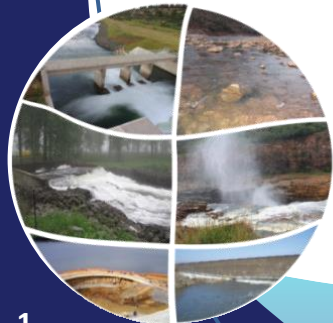


Sasfin Public Sector Funding Workshop 2018

Progress of the Vaal River System Water Resources Development
Projects (“VRS” – LHWP and AMD) Funding Strategy

May 2018

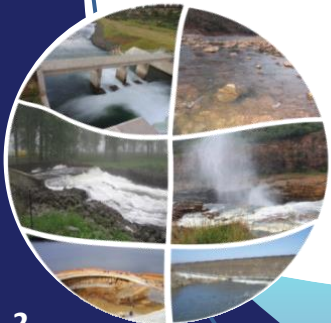


30 Years Unqualified



Contents

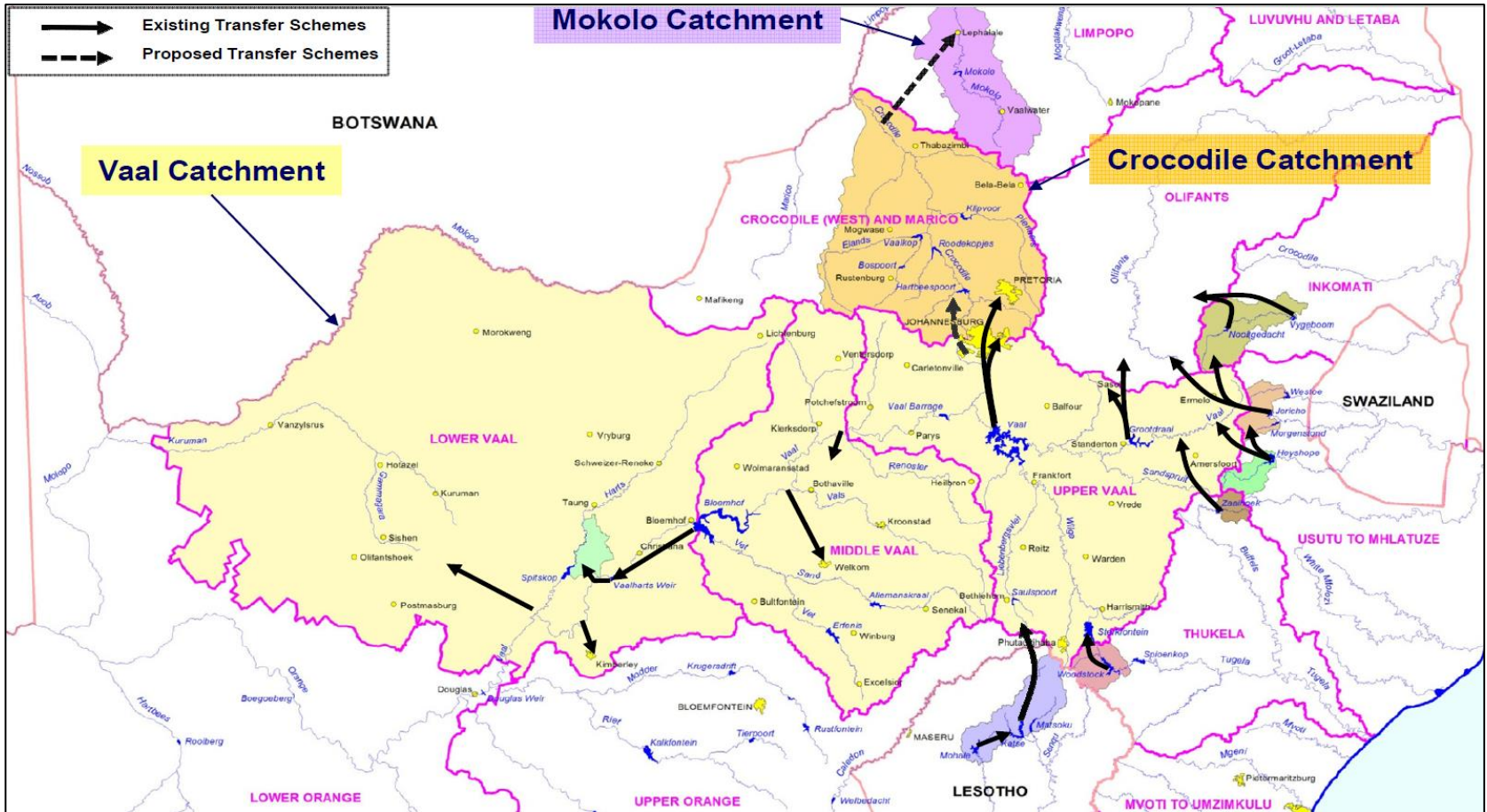
- TCTA's Vaal River System Water Resources Development Projects (“VRS” – LHWP and AMD)
- VRS Funding Strategy Update & Challenges
- **ANNEXURES:**
 - What is TCTA?
 - TCTA's Governance and the Regulatory Environment
 - Why TCTA Receives Government Guarantees



TCTA's Vaal River System Water Resources Development Projects (VRS)

Vaal River System Water Resources Development Projects (VRS)

Map of the Integrated Vaal River System



Source: DWS.

TCTA's VRS Projects

Vaal River System Water Resources Development Projects (VRS)

Vaal River System Water Resources Development Projects (VRS) is the name given to the projects funded by TCTA's Vaal River Tariff (approx R4.5 billion per annum):

- **Lesotho Highlands Water Project (LHWP);** and
- **Acid Mine Drainage (AMD);**

LHWP

- Joint project between the Republic of South Africa and the Kingdom of Lesotho.
- Governed by the Treaty on the Lesotho Highlands Water Project entered into in October 1986
- The Purpose of the Project is to provide additional water to the Vaal River System in the South Africa and to generate hydro-electric power in the Lesotho.
- The Project consists of various proposed phases of which Phase 1 was completed in 2004 and Phase 2 is expected to commence construction soon.

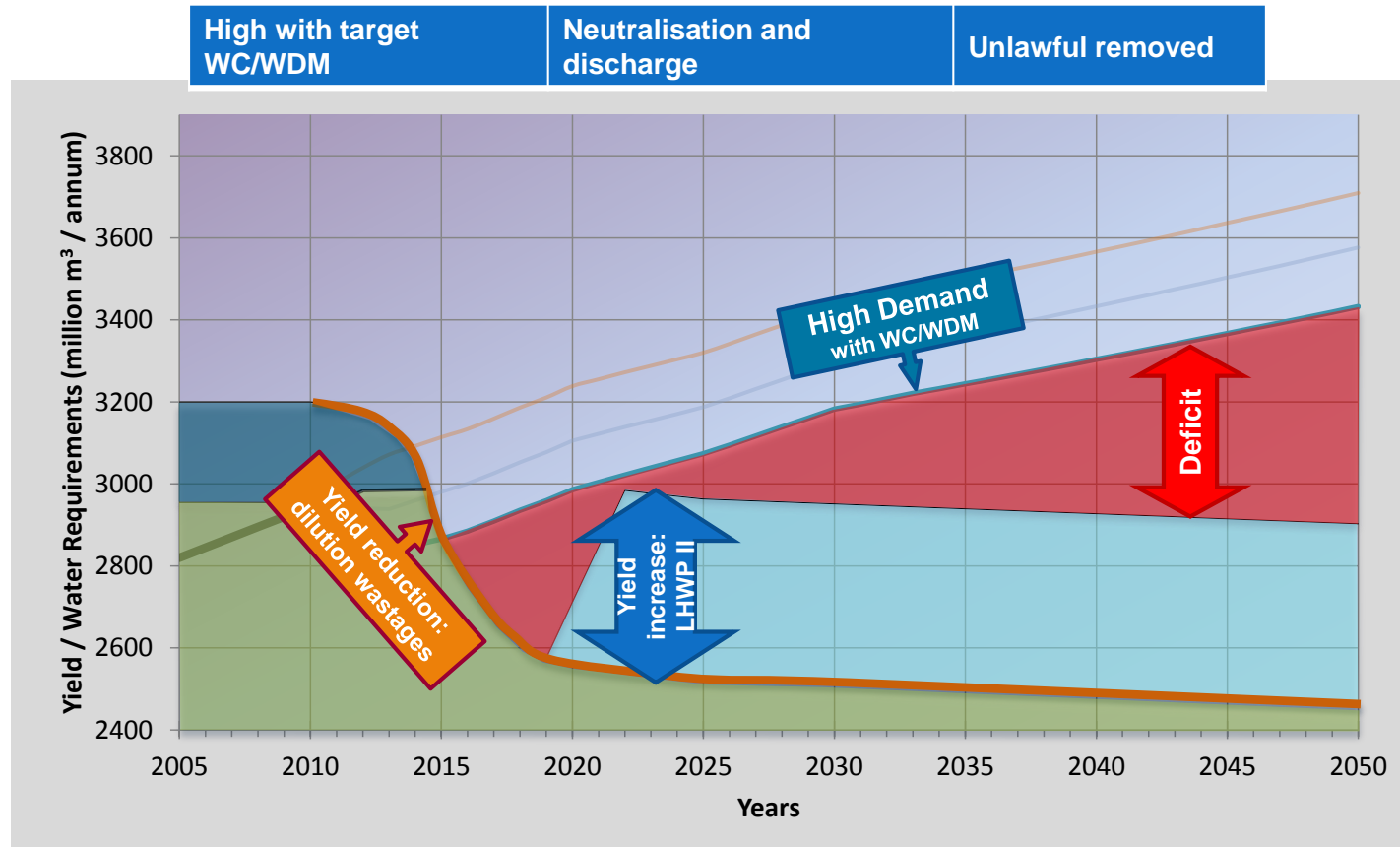
AMD

- AMD seeks to implement solutions to the problem of Acid Mine Drainage in the Witwatersrand Goldfields.
- In 2011 TCTA received the Directive to implement the Short-Term and Emergency Intervention (AMD STI) to prevent acid mine water from decanting in the Western, Central and Eastern Basins of the Witwatersrand Goldfields.
- In 2016 TCTA received the Directive to implement the long-term solution (AMD-LTS) for the construction of desalination plant/s in the Central and Eastern basins to is based on the feasibility study undertaken by the DWS.
- The treated water will be put to beneficial use as either industrial or potable water thereby increasing the yield of the Vaal System.

