



Minutes of the 3rd Project Steering Committee (PSC) meeting
Date and time: 20 March 2013 @ 9:30
Venue: Main Boardroom, AECOM (previously AECOM) Durban office

1. WELCOME

Mr Kobus Bester, the study leader, welcomed all attendees to the 3rd PSC meeting.

2. ATTENDANCE AND APOLOGIES

2.1 ATTENDANCE

The following people attended the meeting (attendance list attached as **Annexure A**):

Kobus Bester	(KB)	DWA: Options Analysis (East)
Norman Ward	(NW)	DWA: KZN Regional Office
Angela Masefield	(AM)	DWA: KZN Regional Office
Kevin Meier	(KM)	Umgeni Water
Gavin Subramanian	(GS)	Umgeni Water
Lyn Archer	(LA)	Umgeni Water
Kim Hodgson	(KH)	Umgeni Water
Amal Doorgapershad	(AD)	Knight Piésold (<i>Module 3</i>)
Iain Watson	(IW)	Knight Piésold (<i>Module 3</i>)
Speedy Moodliar	(SpM)	eThekwini Municipality
Hermien Pieterse	(HSP)	BKS/AECOM (<i>Module 1</i>)
Andriette Combrinck	(AC)	BKS/AECOM (<i>Module 1</i>)
Deon van der Merwe	(DvM)	BKS/AECOM (<i>Module 1</i>)
Bongi Shinga	(BS)	ACER (Part of BKS/AECOM team) (<i>Module 1</i>)
Bheki Makwakwa	(BM)	Sisonke District Municipality
Talia Feigenbaum	(TF)	Urban-Econ (Part of BKS/AECOM team) (<i>Module 1</i>)
Donovan Henning	(DH)	Nemai Consulting (<i>Module 2</i>)

2.2 APOLOGIES

Neil van Wyk	DWA: National Water Resource Planning (East)
Salona Moodley	DWA: Options Analysis (East)
Solly Mabuda	DWA: National Water Resource Planning
Vello Govender	KZN COGTA
Kevin James	BKS/AECOM
Danie Badenhorst	BKS/AECOM
Frank Stevens	eThekwini Municipality
Brenden Sivpersad	Msunduzi Local Municipality
Dhamendra Ragoonandan	Msunduzi Local Municipality

Chuma Mqoboli Ugu District Municipality
Johan van der Walt Ugu District Municipality

** Note: KB emphasised the importance of noting all apologies as it is crucial that decision makers and stakeholders be involved early in the process in order to influence the project and avoid delays due to lack of understanding and/or concerns about not being involved in the planning stages. The uMWP will have an impact on directly affected municipalities, as well as the municipalities supplied by Umgeni Water, as this project will affect tariffs etc.*

2.3 NO REACTION RECEIVED

Bheki Mbambo Umgungundlovu District Municipality
Mercia Daniel Msunduzi Local Municipality
Charmaine Alvarez Msunduzi Local Municipality
Maxwell Pawandiwa Ugu District Local Municipality (no longer with the DM)
Cebisile Gumede Office of the Premier
Nicky Naidoo Nema Consulting

3. APPROVAL OF THE AGENDA

The agenda was approved without any additions or changes.

4. OBJECTIVE OF THE MEETING

The primary objective of the 3rd PSC Meeting was to provide an update of progress on the project and to further engage with committee members. KB mentioned that the Terms of Reference (ToR) of the PSC has changed due to the poor attendance of the municipalities and other decision makers. In future, it will be used as a platform or working group/coordination meeting between the three modules of the uMWP to discuss the progress on the study, receiving input/issues from the preceding PMC meetings.

5. MINUTES OF THE PREVIOUS MEETING

5.1 APPROVAL OF PREVIOUS MEETING MINUTES

The minutes of the 2nd PSC Meeting were accepted without any additions or changes.

5.2 MATTERS ARISING FROM PREVIOUS MINUTES (NOT ADDRESSED IN THE AGENDA)

5.2.1 Item 6.1: Project (glossy) pamphlet

Copies of the final draft project pamphlet, prepared by AECOM, were distributed at the meeting. The purpose of this pamphlet is to provide stakeholders and other interested parties with useful background information on the project and to serve as a point of reference for all three modules. The following was requested with regard to the current version of the pamphlet:

- All PSC members to provide feedback for AECOM to incorporate, should they have any;
- AECOM to add a date to the pamphlet (version control); and
- AECOM to provide KB with 20 copies of the project pamphlet.

