



### SUPPORT TO THE CONTINUATION OF THE WATER RECONCILIATION STRATEGY FOR THE WESTERN CAPE WATER SUPPLY SYSTEM

#### **ADMINISTRATIVE AND TECHNICAL SUPPORT GROUP MEETING #9**

DATE: 14 MAY 2015

UMVOTO

Тіме: 08н30 – 13н00

VENUE: WORLEYPARSONS, BELLVILLE – BOARDROOM

CHAIR: ISA THOMPSON, DWS D:NWP

#### **ATTENDEES:**

NAME		AFFILIATION	
Isa Thompson	IT	DWS D:NWRP	Study Manager
Simpiwe Mashicila	SM	DWS RO Bellville	Programme Manager RBIG
Anneke Schreuder	ASch	DWS RO Bellville	Berg-Olifants WMA
Mike Smart	MS	DWS RO Bellville	Groundwater
Nicolette Vermaak	NV	DWS RO Bellville	Groundwater
Bertrand van Zyl	BvZ	DWS D:NWRI	Southern Operations
Wilna Kloppers	WK	DEA&DP	Pollution
Catherine Bill	CB	DEA&DP	Pollution
Paul Rhode	PR	City of Cape Town	Bulk Water
Zolile Basholo	ZB	City of Cape Town	WC/WDM
Rowena Hay	RH	Umvoto Africa	Study Director
Kornelius Riemann	KR	Umvoto Africa	Study Leader
David McGibbon	DM	Umvoto Africa	Technical Support
Jaco Human	JH	Worley Parsons	Team Leader
Gerrit van Zyl	GvZ	Consultant	PSP team member
Willie Enright	WE	Wateright Consulting	

#### **APOLOGIES:**

NAME		AFFILIATION	
Jenny Pashkin	JP	DWS D:WRPS	Systems Operation
Fanus Fourie	FF	DWS D:WRPS	Groundwater
Peter Flower	PF	City of Cape Town	D: Water and Sanitation
Barry Wood	BW	City of Cape Town	Bulk Water
Arne Singels	ASi	City of Cape Town	Bulk Water
Colin Mubadiro	СМ	City of Cape Town	WC/WDM
Thembi Masilela	ТМ	DWS RO Bellville	D: Water Sector Support
Penina Sihlali	PS	DWS RO Bellville	RBIG
Derril Daniels	DD	DWS RO Bellville	Berg-Olifants WMA
Neels du Buisson	NdB	DWS RO Bellville	Berg-Olifants WMA

### MINUTES:

<u>ITEM</u>	DETAIL	ACTION	<u>TIME</u>
1	Welcome and Introduction		
	IT thanked all for attending the meeting and asked for a round of introductions.		
	She noted that the storage levels in the dams are lower than in the last 4 – 5 years and about 20% lower than this time in 2013.		
	BvZ mentioned that there is limited rain falling throughout the Western Cape Province and that farmers are not yet planting for the next growth season. Releases from the dams started early in October 2014 and are still being made. Farmers who have an allocation for winter water are now using water released from the dams, as no run-off is produced yet.		
2	Attendance and Apologies		
	The attendance at the meeting was noted in the attendance register. Apologies were noted on the register. The attendance register is attached (see Appendix A).		
3	Minutes of ATSG #8, 25 March 2015		
3.1	Approval of minutes		
	The minutes were approved with the following corrections:		
	Page 4, Item 4.1c: change ` look to small' to ` look too small'.		
	Page 5, Item 4.1k: correct study title to <i>All Towns Reconciliation Strategy.</i>		
	Page 6, Item 4.1r: replace 'domestic use' with 'urban use'		