TCTA's VRS Projects

The Need to Augment the Yield of the Vaal River System

Upper Vaal River System Demand & Yield Scenarios: *With LHWP II but without AMD-LTS*

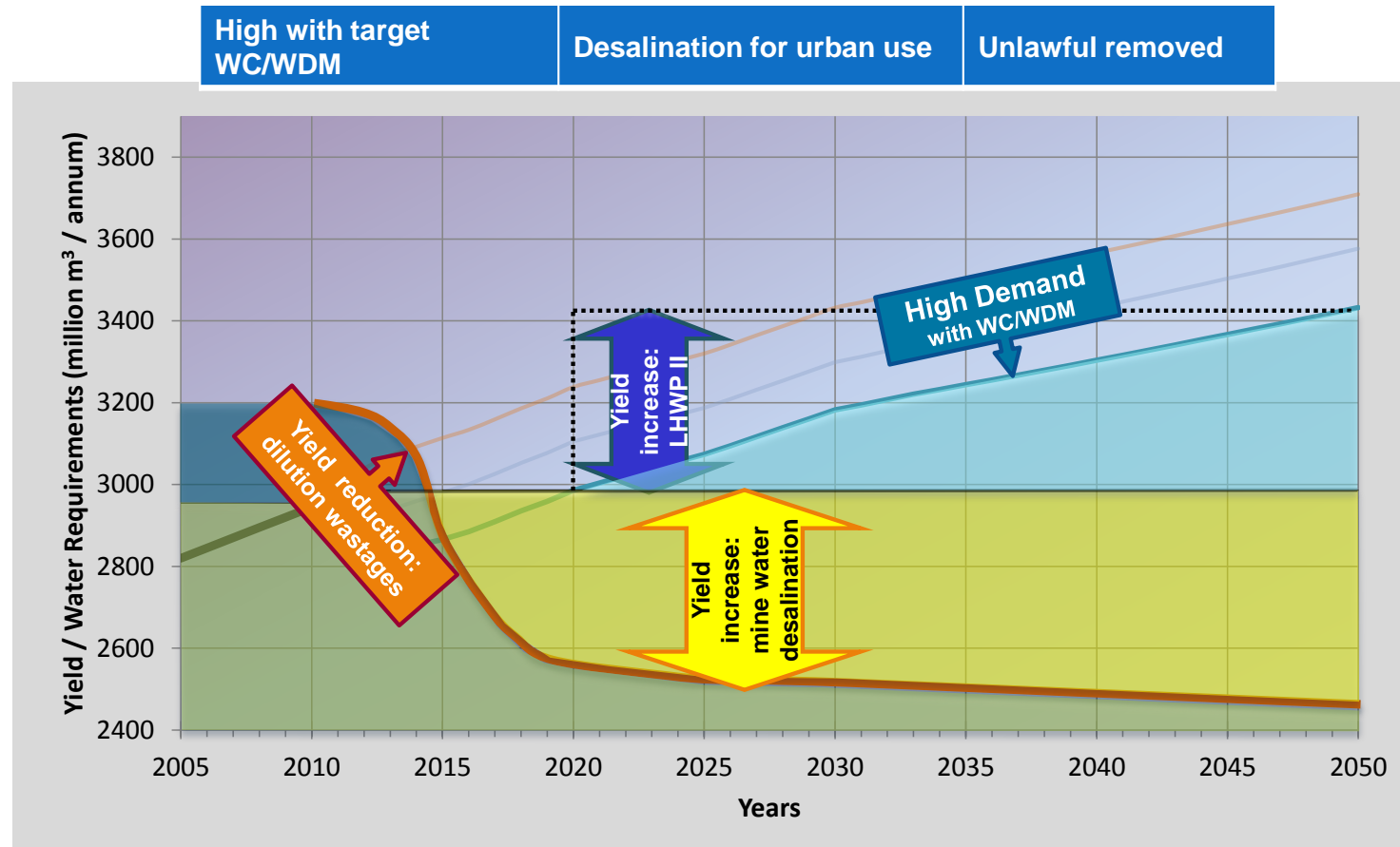


*WC/WDM = Water Conservation & Water Demand Management

TCTA's VRS Projects

The Need to Augment the Yield of the Vaal River System

Upper Vaal River System Demand & Yield Scenarios: *With LHWP II and AMD-LTS*

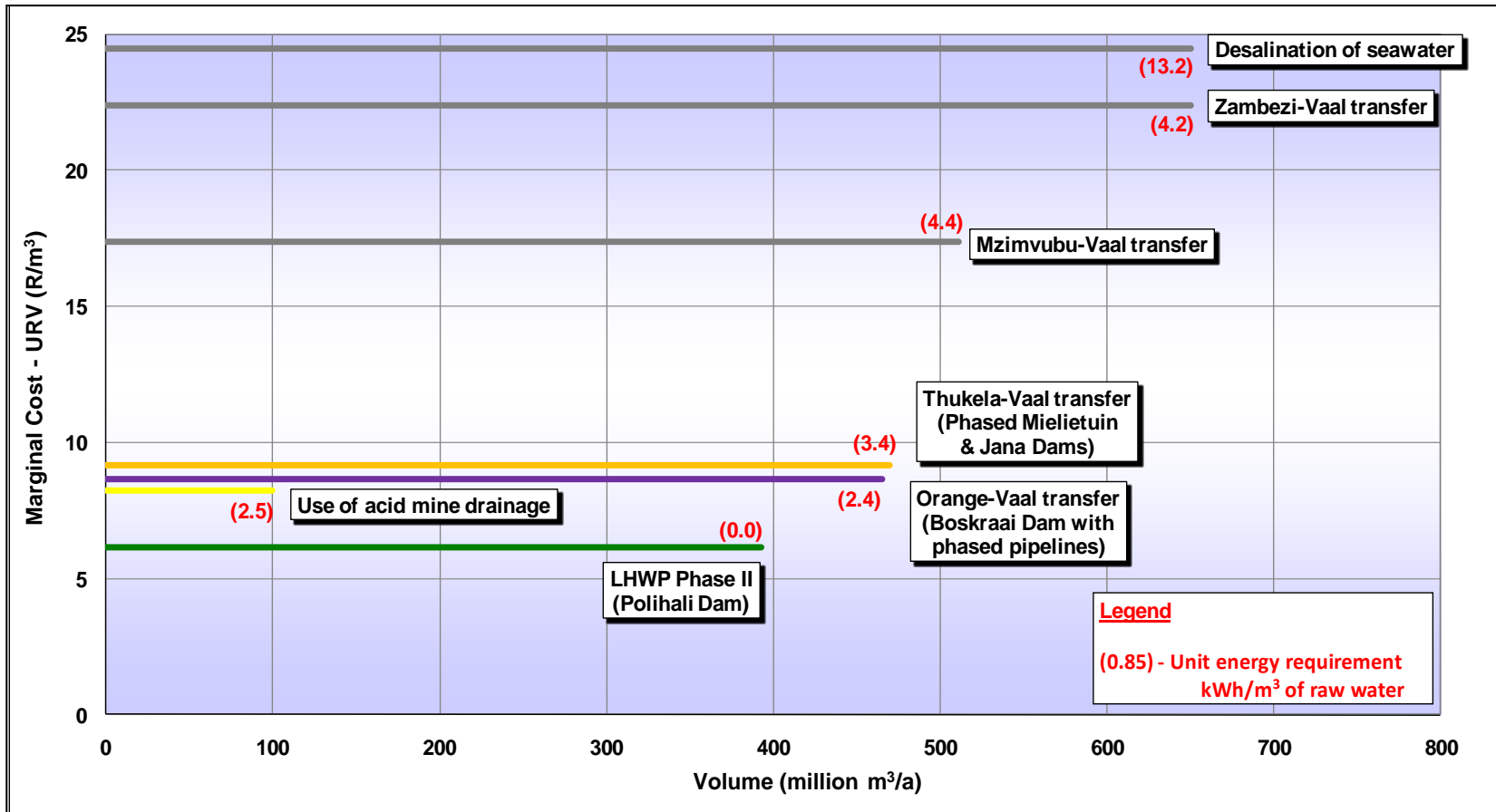


*WC/WDM = Water Conservation & Water Demand Management

TCTA's VRS Projects

Comparison of Vaal River Augmentation Options

LHWP II and AMD LTS are the cheapest augmentation options at this stage



TCTA's VRS Projects

Lesotho Highlands Water Project (LHWP)



Phase 1A (completed 1998): Katse Dam



Phase 1B (completed 2004): Mohale Dam

PHASE IA

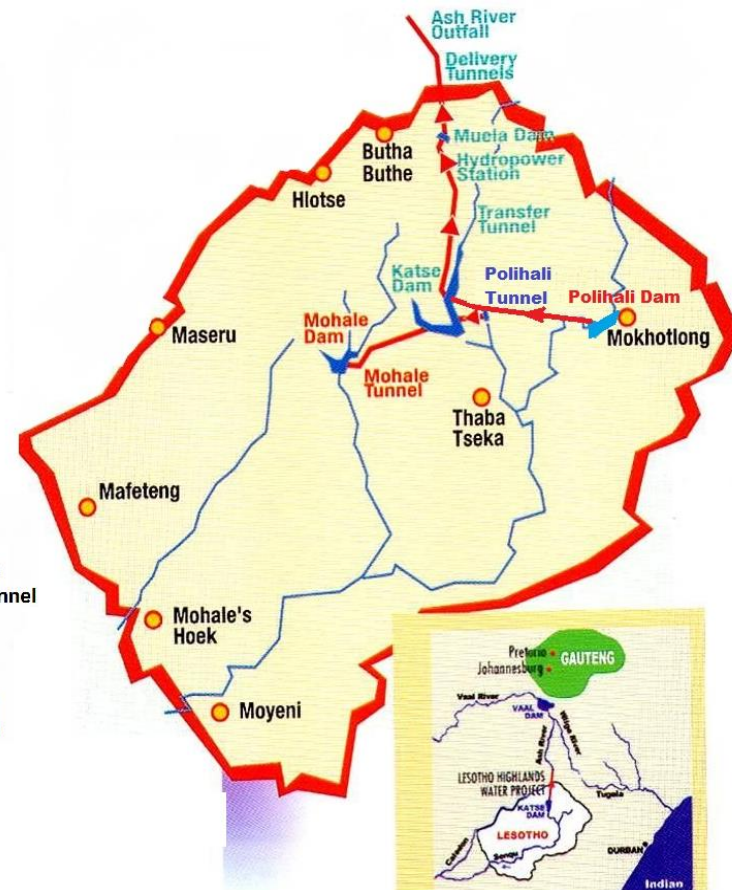
- Katse Dam (1 950 million m³)
- Transfer Tunnel (45km)
- Muela Power-station (72MW)
- Muela Dam
- Delivery Tunnel (36km)

PHASE IB

- Mohale Dam (958 million m³)
- Interconnecting Tunnel (30km)
- Matsoku Wier and Transfer Tunnel (6.4km)

PHASE II

- Polihali Dam (2 322 million m³)
- Interconnecting Tunnel (38km)



A new word for water

TCTA's VRS Projects

Lesotho Highlands Water Project (LHWP)

Phase 1A (completed in 1998)

Katse Dam (185m high concrete double-curvature arch dam) on the Malibamatso River; an intake structure capable of handling 70m³/second; a 45km long transfer tunnel from the Katse reservoir to the Muela reservoir; the Muela Dam and hydro-power station; the 37km long delivery tunnel from the Muela reservoir to the Ash River outfall outside Clarens .

Phase 1B (completed in 2004)

Mohale Dam (145m high concrete faced rock-fill embankment dam) on the Senqunyane River, a 32km long transfer tunnel from the Mohale reservoir to upstream of the Katse Dam; the 15m high Matsoku Diversion Weir; a 5.7km long transfer tunnel from the Matsoku Weir to the Katse reservoir.

Phase 2 (planned to commence construction)

Polihali Dam: a 163.5 metres high concrete faced rock-fill embankment dam planned for downstream of the confluence of the Senqu and Khubelu Rivers. A 49.5 metres high saddle dam will also be constructed as well as a side channel spillway.

Polihali to Katse Tunnel: a 38.2 kilometres long, 5 metres diameter tunnel to transfer water from the Polihali Reservoir to Katse Dam. The tunnel is sized to convey a peak power generation flow of 35 m³/s. Water will be abstracted from the Polihali Reservoir through two separate concrete bell-mouth intakes on the western side of the Polihali Reservoir in the Khubelu River, 3 kilometres upstream of the confluence with the Senqu.

Hydropower Features: A pump storage scheme of approximately 1 000 megawatt utilizing Katse Reservoir as the lower reservoir and a new upper reservoir near the Kobong headwaters may be built as part of Phase II.

South Africa is responsible for the costs of the water transfer components, Lesotho is responsible for the hydropower scheme costs.