All /

AECOM

5.2.2 Item 6.2: Coordination of meetings with the Classification, Comprehensive Reserve and Resource Quality Objectives of Significant Water Resources in the Mvoti to Umzimkulu Water Management Area Study Team

AECOM reported that a decision was made, after various consultations with the PSP of the above-mentioned study, that the results of this study would not be applied in the uMWP1-1/RW study, as it will only become available in 2014. Instead, a scaled EWR will be used to model releases from Smithfield Dam. Upon an enquiry, BS commented that Lara van Niekerk is part of the Reserve Study team and would include some of the estuaries as part of their study.

5.2.3 Item 7.2.1 (f): Feedback on planned future developments near Ixopo (from the Department of Agriculture, Forestry and Fisheries)

AECOM was requested to follow-up on this issue. TF volunteered to take the lead on this action.

TF

5.2.4 Item 7.2.1 (i): Investigation of using Smithfield Dam to Supply Small-scale Irrigation, if the Need for such a scheme arises

AECOM was requested to follow-up on this issue.

HSP

5.2.5 Item 9(a): Alternative strategy that will encourage attendance of PSC members representing District and Local Municipalities

(a) AM mentioned that Umgeni Water has six municipal customers, namely eThekweni Metropolitan Municipality, Ilembe District Municipality, Sisonke District Municipality, Umgungundlovu District Municipality, Ugu District Municipality and Msunduzi Local Municipality, which will all be impacted by the uMWP due to a change in tariff. As such, Ilembe District Municipality should also receive an invitation to the PSC.

BS

(b) Based on the above AECOM was also requested to have a re-look at the footprint of the uMWP with regard to the six municipalities mentioned above.

AECOM

(c) Upon an enquiry from BM on what benefit the uMWP will have on Sisonke District Municipality, KB replied that, bearing in mind the size and cost of this project, it will have an impact on water tariffs, influence water supply in future and create future jobs. The benefits and drawbacks need to be highlighted to the municipalities in the EIA process.

DH / BS

(d) KB again mentioned that, due to the poor attendance of the decision makers and municipalities at previous PSC meetings, a decision was made to change the ToR of the PSC. In future, it will be used as a platform or working group/coordination meeting between the three modules of the uMWP to discuss the progress on the study. However, the Study Team will continue to invite all municipalities and do their utmost best to involve them in all stages of the project, also during the EIA public participation process.

BS / DH

6. PRESENTATION AND DISCUSSION ON STUDY OVERVIEW, PROGRESS AND FIRST FINDINGS OF THE UMWP-1: **MODULE 1: TECHNICAL FEASIBILITY STUDY: RAW WATER**

6.1 OVERVIEW OF MODULE 1: TECHNICAL FEASIBILITY STUDY: RAW WATER

- (a) HSP provided an overview of *Module 1: Technical Feasibility Study: Raw Water* (presentation slides attached in **Annexure B**).

6.2 PROGRESS AND FINDINGS

6.2.1 Water resources

HSP provided an overview of the water resources assessment (presentation slides attached in **Annexure B**). The following points were noted/questions asked:

- (a) **Slide 17:** KB explained that EWR 2 is in a gorge so the water levels required for the Reserve at this point is less than the water requirements at EWR 1 plus the runoff at EWR 2. A decision was therefore made to use a scaled version of EWR 1 (1b) at the dam wall, which is a conservative approach. All agreed.
- **Slide 19: Will the towns downstream of Smithfield Dam have access to groundwater, or must water be released from Smithfield Dam to provide for these?**
- (b) A separate study need to be conducted to investigate the potential for groundwater use for each village in the area, as this is not within the scope of the uMWP1/1. However, DH will have to investigate groundwater as an alternative source as part of the screening phase of the EIA. HSP mentioned that the report that was done by AGES called *Task 4.1: Groundwater resources of the uMkhomazi catchment and interaction with surface water* will be made available on the web page and should be sufficient for this purpose.
- (c) **Slide 30:** NW raised his concern about the flat yield curve when Smithfield Dam comes on line AND the EWR are supplied for the lower uMkhomazi River. AECOM to have a re-look at this as the different pumping rates should have an effect on the yield once Smithfield Dam is built.
- **Slide 40: Is there any information available on the quality of the groundwater in the uMkhomazi River catchment?**
- (d) The report that was done by AGES called *Task 4.1: Groundwater resources of the uMkhomazi catchment and interaction with surface water* should be consulted for more information on this, however, KH mentioned that she is aware of some problems with iron and fluoride in the area. This issue should also be taken up in a separate study as mentioned in *Item 6.2.1 (c)*.

