water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

aurecon

MINUTES OF MEETING

Algoa WSS Reconciliation Strategy Continuation: ATSG Meeting 13 held on 11 October 2016 @09h00 at the offices of Aurecon, Port Elizabeth

Item			Action
1.	**WELCOME** The chairperson, Ms Isa Thompson welcomed everybody to the thirteenth meeting of the Administrative and Technical Support Group of the Algoa Water Supply System Reconciliation Strategy Continuation.		
2.	**ATTENDANCE AND APOLOGIES**		
	Attendance		
	Menard Mugumo	DWS: CE: OA	MM
	Isa Thompson	DWS: D: NWRP CE: South	IT
	Jenny Pashkin	DWS: D: WRPS	JP
	Koos Viljoen	DWS: NWRI, SO	IV
	Tony Moore	DWS: CE: OA	TM
	Mullineux, Stephen (Mr)	DWS ECape: DCE: Water regulation and use	SMu
	Jaqui Murray	DWS: Water Regulation	JM
	Neville Lawry	DWS:	NL
	Joseph Tsatsire	NMBM	JT
	Paul du Plessis	NMBM	DT
	Dave Raymer	Uhambiso Consult	DR
	Victor Felton	Kouga LM	VF
	Pierre Joubert	Gamtoos IB	PJ
	Graham Taylor	Coega IDZ	GT
	Nick Chapman	VWSA – Business Chamber	NC
	Nico Lombard	Cacadu District Development Agency	NL
	Harms du Plessis	LSRWUA	HdP
	Andreas Engelbrecht	GFRWUA	AE
	Kowie Joubert	DRDAR	KJ
	Jeff Govender	DEDEAT	JG
	Reina Zastron	Aurecon	RZ
	Maxine Botha	Aurecon	MB
	Erik van der Berg	Aurecon	EvdB
	Apologies		
	Ilse Viljoen	DWS: Proto CMA, Catchment Management	IV
	Paul Chilton	DWS: CE: Proto CMA CM	PC
	Pieter Viljoen	DWS: D: WRPS	PV
	Rienette Colesky	Gamtoos IB	RC
	Ockie vd Berg	DWS: D: Options Analysis	OvdB

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	Martin Labuschagne	DWS ECape: WR&U-WUE	ML
	Andrew Lucas	DWS ECape: D: Water Regulation and Use	AL
	Barry Martin	NMBM	BM
	Robert Higgins	PetroSA	RH
	Sieg Rousseau	Amatola Water	SR
	Dup van Reenen	AfriCoast Engineers SA	DvR
	Pieter Barry	DWS ECape: Acting RD: Southern Operations	PB
3.	**ADOPTION OF AGENDA** Thyspunt Nuclear Plant was added to the agenda (point 8.5)		
4	**APPROVAL OF PREVIOUS MINUTES** The minutes of the meeting held on12 July 2016 were accepted with the following changes: Page 1: The time of the meeting was added: **ATSG Meeting 13 held on 11 October 2016 @ 11h00 at the offices of Aurecon, Port Elizabeth** Page 2 point 5.1: '… a System Operations Forum (SOF)… to present the current situation in terms of storage in the System's dams and water use' to be replaced with '…a System Operations Forum (SOF) Meeting 1… to present the results of the annual operating analyses' 'Water use scenarios were presented…' to be replace with 'Operational use scenarios were presented…'. '….an additional scenario was done to assess the impact…. To be replaced with '….an additional scenario was requested to assess the impact….' Page 3 point 6.5: 'Focus could only change to this area after work at the Kromme is complete,…' to be replaced with 'Focus could only change to this area after work at the Kromme catchment is complete,…' Page 5 point 10.1: Action for **MM/TM** must be added Page 5 point 12.1 bullet 2: • '2008 onwards: Water Reconciliation Strategy Study for the Algoa Water Supply Area. Groundwater listed as an option in the Aurecon strategy reports' to be replaced with • '2008 onwards: Water Reconciliation Strategy Study for the Algoa Water Supply Area. Groundwater listed as an option in the DWS strategy reports ' IT asked to provide a signature line to the minutes.		
5	**MATTERS ARISING FROM PREVIOUS MINUTES** No matters arising as everything is covered on the agenda.		
6.	**RELEVANT PROJECTS AND INITIATIVES UNDERTAKEN BY OTHER RESPONSIBLE ENTITIES**		
6.1	**AWSS Annual Operating Rules** JP reported that the System Operations Forum (SOF) meeting 2 was convened on 20 September 2016 to present the current situation in terms of storage in the System's dams and water use. A 15% restriction on domestic and industrial use for the Algoa System was Gazetted in March 2015 and repeated in April 2016. The restrictions are currently not adhered to. JP also said that operating rules and monitoring and usage must be aligned within DWS. KV		

