Minutes of the 4th Project Steering Committee (PSC) meeting

Date and time: 03 September 2013 @ 10:00

Venue: Mngeni Boardroom of Umgeni Water's Phase 3 Building, Pietermaritzburg

Action (s)

1. WELCOME

Mr Kobus Bester, the study leader, welcomed all attendees to the 4th 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)
Salona Moodley	(SM)	DWA: Options Analysis (East)
Neil van Wyk	(NvW)	DWA: National Water Resource Planning (East)
Kevin Meier	(KM)	Umgeni Water
Kim Hodgson	(KH)	Umgeni Water
Gavin Subramanian	(GS)	Umgeni Water
Lyn Archer	(LA)	Umgeni Water
Amal Doorgapershad	(AD)	Knight Piésold (*Module 3*)
Hermien Pieterse	(HSP)	AECOM
Danie Badenhorst	(DB)	AECOM
Bongi Shinga	(BS)	ACER (Part of AECOM Team)
Paul Jones	(PJ)	Urban-Econ (*Module 1*)
Donavan Henning	(DH)	Nemai Consulting (*Module 2*)
Dhamendra Ragoonandan	(DR)	Msunduzi Local Municipality
Madhu Moopanor	(MM)	Umgungundlovu District Municipality

2.2 APOLOGIES

Brenden Sivparsad	Msunduzi Local Municipality
Notha Maphumulo	Ilembe District Municipality
Mike Newton	Ilembe District Municipality
Frank Stevens	eThekwini Metropolitan Municipality
Neil McLeod	eThekwini Metropolitan Municipality
Speedy Moodliar	eThekwini Metropolitan Municipality
Vello Govender	KZN COGTA
Solly Mabuda	Department of Water Affairs
Angela Masefiled	Department of Water Affairs: KZN Regional Office

2.3 No Reactions

Bheki Mbambo	Umgungundlovu District Municipality
Bheki Makwakwa	Sisonke District Municipality
Vusumuzi Khumalo	Ugu District Local Municipality

3. APPROVAL OF THE AGENDA

The agenda was approved without any additions or changes.

4. OBJECTIVE OF THE MEETING

(a) The objective of the 4th PSC Meeting was to provide an update of progress on the project and to engage with committee members. KB emphasised that the Terms of Reference (ToR) of the PSC have changed to a platform or working group coordination meeting between the three modules of the uMWP to discuss progress on the study and to receive inputs from PMC meetings.

(b) He also noted that there are 8 months remaining to complete the study, including about 20 reports. ***Module 3*** work being undertaken by Knight Piésold needs also to be coordinated. The team also needs to engage with NvW for strategic decisions and for the planning model. GS (Umgeni Water) will chair the remaining PSC meetings

5. MINUTES OF THE PREVIOUS MEETING

5.1 Approval of previous meeting minutes

The minutes of PSC Meeting no. 3 held on 20 March 2013 were accepted without any additions or changes.

5.2 Matters arising from Previous minutes (not addressed in the agenda)

(a) Project (glossy) pamphlet: the project pamphlet has been updated accordingly.

(b) Future developments in the catchment will be assessed in an Economic Impact Study, which will include an Economic Assessment.

(c) KB shared his strategy to encourage municipalities to attend meetings. The approach would be to use a workshops format and invite all representatives from the municipalities. He noted that public participation for the EIA would draw more people to engage in the uMWP study. GS also proposed to use DWA's municipal water forum to discuss the project. AECOM

(d) NvW indicated that, based on previous experience, stakeholders react and participate when they are being impacted by a specific project. He foresees a better attendance of the Reconciliation Strategy meetings.

(e) KB noted that questions relating to desalination or groundwater development would arise in the uMWP study and also during the Reconciliation Strategy. Therefore, it is important for the feasibility study to address these issues. KB added that the KZN Reconciliation Study would commence shortly.

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

6.1 SUMMARY OF YIELDS, WATER REQUIREMENTS PROJECTIONS AND FOOTPRINT OF SUPPLY AREAS

HSP provided progress and findings on the yields, water requirement projections and footprint of supply areas. The following comments were raised and discussed.

(a) KM indicated that according to Dr Piet Wessels (DWA) the gauging weirs in the uMkhomazi River are currently not adequate. The weir upstream of the proposed Smithfield Dam will be flooded, and there is a need for two new gauging weirs on the uMkhomazi River.

