



## Support to the Implementation and Maintenance of the Reconciliation Strategy of the Crocodile West Water Supply System

### Minutes of the Study Management Team (SMT) Meeting, No. 1 at 13:00 on 4 March 2010, BKS Pretoria

#### 1. WELCOME AND CONSTITUTION OF THE MEETING

- (a) The Chairperson, Mr. Tendani Nditwani (TN) (Chief Engineer NWRP: North) opened the meeting. He welcomed everybody to the first Study Management Team (SMT) meeting of the "Support to the Implementation and Maintenance of the Reconciliation Strategy of the Crocodile West Water Supply System".
- (b) A membership list will be added to the Terms of Reference for the SMT. The following DWA members will be added: Limpopo, Gauteng and North-West regions, Options Analysis, Water Use Efficiency. DWA representatives will be link to specific tasks. Mr. Kennedy Mandaza (KM) was requested to compile a membership list.

ACTION

KM

#### 2. ATTENDANCE AND INTRODUCTIONS

##### 2.1 ATTENDANCE

The Attendance Register was signed by all (attached as **Appendix A**) and the participants introduced themselves.

<i>Mr. Tendani Nditwani</i>	<i>(TN)</i>	<i>DWA: NWRP</i>
Mr. Johan van Rooyen	(JAvR)	DWA: NWRP
<i>Mr. Gregory Paszczyk</i>	<i>(GP)</i>	<i>DWA: NWRP</i>
<i>Mr. Kennedy Mandaza</i>	<i>(KM)</i>	<i>DWA: NWRP</i>
Ms. Sanet van Jaarsveld	(SvJ)	DWA: OA
<i>Dr. Thinus Basson</i>	<i>(MSB)</i>	<i>BKS</i>
<i>Mr. Pieter van Rooyen</i>	<i>(PGvR)</i>	<i>WRP</i>
<i>Ms. Hermien Pieterse</i>	<i>(HSP)</i>	<i>BKS</i>
Mr. Johan Rossouw	(JDR)	BKS
Mr. Trevor Coleman	(TC)	Golder Associates

Mr. Fanie Vogel (SCV) Aurecon

## 2.2 APOLOGIES

Mr. Ockie van den Berg (OJSvdB) DWA: OA

Mr. Darius Mnquni (DM) DMM

Ms. Anelle Lötter (AL) Zitholele

\* Permanent members are indicated in *italic & bold*.

## 3. APPROVAL OF THE AGENDA

The Agenda was approved with the addition of **Item 4: Purpose of this meeting.**

## 4. PURPOSE OF THIS MEETING

The purpose of this meeting is to kick-off the study, identify and *prioritise* items that require urgent attention (such as work needed with respect to water transfers to the Lephhalale area) and to establish the *links with other studies*.

## 5. OVERVIEW OF THE PROJECT

(a) JAvR noted that the recommendations, listed in the *Crocodile West Reconciliation Strategy*, were straightforward. Large urban areas in the Crocodile West River catchment will continue to use water from the Vaal River catchment, whilst return flows can supply surplus water to the Lephhalale area in the Mokolo River catchment. The following priorities were identified:

- Confirmation of the *Mokolo-Crocodile Water Augmentation Project (MCWAP)* requirements.
- Determine how much water is required from the Vaal River to augment supplies to the southern and Lephhalale area, to enable sizing of the Vaal-Crocodile transfer pipeline.
- Perform modelling with current data. Re-run models with improved data as and when available.
- Provide the modelling results to the stakeholders for comment. Show all assumptions to the stakeholders to curb the expected negative reaction from the irrigators.

SCV

## 6. ROLES, RESPONSIBILITIES AND COMMUNICATION

### 6.1 CLIENT TEAM

(a) The Client is represented by TN, with the assistance of KM and GP. JAvR will be a SSC member but not be a permanent member of the SMT. He can be called upon when required by TN.

- (b) KM and GP should be copied on all communication to the Client.

## 6.2 PSP TEAM

- (a) BKS is the lead company, represented by MSB as Study Leader. PGvR from WRP is the Study Manager, assisted by the Deputy Study Manager, HSP. TC represents Golder. JDR will provide the institutional knowledge regarding the Reconciliation Strategy.
- (b) MSB will take overall responsibility for the project and for all contractual matters. PGvR will take responsibility for the project management and technical matters.
- (c) All project communication to be copied to MSB, PGvR and HSP.

All

## 6.3 MOKOLO/CROCODILE WEST AUGMENTATION PROJECT (MCWAP)

SCV from Aurecon and SvJ from DWA represent the MCWAP team on behalf of Mr Ockie van den Berg (DWA).