TCTA's VRS Projects

Lesotho Highlands Water Project (LHWP)

Polihali Dam

Dam Type	Concrete Faced Rockfill Dam
Non-overspill Crest Level	2 083 masl*
Full Supply Level	2 075 masl
Lowest Foundation Level	1 918.0 masl
Crest Width	10 m
Crest Length	915 m
Embankment Volume	12.3 million m ³
Excavation Volume	40 000 m
Length of Plinth	1 150 m
Area of Facing Slab	12 343 m ³
<i>*metres above sea level</i>	

Polihali – Katse Tunnel

Tunnel Capacity	18.8 m ³ /s at Hydraulic Grade Line of 1:4776
Tunnel Length & Diameter	Total Length = 38.2 km @ 5.2m
Type of Lining	Partially Lined
Delivery Tunnel Upgrading	Increase Muela Dam FSL by 2.5m with Crest Radial Gates

Estimated Cost & Construction Time

Capital Costs	R22 000 million
Construction Program	56 Months

TCTA's VRS Projects

Acid Mine Drainage

Background:

Gold mining in the Witwatersrand took place in three underground mining basins of the East, Central and West Rand situated in an arc stretching for over 70km, from Krugersdorp in the west to Nigel in the east in more than 120 mines, some over 2 000 metres deep.

The mines were interconnected within each basin so flooding in any mine has an impact on adjacent mines.

When the mines were operating they pumped out the water that entered the mine voids (tunnels, drives and shafts).

But, as mines closed the pumping became the responsibility of fewer and fewer mines, and the voids started filling with water.

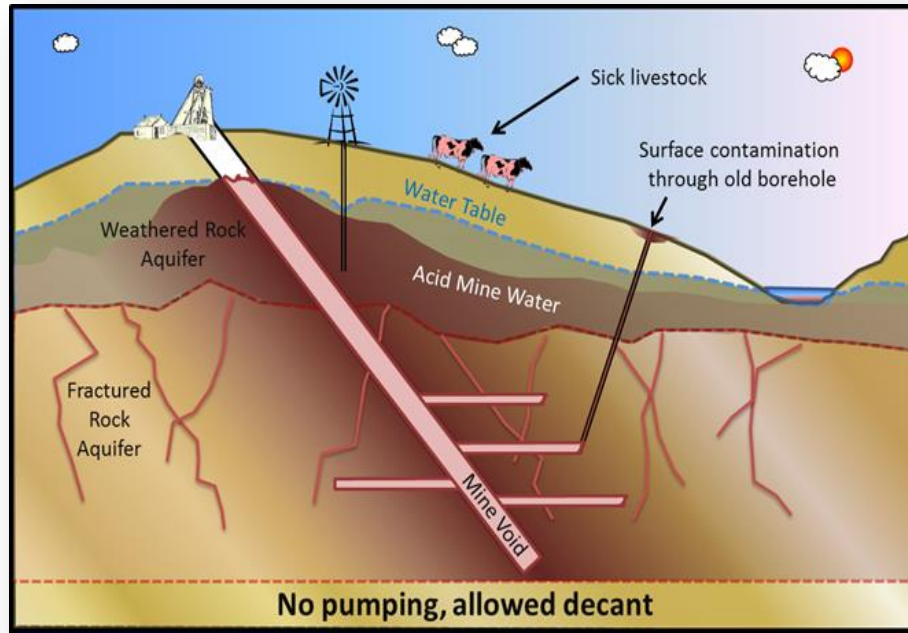
Acid Mine Drainage is produced when sulphate bearing minerals found in all reefs mined for gold, are exposed to oxygen. The process, termed pyrite oxidation, is enhanced when water moves through and over the surfaces of the rock.



TCTA's VRS Projects

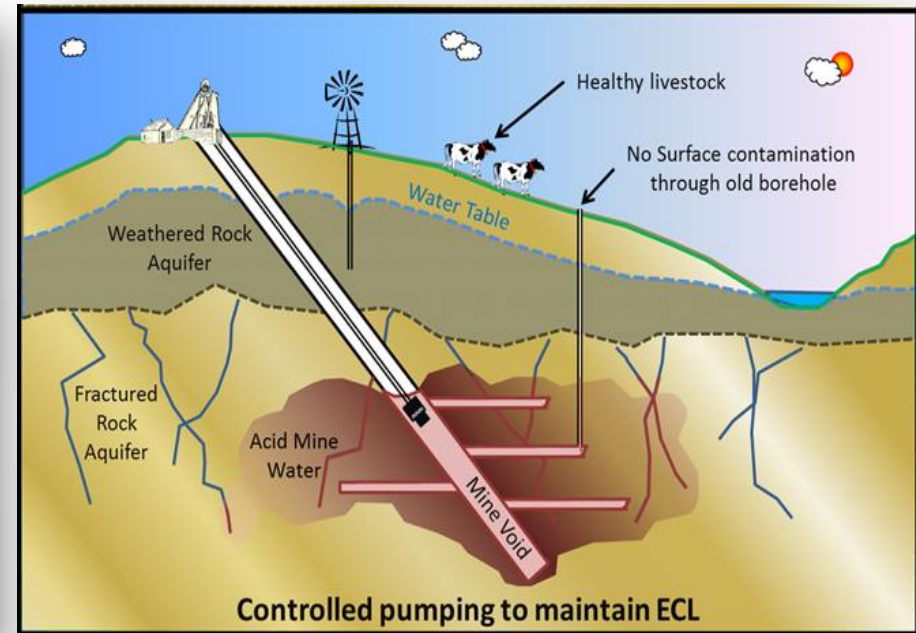
Acid Mine Drainage

Problem



- Mine voids fill with water, which becomes acidic due to exposure to acid bearing rocks.
- The acid water fills the voids and then contaminates ground water and seeps to the surface and into the Vaal River System through boreholes and springs.
- Reduces the yield of the system because fresh water needs to be released from dams to dilute the effects of the contaminated water.

Solution



- Pump acid mine water to the surface to maintain its level below the Environmental Critical Level (ECL) [the level at which it threatens the water table]
- Treat the water and pump it into the Vaal River System.
- Increases, rather than reduces the yield of the system

TCTA's VRS Projects

Acid Mine Drainage – Short-Term Intervention (AMD STI)

Purpose

- TCTA was Directed to implement AMD STI in April 2011.
- AMD STI is aimed at implementing short term emergency works for the Western, Central and Eastern Basins to stop decant in the Western Basin and protect the Environmental Critical Level (ECL) in the Central and Eastern Basins.
- Operate STI works until its integration with the long-term solution

Description

- **Western Basin** comprises of an upgrade of the existing Rand Uranium water treatment plant and associated infrastructure. The upgrade was successfully completed and increased the treatment capacity from 12 MI/pd to 30MI/pd.
- **Central Basin** entailed construction of a High Density Sludge Water Treatment plant. Treatment Capacity 84 MI/pd. RFO was in Dec 2014.
- **Eastern Basin** entails construction of a High Density Sludge Water Treatment plant similar to Central Basin. Treatment capacity 110MI/pd. RFO was Sept 2016.

Cost

Original Budget	R2 592 million
Cumulative to Date	R1 869 million
Forecast at Completion	R2 444 million



Central Basin: Completed High Density Sludge Treatment Plant



Eastern Basin: Reactors under Construction

TCTA's VRS Projects

Acid Mine Drainage – Long-Term Solution (AMD LTI)

Purpose

- TCTA received the Directive to implement AMD LTI in May 2016.
- AMD-LTS is based on the feasibility study undertaken by DWS which has proposed the construction of desalination plant/s in the Central and Eastern basins.
- Western Basin water consisting of both treated and untreated water will be used in pilot studies to test new and more cost effective technologies for future implementation.
- The treated water will be put to beneficial use as either industrial or potable water thereby increasing the yield of the Vaal System.

Engineering Strategy - The design philosophy will be based on the following assumptions:

- Provide treatment plants that will incorporate the short-term solution infrastructure.
- Design lifespan – 15 to 20 years.
- Provide ancillary infrastructure required to deliver treated water to users – low maintenance high lifespan.
- Develop and implement a sustainable sludge disposal solution for all basins.
- Plant capacity – sufficient to maintain ECL levels even during high flows, aligned with the capacity of the short term infrastructure.
- Site selection of treatment works– taking short-term solution into consideration.
- Due-diligence to determine final scope and strategy.

TCTA's VRS Projects

Acid Mine Drainage – Long-Term Solution (AMD LTI)

Status

- Initiated process with possible off-takers (to reduce cost of the scheme to the users and fiscus)
- Initiated process to conclude the Implementation Agreement with DWS
- Concluding following tenders processes:
 - PSP for optimisation and treatment plant
 - EIA consultant

Funding as per Directive

- Vaal River System users tariff will cover 33% of the construction costs and O&M
 - Feedback from the tariff consultations is that the Vaal River System users accept that they will bear the costs of AMD even though AMD is not of their own making, with the proviso that any available fiscal funds, funds clawed back from the mining industry and any revenue earned from sales of AMD water will be applied towards reduction of the tariff.
- The Fiscus will cover 67% - to be recovered from the mines as a levy

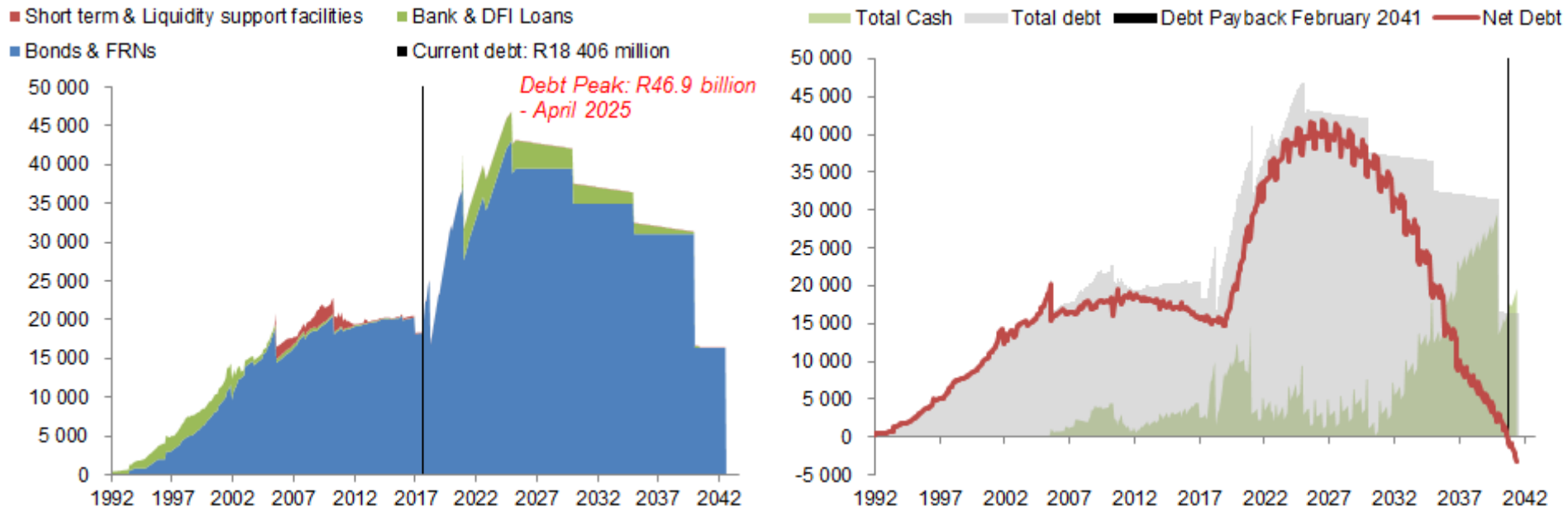
Cost	
Total Capital Budget	R11 810 million
Annual Operating (O&M) Budget (per annum over 15 years)	R1 300 million

TCTA's VRS Projects

Vaal River System Water Resources Development Projects (VRS)

Capital Components		
Sub-Phase	Capital Cost	Status
LHWP-1	R 20 billion (approx)	Complete
LHWP-2	R 22 billion	Initial Stages
AMD Short Term Intervention	R 2.1 billion	Near Completion
AMD Long Term Solution	R 11.8 billion	Initial Stages