<table>
<tr><th>Item</th><th></th><th>Action</th></tr>
<tr><td></td><td>mentioned that there are shortcomings on measuring structures, especially on river sections. The Greater Fish River Association must report on a weekly basis. He also said that over-abstraction and evaporation prohibit the balancing of allocation and release of water.

Dr Piet Wessels from DWS's Stream Flow Hydraulics subdirectorate did a study on designing an optimum measuring weir. AECOM is also busy with a study to design an optimum national hydrological monitoring network, for both surface and groundwater. EvdB will follow up on the measuring issue - he will speak to Johan Rossouw of AECOM on the matter. JP indicated that AECOM also has a map that was used.</td><td>EvdB</td></tr>
<tr><td>6.2</td><td>Orange River Annual Operating Rules

JP reported that the restrictions that apply from 26 August 2016 until further notice are as follows:
10% restriction on water use for Domestic and Industrial supply from the main stem of the Orange River, Irrigation Schemes and Transfer Schemes supplied from the Orange River.
15% restrictions on the use of water for irrigation purposes in the main stem of the Orange River, Irrigation Schemes and Transfer Schemes supplied from the Orange River.</td><td>IT</td></tr>
<tr><td>6.3</td><td>Establishment of the upper Kouga/Kromme Irrigators WUA
No discussion</td><td></td></tr>
<tr><td>6.4</td><td>Verification & Validation (V&V) of water use
JM reported that the V&V determination in the Eastern Cape is about halfway. The section 33 letters were done and the section 35 letters will go out soon. The project team is using 1998 images as well as 2012 images for the project.</td><td></td></tr>
<tr><td>6.5</td><td>Working for Water and Working for Wetlands
PJ of GIB reported that in the Kouga catchment, 220 ha of initial clearing of alien invasive vegetation was done at a cost of R1.745 million, and follow-up clearing of 1768 ha. In the Kromme catchment 49 ha of initial clearing of alien vegetation was done, at a cost of R1.765 million, and follow-up clearing of 1 828 ha.

High altitude clearing (using a helicopter) of 40 336 ha was done at a cost of R1 million.</td><td></td></tr>
<tr><td>6.6</td><td>Water Quality Strategy
There was no discussion as PV could not attend the meeting due to roadshows for the Water Quality Management Strategy and Policy Review. An e-mail on this matter as well as a schedule of the roadshows were distributed to all members prior to the meeting.</td><td></td></tr>
<tr><td>6.7</td><td>Amatola Water Study on additional storage for Kirkwood
SR could not attend the meeting and no information was available. The following summary was received from SG after the meeting:

a: The Kirkwood Bulk Water Supply Design Report dated 21 October 2016 summarises the projected raw water demands as follows:

<table>
<tr><th rowspan="2">Water Demand Projections (Kirkwood, Aqua Park, Bergsig, Moses Madiba, Msengeni)</th><th colspan="2">Water Demand (kl/d)</th></tr>
<tr><th>2016</th><th>2046</th></tr>
<tr><td>Annual Average Daily Demand</td><td>2 415</td><td>5 130</td></tr>
<tr><td>Including SPF and Losses</td><td>4 076</td><td>8 656</td></tr>
</table>
b: The Objective of the project is to :

a. Design and construct infrastructure that allows for 14-day maintenance periods (sic) of the irrigation canal to be done annually, and
b. Design and construct reservoirs to meet the 48-hour potable water storage</td><td></td></tr>
</table>