<u>ITEM</u>	DETAIL	ACTION	<u>TIME</u>
	Page 6, Item 4.2a: sentence should read:		
	<i>RH stated that Umvoto have met with all the relevant <u>CCT</u> departments and are now beginning to type up the strategy for the utilization and management of the Cape Flats Aquifer.</i>		
	IT suggested that the abbreviation CCT is used throughout the minutes, instead of CoCT.		
	IT signed the approved minutes. A scanned version of the signed corrected minutes will be made available for the project website.	PSP	Jul 2015
3.2	Matters arising		
3.2a	Item 3.2a: IT requested that a scenario be developed as a worst case addressing the assurance of supply for irrigation. KR stated that a worst case scenario is in the Status Report, but he will develop another scenario for the next Status Report.	PSP	Sep 2015
3.2b	Item 3.2b: ASi commented that a table needs to be made comparing the different assurance levels of supply. KR confirmed that this table will be prepared for the Status Report.	PSP	Sep 2015
3.2c	Item 3.2d: WE advises that Aecom will likely be appointed for the V&V project upstream of Le Grange Dam in Ladismith.		
3.2d	WE noted that the Upper and Middle Berg River is being cleared, but nothing is planned for the Lower Berg River.		
3.2e	Item 4.1j: KR stated that the PSP started to evaluate the volume of water currently not used by agriculture and will report back later in the meeting.		
3.2f	Item 4.1k: GvZ queried whether the total domestic allocation for the Drakenstein LM of 2.1 million m <sup>3</sup> /a is summer water that comes from the system. BvZ responded that it comprises both winter and summer water. KR clarified that according to the permit the summer water coming from the system is 1.17 million m <sup>3</sup> /a while 1.94 million m <sup>3</sup> /a is winter water. Winter water is not considered part of the WCWSS except when it is released from a dam due to a late start to the rain season.		
3.2g	BvZ stated that the allocation for the West Coast DM (and also for Piketberg) are for all year round (i.e. summer and winter water). For the calculations it is assumed that the water comes from the system, as it is needed all year. WE suggested that it should be calculated what volume is actually coming from system in summer and what from run-of-river in winter. The supply to Swartland comes from the Voëlvlei Dam; hence, it comes completely from the system. PPC and Piketberg take directly from the river; hence, it is partly from the system and partly from run-of-river. The Riebeeck West PPC gets its water from West Coast DM allocation. WE referred to the old Water Act, stating that all abstractions downstream of the dams is considered from the system. PR asked where Paarl takes water from the system. JH responded that Paarl has an allocation to take water directly from the Berg River and pump that into the dams on Paarl Mountain. They also have an allocation from the CCT's Wemmershoek Dam.		

<b>ITEM</b>	DETAIL	ACTION	<u>TIME</u>
4	Feedback from SSC #13, 22 April 2015		
	IT noted that the SSC meeting on 22 April 2015 was well attended and provided interesting and useful information and feedback from the different stakeholders.		
4.1	Water Allocations		
4.1a	KR advised that the numbers on water allocation from the system that he presented at the SSC meeting have changed subsequently. The total water allocation is now estimated to be 611.5 million $m^3/a$ vs a system yield of 582 million $m^3/a$ .		
4.1b	KR noted that the model has a 98% assurance level across all sectors and that the impact of changing the assurance level for different user groups still needs to be evaluated.		
4.1c	WE advised that if the assurance level changes the total allocation volume will remain the same, but the system yield will increase with reduced assurance of supply. KR advised that so far as he understood it that with the last Water Resource Planning Model run it was taken into account the reduced assurance of supply for agriculture. The 582 million m <sup>3</sup> /a is therefore calculated for 98% assurance of supply for urban and 91% for agriculture use. IT, WE and BvZ noted that in their view the system yield was estimated for 98% assurance of supply for all parties, and that therefore in dry years agriculture will be restricted first where after it can come down to 70% for 1 out of 3 years. KR undertook to follow up with Aurecon and clarify.	KR	Jul 2015
4.1d	Domestic:		
	KR illustrated the domestic allocations and highlighted the following for discussion:		
	The total domestic allocation is 391.3 million m <sup>3</sup> /a, comprising of an allocation of 357.9 million m <sup>3</sup> /a for the CCT (including Berg River Dam but excluding the temporary allocation), 22.8 million m <sup>3</sup> /a for the West Coast DM and smaller allocations to Drakenstein LM, Stellenbosch LM, Overberg Water, Bergrivier LM and PPC.		
	Currently, the industrial water use by the Wynland WUA, parts of the Berg River, Zonderend and Vyeboom IBs is included under the agricultural allocation. WE confirmed that Berg and Riviersonderend industrial use is listed as agriculture, but that DWS is now changing the registration and differentiate between agriculture and industrial use. He added that the usage category is used to manage and inform the tariffs to be paid to the DWS.		
	GvZ added that the financial element is one aspect, but it is also important to consider the operational element, as the users must manage any restrictions to agriculture as per their agricultural allocations; industrial allocations remain at a higher assurance of supply.	PSP	Jul 2015
4.1e	ASch noted that DWS must still advise the CCT how much water can be allocated to the CCT from the System to complete their licence application. There are two issues to be resolved; i.e. the yield from the Berg River Dam of 81 million $m^3/a$ might be split between CCT and the West Coast DM, and the remaining amount for temporary allocation of between 28 – 18 million $m^3/a$ . IT advised that the WC DM can get a temporary licence for water from the Berg River Dam.		

