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- “ Established May 2017
- “ Aims to provide guidance, support, oversight of progress made by municipal sector to reduce their water demand in order for Rand Water to comply with the abstraction limit of 1600 Mm<sup>3</sup>/annum until next phase of Lesotho Highlands Scheme
- “ Measuring the performance of municipalities against their respective license target on a monthly basis
- “ Reporting at the IVRS Project 1600 WDM Committee on a quarterly basis

RAMP WATER MAINLINE CUSTOMER DEMAND TARGETS-OVERALL														
Asset Labels	NORMAL TREAT (MG/D/ST)	SEWAGE TREAT (MG/D/ST)	ACT AVERAGE 2016	ACT AVERAGE 2017	ACT AVERAGE 2018	NORMAL (MG/D/ST)	ACTUAL (MG/D/ST)	WATER TREAT (MG/D/ST)	2018 WY Customer Demand (MG/D/ST)	Actual volume over 2018 WY Customer Demand (MG/D/ST)	Actual volume % over 2018 WY Customer Demand			
											Target			
0000 Interconnecting Total	1,037	1,021				1,250	1,250							
0000 Interconnecting Total	1,037	1,021				1,250	1,250							
0002 Wastewater Total	355	355				1,250	1,250							
0002 Inter-plant Total	15	240				1,250	1,250							
0002 Wastewater Total	15	240				1,250	1,250							
0002 Interconnecting Total	30	40				1,250	1,250							
0002 Interconnecting Total	30	40				1,250	1,250							
0002 Wastewater Total	18	65				1,250	1,250							
0002 Interconnecting Total	24	45				1,250	1,250							
0002 Wastewater Total	12	40				1,250	1,250							
0002 Interconnecting Total	28	40				1,250	1,250							
0002 Wastewater Total	28	40				1,250	1,250							
0002 Wastewater Total	20	20				1,250	1,250							
0002 Wastewater Total	5	6				1,250	1,250							
0002 Wastewater Total	12	13				1,250	1,250							
0002 Wastewater Total	24	24				1,250	1,250							
0002 Wastewater Total	1	3				1,250	1,250							
0002 Wastewater Total	21	21				1,250	1,250							
Grand Total	1,000	1,000	0.00	0.00	0.00	1,250	1,250	1.04	1.04	20.0%				

*\*Targets provided in September 2017*



### Scientific basis for targets – WUE model



**RAND WATER**

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## Performance monitoring

- “ Provide consumption in relation to license target in monthly spreadsheets - continuous improvement
  - Bulk meters zones (linkage of meters working in a cluster)
  - Depots/Regions
  - Municipality
- “ Determine and rank deviations from license target
- “ Assess the causes for deviations with target
  - Meter or reading . request to BWD to investigate
  - Engagement with customers . in accordance with plan . correlate performance to incidences or initiatives reported by municipalities
  - Compare MNF - available data
  - Request to municipalities to develop action plans
  - Rand Water to consolidate action plans for the region
  - Report, share, and monitor progress at quarterly forum

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## Perceived value – Customer survey 2017/2018

	2009 n=134	2010 n=69	2011 n=119	2012 n=152	2013 n=10	2014 n=11	2015 n=69	2016 n=48	2017 n=83	2018 n= 20	Change
Overall Water Demand Management Index Score	83.6	84.7	82.9	84.3	74.3	88.7	79.4	85.4	80.0	88.7	8.7
Management of Rand Water's own water losses in bulk pipelines (reticulation)	82.7	86.9	80.7	82.1	77.3	89.1	80.6	-	-	-	-
Advice given to customers on principles and best practice for water demand management (e.g. through technical forums/meetings)	84.7	84.3	83.7	84.2	68.4	90.0	80.1	85.8	82.0	87.5*	5.5
Value of water use efficiency assessments for municipalities in Rand Water's Area of Supply*										86.3*	-
Communication of supply targets provided per municipal bulk meter to reduce demand in order for Rand Water to comply with abstraction limit of 1600 million cubic meters per annum*										90.5*	-
Confidence in Rand Water for monitoring municipalities performance against the 1600 million cubic meters license target*										89.0*	-
Perceived value of the IVRS Project 1600 regional committee meetings to assist municipalities with improving efficiency in water use*										92.6*	-
Understanding of Rand Water's overall Water Conservation and Demand Management Strategy for the Area of Supply*										88.4*	-
Rand Water's Overall Water Demand Management	83.6	82.8	84.1	86.5	77.2	87.1	80.0	85.0	78.0	86.3*	8.3

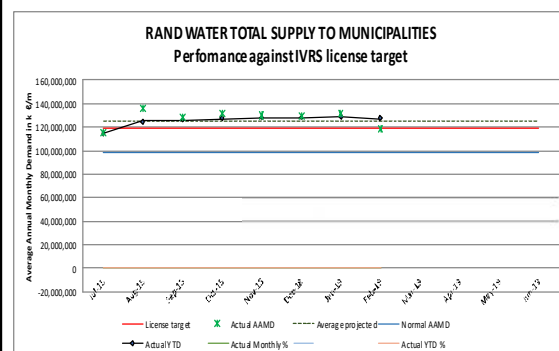
Note.

