	
Cost			
Variable cost	30	33	
Fixed cost	70	70	
Total cost	**100**	**103**	
Price			
Variable cost component recovered through tariff	0.3	0.3	
Fixed cost component recovered through tariff	0.7	0.7	
Total price per unit	1.0	1.0	
Revenue (volume x price)	**100**	**110**	

Purpose of sales volume adjustment in RCA is to ensure that **fixed cost** per NERSA decision is not under- or over-recovered

Illustrative

***Scenario:** sales volume **HIGHER** than assumed for purposes of revenue determination:*

		Actual		
Volume (number of units sold)	**100**	**110**		
Cost				
Variable cost	30	33		
Fixed cost	70	70		
Total cost	**100**	**103**		
Price				
Variable cost component recovered through tariff	0.3	0.3		
Fixed cost component recovered through tariff	0.7	0.7		
Total price per unit	1.0	1.0		
Revenue (volume x price)	**100**	**110**		
Recovery of cost through revenue				
Actual amount of variable cost recovered	(110x0.30)	33		
Actual amount of Fixed cost recovered	(110x0.70)	77		
Total cost initially recovered through revenue		**110**		
Variance in recovery of fixed cost (77-70): clawed-back through RCA		-7		
Total cost initially recovered through revenue plus RCA		**103**		
RCA mechanism				
variable cost (mainly coal) more than assumed	(33-30)	3		
revenue more than assumed	(110-100)	-10		
RCA total net amount (=fixed cost over-recovery)		**-7**		

Purpose of sales volume adjustment in RCA is to ensure that **fixed cost** per NERSA decision is not under- or over-recovered

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Illustrative

Scenario: *sales volume* ***HIGHER*** *than assumed for purposes of revenue determination:*

		Actual	MYPD AR with perfect foresight	Calculation
Volume (number of units sold)	**100**	**110**	**110**	
Cost				
Variable cost	30	33	33	
Fixed cost	70	70	70	
Total cost	**100**	**103**	**103**	
Price				
Variable cost component recovered through tariff	0.3	0.3	0.3	(33/110)
Fixed cost component recovered through tariff	0.7	0.7	0.64	(70/110)
Total price per unit	1.0	1.0	0.94	(103/110)
Revenue (volume x price)	**100**	**110**	**103**	
Recovery of cost through revenue				
Actual amount of variable cost recovered	(110x0.30)	33	33	(110x0.30)
Actual amount of Fixed cost recovered	(110x0.70)	77	70	(110x0.64)
Total cost initially recovered through revenue		**110**	**103**	(110x0.94)
Variance in recovery of fixed cost (77-70): clawed-back through RCA		-7	0	
Total cost initially recovered through revenue plus RCA		**103**	**103**	
RCA mechanism				
variable cost (mainly coal) more than assumed	(33-30)	3	0	(33-33)
revenue more than assumed	(110-100)	-10	0	(103-103)
RCA total net amount (=fixed cost over-recovery)		**-7**	**0**	

Purpose of sales volume adjustment in RCA is to ensure that **fixed cost** per NERSA decision is not under- or over-recovered

Illustrative

Scenario: *sales volume* ***LOWER*** *than assumed for purposes of revenue determination:*

Volume (number of units sold)	**100**			
Cost				
Variable cost	30			
Fixed cost	70			
Total cost	**100**			
Price				
Variable cost component recovered through tariff	0.3			
Fixed cost component recovered through tariff	0.7			
Total price per unit	1.0			
Revenue (volume x price)	**100**			

Purpose of sales volume adjustment in RCA is to ensure that **fixed cost** per NERSA decision is not under- or over-recovered

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Illustrative

***Scenario:** sales volume **LOWER** than assumed for purposes of revenue determination:*

		Actual	
Volume (number of units sold)	**100**	**90**	
Cost			
Variable cost	30	27	
Fixed cost	70	70	
Total cost	**100**	**97**	
Price			
Variable cost component recovered through tariff	0.3	0.3	
Fixed cost component recovered through tariff	0.7	0.7	
Total price per unit	1.0	1.0	
Revenue (volume x price)	**100**	**90**	