## 7. OVERVIEW OF TASKS DEFINED IN THE PROPOSAL

PGvR briefly introduced the tasks as presented in the tender document. Some tasks were further discussed, as recorded below.

### 7.1 TASK 1: INCEPTION PHASE

TN requested the Inception Report to be completed by the end of May 2010.

MSB/  
PGvR/HSP

### 7.2 TASK 2: WATER QUALITY MODEL

TN requested a write up on the broad status of the water quality of the river. TC mentioned that the Water Resource Guidelines are not available. He will make a proposal to the Study Steering Committee (SSC) based on the present status of the river.

TC

### 7.3 TASK 3: WATER RESOURCES PLANNING MODEL

- (a) PGvR suggested that the Water Resources Yield Model (WRYM) be updated, as a first step. The aquifers modelled in the previous *Crocodile West Catchment Study* will be added to the model. The inclusion of the aquifers in the Lower Crocodile River sub-catchment will model the surface water-groundwater interaction. This will be targeted for end of April 2010.

JDR



- (b) JAvR noted that the Reserve is not currently implemented. A way must be found to divide the contributions towards the Reserve equitably between all the users. Add the Reserve requirements to the system model and get a first order estimate of the impact of the Reserve on the system.
- (c) JDR noted that the Water Resources Planning Model was set up as part of the *Crocodile West Modelling Study* and the *Crocodile West Reconciliation Strategy*. Some problems with the base models still need to be solved. This is targeted for July 2010.
- (d) MSB noted that although the current annual water balance indicates a surplus along the lower Crocodile River, the monthly/daily balances sometimes result in a deficit.

PGvR

JDR

#### 7.4 TASK 4: DEVELOPING OF OPERATING RULES

##### 7.4.1 Operating levels of Hartbeespoort Dam

- (a) JAvR enquired about the future variation of water levels at Hartbeespoort Dam. The dam is currently operated well below capacity, resulting in nearly constant high water levels. MSB proposed to determine the firm yield from Hartbeespoort Dam and abstract that to get trajectories of the expected future water levels. Sensitivity analyses could then be performed to give an indication of the expected future operating levels for the dam.
- (b) To operate the dam at maximum yield may impact on the homeowners adjacent to the dam. Comparing the projected dam levels with dams at similar type of developments, such as Bronkhorstspuit Dam and the Vaal Dam, may bring perspective.
- (c) The cost of the yield lost, should the dam not be operated at maximum capacity (drawdown), can be calculated.

JDR

PGvR

MSB

#### 7.5 TASK 5: WATER TARIFF REVIEW

No discussion.

#### 7.6 TASK 6: REPORTS

This task will be incorporated by the relevant technical tasks.

#### 7.7 TASK 7: RECONCILIATION STRATEGY REPORT UPDATE

No discussion.

#### 7.8 TASK 8: LIAISON AND INFORMATION DISSEMINATION

No discussion.

## 7.9 TASK 9: STAKEHOLDER ENGAGEMENT AND ADMINISTRATION

### 7.9.1 Establishment of Strategy Steering Committee (SSC)

- (a) TN requested that the SSC be established as a matter of urgency.
- (b) AL will draft a stakeholder list based on the MCWAP process. She will also consult Ockie van den Berg re stakeholders for MCWAP. Only one representative from each organization will be invited, as per request to CEO/Senior Manager to nominate such a person. List to be available by the end of March 2010.
- (c) Future changes and addition of new members will be allowed.
- (d) It was agreed that the water balance on the current situation should be presented at the first SSC.

AL/HSP

JDR

### 7.9.2 Public meetings

The matter of public meetings was discussed. The Study Team will motivate why public meetings are not required and suggest alternative measures to be used to keep the public informed.

AL

## 7.10 TASK 10: PROJECT MANAGEMENT

### 7.10.1 Contractual / administrative matters

- (a) BKS has not yet received the Letter of Appointment. Work will only continue when the necessary contractual matters have been resolved, which may impact on the target dates given above.
- (b) BKS submitted motivation for rates. These should be approved as soon as possible.
- (c) Task descriptions will be compiled for additional tasks (see **Item 8**). Any change in Scope of Work or additional tasks must be formalised by DWA before work is allowed to commence.
- (d) TN requested that a Record of Decisions be kept.

TN

TN

PGvR/TN

HSP

### 7.10.2 Financial

Financial matters to follow on finalising of the Contract.

### 7.10.3 Progress meetings and dates

Regular progress meetings will be held.