\* This rating is based on 20 responses.

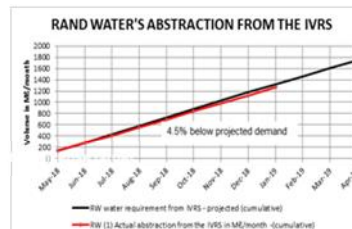
\* This rating is based on 19 responses.

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## PERFORMANCE OF MUNICIPALITIES AGAINST IVRS LICENSE TARGETS



Current abstraction from IVRS



Abstraction for operating year 2017/2018



with which the Actual AAMD exceed or is less than license target

Projected Avg 2018	5%					
Jul 18	-3%	Oct 18	10%	Jan 19	11%	Apr 19
Aug 18	14%	Nov 18	10%	Feb 19	0	May 19
Sep 18	8%	Dec 18	9%	Mar 19		Jun 19
Avg YTD	7%					

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## Current status

- Participation and attendance to quarterly forum . Good in some municipalities- 9 of 17 attends regularly
- WDM Action plans . presented quarterly at forum
- Impact/Progress - Mixed performance.
  - 2 of the top 6 municipalities . good performance
  - Only one metro that has made progress towards achieving license target.
  - The municipalities that performed well . has generally maintained it in current year
  - Municipalities with own sources . failure to supply from own systems places untimely strain on RW systems . main contributory factors for the poorer performance (7% above license target in current year) compared to previous year (4% above license target).
  - Smaller municipalities . status quo remained-those that exceeded target continue to exceed . even more

% with which the cumulative AAMD exceed or is less than the licence target

(Year-to-Date)\*

Year ending	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
June 2018	17%	6%	15%	16%	17%	18%	18%	19%	18%			
	-11%	-17%	-5%	-5%	-4%	-4%	-4%	-4%	-5%			
	4%	3%	13%	15%	16%	17%	17%	18%	18%			
	7%	-4%	6%	9%	11%	11%	12%	14%	14%			
	-27%	-34%	-23%	-21%	-19%	-18%	-17%	-17%	-16%			
	-9%	-22%	-24%	-15%	-12%	-9%	-6%	-5%	-7%			
	24%	21%	32%	32%	33%	35%	34%	34%	32%			
	-1%	-35%	-30%	-26%	-25%	-25%	-24%	-23%	-23%			
	7%	7%	17%	19%	21%	23%	24%	25%	24%			
	-4%	-30%	-24%	-23%	-23%	-23%	-22%	-21%	-21%			
	-36%	-27%	-24%	-24%	-25%	-25%	-25%	-25%	-25%			
	-25%	-27%	-20%	-20%	-20%	-20%	-20%	-20%	-20%			
	20%	1%	15%	14%	18%	17%	17%	19%	17%			
	84%	69%	97%	82%	75%	60%	50%	45%	38%			
	32%	72%	91%	91%	88%	88%	87%	85%	84%			
	15%	14%	26%	23%	25%	29%	36%	40%	42%			
	14%	0%	7%	5%	5%	4%	3%	2%	0%			
	4%	-3%	5%	8%	7%	8%	8%	8%	7%			

\*Demonstrative, in no particular order

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## Aspects for consideration

### “ Issues to note (from feedback/reports at Project 1600 forum) .

- Water demand management strategy and programme is in place in larger municipal customers, but lacking in the smaller ones.
- Where considerable budget allocations are available for WDM ( it is mainly pipeline replacement)
- Priority areas identified through Project 1600 . Where verification/confirmation, detailed assessments and implementation of the appropriate measures are done . this is reflected in the performance.
- Confirmed high leakage levels- High MNF in zones measured (ranging 50% - 90%)
- Typical measures are implemented that are not specific to the priorities identified through Project 1600 . focus is primarily on leak detection and pipe line replacement, not sufficient implementation on advanced pressure management, retrofitting projects and customer education and awareness campaigns, where appropriate . lack of progress to reduce **unnecessary** consumption



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## Development and implementation of regional WC/WDM measures

WDM initiatives that are being explored on a bulk supply level:

- Applications for new connections . Include water use efficiency as an additional criterion . discussion at the Project 1600 committee meeting . [no objections from municipalities](#)
- Automated control valves on the supply to customers
- Development of bulk stepped tariff aimed at penalizing inefficient water use
- Review of bulk supply agreements . e.g. to include steps to be taken by Rand Water in the event that the customers consumption exceeds their respective license targets
- Development and implementation of a Regional Management Information System



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## Conclusion

- ~ Project 1600 data provides overview of priority areas
- ~ Detailed investigations and development of business plans for prioritized areas are to be done by municipalities
- ~ Implementation of appropriate measures is required to minimize unnecessary demand
- ~ Municipalities to optimize own sources
- ~ Continuous monitoring and evaluation of impact
- ~ Municipalities are encouraged to report and share successes and challenges
- ~ Achievement of the targets set for top customers = Rand Water's compliance to abstraction limit



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# THANK YOU



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