Purpose of sales volume adjustment in RCA is to ensure that **fixed cost** per NERSA decision is not under- or over-recovered

Illustrative

***Scenario:** sales volume **LOWER** than assumed for purposes of revenue determination:*

		Actual	
Volume (number of units sold)	**100**	**90**	
Cost			
Variable cost	30	27	
Fixed cost	70	70	
Total cost	**100**	**97**	
Price			
Variable cost component recovered through tariff	0.3	0.3	
Fixed cost component recovered through tariff	0.7	0.7	
Total price per unit	1.0	1.0	
Revenue (volume x price)	**100**	**90**	
Recovery of cost through revenue			
Actual amount of variable cost recovered	(90x0.30)	27	
Actual amount of Fixed cost recovered	(90x0.70)	63	
Total cost initially recovered through revenue		**90**	
Variance in recovery of fixed cost (70-63): clawed-back through RCA*		7	
Total cost initially recovered through revenue plus RCA		**97**	
RCA mechanism			
variable cost (mainly coal) more than assumed	(30-27)	-3	
revenue more than assumed	(100-90)	10	
RCA total net amount (=fixed cost under-recovery)		**7**	

*Temporarily having been funded through additional borrowing

Purpose of sales volume adjustment in RCA is to ensure that **fixed cost** per NERSA decision is not under- or over-recovered

Illustrative

***Scenario:** sales volume **LOWER** than assumed for purposes of revenue determination:*

		Actual	MYPD AR with perfect foresight	Calculation
Volume (number of units sold)	**100**	**90**	**90**	
Cost				
Variable cost	30	27	27	
Fixed cost	70	70	70	
Total cost	**100**	**97**	**97**	
Price				
Variable cost component recovered through tariff	0.3	0.3	0.3	(27/90)
Fixed cost component recovered through tariff	0.7	0.7	0.78	(70/90)
Total price per unit	1.0	1.0	1.08	(97/90)
Revenue (volume x price)	**100**	**90**	**97**	
Recovery of cost through revenue				
Actual amount of variable cost recovered	(90x0.30)	27	27	(90x0.30)
Actual amount of Fixed cost recovered	(90x0.70)	63	70	(90x0.78)
Total cost initially recovered through revenue		**90**	**97**	(90x1.08)
Variance in recovery of fixed cost (70-63): clawed-back through RCA*		7	0	
Total cost initially recovered through revenue plus RCA		**97**	**97**	
RCA mechanism				
variable cost (mainly coal) more than assumed	(30-27)	-3	0	(27-27)
revenue more than assumed	(100-90)	10	0	(97-97)
RCA total net amount (=fixed cost under-recovery)		**7**	**0**	

*Temporarily having been funded through additional borrowing

The MYPD Methodology reflects this approach, and Eskom's RCA application is aligned to that (e.g. page 12 of RCA application)

RCA for 2017/18 (Year 5 of MYPD3)	MYPD3 Decision	Actuals 2017/18	Variance to MYPD3	RCA adjustments	RCA 2017/18
Total Revenue R million	205 213	175 041	30 172	-3 277	26 895
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RED circle = revenue variance;
GREEN circle = fuel cost variance

The MYPD Methodology reflects this approach, and Eskom's RCA application is aligned to that (e.g. page 12 of RCA application)

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RED circle = revenue variance; **GREEN** circle = fuel cost variance