DH

GdJ

6.2.2 Engineering investigation

DvdM provided a progress update on the Engineering Investigation (presentation slides attached in **Annexure B**). The following points were noted/questions asked:

- (a) **Slide 44:** KB explained that AECOM did URV's on all of the various tunnel and pipeline route options, which all came out close to 10% of each other.

- (b) **Slide 49:** KB mentioned that the preferred diameter of the tunnel is currently 3m, which is the minimum size that will still be efficient and that fits the yield of the dam well. However, DvM indicated that 3.5m tunnels might be required due to the hydraulic head required at the WTP and other practical considerations.
- (c) **Slide 54 - 56:** KB explained that the timing of the uMWP depends on two issues, namely the water requirement of the Western Aqueduct only, as well as the water requirement of the whole of the Mooi-Mgeni system.
- (d) **Slides 54 – 56:** KM stated that AECOM should keep in mind that the water balances shown on these slides might still change as no decision has been made yet on the additional supply to the South Coast. Either the yield of Smithfield Dam would come down if water is released from the dam for South Coast or the water requirement projection will be higher if a pipeline is introduced in the system. The main implication of the higher requirements would be the earlier development of the next phase, Impendle Dam. KB replied that it is not within the scope of the uMWP1/1 (AECOM) to analyse these options, rather it will be taken up by a new DWA study on the maintenance of the Reconciliation Strategy in the KwaZulu-Natal area. DWA
- (e) **Slides 54 – 56:** SpM mentioned that the water requirement projection shown on these slides is not correct and should be replaced with the new curve that will be made available from Knight Piésold by the end of March 2013. AECOM agreed, and urgently requested the new figures, since the change in water requirements have an impact on the critical path of the *Module 1* programme. Knight Piésold
- (f) **Slide 56:** NW commented that the water availability from Spring Grove Dam as well as re-use of treated effluent should both drop to zero once the uMWP comes on line as these will be more expensive options due to pumping costs. When the Mgeni system (including uMWP) reaches its capacity, Spring Grove Dam must be brought in first, followed by the re-use of treated effluent. DvM
- (g) **Slide 58:** Upon KH's enquiry, the preferred size of Smithfield Dam on which her eutrophication investigation should be based was confirmed as 930 masl. She was also requested to maintain the monitoring at Baynesfield Dam, although the new Mbangweni Dam or no balancing dam is the two preferred options for balancing in this scheme. KH
- (h) **Slide 63:** All confirmed that a Smithfield Dam with size 930 masl is currently the preferred dam size.
- (i) **Slides 69 – 70:** DH to arrange a meeting with AECOM to discuss all the various feasible alternatives that were considered in terms of:
- Smithfield Dam (i.e. Impendle Dam only, Impendle and Smithfield combined, various locations as well as layouts for Smithfield Dam etc.);
 - Conveyance (i.e. tunnelling, pipeline, various tunnel alignments);
 - The balancing dam (i.e. Baynesfield Dam, different locations of the Mbangweni/Nooitgedact Dam etc.); and
 - Other schemes (i.e. desalination and re-use of treated effluent).

- (j) SpM requested that calculations (based on desktop study level, only a business case) be conducted on providing the South Coast with water from (1) the WTP at Baynesfield via a pipeline, (2) a new WTP and Ngwadini Dam near SAPPI SAICOR in the Lower uMkhomazi River, or (3) water to the South Coast via the existing proposed uMWP scheme. Umgeni Water has the cost for scenario 2. He emphasised that the South Coasts demands should then be added to the current water requirement projection for URV calculations.

UW / AECOM

6.2.3 Geotechnical investigation

Slide 70: AECOM urgently requested the DWA to have a discussion with the DEA to discuss the environmental procedures to be followed during geotechnical investigations as NEMA is focused on development and not geotechnical investigations. It is therefore not a listed activity as such and a generic EMPr or policy should be drafted for geotechnical investigations for the various phases of a large water project i.e. pre-feasibility, feasibility, etc.

KB

7. PRESENTATION AND DISCUSSION ON STUDY OVERVIEW, PROGRESS AND FIRST FINDINGS OF THE UMWP-1: **MODULE 2: ENVIRONMENTAL IMPACT ASSESSMENT**

7.1 OVERVIEW OF MODULE 2: ENVIRONMENTAL IMPACT ASSESSMENT

DH provided an overview of *Module 2: Environmental Impact Assessment* (presentation slides attached in **Annexure C**).