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	requirements. **c: The above two objectives to be achieved by the proposed:** i. The construction of a raw water pipeline from the Korhaansdrift Weir to the Kirkwood WTW (Phase 1) which includes: • A raw water pump station at Korhaansdrift Weir ; and • A 13.5 km long, 355 mm diameter uPVC pipeline. ii. The construction of additional potable water storage reservoirs at Kirkwood WTW (3 Mℓ) and Moses Mabida (3 Mℓ) (Phase 2). **d: Upgrade of the Kirkwood WTW:** The report suggests the augmentation of the WTW from 5.1 to 8.7 Ml/d by year 2021. **e: Water Conservation and Demand Management:** The report is clear on the immediate implementation of WCWDM. KV mentioned that Louis Fourie has been appointed to do groundwater tests below Korhaansdrift Weir but this is deemed not to be a feasible option.	
7	**OPERATIONAL EFFICIENCY**	
7.1	**Darlington Dam Operating capacity and dam safety rehabilitation programme** IT reported that the project is going ahead. The submission for the design and contract documentation have been sent to the DG, after which it will go to tender. The gates will be replaced and the rehabilitation will be performed to a level where the dam can operate at optimum level. Water quality will determine what the optimum level will be.	
7.2	**Additional balancing storage in the LSRGWS** EvdB reported that Objective 3 of the Algoa Reconciliation Strategy Support Study is to investigate the provision of additional balancing storage in the LSRGWS as well as any bulk conveyance infrastructure required. The aim is to be able to convey full future water allocations from Korhaansdrift Weir on the lower Sundays River to NMBM. Once the new Nooitgedagt Low-Level Scheme has been completed, there will be a bottleneck at Scheepersvlakte Dam due to insufficient storage. A number of options will be considered, including: • Additional balancing dam north-east of Scheepersvlakte Dam • Alternative options for bulk water conveyance infrastructure (e.g. a pipeline from Korhaansdrift Weir to the Nooitgedagt WTW or releasing water downriver and abstracting near Nooitgedagt WTW). • The water supply situation of Kirkwood, including raw water balancing storage will also be considered. The NMBM design water requirement is a critical component for the sizing of potential additional storage to supply NMBM and the bulk conveyance infrastructure. The design water requirements used for the Feasibility Component (Task 3) may include potential water savings in the Fish and Sundays River catchments, which could potentially be reallocated to NMBM, as determined in the WUE Component (Task 2) of this study. A Field Trip is planned for 28 – 29 November 2016 in order to gain a better understanding of the water supply infrastructure between Darlington Dam and NMBM, including Korhaansdrift Weir, Kirkwood WSS, Scheepersvlakte Balancing Dam and Nooitgedagt WTW. The potential sites or routes for the various identified options will be investigated. The Field Trip will be followed by a Study Management Meeting the following day in order to discuss the options at a conceptual	HdP

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	level, including rough cost estimates. At a question from EvdB on whether the study should look at possible future allocations as well, IT said that the study will have to determine this. HdP mentioned that he needed to prepare a report for the management committee in November, that will be useful in this regard, and that he will send the report to the study when it is approved. JM reported that they are in the process of collecting property information and that she will send it to EvdB. KJ indicated that the Barkley Bridge scheme has been abandoned. After the meeting HdP made the Resolution by the LSRGWS in this regard available. Interested parties can request a copy from RZ.	JM
7.3	**OFS Real-time model** JP said that the OFS operational model is not being used at the moment, but could possibly be utilised via a national licence. Two years of missing data was recently populated. It can be made operational again if a champion can be appointed.	
8	**WATER REQUIREMENTS AND USE**	
8.1	**NMBM water requirements and use** PdP reported that the consumption at the Metro in September was on average 306 cubic metres per day, and for the first 9 days in October the average was 205. JP asked the Metro to send her their use on a weekly basis. PdP is already providing the information weekly to AL and others and will add JP to the list of recipients.	PdP
8.2	**Coega IDZ water requirements** GT reported that there is no change in the projection of the Coega IDZ water requirements. Money, timing and institutional issues are crucial. Re-use of water could potentially be available within two years once all building blocks are in place. IT mentioned that a sustainable power supply is still more of a stumbling block than water. GT indicated that there are potential game changers like CCGT which will need 100 MW of power. HdP said that the Coega IDZ should inform the Metro in such a case as they would need to plan for it. EvdB asked GT to send him information on the assurance of power supply required at the CDC.	GT
8.3	**Kouga LM water requirements** VF apologised as he did not prepare to give feedback. In general, Kouga's water use has grown more than anticipated. He will be able to give an update at the following meeting. IT asked VF to provide input to the Status Report as it is only compiled once a year.	VF
8.4	**WUE Fish and Sundays catchments** No discussion	
9	**IMPROVING THE CONFIDENCE OF WATER AVAILABILITY**	
9.1	**Proposed water availability assessment study – Kouga-Loerie and Churchill-Impofu** IT said that this study has been long outstanding and DWS must try to get this study moving. The dire staffing position in NWRP is causing the holdup. No further discussion.	DWS
10	**WC/WDM**	
10.1	**Report by NMBM** DR reported on WC/WDM on behalf of the Metro. The WC/WDM Interventions are as follows: • Water availability & supply • Bulk Meters & Water Balance	