		Actual	MYPD AR with perfect foresight	Calculation
Volume (number of units sold)	**100**	**90**	**90**	
Cost				
Variable cost	30	27	27	
Fixed cost	70	70	70	
Total cost	**100**	**97**	**97**	
Price				
Variable cost component recovered through tariff	0.3	0.3	0.3	(27/90)
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Total price per unit	1.0	1.0	1.08	(97/90)
Revenue (volume x price)	**100**	**90**	**97**	
Recovery of cost through revenue				
Actual amount of variable cost recovered	(90x0.30)	27	27	(90x0.30)
Actual amount of Fixed cost recovered	(90x0.70)	63	70	(90x0.78)
Total cost initially recovered through revenue		**90**	**97**	(90x1.08)
Variance in recovery of fixed cost (70-63): clawed-back through RCA*		7	0	
Total cost initially recovered through revenue plus RCA		**97**	**97**	
RCA mechanism				
variable cost (mainly coal) more than assumed	(30-27)	-3	0	(27-27)
revenue more than assumed	(100-90)	10	0	(97-97)
RCA total net amount (=fixed cost under-recovery)		**7**	**0**	

Purpose of sales volume adjustment in RCA is to ensure that **fixed cost** per NERSA decision is not under- or over-recovered

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1. The correction of such initial over-estimation of electricity demand does not increase the overall cost to the consumers, but merely represents **deferred recovery of the fixed cost** as per NERSA revenue decision (that would already have been recovered from consumers in FY 2017/18, had demand estimates been accurate). And *vice versa,* as mechanism is symmetric.
2. The RCA mechanism that corrects for electricity demand under/over estimation is **not a mechanism to 'restore' sales volume / revenue to the estimated level**, but rather
   a) is a mechanism to **correct for such under/over-recovery of fixed cost** caused by variances between estimated demand and actual demand, which
   b) it achieves by adjusting the estimated sales volumes (higher or lower) to **align to what actually happened, NOT** to what was forecasted. In effect it then recalculates what the price **would have been** on the actual volume (to recover fixed cost) and adjusts for the difference between what it was and what it should have been


THANK
YOU!

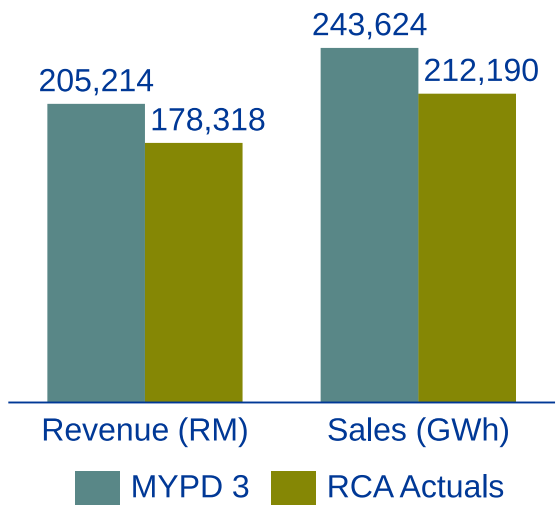
Changes in fundamental assumptions since MYPD3 application

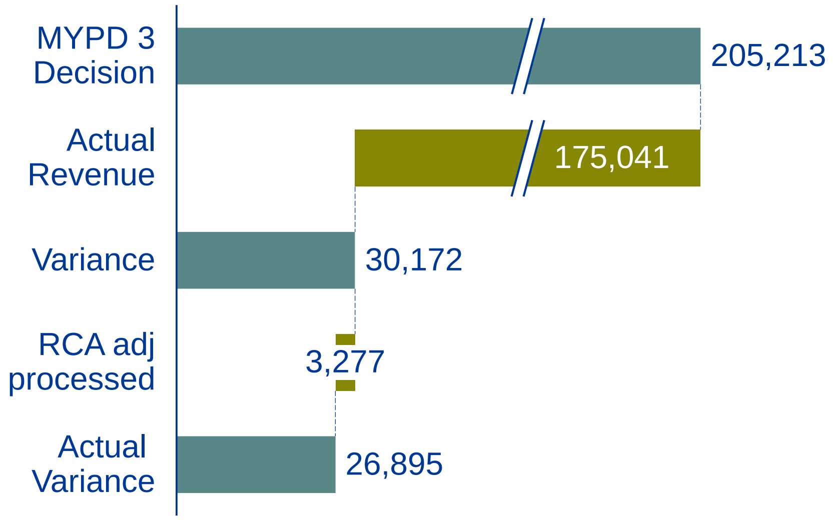
MYPD3 Application	Current Situation	Comment
Sales forecast average growth of 2% p.a. assumed with a starting value of 222TWh in March 2013 reaching 244TWh by March 2018	Actual sales reached 212TWh by March 2018.	Sales forecast did not materialise due to major changes in the assumptions plus the adverse global economic situation not recovering as anticipated
Generation plant performance (Energy availability factor – EAF) assumed at an average 82% for 2017/18	Actual average EAF was an average of 78% for the year	Actual plant performance has been improving over the year. However, has not reached the performance level assumed by NERSA in the MYPD 3 decision.
New build commission dates for 1st units Medupi – June 2013 Kusile - 2016/17 Ingula – 2013/14 Sere – 2013/14	New build commissioning revised dates as follows: Medupi Unit6 – Aug 2015 Medupi Unit5 – Apr 2017 Medupi Unit 4 – Nov 2017 Kusile Unit 1- Sept 2017 Ingula – All units commissioned by Mar 2017 Sere – 31 Mar 2015	Eskom has been meeting its revised commissioning dates.