ITEM	DETAIL	<u>ACTION</u>	TIME
	However, ASch advised that the CCT licence application of 81 million m <sup>3</sup> /a must then be reduced by the volume temporarily allocated to the WC DM.		
4.1f	PR advised that this is one of the aspects that the CCT will need to discus with the Provincial Head, Mr Rashid Khan, as there are significant financial implications for the CCT. He added that the third party tariff that users would have to pay do not cover any of the capital costs that the CCT paid since 2003. WE supported that some third party costs must come back to the CCT. This discussion involves also the TCTA as implementing agent. BvZ noted that some users (notably WC DM) are already taking water from the Berg River Dam and should have been paying third party tariffs since they started using the additional water. The same would apply to Overberg Water exceeding their allocation from Theewaterskloof Dam. PR noted that the third party tariff does not but should include a capital cost component because CCT has been paying capital costs and third party tariff. Hence, WC DM and Overberg Water should pay a higher tariff than CCT. PR added that the CCT has managed their water requirements and freed up water for others to use (therefore paid too much for water they used). The CCT will most likely have to pay and bring forward in time the next scheme, which will incur capital costs again. This 'fairness' issue needs to be resolved between the CCT and DWS, and must include conversation with Agriculture, the WC DM and Overberg Water. The other users benefit because of the way the system is managed between DWS and CCT. Hence, the CCT is also subsidising other users.		
4.1g	PR advised further that the CCT Mayor met with the Minister of Water and Sanitation, and that the issue of the licences was raised. It was agreed that the DDG A Singh will meet with CCT officials. IT stated she hopes this will resolve the issue of the different licence applications currently under review. She suggested that these information and discussion meetings be undertaken prior to any meeting with Mr Rashid Khan so that a well-documented, researched proposal is submitted by the CCT to him with support at Ministerial level.	ССТ	Jul 2015
4.1h	IT stated that she requires the water consumption figures for 2014/15 and forecast, as needed for the tariff determination with TCTA, by the end of July from PR. PR confirmed that the forecast is derived each year based on a 2% growth curve. IT highlighted the importance to use the same growth curve for the reconciliation scenarios and planning of interventions.	PR	Jul 2015
	Agriculture:		
4.1j	KR presented the summary of the agricultural allocations, which had changed significantly from the presentation at the SSC meeting.		
4.1k	WE commented that the additional licences are not only for the Lower Berg IB area, but also include licences for the Upper Berg IB, which would require transfer from Theewaterskloof Dam. The table should distinguish between these.	KR	Jul 2015
4.11	BvZ requested that the allocations from the Lower Berg are split between the section upstream of Misverstand Weir and downstream of it.	KR	Jul 2015