(b) NvW suggested that the flow gauging weirs be included as part of the project. It would be advantageous to have the weirs in place as soon as possible. Flow gauging weirs need to be assessed and included in the EIA application. DH/AECOM

(c) KM noted that water would need to be released for Ngwadini Dam, as there will be a net benefit. Umgeni Water want to ensure that new infrastructure is built to the right size and specifications.

(d) Referring to the yield curve, the pumping requirements for SAPPI SAICCOR should be taken into account when supplying to the Lower uMkhomazi.

(e) It is stated that although support from Smithfield Dam may be required for Ngwadini Dam the yield of Smithfield Dam is not significantly affected by the Ngwadini Dam. NvW indicated that the release of water from Smithfield Dam would be subject to the operating rules of Ngwadini Dam.

(f) Water requirements of the South Coast inherently account for losses. eThekwini Municipality has also confirmed that the losses are included in the water requirement projections. eThekwini Municipality will provide spreadsheets to check the losses. Furthermore, it was mentioned that for all new developments, eThekwini Municipality adds 35% to make provision for losses. However, the graphs do not show or include this 35%.

6.2 UPDATED WATER BALANCE

The following comments were made in response to *Slides 27 – 30* (Water Requirement Projections – four scenarios were compiled for comparative URVs).

(a) It was noted that desalination plants are not an alternative for the uMWP but could provide a short-term interim solution.

(b)	The energy requirement for the proposed Lovu Desalination Plant is quite high. There are also constraints, which relate to private contracts, making it difficult or impossible to switch off the proposed Lovu Desalination Plant.	
(c)	KM noted, that implementation of the north coast desalination plant, will not delay Smithfield Dam. The north coast desalination plant will be switch of after about six years, when water from the uMWP will become available. Further, it will also be cheaper to switch off Springrove Dam because it is a pumping system. However, Spring Grove will still support Midmar Dam.	
(d)	NvW indicated that the Thukela system would also come into the picture. It will be available but not fully utilised. This needs to be taken into account in the comparative scenarios. (This will be taken into account in the Reconciliation Study).	
(e)	The water balance with the Ngwadini Dam scenario shows a deficit on the total Umgeni plus uMkhomazi water balance, however the deficit will not be on the South Coast.	
(f)	KM indicated that the water requirement for the South Coast is currently 80 Mℓ per day. It is doubtful whether the demand on the South Coast will be 150 Mℓper day by 2023.	
(g)	Regarding the third scenario comprising the implementation of both the north and south coast desalination plants, and postponing Smithfield Dam, KB mentioned that building larger desalination plants is possible but expensive. The main problem with desalination plants is associated with the distribution costs. It is, therefore, important to understand the bigger picture when comparing the URVs for the various scenarios.	
(h)	It was suggested that deficits at Midmar Dam be investigated. A study has been undertaken by WRP on behalf of Umgeni Water in this regard. Umgeni Water also indicated that they have someone available to look at the Midmar Dam deficits.	
(i)	The fourth scenario is Ngwadini Dam plus uMWP. KM indicated that WRP did a study that investigates the transfer of water from the Upper to the Lower uMngeni River catchments. Therefore, the blue line depicted on graphs presented on ***Slides 27 – 30*** will not drop to zero.	
(j)	HSP indicated that she has worked with Mr Colin Talanda from WRP and will be in contact with him to update the information.	*HSP to liaise with Colin Talanda*

6.3 WATER RESOURCES PLANNING MODULE

(a)	It was noted that in the previous PSC minutes, Section 6.2.1, it was stated that groundwater as an alternative scheme will be investigated. Groundwater for the uMkhomazi Catchment was assessed, but an alternative scheme was not identified. KB proposed a desktop assessment of the potential and cost of developing an aquifer. NvW suggested that Mr Sakhile Mndaweni, a new DWA colleague in the field of groundwater, to review the report.	KB