Changes in fundamental assumptions since MYPD3 application

MYPD3 Application	Current Situation	Comment
Coal country compact < 10%price increases	Efficiency savings implemented through business productivity programme and design to cost initiatives.	Coal burn escalations dropped significantly in 2017/18 compared to historical trends. In fact coal burn variance is in favour of the consumer.
OCGTs – load factors assumed at 3% based on certain other assumptions materialising	OCGTs – actual load factors have been <1% in 2017/18	OCGTs usage reflects a turnaround with a significant variance for benefit of consumer.
IPPs – local and international	Lower costs associated with REIPP programmes	Certain REIPP programmes did not mateialise, as anticipated.
Capex – R337bn over the five year period	Capex – given the lower revenue decision, Eskom reprioritized capex to a projected portfolio of R251bn over the five year period.	In response to MYPD3 revenue decision Eskom has reprioritised capex spent

Electricity sales volumes continue to remain lower than that assumed by NERSA in the MYPD 3 decision





Eskom's electricity revenue is derived from 3 customer categories:

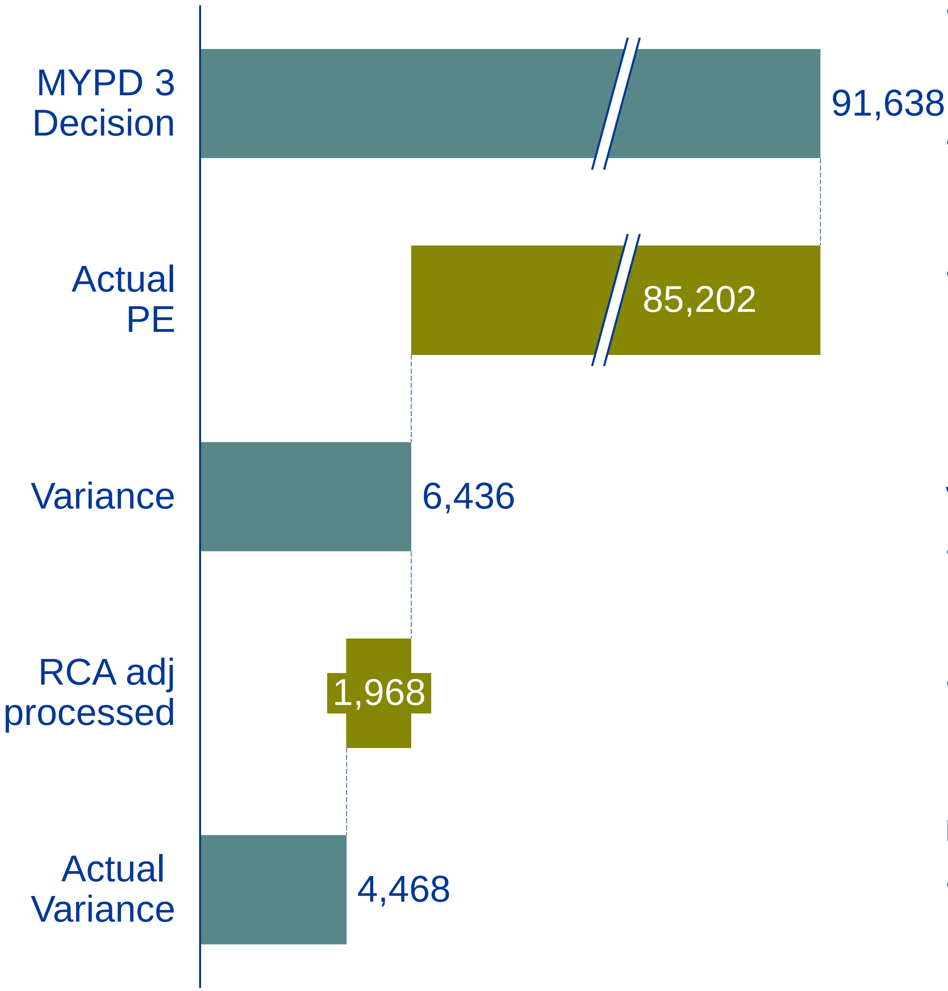
1. standard tariffs
2. local negotiated pricing agreements
3. exports (international) customers