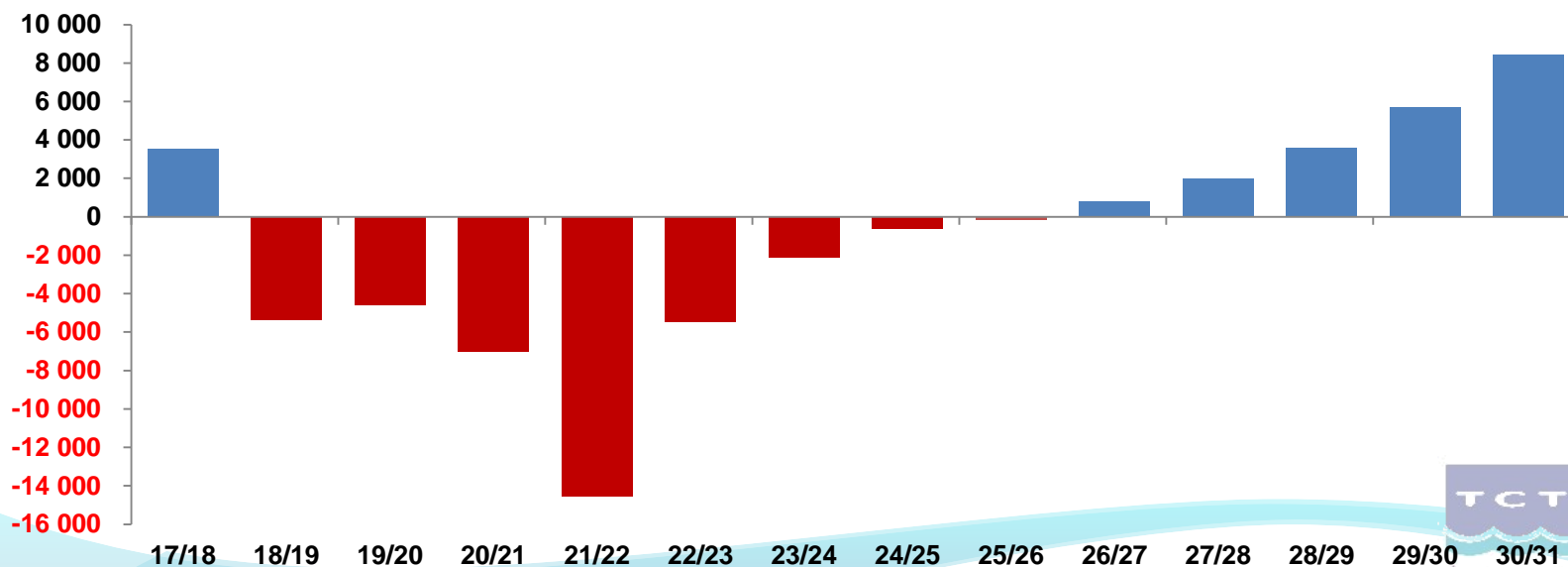
Liability Curve Projections (millions of rands)



TCTA's VRS Projects

Funding Requirement

	Opening Cash Balances	Vaal River Tariff Revenue	AMD Fiscal Transfers	Operating Costs	LHWP Capex	AMD Capex	Debt Service Costs	Funding Requirement
2018/19	3 132	4 846	454	-1 764	-1 884	-411	-10 005	-5 732
2019/20	100	5 352	1 037	-2 212	-3 991	-3 857	-915	-4 486
2020/21	100	5 615	2 645	-3 574	-4 902	-4 213	-2 571	-6 900
2021/22	100	6 034	2 782	-4 018	-4 137	-2 884	-12 346	-14 469
2022/23	100	5 738	2 863	-4 371	-3 029	-497	-6 178	-5 374
2023/24	100	6 052	2 947	-4 669	-2 322	-12	-4 145	-2 049
2024/25	100	6 557	3 036	-4 967	-840	-	-4 399	-513
2025/26	100	7 094	3 130	-5 286	-619	-	-4 483	-64
2026/27	100	7 659	3 230	-5 628	-105	-	-4 479	777
2027/28	777	8 249	3 336	-5 996	-	-	-4 421	1 945



VRS Funding Strategy: Update & Challenges

SOE Funding Environment

Last year we spoke about the challenging funding environment for SOEs



STATUS OF SA'S STATE OWNED ENTERPRISES MAY RESULT IN FURTHER LOSS OF FUNDERS

Futuregrowth shocked markets with plans to cut lending money to six state owned entities.



Bond issues in doubt as downgrade bites

Ratings downgrade knocks wind out of lively first quarter, as Sanral joins corporates in postponing auction

20 APRIL 2017 - 05:09 by KARL GERNETZKY AND HANNA ZIADY



Downgrade will have 'material impact' on SOEs ability to raise funding

10 MAY 2017 - 10:17 by LINDA ENSOR

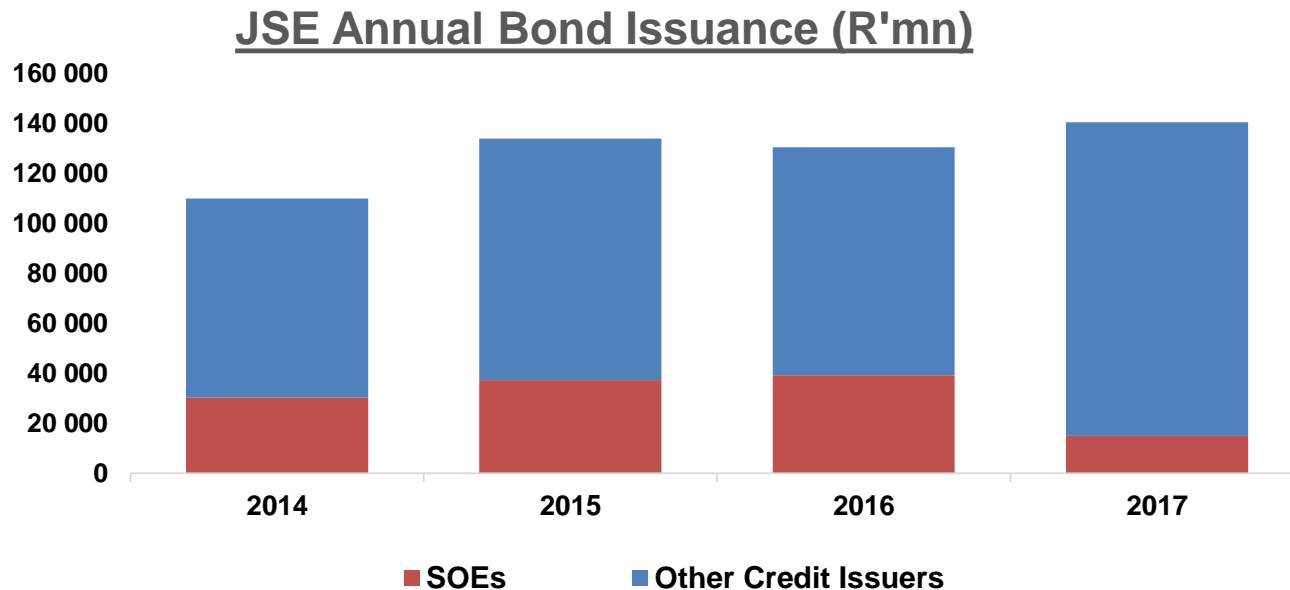


VRS Funding Strategy: Update & Challenges

SOE Funding Environment

This saw a collapse in SOE bond issuance on the JSE in 2017:

- SOEs issued less than half the volume of bonds they had issued in 2016 (R15.0bn against R39.2bn).
- SOE issuance is typically about 30% of total non-government, in 2017 it was 11% .



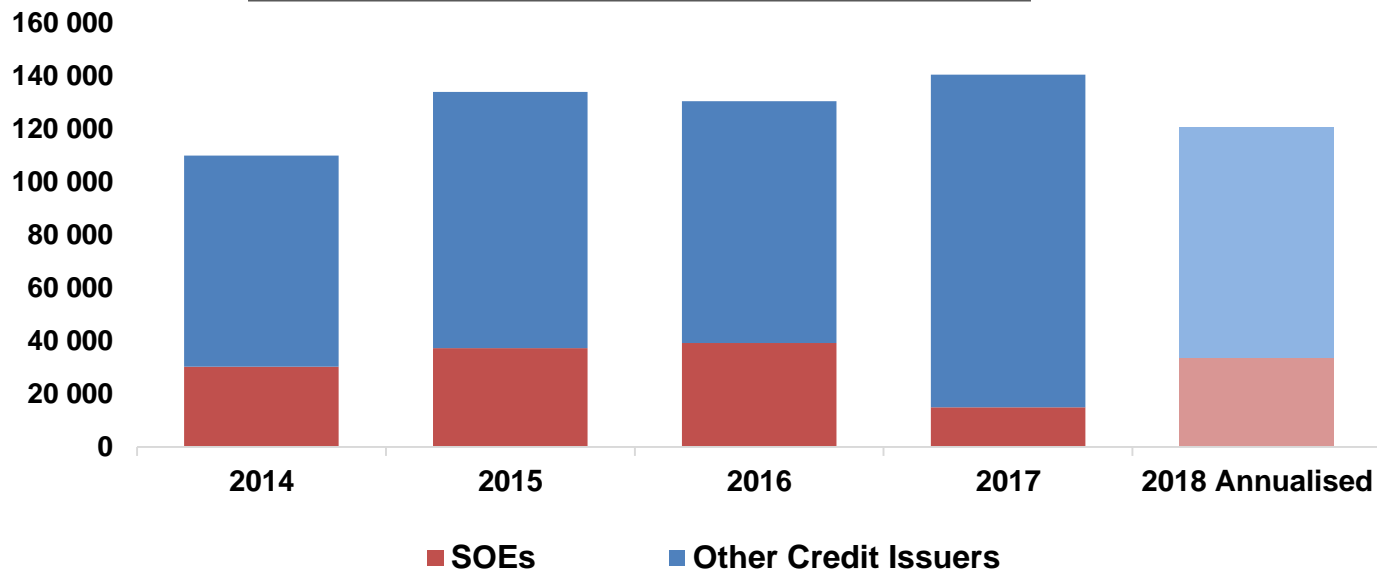
Data Source: RMB Global Markets Research

VRS Funding Strategy: Update & Challenges

SOE Funding Environment

The data for the first 4 months of 2018 suggest a significant improvement:

JSE Annual Bond Issuance (R'mn)



Data Source: RMB Global Markets Research

- SOE's JSE issuance is R11.2bn for Jan-Apr 2018, against R6.2bn for Jan-Apr 2017.
- On an annualised basis 2018 SOE issuance is R33.7bn for 2018, more than double 2017's issuance.

VRS Funding Strategy: Update & Challenges

SOE Funding Environment

- The data for the first 4 months of 2018 suggest an improvement:
- Investors are showing a greater willingness to buy fixed rate long term paper than in 2017.
- In 2017 3-5yr FRNs accounted for 53% of SOE issuance; the percentage so far in 2018 is 30%.