(b)	NvW indicated that it is important to understand the constraints and potential associated with groundwater. Furthermore, it must be noted that groundwater resources cannot compete with the yield of the uMWP. DH indicated that if groundwater is not an alternative option, it is important to give reasons why groundwater is not being considered. KB suggested that AECOM provides two paragraphs explaining why groundwater is not a feasible option.	KB/AECOM
(c)	KM indicated that, over a number of years, there are not many groundwater schemes that are still in operation. **Response:** NvW cautioned the team not to discount the use of groundwater.	
(d)	It was also noted that the impact on the groundwater levels due to the construction of the tunnel should be investigated, since it was not currently addressed in the uMWP groundwater study. KB noted that the impact of the tunnel on the quality of life might be a risk, however, as soon as the tunnel is completed, the current status of the aquifers/movement of groundwater will return to the original state. The risks and impact needs to be documented. The write-up will be used in during EIA.	AECOM/DH/KB

6.4 PROJECT LAYOUT AND SIZES

Mr Danie Badenhorst (AECOM) presented a progress update on the engineering investigations. The summary of progress is presented in ***Slides 34 – 81***. Comments raised during the presentation are summarised below.

(a)	For the tariff calculations, it is important to accommodate phasing of the pipelines and water treatment plant to Umlaas Road. Until the final figures are available, assumptions will be made on 1st, 2nd and 3rd phases. KB requested Knight Piésold to give some information on this aspect.	AECOM/Knight Piésold
(b)	On a request from AD, it was confirmed that the maximum design capacity for phase 1 (one tunnel and Smithfield Dam) is 220 m^3 per year multiplied by 1.25 for seasonal peak.	
(c)	DB indicated that the dam and tunnel are not phased. The second phase (uMWP-2) is the implementation of Impendle Dam and an 2nd tunnel, currently planned only around 2050.	
(d)	***Slide 38*** refers to the Langa Balancing Dam Construction Materials and Geotechnical Report, which has been completed and audited. DB summarised the main findings in the meeting.	
(e)	DH asked about the dolerite quarry and if the reservoir footprint will cover everything as shown in ***Slide 41***. **Response:** DB confirmed that the quarry will be inundated and that the stepped side slopes of the quarry will be inundated when the reservoir is full.	
(f)	KB asked if topsoil will be used for rehabilitation and if the waste disposal site will be used as well. **Response:** DB confirmed that topsoil will be used for rehabilitation and explained the use of waste disposal sites.	
(g)	DH requested clarification on materials that will be sourced and what will be carried by trucks. **Response:** DB indicated that it would be sand, aggregate and cement.	

(h) DH indicated that ***Module 2*** does not have a Traffic Management Plan. The volumes of material that will be transported may trigger an EIA listed activity. **Response:** KB mentioned that a Traffic Management Plan, as for the Spring Grove Dam, is likely required for the uMWP.

(i) DB indicated that they would need to import some dolerite from outside areas. He mentioned that sources identified for materials include the following:

- Midmar Crushers - potential source of aggregate.
- Natal Crushers – potential source of aggregate.
- **NPC** – potential source of **sand.**

Slide 45 shows approximate distances from the potential sources to point of use.

(j) AD stated that if one takes into consideration some of discussions that have been held with Mr Myles van Deventer from Baynesfield Estate it would be important to know the following:

- Roads to be used for transportation of materials.
- Type of materials to be sourced from commercial sources.

(k) DH confirmed that (1) the road condition and (2) road use need to be assessed as part of the EIA investigations. DH

(l) DB emphasised that the inflow of water into the tunnel during construction will be a major issue due to the fractured nature of the shale rock and high water table. In this regard, NvW cautioned the study team regarding the 'impacts on groundwater resources' (*also discussed under item 6.3d*). This is based on the fact that uMWP will not have a dry tunnel. There will be lots of water influence on the tunnel as there is a high water table or water is close to the surface.

(m) A reference was made to the investigations of a hydropower plant as part of the uMWP. This is being done to ensure that all feasible water use and/or requirements are investigated during the planning stage. A question was asked regarding the size of the hydropower plant. **Response:** The hydropower plant would be a smaller structure compared to the Water Treatment Works (WTW).

(n) KM asked what structure (pipe or tunnel) would be used to transfer water from the raw water tunnel to the WTW. **Response:** Pipes will be used to the WTW, and also straight to the balancing dam.

(o) KB stated that Langa Dam would only be filled by the overflow from Smithfield Dam. However, Langa Dam can be filled or reach its full volume capacity by itself over a period of three years.