7.2 PROGRESS AND FINDINGS

- (a) Upon an enquiry by KM on the programme of *Module 2*, DH replied that the EIA application (submission of Environmental Impact Report and related activities) would be finalised by the end of 2014. However, what happens subsequent to the submission cannot be predicted and objections are anticipated, as the uMkhomazi River is one of the last free-flowing rivers in South Africa. DH was requested to manage the risks from the beginning of the study.
- (b) DH confirmed that land claims in the area should not hold back the approval of the EIA as this comprises a total different legal process to be followed.
- (c) The following decisions were made with regard to *Module 2*:
- The new Mbangweni Dam will be referred to in future as Nooitgedacht balancing Dam;
 - The EIA application for *Module 1* will be split for the three components i.e. Smithfield Dam, the tunnel, and the balancing dam.
 - Landowners for the whole of the project footprint (raw and potable water, i.e. *Module 1 and 3*, including linear development), should be notified of the project prior to the DEA application. This includes landowners that will be affected by a bigger dam size for Smithfield Dam. DH to draft a notification letter and organise a "roads how" with team members of *Module 1 and 3* to personally deliver letters to landowners for them to sign acknowledgement of notification of the project.

DH

All

DH

DH

- (d) HSP noted that the validity period of the Environmental Authorisation need to take into account that the balancing dam may only be constructed up to 10 years after the other components. DH
- (e) AM requested that the information required for the Water User Licence be obtained during the EIA. KB requested that inputs should be obtained from Valerie du Plessis at DWA. KB also indicated that DWA would request the Minister exemption for certain water use licences, as it will be dealt with during the EIA process. KB / DH
- (f) DH to consult with Lukas Mahlangu (DEA) as well as Deidre Herbst (ESKOM's Ingula Pumped Storage Scheme) on the way forward with regard to the spoil from the tunnel. If this is regarded as "waste" *Module 2* should apply for authorisation in terms of NEMWA. DH
- 8. PRESENTATION AND DISCUSSION ON STUDY OVERVIEW, PROGRESS AND FIRST FINDINGS OF THE UMWP-1: MODULE 3: TECHNICAL FEASIBILITY STUDY: POTABLE WATER**
- 8.1 OVERVIEW OF MODULE 3: TECHNICAL FEASIBILITY STUDY: POTABLE WATER**
- AD provided an overview of *Module 3: Technical Feasibility Study: Potable Water* (presentation slides attached in **Annexure D**).
- 8.2 PROGRESS AND FINDINGS**
- 8.2.1 uMWP: eThekweni supply area**
- AD was requested to send the shapefile of the eThekweni supply area via the Western Aqueduct to AECOM. AD
- 8.2.2 Bulk water requirement projections update**
- (a) AD confirmed that the water requirement project is based on actual town planning information obtained from the eThekweni Municipality.
- (b) AD presented a new water requirement projection for the uMWP to be supplied via the Western Aqueduct. He reported that some requirements are still missing from the projection as Knight Piésold experienced problems in obtaining information from eThekweni Municipality. This missing information comprises about 40 ℓ/day and will be included by the end of March 2013, and forwarded to *Module 1*. KB again emphasised the impact that this have on the optimisation of the scheme and requested that the generation of the final curve should not be delayed any further. AD
- (c) AD was requested to apply a percentage growth to the final water requirement projection from 2042 onwards. Different scenarios i.e. high, medium and low growth should be generated. AD
- (d) AD was requested to also plot a projection of 1.5% per annum to the current requirement on the same graph as this is the current growth on the system, based on the experience of Umgeni Water's personnel. AD

- (e) TF questioned the inclusion of Shongweni in the water requirement projection. AD was requested to follow-up on this issue.

AD

8.2.3 Proposed potable infrastructure layout and costs update

- (a) Upon an enquiry, AD confirmed that the pipeline would cross Hopewell Dam via a steel pipe bridge.
- (b) AD also reported that an alternative WTP site closer to Umlaas Road is considered.
- (c) DH was requested to conduct ground routing as well as a desktop study (information from Ezemvelo) of both locations of the WTP (a specialist to be send out to site) to provide *Module 3* with a feeling of the environmental impact of each. Based on this, as well as costs, *Module 3* was requested to make a decision on the location to be taken forward to the geotechnical investigations (to be confirmed with Umgeni Water). DH to include both options as feasible alternatives for the purpose of the screening report. AD to forward the shapefile of both options to DH.