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	• GMA (Greater Metered Area) and DMA (District Metered Area) DMA Meters • Remote Metering • NRW • PRV Management • ICI Consumers & Billing • ATTP Leak Repairs • School leak repairs • Ward Cluster Repairs • Repair & Maintenance Contractor • Domestic Meter Audit • Valve & Hydrant Audit • Meter Replacement Programme • Publicity & Awareness The WC/WDM presentation is available and any member who would like to have a copy could contact RZ. DR stated that the real losses are totally wrong due to billing issues. IT stated that the billing problems at the Metro must be sorted urgently.	NMBM
10.2	**Report on progress of other municipalities** No discussion	

11
11.1
	ORANGE RIVER INTER-BASIN TRANSFER SCHEME
	Nooitgedagt Low-Level Scheme Implementation and Financing
	The Nooitgedagt / Coega Low-Level Scheme is being implemented as follows:
	<u>Phase 1</u>
	Implemented by NMBM and funded partly by DWS (R453 million) and the balance (R125.7 million) by NMBM (costs exclude VAT)
	• Upgrading of settling capacity and sludge handling systems at Nooitgedagt WTW - completed
	• Construction of low-level rising and gravity mains from Nooitgedagt WTW to Motherwell Reservoir with a branch to the Coega IDZ boundary - completed
	• 10 Ml reservoir at Olifantskop - completed
	• New booster pump stations at Motherwell and Stanford Road – awaiting commissioning
	• Upgrade of electrical substation at Nooitgedagt WTW – completed.
	<u>Phase 2</u>
	Implemented and funded by NMBM (R127,6 million excluding VAT)
	• Additional 6 filters and Low-lift Pump Station at Nooitgedagt WTW – under construction for completion in March 2017
	• Three separate contracts for civil works, WTW mechanical and electrical works, pump station mechanical and electrical works.
	<u>Phase 3</u>
	Funded by DWS who has appointed Amatola Water as the implementing agent. Business Plan was approved for R286.8 million including VAT.
	• Single contract advertised on 15 July 2016 for:
	  o Additional 70 Ml/day (peak) module at Nooitgedagt WTW (civil, mechanical and electrical works)
	  o 45 Ml reservoir at Olifantskop
	  o Cathodic protection and AC mitigation measures on Nooitgedagt and Churchill pipelines
	  o Rehabilitation of Chelsea – Motherwell pipeline
	• Expect contractor to be appointed about September / October 2016
	• Construction to be completed within 24 months.	