(p) KM asked if it would be possible for farmers to use water for irrigation when the balancing dam is full and not used. GS indicated that it is always better to have farmers using the dam as a point of assurance and support. HSP stated that the dam will be operated accommodating environmental requirements and other current downstream users. Operating rules to be established during the design phase. DWA

(q) KM enquired whether the hydropower plant is part of the uMWP-1 contract? **Response:** The hydropower plant is part of ***Module 1*** investigations for water use options. KM further asked what are the plans for breaking water pressure? **Response:** A stilling basin will be used to break pressure before water flows to the WTW.

(r) Regarding the Final Dam Size and Layout, a point was made about the Unit Reference Values (URV) for different sized dams and to establish if the URV is calculated at the point of delivery? **Response:** AD indicated that the URV takes into account the entire system including potable water systems to Umlaas Road.

(s) KB also noted that the tunnel is the largetst cost when calculating URVs. Whether you build a bigger or smaller dam, you will still have unused water in the scheme, this will increase the URV for the scheme.

(t) NvW indicated that there is a need for the **Final Dam Size and Layout** to be confirmed by a group of experienced people (DWA/UW management) to ensure that they have applied their minds and there are no fatal flaws and gaps. It is proposed that the study team should take the current information on final dam size and layout for final approvals at DWA. NvW/KB/HSP

(u) KB indicated that, at a meeting with DWA Management, a decision was taken to do more geotechnical drilling as the Smithfield Dam will probably be higher at by 31% MAR, 930 FSL.

(v) NvW noted, from previous experience on the Thukela Water Project, it is important for DWA management to know and understand what is proposed. The key questions that are normally asked after decisions have been made are mostly (a) was the DWA management knowledgeable, etc. of what was proposed, (b) were the stakeholders aware of what was being proposed, (c) did we (as a technical team) know what we were talking about?

(w) HSP noted NvW's recommendation of taking the current proposal to meet and discuss with people like Mr Solly Mabuda, Chief Director: Integrated Water Resource Planning, at DWA), etc. DB confirmed that the final dam layout and size are well documented in the optimisation report and will be discussed and accepted at the appropriate highest decision making levels within the Department. AECOM/DWA

6.4.2 Optimisation of Scheme Configuration: Update on Waste Disposal Sites

(a) ***Slide 61***, Layout of Waste Disposal Sites: NvW requested clarity on waste products from the tunnel. There is a possibility of using spoil material from the tunnel for the construction of the balancing dam. This opportunity also presents costs savings. This has been accommodated by AECOM in their reports.

(b) DH enquired about the location of waste disposal sites. **Response:** AECOM is waiting for AD (Knight Piésold) to give inputs and get back to Mr Myles van Deventer of Baynesfield Estate.

(c) DH indicated that Baynesfield Estate uses most of their land for agriculture practices. Therefore it is important to look at the benefits and disadvantages of taking more of Baynesfield's land, and understand the implications.

(d) Side 64, Dam types: – it was confirmed that AECOM is busy with dam types selection (roller compacted concrete gravity dam, zoned earth-filled embankment dam, earth-core rock-fill dam, concrete faced rock-fill dam and composite dam (various options) for Smithfield, Langa and/or Baynesfield Dams. It was further noted that the combined concrete gravity/earth core rockfill scheme would cost about R 400 million more than other schemes to date.

6.4.3 Water Quality and Limnological Review

Slides 67 to 69 showed a schematic layout of the Smithfield Dam tunnel inlet and outlet works as well as the Langa Balancing Dam Outlet works. The following comments were raised and discussed.

(a) It was indicated that, for environmental reasons, the temperature of the water released must be similar than the river's water.

(b) KM wanted to know if there is not a way of allowing water to improve in temperature, etc. KH responded by saying that the water for environmental releases should ideally come from the warmer, upper layers in the dam during the summer period. Any significant change in temperature (more than 10% between the dam inflow and outflow) will have a significant impact on the downstream biota. This is only relevant during the summer period, when the impoundment will be stratified and the deeper water is colder and anoxic. As a first choice, one would not choose anoxic water either for water treatment or environmental releases.

During the winter period, water is mixed (isothermal - no stratification) with no chemocline. KH suggested that, in summer, abstractions for water treatment should be at 6 – 8 m from the water surface, which is within the aerobic layer and significantly better quality than below the oxycline. In terms of environmental releases, upper water releases will also be necessary since the South African water quality guidelines for aquatic life only allow for a 10% change in temperature.