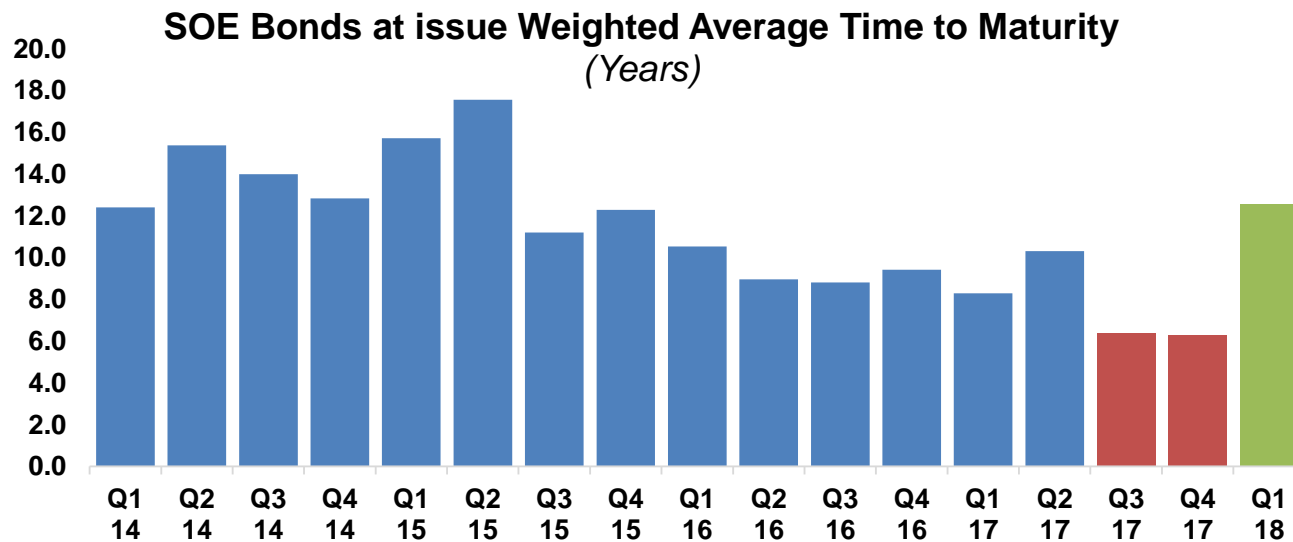
	2013	2014	2015	2016	2017	2018
Total Non-Govt Bond Issuance	110 732	110 185	134 173	130 675	140 708	40 267
of which FRNs comprise	65 727	58 611	55 790	78 104	110 213	30 184
FRNs %	59%	53%	42%	60%	78%	75%
Total SOE Bond Issuance	34 375	30 326	37 330	39 273	15 007	11 239
Of which FRNs comprise	8 397	4 990	2 563	5 974	7 968	3 339
SOE FRNs as % total	24%	16%	7%	15%	53%	30%

Data Source: RMB Global Markets Research

VRS Funding Strategy: Update & Challenges

SOE Funding Environment

- The data for the first 4 months of 2018 suggest an improvement:
 - Investors are showing a greater willingness to buy longer dated SOE paper.
 - The weighted average term to maturity of SOE bonds issued rose in Q1 2018 is 12.5 against 6.3 years for Q3 & Q4 2017.



Data Source: RMB Global Markets Research

Unfortunately, TCTA's experience has not been as sanguine.

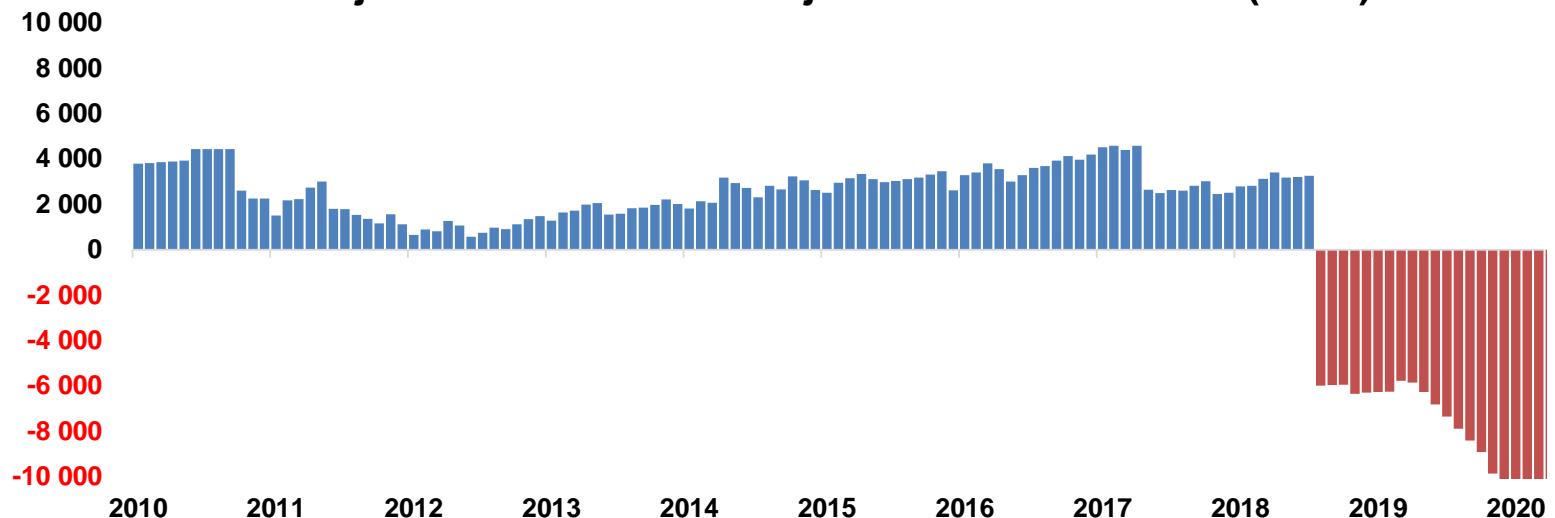
VRS Funding Strategy: Update & Challenges

TCTA's Funding Challenges

Background:

The upcoming WS05 redemption (R9.3bn on 1 August 2018) marks the point at which the VRS projects turn cash flow negative because of bond redemptions (particularly the WS05 and WSP5) and capital expenditure (until 2025).

VRS Projects Historical and Projected* Cash Balances (R'mn)



*Projected Cash Balances without Funding Interventions

The minimum refinancing requirement for the WS05 redemption is estimated at R6 billion.

VRS Funding Strategy: Update & Challenges

TCTA's Funding Challenges

• Background:

- TCTA has been waiting for finalisation of the new VRS Guarantee & the registration of a new DMNTN program since late 2016.
- The looming WS05 redemption necessitated a funding plan based on the current funding instruments:
 - the R4 billion, unlisted Commercial Paper Program and;
 - the R21 billion bond program
 - WSP3 – 9% May 2019
 - WSP4 – 9% May 2020
 - WSP5 – 9% 9% May 2021

VRS 2018 Short-term Funding Plan

(R'mn)

Instruments	Nominal Amounts
JSE Listed Bonds	
WSP3 (May 2019)	600
WSP4 (May 2020)	1 400
WSP5 (May 2021)	700
Total Bonds	2 700
Unlisted Commercial Paper	
3 year FRNs	1 000
5 year FRNs	2 900
Total FRNs	3 900
Total	6 600

VRS Funding Strategy: Update & Challenges

TCTA's Funding Challenges

Unfortunately, it proved difficult to get investor support for this funding program – the main reasons given for this were:

- **Unwillingness to invest in instruments issued under the old programme documents**
- **Discomfort with unfilled executive positions at TCTA**
- **Concerns about the Department of Water and Sanitation**

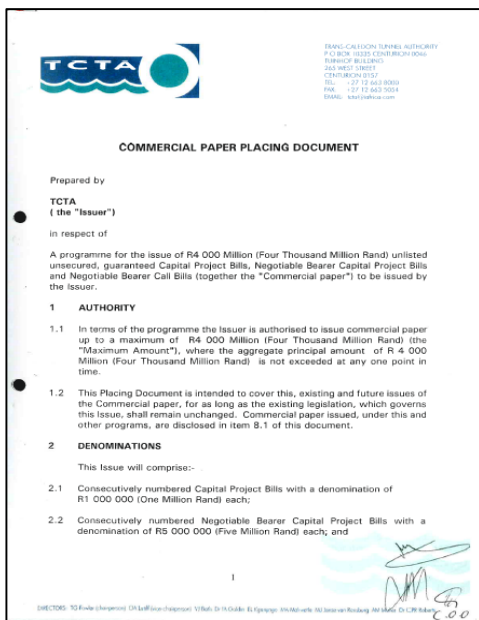
VRS Funding Strategy: Update & Challenges

Old Programme Documents

TCTA hasn't listed a new bond since October 2004:

- Result is that placing documents pre-date DMTN Programs

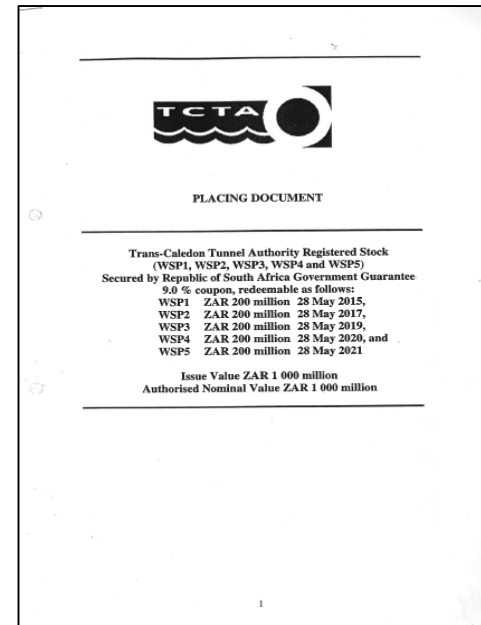
TCTA's Current Placing Documents



Commercial Paper
October 2000



WS05
October 2001



WSP1-WSP5
May 2003

VRS Funding Strategy: Update & Challenges

Old Programme Documents

In general investors felt that the old documentation and the old guarantees were inadequate:

- The guarantees were not clear as to the rights of noteholders & what would happen on default
- The documentation provided none of the investor protections of a DMTN Program

• We had anticipated these objections & sought to mitigate them by:

- Drafting addenda to the new DMTN that would allow noteholders of the old notes (the current bonds and CP) to join the new DMTN and guarantee
- Providing the draft of the new DMTN & Guarantee for investor information and comment.

Unfortunately, investors generally do not want the promise of better documentation in a couple of months time – they want it now.

VRS Funding Strategy: Update & Challenges

Old Programme Documents

Summary of Investor Comments on the Draft DMTN:

- **More Information Undertakings and Standardisation of the type of Information Noteholders should be given and when.**
 - Policies on Governance/Corruption/Conflicts of Interest.
 - Board disclosures: Changes in directors (with CVs), meeting attendance, performance monitoring etc
- **More Redemption Events to be Included in the DMTN:**
 - Governance Failures & Executive Criminality & Breaches (breaches of corruption etc policies), insufficiency of directors; loss of JSE listing; failure to observe financial covenants
 - Change of Control & Change of Executive Authority.
 - Material Change in Business
 - Failure to Maintain Financial Covenants
- **Stronger Covenants:**
 - Loan covenants to match LMA protections.
 - Material Change in Business
 - Failure to Maintain Financial Covenants

Our attorneys are engaged in redrafting the DMTN to include those investor comments/suggestions that we believe we are able to accommodate.

We will circulate the changes & responses to specific comments after drafting

VRS Funding Strategy: Update & Challenges

Unfilled Executive Positions

- **TCTA has not had a permanent CEO since October 2016**
 - There have been two Acting CEOs since then:
 - Mr Leonard Radzuma – TCTA’s Chief Risk Officer: October 2016-February 2018
 - Prof. Ola Busari – TCTA’s Chief Strategy Officer: February 2018-present
 - The responsibility for appointing CEO rests with board – the Minister has to concur
 - **Board had recommended an appointment early in 2018 – the minister appears not to have concurred and the process had to be restarted.**

VRS Funding Strategy: Update & Challenges

Impact of DWS Financial Problems

The Department of Water and Sanitation's bad financial position is topical



Water and Sanitation dept's financial management in disarray, portfolio committee hears

2018-03-27 17:46

Melanie Gosling, Correspondent

news24

The Department of Water and Sanitation's financial management systems are in disarray with cases of double invoicing, inflated payments to consultants, abuse of procurement processes and irregular expenditure for the department and water boards of R4.5bn in the last financial year.

This emerged during a briefing on Tuesday by the Auditor-General (AG) and the national Treasury to Parliament's Portfolio Committee on Water and Sanitation and the Standing Committee on Public Accounts.

The special investigating unit (SIU) also briefed the committee, but this was done in camera in order not to jeopardise any possible criminal cases in the future.