#### 7.10.4 Progress reports

Progress reports will be submitted with each Invoice.

HSP

#### 7.10.5 Work Programme

Current work programme as per Proposal. To be updated.

HSP

#### 7.11 TASK 11: SUPPORT GROUP (SG) SUPPORT

No discussion.

### 8. NEW TASKS IDENTIFIED AND RESTRUCTURING OF STUDY

#### 8.1 AD HOC TASKS REQUESTED BY JOHAN VAN ROOYEN

JAvR requested MSB to perform two additional tasks, namely Marginal Cost of Water and Security of Water. MSB to present a budget for these two tasks that will be added to the Study.

MSB

#### 8.2 RESERVE – INTEGRATION OF RESOURCE CLASSIFICATION INTO STUDY

(a) TN requested that the Integration of Resource Classification should be added to this Study. PGvR and Estelle van Niekerk (EvN) attended a meeting on 1 February on this subject.

(b) PGvR will draft a ToR, based on the available documentation, and a budget for this task.

PGvR

### 9. CLARIFICATION OF IDENTIFIED ACTIVITIES

#### 9.1 LINK WITH VALIDATION AND VERIFICATION STUDY

The results of this study are needed urgently. SSC to motivate the importance of this study.

#### 9.2 WRYM AND WRPM STATUS

As discussed under **Item 7.3**.

#### 9.3 IMPACT OF REMOVAL OF FOREST/ALIEN VEGETATION

(a) MSB noted that the removal of forest/alien vegetation was previously considered. The study team will motivate why further work on this is not needed. TN noted that he received more data on this matter, that he will forward to the Study Team

TN

(b) MSB will comment on this information.

MSB

#### 9.4 FARMER REPRESENTATION ON THE SCC

The three irrigation boards, namely Hartbeespoort GWS, Crocodile West irrigation board and Mokoppa will be requested/allowed to send one representative each to the SCC.

#### 9.5 MINE WATER RECLAMATION

Decant water from mines in the Vaal River catchment could be processed and may be used in the Vaal or transferred via the Crocodile to Lephale. TC to advise on further actions.

TC

#### 9.6 HARTBESPOORT DAM/RUSTENBURG POSSIBLE WATER SUPPLY

The configuration of this possible scheme should be confirmed.

JDR

#### 9.7 ADDITIONAL STORAGE : VLIËPOORT / BOSCHKOP

No discussion. Study team to advise on further investigation required.

PGvR

#### 9.8 RAISING OF KLIPVOOR DAM

No discussion. Study team to advise on further investigation required.

PGvR

#### 9.9 TRANSFER OF WATER FROM KLIPVOOR DAM TO THE NORTH

No discussion. Study team to advise on further investigation required.

PGvR

#### 9.10 MOKOLO/CROCODILE WATER AUGMENTATION PROJECT

(a) SCV briefly discussed the status of the MCWAP. DWA is in the process to negotiate water user agreements with the large users. DWA will not continue with the design process without signed user agreements. The target abstraction from the Crocodile River is 100 million m<sup>3</sup>/a by 2022. SCV to supply the latest available water requirements scenario to the Study Team.

SCV

(b) SCV requested the Study Team to quantify the impact of the MCWAP transfer on the lower reaches of the Crocodile West River for inclusion in the MCWAP EIA. He agreed that the WRYM will be run with existing information, to be updated at a later stage. This information is needed by end of April 2010.

JDR

(c) The impact of this proposed transfer must be shown on:

- the legal entitlement of the irrigation farmers (both Crocodile West and Makoppa irrigators); and
- the current status of irrigation, also in terms of the risk and economic impact.



- (d) The MCWAP team is considering the history of irrigation in the area and when the extra water from return flows came into effect. The acceptable assurance of supply must also be considered based on historic records.
- (e) PGvR proposed to use stochastic analyses to determine the risk for different levels of use. Also, consider existing operating rules and the aquifer.

**10. GENERAL**

No discussion.

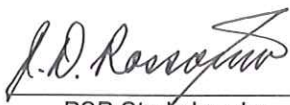
**11. NEXT MEETING**

The next meeting will be held at 9:00, on 15 April 2010 at BKS, Pretoria.

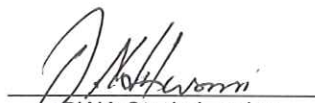
**12. CLOSURE**

The meeting was closed at 16:00

*Minutes certified as correct and final*

  
PSP Study Leader

2011-02-25  
Date

  
DWA Study Leader

24/02/2011  
Date