Revenue variance of R30 172m in AFS is adjusted by R3 277m to account for revenue impairment resulting in a RCA revenue adjustment of R26 895m. Thus RCA includes all billed revenue (not collected revenue as in AFS)

The drivers for the declining sales trend include:

- **Weakening markets –** oversupply and high stock levels; low commodity prices; environment that favours cutbacks over growth.
- **Low growth and low infrastructure spend in SA –** projects (sales growth) being delayed or cancelled; inadequate infrastructure and policy/regulatory uncertainty
- **Increasing prices** – Energy efficiency improvements; closures due to competitiveness and profitability; reduced peak / high season usage; increased use of own generation.
- **Deteriorating electricity supply performance (maintenance and restoration)** – poor quality and reliability of supply causing plant stoppages.

Eskom has aligned the treatment of primary energy to the NERSA 2013/14 RCA decision



Variances in favour of consumer:

- The coal burn variance of R2 937 million is a result of lower electricity production, lower production from cost-plus and fixed price mines, delays in coal quality improvement.
- The energy availability of Eskom fleet, commissioning of new power stations and usage of IPPs have resulted in lower usage of OCGT and a variance of R1 396 million
- Eskom utilized 64 GWh more energy from IPPs when compared to the MYPD3 decision in 2017/18, but due to lower average costs the results was R1 718 million less spent on IPPs compared to the MYPD3 decision.

Variances in favour of Eskom:

- Eskom acquired electricity from neighboring countries that resulted in an international purchases variance of R2 768 million
- Variances of R160 million for Demand market participation (DMP) costs and R810 million for other primary energy costs

RCA Adjustments include :

- DoE peakers - where capacity charge for RCA is recovered in same year as expenditure is incurred whereas in AFS in accordance with IFRS, it is capitalised over term of PPA

Other categories contributing to the RCAs

CECA for RCA , R million	925
EEDSM for RCA , R million	-1 118
SQI for RCA , R million	390
Inflation adjustments , R million	39

- **Capital Expenditure Clearing Account** (CECA) - Variance is attributable to higher costs incurred for new build projects, outage capital costs and partially reduced by lower expenditures incurred for Transmission and Distribution networks; following Eskom's capital expenditure reprioritisation process.
- **EEDSM** programs produced less verified capacity savings during year, than determined by NERSA, resulting in variance in favour of the consumer
- Eskom has exceeded **service quality incentive** targets set by NERSA for Distribution and Transmission during 2017/18. This resulted in Distribution achieving an SQI of R292.8 million and Transmission of R99.7 million
- **Inflation adjustment-** On opex is due to higher inflation rate in actual mode versus that assumed by NERSA in MYPD 3 decision.