One of the primary reasons for the department's financial mess was the high turnover rate of



BusinessDay

NATIONAL POLITICS COMPANIES ECONOMY BUSINESS

Parliament to crack the whip as crisis engulfs water department

08 MAY 2018 - 06:12 by BEKEZELA PHAKATHI



Nomvula Mokonyane. Picture: VELI NH-LARQ/SOWETAN

Parliament is forging ahead with plans to get to the bottom of the crisis engulfing the Department of Water and Sanitation.



Water dept is in 'shambles', admits Nkwinti after taking over from Mokonyane

2018-05-02 19:19

Melanie Gosling, Correspondent

news24

Water and Sanitation Minister Gugule Nkwinti conceded to MPs that the department he had inherited earlier this year from Nomvula Mokonyane is "a mess".

At a briefing on the department's budget and strategic plan, presented to the parliamentary Portfolio Committee on Water and Sanitation on Wednesday, MPs grilled officials and the minister on how they were going to put things right in a "collapsed department".

Nkwinti assured MPs that he had a plan to deal with the problems.

"Let's not be too locked in the past. We have a very difficult situation, let's correct it. I have got only 12 months here. I am going to deal with it. We have to try to do the best we can to sweep the floor of the debris," Nkwinti said.



Water and Sanitation Minister Gugule Nkwinti. (GCS)

Multimedia · User Galleries · News in Pictures



ANA



Former water and sanitation minister Nomvula Mokonyane. Picture: Nigel Sibanda

The office of the auditor-general told parliament the irregular expenditure was now R2.4 billion higher than the R4 billion initially disclosed.

The department of water and sanitation (DWS) has hit out at reports that irregular expenditure had rocketed to over R6 billion, saying such figures were premature as the auditing process had not yet been completed.

The office of the auditor-general today told parliament that irregular expenditure at the department of water and sanitation had risen to R6.4 billion.

The AG's office said that the irregular expenditure at the department was significantly high around 2014/15 and 2016/17 financial years, and was now R2.4 billion higher than the R4 billion that was initially disclosed.

Andries Sekgetho of the AG's office told MPs that the R2.4 billion had not been disclosed by the department.

However, in a statement, the DWS said that it would like to put it on record that the financials that would have indicated

VRS Funding Strategy: Update & Challenges

Impact of DWS Financial Problems

The risks to TCTA are obvious – the Department is TCTA's only client

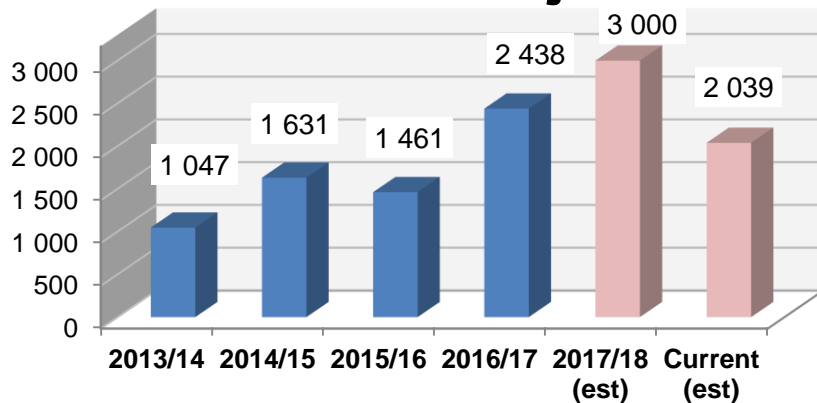
Annexure A - Fiscal Risk Statement of the 2017 MTBPS says (p55):

Trans-Caledon Tunnel Authority

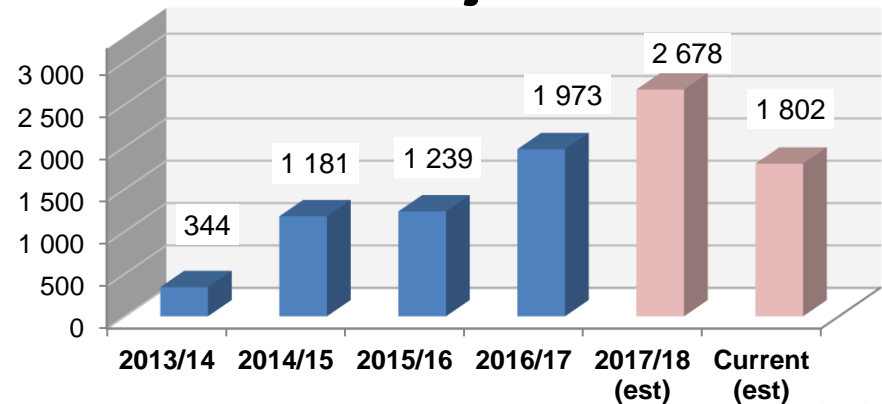
Government has issued a R25.7 billion guarantee to the TCTA. The agency relies on payments from the Department of Water and Sanitation's Water Trading Account to settle obligations with lenders. Weak financial management at the department threatens the ability of the TCTA to meet its commitments, raising the likelihood of a call on the guarantee. In the long term, government's ability to deliver water infrastructure could be compromised.

DWS Accounts Receivables (R'mn)

All TCTA Projects



VRS Projects



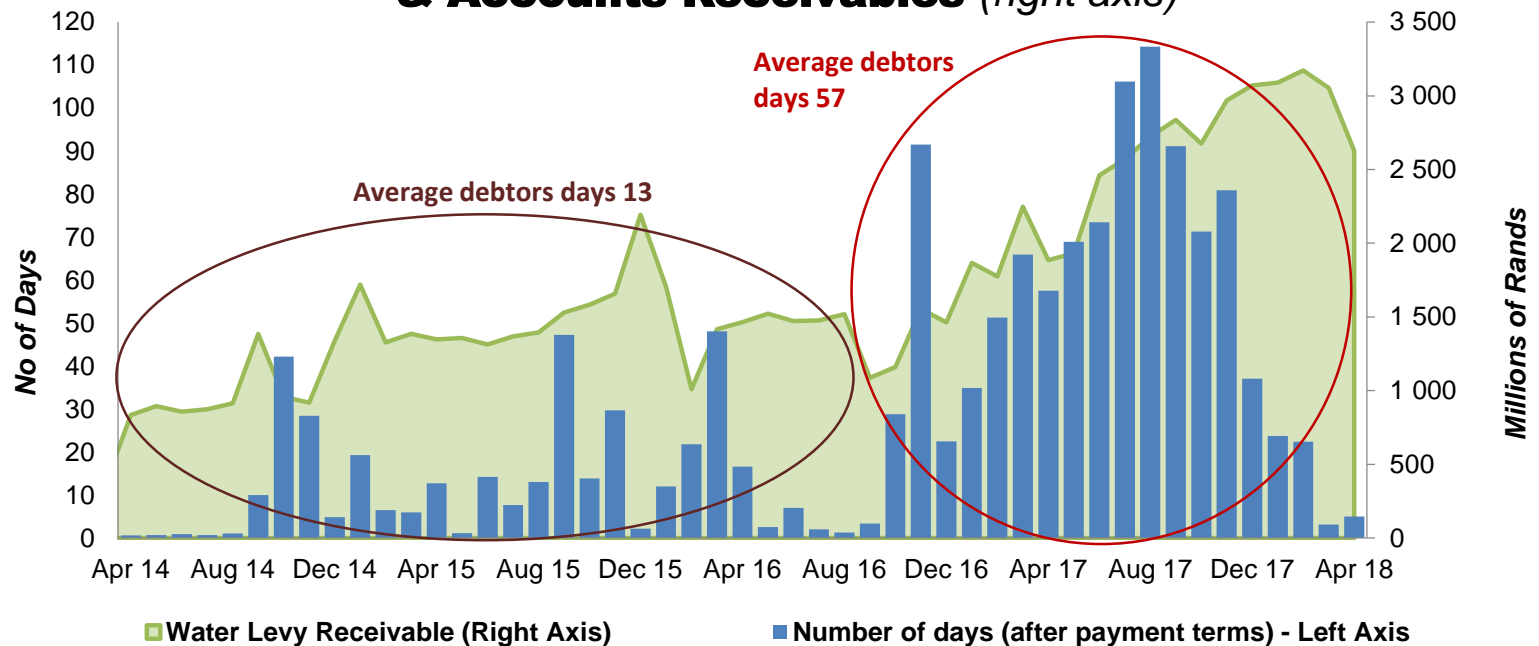
VRS Funding Strategy: Update & Challenges

Impact of DWS Financial Problems

Since October 2016 DWS pays invoices about 2 months (57 days) after payment terms (i.e. 3 months after presentation of invoice) –

Pre October 2016 invoices were paid about 13 days after due date (i.e. one & a half month after presentation of invoice)

Weighted Average Debtors Days (left axis) & Accounts Receivables (right axis)



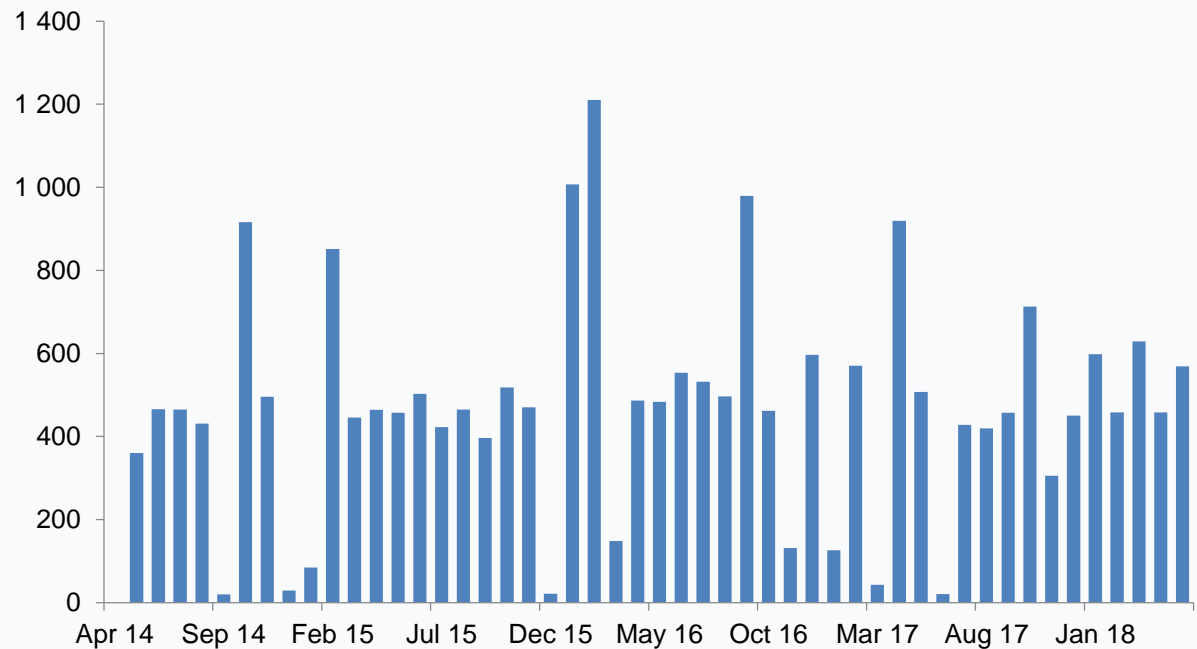
VRS Funding Strategy: Update & Challenges

Impact of DWS Financial Problems

However, it's important to note that payments still occur on a regular basis

Monthly Tariff Receipts from DWS (R'mn)

Jan 2017	126
Feb 2017	571
Mar 2017	43
Apr 2017	919
May 2017	507
Jun 2017	21
Jul 2017	428
Aug 2017	419
Sep 2017	457
Oct 2017	713
Nov 2017	305
Dec 2017	450
Jan 2018	598
Feb 2018	458
Mar 2018	629
Apr 2018	458
May 2018	569



VRS Funding Strategy: Update & Challenges

Impact of DWS Financial Problems

The resolution of the Accounts Receivables matter is one of the issues – along with the finalisation of the Guarantee – that await the attention of the Ministers of Water & Sanitation and Finance.