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	There are serious challenges with phase 3, with Amatola Water taking over the management of the project, but NMBM is monitoring the situation. IT indicated that high level intervention is needed.	
11.2	**Potential further future allocation** EvdB indicated that this could potentially form part of future phases of the Nooitgedagt Low-Level Scheme, but this will be determined by the Feasibility Study.	
11.3	**Desalination of Sundays River irrigation return flows** EvdB indicated that this potential scheme could potentially link to the Nooitgedagt Low-Level Scheme. KMR confirmed that this was currently planned as a separate scheme, feeding the desalinated water directly into the Coegakop reservoir.	
12	**RE-USE OF WATER**	
12.1	**Re-use of water treated to industrial standards – Fish Water Flats and Coega WWTWs** KMR reported that the design is mostly completed and a 17 Ml reservoir at Coegakop is partly (about 85%) completed. The CDC needs to procure additional funds to complete the reservoir. The implementation of the remainder of the scheme is dependent on water requirements from large water users establishing in the IDZ. The construction will take 18-24 months to complete and R600 million is needed to bring the bulk supply conveyance infrastructure to the Coega IDZ boundary. IT said that it seems that water could be managed for a big user as the time that a big user needs to establish could be used for the construction of the water bulk infrastructure. It seems that electricity is a bigger challenge at Coega than water, in the longer-term. JG indicated that the environmental authorisation is not yet in place for the bulk infrastructure.	
13	**Groundwater**	
13.1	**NMBM Coegakop implementation** The south-eastern Coega Fault groundwater scheme is being implemented by NMBM. Drilling of 27 probe/exploration holes have been done, after which it was decided to drill one production borehole. The design and tender documents are being finalised. Various methods have been used to estimate the “sustainable yield” of the aquifer. The estimate ranges between about 35 - 43 Ml/day (it may even be as high as ~50 Ml/day). The entire wellfield still needs to be test-pumped. NMBM has applied for a groundwater use license of 26 Ml/day which includes the flow from the Uitenhage Springs.	
13.2	**Other groundwater studies** It is a recommendation from the committee to include groundwater in the Water Service Development Plans and IDPs.	
14	**SEAWATER DESALINATION**	
14.1	**NMBM Desalination Scheme** Not much is expected from the Coega harbour desalination scheme tender as it has not been budgeted for. After the meeting it was determined that the sea water monitoring at the Schoenmakerskop site has been stopped. This is a matter of grave concern and needs to be followed by NMBM and reported on at the next meeting	BM

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15	**LOCAL SURFACE WATER DEVELOPMENT**	
15.1	**Kouga Dam 'raising' and Guernakop Dam** A dam in the Kouga River (either a new dam at Guernakop or a 'raised' Kouga dam) as well as a seawater desalination plant and the desalination of return flows in the lower Sundays are long-term options. EvdB noted that a comparison of these schemes with the latest information would be useful to determine which scheme is the more viable option.	
16	**IMPACTS ON YIELDS OF EXISTING DAMS:ECOLOGICAL RESERVE & CLIMATE CHANGE**	
16.1	**Implementing the Reserve for existing dams** Ecological Reserves should be implemented for new dams.	
16.2	**Climate change** JG will try to get a representative from SA Weather Services to do a presentation on climate change at a future meeting.	JG
17	**COMMUNICATION**	
17.1	**Progress Report (Status Report 4) to the Strategy Steering Committee** The draft Status Report was presented at the SSC meeting held on 13 September 2016. EvdB updated the report following input received at the meeting. The Algoa Bridging study information was *inter-alia* used to update the report. JP indicated that she was concerned about the accuracy of the yield determined for the Kouga-Loerie sub-system as part of the Bridging Study, which was too high. IT asked EvdB to change the yield value of the sub-system back to the previous yield value used. HdP said that the report does not show when CDC potable water will be changed to industrial water and that this should be addressed. IT pointed out that industrial quality water use is still small at this stage. The potable water use component of the IDZ forms part of NMBM's potable water planning.	EvdB
17.2	**News Release** The News Release will be drafted after the final Status Report has been distributed. IT stressed that the focus of the one-pager news release will be the water shortage and water restrictions which must be adhered to.	RZ
17.3	**Webpage Update** The webpage will be updated after the Status Report and News Release has been completed.	RZ
18.	**GENERAL** VF mentioned that during the holiday season Jeffrey's Bay has a population of 6 times more that the rest of the year and that this puts a strain on the water sources. IT suggested for the LM to put up a big billboard to alert holidaymakers of the water situation in the area as they enter the area.	
19.	**NEXT MEETING** Wednesday 1 March 2017 @ 09h00 Next SSC Meeting: Tuesday 19 April 2017 @ 09h00	
20.	**CLOSURE** The meeting was closed at 14h00.	