STRATEGY STEERING COMMITTEE OF THE CROCODILE WEST WATER SUPPLY SYSTEM: MAINTENANCE AND IMPLEMENTATYION OF THE RECONCILIATION STRATEGY

PROGRESS REPORT

August 2010

The first meeting of the Strategy Steering Committee (SSC) was held on Thursday, 29 July 2010 to discuss the progress in the implementation of a water resource management strategy for the Crocodile West Water Supply System.

The purpose of the SSC is to ensure that the:

- Crocodile West Water Supply system's Reconciliation Strategy is implemented;
- Reconciliation Strategy is updated regularly; and
- Deliberations and decisions of the Reconciliation Strategy are communicated to interested and affected parties.

A summary of the progress with the implementation of the main strategies, as well as the response from the SSC is given below. The progress reports presented to the SSC are given in Appendix A. A membership list of the SSC has also been attached to this report.

1. IMPLEMENTATION OF STRATEGIES

1.1. Eradication of unlawful water use in the VRS by December 2011

Around 180 million m^3 of water is lost to unlawful irrigation in the Upper Vaal Water Management Area alone. This puts the whole VRS at risk and the assurance of supply is threatened.

Measures are being implemented to prevent this unlawful water use, but due to human resources constraints the project could struggle to meet its target of eradicating all unlawful irrigation by 2011.

There were delays in formulating the Water Use Compliance Enforcement process and the original target date for full eradication of 2011 is unlikely to be achieved. The SSC expressed concern on the negative implications of the delay and requested support from the Department of Water Affairs (DWA) Top Management in expediting decisions and ensuring prioritisation of resources for this important process.

1.2. Reduction in municipal water use by 15% through Water Conservation and Water Demand Management by 2014

This project has been kicked off in Gauteng and all municipalities are involved. The aim is to reduce water demand by 15% by 2014 by reducing losses and managing water more efficiently.

The current status is that very little of the targeted savings have been achieved and the main challenge for the implementation of Water Conservation / Water Demand Management (WC/WDM) projects is the lack of sufficient funding.

The Directorate: Water Use Efficiency and the Gauteng Regional Office are in the process of setting up a Steering Committee and a Project Management Unit that will drive Project 15%.

The momentum gained through previous engagements with the municipalities will continue as well as the monitoring of progress and performance. Regular discussions with municipalities will continue to confirm the targets and provide assistance where needed.

The meeting accepted three proposals regarding WC/WDM:

- Clear indicators must be found to measure WC/WDM at all municipalities;
- The four big Gauteng municipalities must report directly to the SSC at the next meeting of the SSC in August 2010 on the progress of WC/WDM and not through the Directorate: Water Use Efficiency; and
- A PMU must be established to support municipalities.

1.3. Re-use of treated effluent to augment water supply by 2014

More water resources are needed in the VRS and the re-use of effluent and water will become very important by 2014. The Re-use Strategy includes both the re-use of mine water - Acid Mine Drainage (AMD) - and treated sewage effluent.

Currently water is released from the Vaal Dam to dilute the high saline water downstream and due to economic growth the return flows will increase into the VRS which will necessitate an increase in dilution releases.

The DWA, the Department of Minerals and the Department of Science and Technology and other stakeholders have formed a Task Team to focus on the short and medium term management of AMD. Due to the heavy rains AMD has started decanting at old mines in the Western Basin. Mining companies are encouraged to apply for subsidies to keep their pumps running so that the AMD does not decant.

The plan is to transfer the AMD from the Western and Eastern Basins to a treatment plant in the Central Basin. The water could initially be treated to acceptable standards to be released into the VRS, but this treatment will have to be upgraded to potable standards and supplied into the system by 2014.

The institutional arrangements and the apportionment of liability will be finalised within the next two months.

1.4. Development of Phase 2 of the Lesotho Highlands Water Project to supply water by 2019

Lesotho is investigating access to development grants which it wants to use to develop hydro-electricity in the Lesotho Highlands Water Project (LHWP). South Africa is currently negotiating with Lesotho to avoid possible risks of increased delays or higher costs to Phase 2 of the LHWP.