(c) *Slides 67 to 69* (Smithfield Dam Inlet and Outlet and Langa Dam Outlet works): KM noted that the issues are associated with less oxygen. He then asked what will happen if water is only released in summer? KH explained that during the summer stratified period, environmental releases from the scour need to be balanced by spill water which is warmer and has higher oxygen concentrations. If you release scour water only in summer, the water will be anaerobic, colder and contain higher concentrations of problematic metals such as iron, manganese, etc. The layer below 6 - 8 m is where anaerobic, poorer quality water is found.

(d) KH requested that *slides 67 to 69* on water quality and the limnological review be emailed to her so she can confirm her recommendations for the study team on all three applications regarding outlets at the dams. HSP /KH

(e)	KB also reminded all present about an email from Mr Neil Kleynhans which talks about the water quality component of the Reserve, which needs to be determined. He then asked when this would be done as part of the study. KB suggested that a meeting be arranged with Ms Shane Naidoo (Director: Water Resources Classification), Donavan Henning (uMWP- *Module 2*), Kim Hodgson (Umgeni Water) and AECOM.	HSP/DH/KH and Shane Naidoo
6.4.4	**Cost comparison of options (URV Calculations) – uMWP vs Desalination**	
	The following comments were raised regarding possible scenarios identified by AECOM.	
(a)	NvW cautioned the study team to not discount options or other possible scenarios. He indicated that he has received criticism before for discounting options. The PSC is not a forum for making decisions. Proper procedures still need to be followed in arriving at strategic decisions. It should be noted that the study team is investigating options and needs to be careful how this is written in the reports and not to be seen as discarding options.	AECOM
(b)	Regarding the project programme, it was pointed out that soon the South Coast would have a major infrastructural problem.	
(c)	It was also pointed out that an alternative to the proposed Ngwadini Dam or Desalination is an "accelerated or phased Smithfield Dam Project".	
(d)	KM mentioned that it is going to be extremely difficult to convince management that Smithfield Dam will already be implemented in 2023, while the implementation of Spring Grove Dam, which was a much smaller dam, took about 12 years.	
7.	**PRESENTATION AND DISCUSSION ON STUDY OVERVIEW, PROGRESS AND FINDINGS OF THE UMWP-1: MODULE 1: SOCIO – ECONOMICS**	
	Mr Paul Jones, Urban-Econ, presented an update on the socio-economics study. The presentation is summarised and included as Annexure B. Comments raised and discussed are as follows.	
(a)	The impact at Baynesfield Estate during construction and operation of the scheme should be thoroughly investigated and understood.	Urban-Econ
(b)	Urban-Econ also needs to look at the agri-business aspect of Baynesfield.	Urban-Econ
(c)	In terms of the return flows in the catchment, is Urban-Econ going to look at these? **Response:** Urban-Econ is looking at the socio-economic composition of the catchment and is not looking at other catchments.	

(d)	KB mentioned that there are issues around taking water from one catchment to another catchment, which are associated with benefits. **Response:** PJ indicated that they are looking at trade-offs for catchments losing water and those receiving water. They use a Social Accounting Matrix (SAM) Model to compare figures and determine the net social rate of return, etc.	
(e)	DH asked about the level of engagement that has happened to date. Has any engagement happened with people living on farms, which were kept aside for agricultural purposes? **Response:** PJ indicated that it was not part of their scope to consult with each landowner who is potentially affected.	
(f)	DH indicated that ***Module 2*** will have a questionnaire prepared and will consult with all directly affected landowners. He proposed that ***Module 2*** findings be shared with Urban-Econ for further input into the economics study (being undertaken by Urban-Econ).	DH/Urban-Econ
(g)	DH also pointed out that the Socio-Economic Study (Urban-Econ) and Water Quality Study (UW) are being undertaken as part of ***Module 1*** (Technical Feasibility), which could be an issue later on in the EIA process. This matter needs to be borne in mind, as these studies are not being done independently as part of ***Module 2***.	
(h)	KB mentioned that there is also a need to address issues around people benefitting from Smithfield Dam (the ones living next to the dam), this important component need to be addressed in the project. The Minister of Water Affairs may regard it as a fatal flaw if the communities adjacent to the dam does not benefit from the project.	HSP/DH
(i)	KB also wanted to know who is going to deal with the issue of land claims and mineral rights. **Response:** It was agreed that DH (***Module 2***) will pick up on the land claims issue and the mineral rights aspects of the study.	DH

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

8.1 IMPORTANT MEETING AND DELIVERABLE DATES AS WELL AS PROPOSED SPECIALIST STUDIES

(a) DH provided a progress update on ***Module 2***, the Environmental Impact Assessment. This progress update is summarised on slides included on Annexure B.