Accounts Receivables Summary:

Project	Last Payment Received			Last Invoice Issued		Current Accounts Receivables		
	Invoice Period	Date Received	Amount	Invoice Period	Date Issued	Current Outstanding	Weighted Average Days	No of Months
VRS	Dec 2017	11 May 18	437 939 636	Mar 2018	25 Apr 18	1 802 212 056	33.3	4
BWP	Mar 2018	30 Apr 18	19 975 610	Apr 2018	10 Apr 18	16 617 915	5.0	1
VRESAP	Feb 2018	4 May 18	41 066 543	Mar 2018	12 Apr 18	126 287 585	49.7	3
MMTS-2	Feb 2018	4 May 18	19 147 937	Mar 2018	6 Apr 18	43 390 605	92.3	2
KWSAP	Feb 2018	7 May 18	11 290 978	Mar 2018	9 Apr 18	23 225 947	60.0	2
MCWAP	Mar 2018	4 May 18	25 236 830	Apr 2018	10 Apr 18	26 834 004	5.0	1
All TCTA	-	-	-	-	-	2 038 568 112	35.3	4

VRS Funding Strategy: Update & Challenges

Ongoing Interventions

We're working with attorneys to amend the DMTN to reflect investor inputs.

We're engaging with National Treasury and DWS on the outstanding Guarantee and the DWS Accounts Receivables matter.

We have moved up our procurement of Revolving Credit and Term Loans so that there is a Plan B if the DMTN Process is not concluded on time/market sceptism continues.

We are investigating issuing an inflation-linked bond to replace the WS05 – to improve the chances of market demand for the volume of issuance we are hoping to do in June/July 2018.

ANNEXURES

- **What is TCTA?**
- **TCTA's Governance and the Regulatory Environment**
- **Why TCTA Receives Government Guarantees**

What is TCTA, what does it do?

Who are we?

- TCTA is a Schedule 2 PFMA, State-Owned Entity. But it is not a corporate entity. There's no TCTA Balance Sheet.
- It is Non profit-making, it has no reserves and it operates on a cost recovery/break-even basis.
- It reports to the Minister of Water and Sanitation (quarterly as per the PFMA) and to Parliament.
- Established in 1986, by Notice 2631 in Government Gazette No. 10545, dated 12 December 1986 (“Notice of Establishment”), to finance and build Delivery Tunnel North of the Lesotho Highlands Water Project (“LHWP”).
- In 1994 its Mandate was expanded to include undertaking the financial obligations (in terms of the Treaty) of RSA on LHWP.

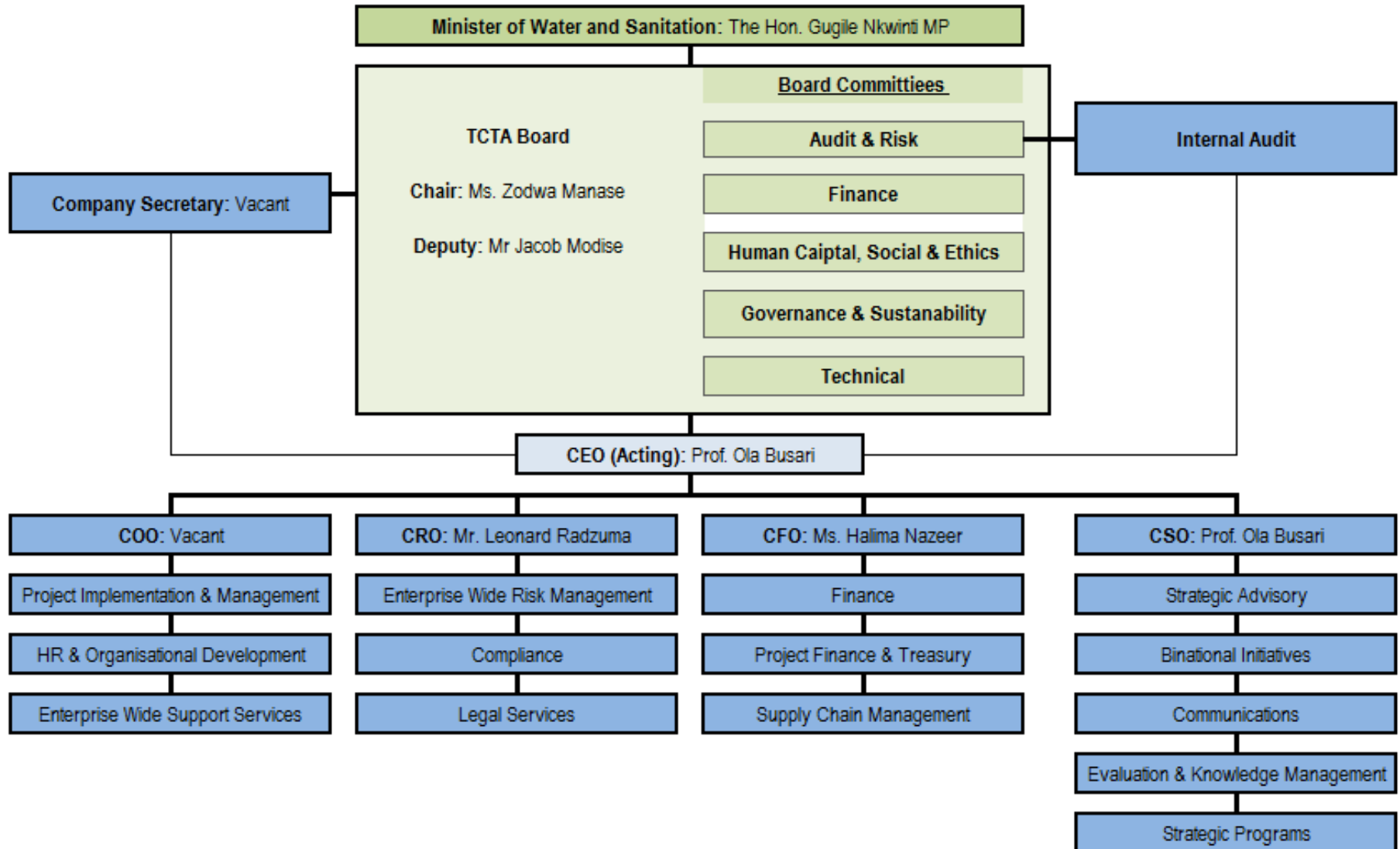
What is TCTA, what does it do?

Who are we?

- In March 2000, the Notice of Establishment was amended by Notice 277 in Government Gazette No. 21017, to allow for Minister of Water Affairs to issue additional water infrastructure directives to TCTA in terms of Section 103(2) of the National Water Act (Act No. 36 of 1998).
- Since then further mandates have been received to implement:
 - *Berg Water Project (BWP); directive received in 2002*
 - *Vaal River Eastern Sub-System Augmentation Project (VRESAP): 2004*
 - *Mooi-Mgeni Transfer Scheme-Phase 2 (MMTS-2): 2008*
 - *Komati Water Scheme Augmentation Project (KWSAP): 2008*
 - *Mokolo Crocodile River (West) Water Augmentation Project (MCWAP): 2010*
 - *Acid Mine Drainage on the Witwatersrand Goldfields Short-Term Intervention (AMD STI): 2011*
 - *Acid Mine Drainage on the Witwatersrand Goldfields Long-Term Solution (AMD LTS): 2016*

What is TCTA, what does it do?

Governance Structure & High Level Organogram



What is TCTA, what does it do?

Governance Structure: TCTA's Board

Name	Other Responsibilities & Boards	Qualifications
Ms. Zodwa Manase CA(SA) Board Chairperson Chair Risk & Finance Committee <i>(African, Female)</i>	Current Position: CEO (Manase & Associate) Other Directorships: Nelson Mandela Children's Hospital Trust Fund PRASA State Diamond Trader Department of International Relations and Cooperation (Audit Committee Chairperson)	BCom; B Compt (Hons) (UNISA); HDipTax (KwaZulu Natal); CA(SA);
Mr. Jacob Modise CA(SA) Deputy Chairperson, Chair Audit Committee <i>(African, Male)</i>	Current Position: Executive Chairman (Batsomi Investments) Other Directorships: NERSA ArcelorMittal Altron Nelson Mandela Children's Fund (Trustee)	BCom, BAcc; MBA (Wits), CA(SA); AMP (Stanford); AMP (Harvard)
Ms. Tshepiso Moahloli National Treasury Representative <i>(African, Female)</i>	Current Position: Chief Director Liability Management – National Treasury Other Directorships: None	BSc; BEconSci (Hons); MEconSci (Wits);
Mr Satish Roopa Chair HR Committee <i>(Indian, Male)</i>	Current Position: Owner (S Roopa Consultants) Other Directorships: Gautrain Management Agency iDimangaliso Wetland Park Authority	B.Luris, LLB (UNISA); M.Phil (Stell); Cert in Executive programme for Leaders in Government (Harvard); Cert in Negotiating International Contracts & Development Finance (UCT); Cert in Transformation of Institutes of Higher Education (Stell)

What is TCTA, what does it do?

Governance Structure: TCTA's Board

Name	Other Responsibilities & Boards	Qualifications
Mr. Simphiwe Kondlo <i>(African, Male)</i>	Current Position: CEO (East London Industrial Development Zone) Other Directorships: Buffalo City Development Agency Johannesburg Water	Dip Civil Eng (DUT); BSc Agric. Eng (KZN); Masters in Engineering Management (Pretoria)
Ms. Sijabulile Makhathini CA(SA) <i>(African, Female)</i>	Current Position: Founding Director (Ubambo Consulting) Other Directorships: Health Professional Council of South Africa National Library of South Africa - Audit and Risk Committee Gauteng Department of Health - Audit Committee National Department of Economic Development -Audit Committee Mpumalanga Tourism and Parks Agency	BCom (Wits); PGDip in Accounting Science; CTA; BAS(Hons) (Unisa); CA(SA)
Dr. Michael Ellman <i>(Coloured, Male)</i>	Current Position Executive Director (Siyadingana Consulting (Pty) Ltd) Other Directorships: Advisory Board, Department of Chemical Engineering University of Pretoria (honourary) Bloem Water SABS	BSc (Hons)(Chem Eng) (UCT); MSc (ChemEng) (Netherlands); MBA (Wits); Doctorate of INPL (Ecole Nationale Supérieure des Industries Chimiques, Nancy France)
Mr. Muziwandile Chonco <i>(African, Male)</i>	Current Position: Executive (Anheuser-Busch InBev, Africa Zone) Other Directorships: Trustee (SAB Provident Fund) National Business Initiative	BSc (Hons)(Hydrogeology)(UWC) PDBA; MBA (GIBS)

What is TCTA, what does it do?

Governance Structure: TCTA's Executive Management

Name	Position	Qualifications
Mr. Leonard.Radzuma <i>(African, Male)</i>	Chief Executive Officer (Acting)	BCom (Venda); MBL (Unisa)
Ms. Halima Nazeer CA(SA) <i>(Indian, Female)</i>	Chief Financial officer	BCom (Wits), BCompt (Unisa), CA(SA) EDP (Stell)
Mr. Leonard.Radzuma <i>(African, Male)</i>	Chief Risk Officer	BCom (Venda); MBL (Unisa)
Prof. Ola Busari <i>(African, Male)</i>	Chief Strategy Officer	BSc Eng (Civil) (Lagos); MSc Eng (Hydro Geology); PhD Water Resource Management (Ibadan); MBA (Henley) Advanced (Env) Isotopes Program (Chicago)
Mr. Nhlanhla Nkabinde <i>(African, Male)</i>	Executive Manager: Project Finance & Treasury	BSc Eng (Electrical & Electronic) (UCT); MSc Eng (Waterloo Ontario) Post Graduate Course in Mathematics & Finance (Wits)
Ms. Johan Claasens CA(SA) <i>(White, Male)</i>	Executive Manager: Project Management & Implementation	BCompt (Free State); BCompt (Hons) (Unisa); CA(SA) EDP (Stell)
Ms. Hanje Botha <i>(White, Female)</i>	Executive Manager: Human Resource Management & Organisational Development	BA Economics & Geography; BA (Hons) GIS (Stell); MPhil Professional & Leadership Coaching (Middlesex) Development Program (Pretoria – GIBS)
Mr. Lindani Gumede <i>(African, Male)</i>	Executive Manager: Enterprise Wide Support Services	National Diploma in Information Technology

What is TCTA, what does it do?