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4.1m	KR provided a summary of the changes to the allocations for the Vyeboom IB, users abstracting directly from the Theewaterskloof Dam and the Zonderend WUA based on the results from the V&V process.		
4.1n	IT requested that KR meets with ASch, BvZ and WE to resolve the final allocations and level of discretisation.	KR	Jun 2015
4.10	KR presented initial results on determining the currently irrigated area vs. the scheduled area under irrigation. Data sets used include land use and crop type map from the Department of Agriculture (2013) and an NDVI of the Landsat imagery from December 2014. This will be used to establish, how much of the scheduled area is currently utilised, so that the current surplus and the potential growth into full uptake of the allocations can be evaluated. WE stated that the centre pivots can be taken as irrigated.		
4.1p	KR requested a complete list or shape file of the properties for the different IBs and pumping schemes so that the comparison can be done for the correct area. WE agreed to provide a list of properties with their individual allocations.	WE	Jun 2015
4.1q	WE noted that the number of farm dams in the area impact on the water requirements from the system. If they are filled up from either run-off or pumping from the Berg River during winter, the farmers will use less water from the system during summer. The possible impact could be evaluated using the WRYM or the WRPM. Increases in storage must be verified with V+V.	PSP	Aug 2015
4.2	Regulation for monitoring agricultural usage		
	IT reported that the regulation re monitoring of agricultural usage is gazetted for comments. Feedback will be given at the next SSC meeting.	Paul Herbst	
4.3	Sustainable Water Management Plan		
	IT reported that the DEA&DP provided feedback at the last SSC meeting regarding progress with the implementation of their Sustainable Water Management Plan (SWMP) for the Western Cape. Focus is on water quality, rehabilitation and clearing of alien vegetation.		
4.4	Berg River Partnership		
	WK stated that the Berg River Partnership (BRP) under the chair of Derril Daniels focus on improving water quality in the river. The BRP arose out of the water quality task team. The Berg River Improvement Plan (BRIP) is the provincial programme for coordination of a range of activities around improving the ecological health and landscape of the Berg River and is linked to the SWMP. She added that there is good coordination between all the role- players.		
	IT suggested that Working for Water (WfW) be included in the BRP. WK responded that Annebel Horn from DEA&DP is investigating the economic value of the WfW programme. IT added that she would like to see the progress linked to a measurable increase in low flows and therefore a reduction in releases required from the system. WK stated that improvements in the riparian zone can already be observed.		



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	IT stated that the Berg River is the main stem of the Western Cape economy and cannot be sacrificed. BvZ reported that Jo Barnes from the University of Stellenbosch reported an improvement in the water quality but this could be from increased summer flows. It could also be from the decommissioning of the Franschhoek WWTWs. The primary impact on water quality still comes from informal settlements.		
	IT referred to the presentations by Melissa Lintnar-Strauss (DWS) and Marle Kunneke (DEA&DP) at the SSC. KR requested that the water quality data and relevant reports are made available to the team for incorporation into the next Status Report, as was previously agreed upon.	DWS, DEA&DP	Jul 2015
	<ul><li>IT added that DD was tasked to rationalise all roles and responsibilities of the different departments with respect to water quality and to initiate data sharing.</li><li>IT requested that WK remains on the Berg River Partnership committee and on the ATSG for the WC WSS Reconciliation Strategy.</li></ul>	DD WK	Jul 2015
5	Update of current studies: CCT		
5.1	CCT studies Desalination		
	PR reported that the CCT is waiting for Eskom to give feedback on whether the Koeberg inlet and outlet works can be used for the desalination pilot plant. The delays are due to the regulator investigating their environmental permits and licences; i.e. can they allow another use on site.		
	IT noted that while using the Koeberg infrastructure has significant capital and other cost implications, desalination is also an option that can be fast-tracked more easily. PR advised that there is more detailed planning to be done and depending on Eskom's feedback, the design might have to change. Meanwhile supplementary studies will be ongoing; e.g. bathymetric surveys, local-scale ocean current patterns, sea water quality at the alternative site to Koeberg. IT requested that the monitoring programme for the alternative site be initiated as soon as possible. She mentioned that the Umgeni Water and PE studies show that sea water quality data/information is of utmost importance.		
	Water Reclamation		
	The Water Reclamation study is ongoing and some information may be available to report on at the October SSC. IT stated that feedback on risks, costs and implementation time lines would be required for the next Status Report. KR undertook to communicate the requirements with PR. IT added that the current WRC study will inform the protocol for communication with the public.	KR	Jul 2015
1	TMG Aquifer		
	PR stated that the TMG Aquifer Pilot Study was originally envisaged as a full scale pilot plant to run for up to 5 years to abstract water from the TMG Aquifer and then put it in the nearest dam. Now the		