(b) DH confirmed that Nemai Consulting would submit an application for the raw water supply with three separate components, as follows:

- ✓ Smithfield Dam on the uMkhomazi River.
- ✓ Water Conveyance Infrastructure (tunnel and pipeline).
- ✓ Balancing Dam

(c) A separate application for potable water supply will be submitted (Umgeni Water as an applicant) as follows:

- ✓ Water Treatment Works and gravity pipeline to Umgeni Water works.

(d) AD needs to provide DH with the shapefiles for the two options for the Water Treatment Works. AD/DH

(e) DH also shared the proposed dates for key Public Participation Process activities, as follows:

- ✓ Project announcement (17 Sept – 28 Oct 2013).
- ✓ Individual landowner meetings (02 - 03 Oct 2013).
- ✓ Public Meetings (16 – 17 Oct 2013).
- ✓ Review of draft Scoping Report (08 Jan – 18 Feb 2014).

(f) It was suggested that landowners and/or stakeholders be advised of all meeting dates and venues and have liberty to choose to attend at a location which is most convenient or suitable for them.

(g) DH also indicated that he will liaise with BS regarding the planning and setting up of meetings, building on foundations and relationships established as part of the *Module 1* stakeholder consultation. DH/BS

9. PRESENTATION AND DISCUSSION ON STUDY OVERVIEW, PROGRESS AND FINDINGS OF THE UMWP-1: MODULE 3: TECHNICAL FEASIBILITY STUDY: POTABLE WATER

9.1 PIPELINE ROUTES AND WATER TREATMENT WORKS

(a) AD reported on progress with the potable water component as follows:

- The pipeline route design is complete.
- The water treatment plant design is complete. It has a capacity of 1,500 Mℓ/day, 6 modules, the footprint is 600 x 350 m for the full capacity of 1,500 Mℓ/day. The water storage area is still to be added.
- The filters have been included on the reservoirs.

(b) KB asked about the cost implication of the different sites. **Response:** AD indicated that the cost is not high; however, there is a need to compare the options and have a cost added to all options. The battery limits between Modules 1 and 3 still need to be sorted out.

(c) Regarding the WTW, AD indicated that the original site of the WTW was not favoured by Mr Myles van Deventer from Baynesfield Estate as it is limiting to the agricultural activities of the Baynesfield Estate. As a result, there was a need to look at other site options.

(d) Regarding the pipeline routes, the shortest route crosses a dam (Mapstone Dam). At the shortest crossing point, it is about 150 m wide. The main issue raised by a landowner is that the dam forms a security barrier (the removal of dam will pose a security risk for the landowner).

(e) Another constraint relates to the cost. The cost of a detour ranges between R 250 m and R 350 m. The cost of crossing the dam is still much cheaper and is approximately R 30 m.

(f) DH reminded the team that the crossing of a dam triggers an EIA listed activity. In addition, there may be a need for a water use license in this regard. There are thresholds provided in the EIA regulations, which will guide the extent of the investigations required.

(g) KM suggested that DH speaks to the landowner concerned regarding the potential for laying the pipeline in the dam after the dam is drained water. It will be important for the landowner and the study team to understand how long this will take and if they will consider this option. DH

(h) It was agreed that for all future water projections of the uMWP supply area, the low growth scenario received from Knight Piésold (assuming a growth of 1.5% per annum) is adopted as the final figure for use in the uWMP.

(i) AECOM indicated that they are waiting for Knight Piésold's (***Module 3***) report to be able to reference this in their feasibility report. It was agreed that Knight Piésold should not delay this any further, therefore a decision was made that additional figures received from eThekwini Metro after the current date will not be taken into consideration. AD

(j) AD indicated that the upcoming tasks for ***Module 3*** include the following:

- Engineering survey (control survey has commenced);
- Geotechnical investigations;
- Final costing (need to finalise the bill of quantities); and
- Production of the final reports.