Regulatory Environment: The National Pricing Strategy for Raw Water

The Water Pricing Strategy is set out in “A Pricing Strategy For Raw Water Use Charges”, Notice No 201, Government Gazette No 29697, 6 March 2007.

- It sets out government policy for the pricing of water use in terms of the National Water Act (Act no 36 of 1998).
- Contains objectives, methodology and implementation strategy for setting water use charges for purposes of:
 - funding water resource management;
 - funding water resource development;
 - achieving equitable and efficient allocation of water; and
 - providing for a differential rate for waste discharges.

What is TCTA, what does it do?

Regulatory Environment: The National Pricing Strategy for Raw Water

The Strategy provides for the following water charges under these different circumstances:

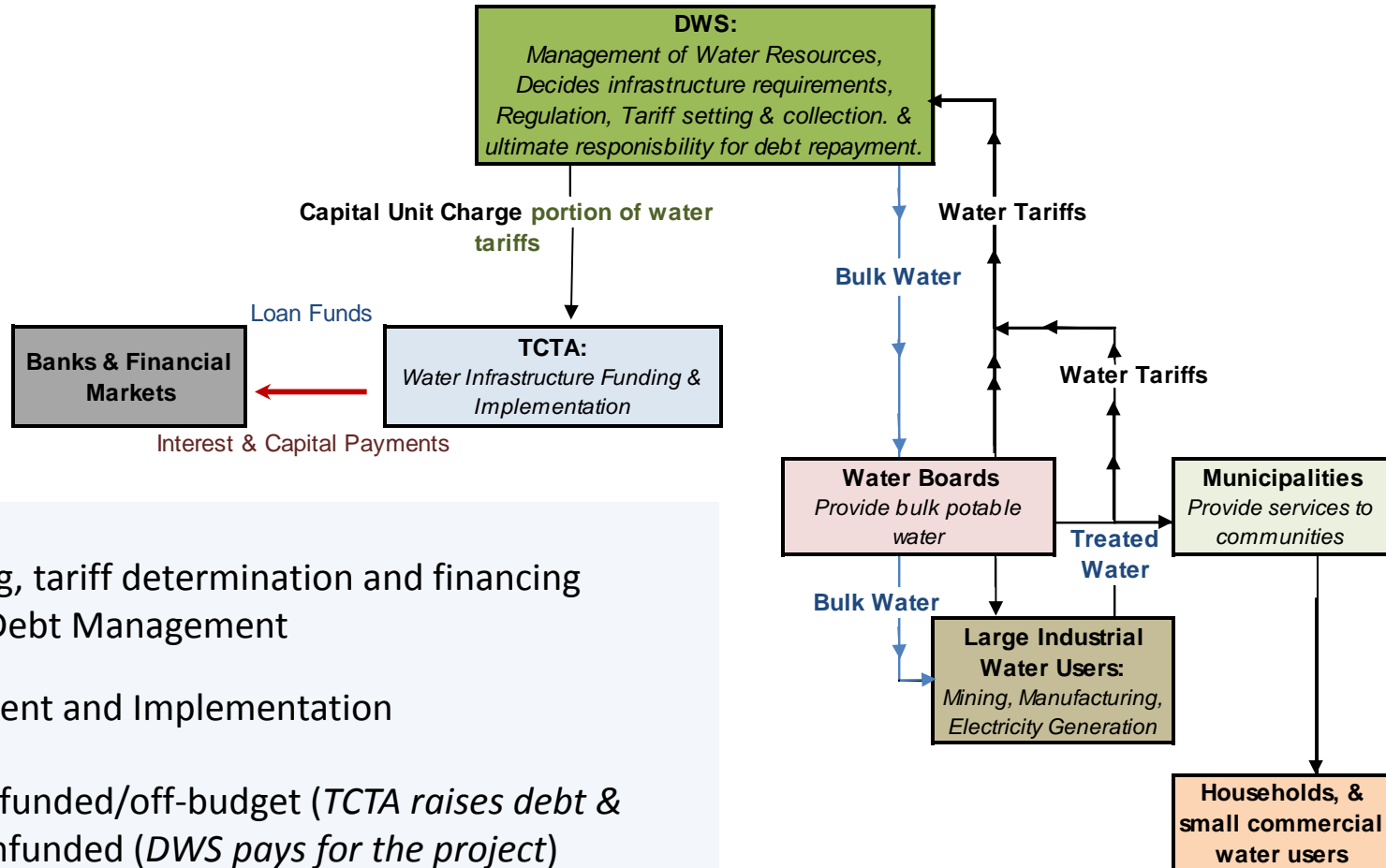
Water Charges that apply under different circumstances	Existing Schemes	New Projects		
	Fiscally Funded or where off Budget debt has been repaid	Fiscal (government) Funding	Initially Funded by Government then recouped from end users	Off-Budget Funding
Operations and Maintenance (O&M)	Yes	Yes	Yes	Yes
Depreciation	Yes	Yes	No	No
Refurbishment	No	No	Yes	Yes
Return on Assets (ROA)	Yes	Yes	No	No
Water Resource Development Charge (WRDC)	Yes	No	No	No
Betterment	No	No	Yes	Yes
Capital Unit Charge (CUC)	No	No	Yes	Yes

Source: "A Pricing Strategy For Raw Water Use Charges", Notice No 201, Government Gazette No 29697, 6 March 2007, page 18.

TCTA implements Government Water works and receives a Capital Unit Charge to repay the debt and meet its costs.

What is TCTA, what does it do?

TCTA's Place in the Water Supply Value Chain



- Project structuring, tariff determination and financing arrangements & Debt Management
- Project Management and Implementation
- Mandates can be funded/off-budget (*TCTA raises debt & implements*) or unfunded (*DWS pays for the project*)

What is TCTA, what does it do?

Summary: What does TCTA do

- **TCTA borrows funds to implement off-budget bulk water projects for the department**
 - The Projects implemented by TCTA are Government Water works (i.e. the infrastructure belongs to the state, not to TCTA).
 - and receives a Capital Unit Charge to repay the debt and meet its costs.
 - TCTA's asset is the right to receive the CUC.
- **Projects are strictly ring-fenced**
 - Each has its own financial assets & liabilities.
 - No cross-funding is allowed.
 - It can happen that one project has large cash surpluses while another has a deficit – funds cannot be transferred from surplus project to the deficit project.
- **Only a Directive from the ministers of Water & Sanitation (with the concurrence of the Minister of Finance) can change this**
 - For instance in April 2014 the Minister directed that the short term solution to AMD – previously funded by direct transfers from the fiscus – be funded through LHWP, with the tariff to be adjusted accordingly to recover the funds from the Vaal River users.
- **Borrowing Limits**
 - Debt must remain within DWS and National Treasury approved borrowing limits.

Government Guarantees

Why does TCTA receive Government Support?

In the popular narrative government guarantees have lately been associated with financial and operational inefficiencies at SOEs – so this is an important question to answer.

TCTA has government support both as a legal requirement and because it funds and implements infrastructure on behalf of DWS.

TCTA Receives Government Support:

- 1. For LHWP as a consequence of the Lesotho Highlands Water Project Treaty - Subsection 6 of Article 11 – “Financing Arrangements” of the Treaty states:**

(6) South Africa shall, with respect to all loans, credit facilities or other borrowings procured by the Lesotho Highlands Development Authority or the Trans-Caledon Tunnel Authority for the implementation, operation and maintenance of that part of the Project relating to the delivery of water to South Africa, provide such guarantees as the lenders of such loans, credit facilities or other borrowings, may require.

- The LHWP guarantees for bonds and Commercial Paper are currently R25 billion
- In April 2014 National Treasury agreed a joint guarantee of R43 billion for LHWP, AMD STI and AMD LTS (*Jointly the Vaal River System Water Resources Development Projects (VRS)*)
- The documentation for this new guarantee is being finalised with the new VRS Programme Memorandum.

Government Guarantees

Why does TCTA receive Government Support?

- The second form of Government Support (sometimes called “Implicit Guarantees” to distinguish them from the LHWP guarantees, even though they’re quite explicit) is contained in the Implementation Agreements between TCTA and DWS for the other projects.

These make it clear that TCTA is the implementation agent for DWS in these projects but DWS retains all the risk:

RISK	METHOD
Construction risk – design, delay etc.	Liquidated damages, insurance, performance bonds and retentions. Project failure is ultimately DWS risk
Revenue collection	Off taker default is DWS risk – TCTA is entitled to CUC from DWS regardless
Yield of the system	Tariff trigger – TCTA is entitled to request a tariff that will repay debt on time
Demand risk	Tariff trigger – TCTA is entitled to request a tariff that will repay debt on time

This is because:

- Government (DWS) retains ownership of the Infrastructure; and
- TCTA has no balance sheet, profit or reserves and is thus in no position to shoulder the risk.

Government Guarantees

Why does TCTA receive Government Support?

IMPLEMENTATION AGREEMENT FOR
THE AUGMENTATION OF
THE VAAL RIVER EASTERN SUB-SYSTEM

ENTERED INTO BETWEEN

THE DEPARTMENT OF
WATER AFFAIRS AND FORESTRY

AND

TRANS-CALEDON TUNNEL AUTHORITY

8. INCOME

8.1 VRESAP Water User Tariffs

- 8.1.1 The purpose for establishing the VRESAP Water User Tariffs is, *inter alia*, to ensure the recovery of the VRESAP Costs from DWAF within a payment period of 20 (twenty) years. TCTA shall calculate the VRESAP Water User Tariffs in accordance with the principles described in Annexure E.
- 8.1.2 The VRESAP User Tariffs shall be levied by DWAF on the USERS in terms of the VRESAP Water Supply Agreements and paid to TCTA in terms of this Agreement. The VRESAP Water User Tariffs shall be applied to the Outstanding Amount in accordance with the terms of this Agreement and allocated in terms of Annexure E.
- 8.1.3 Failure on the part of DWAF to timeously pay the VRESAP Water User Tariffs shall entitle TCTA to recover against DWAF the amounts outstanding, plus interest.
- 8.1.4 TCTA shall advise DWAF forthwith once the Outstanding Amount has been fully redeemed and TCTA's financial obligations have been met in terms of all contracts that it has entered into to perform its obligations as contained in this Agreement; whereafter TCTA's rights to the payments of the VRESAP Water User Tariffs shall terminate.
- 8.1.5 DWAF shall ensure that provision is made for the inclusion of the VRESAP Water User Tariffs when water use tariffs are made in accordance with the Act and any pricing strategy for water use tariffs established by the Minister from time to time. In the event that the tariffs calculated in accordance with section 57 of the Act are less than the VRESAP Water User Tariffs determined in accordance with clause 8.1.1 above, DWAF shall be responsible for ensuring that TCTA is sufficiently funded to enable it to repay the Outstanding Amount in accordance with 8.1.1 above.
- 8.1.6 In the event that all or any of the VRESAP Water Supply Agreements between DWAF and the USERS are or is terminated prior to the redemption of the Outstanding Amount and no further payments are received by DWAF from the USERS, DWAF shall continue to pay TCTA the VRESAP Water User Tariffs as if the VRESAP Water Supply Agreement had not been terminated by either DWAF or the USER until the Outstanding Amount is repaid in full.

Thank you

Questions

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