Lesotho is investigating an alternate direct tunnel route between the Polihali Dam and the Muela Dam that would allow for the generation of additional hydropower. This option would increase capital costs and holds risks of a longer construction period and was not the option recommended in the Feasibility Study which was completed in 2008. This study identified from among various alternatives, the preferred scheme consisting of Polihali Dam to be constructed on the Senqu River, with a gravity tunnel transferring water to Katse Dam. From Katse Dam the water would be delivered to the VRS through an existing delivery tunnel system that will be upgraded, via the Muela Dam.

The Polihali Dam can contribute 465 million m^3/a to the VRS but only if mitigation measures are put in place to replace the yield of 283 million m^3/a, which is lost from the existing Orange River yield. Without the implementation of yield replacement in the Orange River, the Polihali Dam can only deliver 182 million m^3/a without negatively impacting the assurance of supply of existing users in the Orange River. Yield replacement in the Orange River will thus have to be implemented to utilise the full yield of LHWP Phase 2.

The SSC expressed its concern regarding the extension in the completion date of this dam from 2019 to 2020 and the potential for further delays.

1.5. Implementation of the Water Quality Management Strategy for the Vaal River

The VRS is already experiencing serious water problems but this can be alleviated to a large extent by the effective implementation of the Integrated Water Quality Management Strategy. Integration across the Water Management Areas within the VRS and integration of all studies are vital for the success of this Strategy.

Water quality issues had been identified during a water quality status assessment of the VRS. All the identified issues have been grouped into four focus areas: salinity; eutrophication; microbiological pollution; and institutional challenges. The Vaal River Integrated Water Quality Management Strategy is structured such that each of these focus areas receive explicit attention.

The Directorate: Water Resource Planning Systems has translated this into an action plan, which will be discussed and cleared with all the relevant role-players for implementation.

1.6. Completion of the Vaal Comprehensive Reserve Determination Study

A comprehensive reserve determination study is currently being done for the whole of the VRS – the biggest such study ever undertaken in South Africa. According to the National Water Act the Reserve is the quantity and quality of water required to satisfy basic human needs and to protect ecosystems, in order to secure ecological sustainable development.

The study is conducted in five distinctive phases:
Phase 1: Study Inception (project management component)
Phase 2: Compilation of Terms of Reference and Procurement
Phase 3: Technical Reserve Determination Studies Initiation
Phase 4: Technical Reserve Determination Studies (surface and ground water)
Phase 5: Project Closure

Phase 1 was the initiation phase before the technical studies were initiated. Phases 2 to 5 are the tasks and activities undertaken by the technical study teams to ensure the successful determination of the Reserve for the Integrated VRS.

Phase 1 of the study has been completed with the approval of the inception report of the project management component. Phases 2 and 3 have been completed with the successful appointment of technical PSP teams to conduct all components of the technical studies (surface and groundwater) and the completion and approval of the inception reports for the surface water and groundwater sub-studies.

As soon as the results of the study become available, the Technical Task Team will analyse the implementation scenarios and will present this to the SSC for its approval.

2. REGULAR UPDATE OF THE STRATEGY

When there are any changes that can lead to deviations in the implementation of the Strategy it is important that the water balance be updated accordingly. The water balance is the water that flows in and out of a specific system. The DWA needs to know the exact water balance of all catchments before water can be transferred from one catchment to another.

The Mokolo, Crocodile and Vaal River systems are interlinked and all the system balances must be revised to update the balance for the Vaal River System.

Known changes that need to be incorporated in the balances include:

- Planning for water supply to Lephalale is ongoing and the water requirements have been updated recently;
- The Crocodile System has updated yield results;
- Target WC/WDM savings in the Rand Water supply area were not achieved and updated saving projections need to be developed;
- Eradication of unlawful water use process is delayed; and
- Ecological Water Requirements is in the process of being determined.

The balances will be calculated and presented to the SSC meeting in August 2010.

3. GENERAL INFORMATION

Detail progress reports on the water resource management strategies can be found at the following link: http://www.dwa.gov.za/Projects/???

The Study Manager for this project is Mr Tendani Nditwani at the Directorate: National Water Resource Planning (North).

The next meeting of the SSC is on 24 February 2010.