AD

AD / DH

8.2.4 Phasing of water supply from Smithfield Dam

- (a) The phasing of water supply from the uMWP was discussed. Umgeni Water mentioned that it would make no sense to use Smithfield Dam to its full capacity if some of the existing WTW within the Umgeni River system are not fully utilised. Therefore the WTP would be phased. For this purpose the integrated Mooi-Mgeni System should be optimised and the operating rule that poses the cheapest option be taken forward as the preferred rule for the combined catchments. AECOM offered to assist in optimisation of the system as the WRPM can be used in this regard by assigning costs and capacities to the various infrastructure within the system. Umgeni Water, together with Knight Piésold, to generate various scenarios of phasing for which URV's should be calculated (Peter Ramsden to be involved).
- (b) The necessity of a balancing dam at Baynesfield was again discussed. Based on the current Umgeni Water infrastructure a balancing dam is needed. However, Umgeni Water was requested to supply the *Module 1* team with the costs that will be required should the Umgeni Water system be upgraded to allow for additional storage (northern feeder – work that AD did), to be compared with the costs of building a balancing dam.

UW / Knight
Piésold

UW / Knight
Piésold

9. UW REPORT BACK ON DESALINATION & LTBWSC & AUGMENTATION OF SOUTH COAST FROM UMKHOMAZI

KM reported on desalination & LTBWSC & augmentation of South Coast from uMkhomazi as follows:

- (a) **Desalination:** Aurecon is currently busy with a study on 2 * 150 Mℓ/day desalination plants to supply the outer parts of eThekweni Municipality i.e. (1) Ugu DM in the south and (2) Ilembe DM in the north. Umgeni Water has been doing offshore monitoring for a while for this purpose. One of the chosen sites poses a problem due to sugar-cane farming. The completion date of this feasibility study is end September 2013 when costs will be made available. (A specialist from the USA will assist with the costs). The EIA study has just commenced. Desalination poses a viable option as the energy needed for this process used to be in the order of 4KWh/kℓ, but now some plants can get down to 3kWh/kℓ. Current indications show that the URV's of desalination will be in the order of R8 – R10 per kℓ.
- (b) **LTBWS:** Different components of this study are currently put out on tender. These studies are due for completion at the end of 2015.
- (c) **Augmentation of South Coast from uMkhomazi:** A detailed feasibility study has been conducted on the augmentation of the South Coast from the uMkhomazi River. The three options investigated included desalination, a WTP on the uMkhomazi (SAPPI SAICCOR dam – Ngwadini Dam) and a large WTP on the uMkhomazi River. However, Smithfield Dam might have to release water down to this point. No environmental study has been conducted on this. Scenario's to be considered also discussed under *Item 6.2.2(i)*.

10. KEY ISSUES TO DATE

- (a) URV's will be calculated on the *Augmentation of the South Coast from the uMkhomazi Study*. This will be compared to the URV's of the uMWP.
- (b) A larger size for Smithfield Dam will be investigated further (930 masl).
- (c) The new Mbangweni Dam will be referred to in future as Nooitgedacht Dam.
- (d) The EIA application for *Module 1* will be split for the three components i.e. Smithfield Dam, the tunnel, and the balancing dam.
- (e) Information required from the EIA for the WUL will be confirmed with DWA.
- (f) A balancing dam will have to be constructed – confirm timing of dam.
- (g) The latest water requirement projection should be drafted and forwarded to *Module 1* to be taken forward in the optimisation of the scheme.

11. WORK PROGRAMME

HSP reported that the following activities would take place:

- Finalise Water Resources reports;
- Run WRPM;
- Assess lower uMkhomazi system;
- Finalise geotechnical investigation on site;
- Preliminary design and costing of the balancing dam;
- Update on URVs; and
- Start with Institutional and financial task.

12. UMWP WEB PAGE

Nothing discussed.

13. GENERAL

AC reported that the PIMS is up and running. EnterpriseCloud has proposed refresher training. AC to arrange.

AC

14. DATE FOR NEXT MEETING

The next PSC meeting will be held on 3 September 2013. AC mentioned that MS Outlook invites for PSC meetings to be held for the rest of the year have been sent out. AC requested everyone to please respond to these. BS to personally invite officials from the municipalities again ASAP (to be followed up closer to the next PSC meeting). The benefit of the project should also be explained to all.

All / BS

15. CLOSURE

The meeting adjourned at 14:20.

Notes prepared by A Combrinck and approved by HS Pieterse

Annexure A: Attendance register

Annexure B - D: Progress report presentations