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	study will comprise an extended exploration phase with drilling of semi-production wells for pump testing, further exploratory drilling in new target area adjacent to the Theewaterskloof Dam and evaluation of the water resource availability and possible yield, based on the short-term pumping tests. The monitoring and application for a licence will run in parallel. This phase will take 2.5 to 3 years. The expected outcome is where and how to go into full- scale production; either at the new site at Groenvlei or at the previously preferred site at Nuweberg, or both.		
	MS highlighted that it is important to ensure that base-line monitoring is established in the Groenvlei proposed site as soon as possible. KR confirmed that this will be part of the initial tasks.		
	IT asked whether the DWS obtain the monitoring data that the CCT acquire. PR advised that this data will be included in the licence application once it is validated by the team. KR confirmed that the DWS data is regularly provided to the CCT and is included in the data processing and analysis.		
	Lourens River		
	No further information provided at this stage.		
	Cape Flats Aquifer		
	RH advised that the work on the Aquifer Management Strategy document is ongoing and the report will be submitted in time for presentation at the next SSC meeting in October 2015.	RH	Sep 2015
	KR reported about the recent start of a WRC Study on modelling the impact of water sensitive design using the Cape Flats Aquifer as a case study. He added that there seems to be a synergy and overlap between these projects, but that it is premature for output from the WC WSS Reconciliation Strategy to be presented at the upcoming WRC workshop. He confirmed that he will attend the workshop to establish the interaction between these studies.	KR	May 2015
	Atlantis Aquifer		
	PR reported that 12 boreholes in the Atlantis Aquifer have been rehabilitated and are now supplying 6 Ml/day. The CCT will keep these wellfields as a backup as they are especially useful in that area.		
	<u>Energy</u>		
	IT asked whether the CCT experiences problems at the WWTWs associated with Eskom load shedding. PR responded that the CCT undertook a risk management exercise and installed generators at critical infrastructure. The costing exercise and initial procurement are underway. IT queried the possible production of electricity from biogas and WWTW sludge. PR confirmed that the CCT is looking into that.		
	PR advised that load shedding has increased the CCT's resilience as it has obliged the CCT to look at critical path processes and plan for them. He added that there is also a potential for small-scale hydroelectricity because of the high elevation of the dams.		
5.2	DWS studies		
	All Towns Reconciliation Strategy Study		
	IT stated that the Reconciliation Strategy Study Maintenance and		



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	Updating is ongoing. She added that there are towns which receive water from WCWSS but also have their local supplies in addition to the WCWSS. KR confirmed that most strategy updates should be completed by October.		
	WK stated that she has had difficulties downloading the documents off the DWS website portal. KR undertook to forward any strategies that are not available on the DWS website, or that WK struggles to get.	KR	Jul 2015
	Voëlvlei Dam Augmentation		
	IT reported that the EIA process has still not commenced. The templates for project submissions to Top Management and then to DBAC keep changing and inhibit the procurement of a PSP.		
	Langebaan Aquifer		
	Nothing further to report.		
	Other Studies		
	BvZ advised that there are some relevant projects: the survey and design for the proposed weir on the Lower Berg River are done, the EIA and construction still need to happen; work at the Misverstand Dam to improve the operation is underway and a metering project to upgrade for all domestic uses is currently underway.		
	JH advised that the update of the geodatabase for DWS Water Services is underway. IT noted that she plans to do a WAAS for the Breede River downstream of Brandvlei Dam and in the future hydrology of the Berg River and upper Breede River will also have to be updated from 2005.		
	WK noted that the Classification of the water resources and the Reserve determination have not yet got underway. She added that the Classification for the Olifants/Doorn part of the Berg-Olifants WMA is complete but will be revisited, as it has not been gazetted yet.		
	IT noted that the Breede-Gouritz CMA has been established, but a combined Catchment Management Strategy is not available yet. WE advised that it would take about 3 to 4 years after funds are made available to prepare the CMS.		
6	General		
	GvZ queried whether the right officials from the different parties (especially DWS) are attending the SSC. IT noted that it is of serious concern that DWS senior staff are not committed to attend the meetings, as this should be a matter of prioritising. GvZ suggested that the project needs to consider a strategy in this regard. IT advised that she will inform her superiors who can engage with the regional office. She noted that this also refers to DWS Directors as well CMA senior staff.	п	Jul 2015
	ZB requested that the Provincial Head, Mr Rashid Khan attends the SSC meetings. He added that Mr Khan is usually not available for the DWS bilateral meetings and therefore the CCT is dealing directly with the DWS in Pretoria. This refers to both the water use and the waste water licences. IT noted that the SSC cannot take decisions, but that it is a forum for stakeholders to be informed,		