(k) DH cautioned the study team about compliance requirements. It is important that their geotechnical investigations do not trigger any listed activities, otherwise there could be delays. The recommendation was that Knight Piésold's engineering team works closely with their internal environmental team to check the compliance requirements. AD/DH

10. UMGENI WATER REPORT BACK

10.1 DESALINATION

(a) Points noted with regard to desalination:

- KM reported that the feasibility study for the desalination plants would be completed in 2013. The approximate total cost of each plant is ± R 2.8 billion for a capacity of 150 Mℓ/d. The total operating and capital cost is ± R 8 to R 9 per kilolitre based on the URV.
- Essentially, these are ballpark figures, which they are looking at. The URVs are based on the current exchange rate.
- The geotechnical investigations are in progress.

10.2 LTBWSC

(a) Lower Thukela Bulk Water Supply Scheme (LTBWSC).

- The water treatment plant tender is currently with the Bid Adjudication Committee (BAC).
- The BAC identified a risk and, therefore, the matter is being handled by the relevant legal officials.
- The risk is being dealt with and it might take approximately one month to resolve.
- The deadline for construction is 2015.
- KM indicated that Umgeni Water is still looking at the augmentation of the South Coast Scheme and of Ngwadini Dam (which they refer as quick Smithfield) or a desalination plant.

10.3 AUGMENTATION OF THE SOUTH COAST

(a) KM indicated that, if there is an agreement in principle that a "quick Smithfield" i.e. Ngwadini Dam, can be built within 5 years, then a decision has to be made in order to meet the desired timeframes and to be able to deal with the South Coast water deficit.

11. KEY ISSUES TO DATE

KB indicated that the following key issues have been noted during the course of the PSC Meeting:

(a) Desalination will not postpone the uMWP significantly. The South Coast requires an immediate intervention, i.e. either the Lovu Desalination Plant or Ngwadini Dam, to bridge the deficit period. This needs to be worded carefully in all reports.

(b) It is assumed that the tunnel will be lined, until proven not required during construction.

(c) Write up the motivation for the dam size of 31%. DB

(d) Umgeni Water needs to get back to the study team regarding the 6 m spacing for the intake tower.

(e) The geotechnical investigation for the Potable Water Component (***Module 3***) will now continue and the relevant application submitted to the competent Environmental Authority.

(f) The Environmental Process will have three applications as outlined in Section 9 (b) of these minutes.

(g) A study on the savings of the existing system due to the uMkhomazi scheme needs to be done (on the pumping cost). DB indicated that this study would be important when it comes to tariff calculations. This is, however, in conflict with the phasing of study that needs to be done as per brief from KM, Umgeni Water. eThekwini Metro (Mr Speedy Moodliar) requested the PSC to do this study.

(h) KM suggested that the pumping of water from Spring Grove Dam should be stopped when necessary from a pumping cost point of view. However, there might be a Hydropower Plant coming up at the end of MNTS 2 Pipeline, which means that the costs will then be minimal.

12. WORK PROGRAMME

Discussed in the content of previous discussions.

13. UMWP WEB PAGE

Discussed in the content of previous discussions.

14. GENERAL

eThekwini requested a site visit to the project components. AECOM to assist with the arrangements. AECOM

15. DATE FOR NEXT MEETING

The date for next meeting will be circulated to all PSC members. AECOM

16. CLOSURE

The meeting adjourned at 16h00.

Notes prepared by B Shinga & D Badenhorst & HS Pieterse

Annexure A: Attendance Register (Page 1 of 2)

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

THE UMKHOMAZI WATER PROJECT PHASE 1: MODULE 1: TECHNICAL FEASIBILITY STUDY RAW WATER
[uMWP1-1/RW]
PSC MEETING - 3 SEPTEMBER 2013
ATTENDANCE LIST

AECOM

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water affairs
Department:
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Annexure B: Progress Report Presentations

Presentations:

- ✓ AECOM: Raw Water Component (***Module 1***)
- ✓ Urban-Econ: Socio-Economic Assessment (***Module 1***)
- ✓ Nemai Consulting: Environmental Impact Assessment (***Module 2***)
- ✓ Knight Piésold: Potable Water Supply (***Module 3***)