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	debate and consider the study recommendations, which then need to be taken forward by high-level management in the stakeholder institutions.		
	GVZ stated that once a recommendation for the next intervention or scheme is made by the SSC, it is important that the decisions by the relevant parties are made and reported back to the SSC. Hence, the approval of the recommendation and the decision to act on that recommendation must be confirmed at the following SSC meeting. This is a critical path to the implementation of schemes and is necessary for proper risk management. Hence the need to have the right officials in attendance, as these persons can take decisions or have direct access to the relevant decision-makers.		
7	Next meetings of ATSG and Closure		
	The next SSC meeting is scheduled for 8 October 2015. The next ATSG meeting was scheduled for 12 August 2015.		
	IT thanked all for attending the meeting, their active and positive participation and especially ASch and WE for the hard work they are putting in into gathering the agricultural as well as urban water allocation volumes.		

### SIGNATURE ORIGINATOR

Umvoto Africa

19/08/2015

Date

## SIGNATURE DEPARTMENT OF WATER AND SANITATION

Se 10 VC

D: NWRP

19/08/2015

Date

#### **INVITED:**

NAME		AFFILIATION	
Isa Thompson	IT	DWS D:NWP	Study Manager
Fanus Fourie	FF	DWS D:WRPS	Groundwater
Pieter Viljoen	PV	DWS D:WRPS	Water Quality
Jenny Pashkin	JP	DWS D:WRPS	Systems Operation
Nosipho Sombane	NS	DWS D:WUE	
Tembi Masilela	ТМ	DWS RO Bellville	Water Sector Support
Simphiwe Mashicila	SM	DWS RO Bellville	RBIG Programme Manager
Penina Sihlali	PS	DWS RO Bellville	RBIG
Anneke Schreuder	ASch	DWS RO Bellville	Berg WMA
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Nicolette Vermaak	NV	DWS RO Bellville	Groundwater
Mike Smart	MS	DWS RO Bellville	Groundwater
Bertrand van Zyl	BvZ	DWS D:NWRI	
Jan van Staden	JvS	B-G CMA	
Catherine Bill	CB	D:EA&DP	Planning
Amina Suleiman	AS	D:EA&DP	Planning
Peter Flower	PF	City of Cape Town	D: Water & Sanitation
Barry Wood	BW	City of Cape Town	Bulk Water
Paul Rhode	PR	City of Cape Town	Bulk Water
Zolile Basholo	ZB	City of Cape Town	WC/WDM Strategy
Collin Mubadiro	СМ	City of Cape Town	WC/WDM
Mogamat Shahied Solomon	MSS	City of Cape Town	WC/WDM
Rowena Hay	RH	Umvoto Africa	Study Director
Kornelius Riemann	KR	Umvoto Africa	Study Leader
Gerrit van Zyl	GvZ		
Jaco Human	JH	Worley Parsons	Team Leader
Mike Killick	МК	Aurecon	
Anton Sparks	ASp	Aurecon	
Arne Singels	ASi	City of Cape Town	
Tyl Willems	TW		
Willie Enright	WE	Water Right	