



water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA



EdTM

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MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

NATIONAL COUNCIL OF PROVINCES: QUESTION 393 FOR WRITTEN REPLY

A draft reply to the above mentioned question asked by Mr D A Worth (DA-FS) is attached for your consideration.

DIRECTOR-GENERAL (Acting)

DATE: 20/10/2013

DRAFT REPLY APPROVED/~~AMENDED~~

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Mava & Team to draft a press release on this response to be released on Monday the 04th 11/2013 as this response get released to Parliament

**MRS B E E MOLEWA, MP
MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS**

DATE: 2013/11/01

NATIONAL COUNCIL OF PROVINCES

FOR WRITTEN REPLY

QUESTION NO. 393

DATE OF PUBLICATION IN INTERNAL QUESTION PAPER: 18 OCTOBER 2013
(INTERNAL QUESTION PAPER NO. 31)

393. Mr D A Worth (DA-FS) to ask the Minister of Water and Environmental Affairs:

(a) What is the age of the oldest water pipes in the Mangaung Metropolitan Municipality, (b) how are these pipes being replaced, (c) when will this replacement be completed, (d) what amount has been budgeted to replace these pipes and (e) what plans are in place to increase the pipeline capacity of the said municipality?

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REPLY:

(a) The oldest type of pipeline recorded in the Mangaung Asset Register is a steel pipeline dated from as far back as 30 June 1920 (**93 years**). Furthermore, assessments indicate that the bulk supply line through Bloemwater is 40 years old (1973) (Welbedacht pipeline 112 km long DN1200).

Based on conditional assessment, the average age of the existing pipeline is as follows (**table 1**):

Table 1: Average age of the pipes

| Pipeline | Average age |
|-------------------|-------------|
| Internal network | 71 |
| Bulk Reticulation | 50 |

Adoption of the Water Reconciliation Strategy revealed the urgency to conduct infrastructure assessment. The conditional assessment was conducted in the old areas of Mangaung Metropolitan Municipality (MMM) and identified various types of pipes, different sizes and lengths, age, asset and carrying value of these pipes. Below (**table 2**) is a Sampling of the Conditional Assessment report summarizing pipes greater than **400 mm** and over **700 m** in length (See **Annexure A** for a detailed report):

Table 2: Conditional Assessment of Pipes

| Pipe Diameter (mm) | Length (metres) | Age (years) | Asset value (Rands) | *Carrying value (Rands) |
|--------------------|-----------------|-------------|---------------------|-------------------------|
| 750 | 3686 | 47 | 15,608,650.5 | 3,961,316.6 |
| 700 | 2864 | 47 | 12,130,483.4 | 3,076,996.5 |
| 700 | 2450 | 47 | 10,375,116.5 | 2,630,696.4 |
| 700 | 2283 | 47 | 9,687,969.9 | 2,450,905.2 |
| 750 | 2431 | 47 | 10,296,976.1 | 2,610,829.3 |
| 500 | 2059 | 47 | 7,894,073.4 | 1,999,894.0 |
| 500 | 2051 | 47 | 7,865,376.0 | 1,992,597.7 |
| 600 | 1781 | 46 | 3,760,795.8 | 1,012,755.1 |
| 750 | 1669 | 47 | 7,066,249.8 | 1,789,420.8 |
| 500 | 1467 | 47 | 5,623,366.3 | 1,422,569.2 |

| Pipe Diameter (mm) | Length (metres) | Age (years) | Asset value (Rands) | *Carrying value (Rands) |
|---------------------------------|-----------------|-------------|-------------------------|-------------------------|
| 500 | 1462 | 47 | 5,603,842.1 | 1,417,605.2 |
| 700 | 1206 | 46 | 5,105,962.8 | 1,377,561.7 |
| 700 | 1046 | 46 | 4,428,228.8 | 1,193,761.6 |
| 700 | 939 | 47 | 3,976,258.6 | 1,003,793.9 |
| 700 | 727 | 46 | 3,079,530.4 | 827,997.2 |
| Total (Sample) | 28 121 | | R 112 502 880.40 | R 28 768 700.40 |
| Grand Total (Annexure A) | 44 249 | | R 160 135 580.60 | R 40 318 627.50 |

*Carrying value = Asset Value – Depreciation

The above sampled steel pipes are nearing the design life span of 50 years as indicated by **table 3** below:

Table 3: Common types of pipes utilized by MMM and the design life span

| Types of pipes | Design life span (years) |
|----------------|--------------------------|
| Clay Pipes | 60 |
| Asbestos pipes | 30- 40 |
| Steel pipes | 50 |
| HDPE pipes | 50 and more |
| RC pipes | 50 and more |

(b) The Department of Water Affairs (the Department), MMM and Bloem Water have put in place a proposed programme called “Refurbishment of Water Supply Systems” in which critical assets identified under condition assessment are replaced on an on-going basis from year to year as per the budget. The programme is entirely dependent on the Grants indicated below:

- Accelerated Community Infrastructure Programme
- Municipal Water Infrastructure Grant
- National Transfers Programme
- Regional Bulk Infrastructure Grant
- Bloemwater Capex
- Metro Grant

Currently the MMM, together with the Department are also intervening by implementing the Water Conservation and Water Demand Management (WCWDM) under tow different programmes. The allocations for the financial year 2013/14 are as follows:

- The Department allocated R 6 000 000. 00 through the Accelerated Community Infrastructure Programme (ACIP). This project focuses on parts of Thaba Nchu and Bloemfontein including Noordhoek. Pipe replacement using trenchless technology is taking place in Noordhoek as the condition of the network system is in a poor condition. The pipes that are currently being replaced are old asbestos pipes that were laid over 60 years back. These pipes had to be replaced as they seem to be giving the municipality challenges due to the high frequency of leakages. MMM adopted trenchless techniques to replace the existing asbestos pipeline network due to expediency leading to less inconveniences and cheaper financial implications.

The other scope of work has been the replacement and recomissioning of critical Pressure Reducing Valves (PRV) on the main lines.

- The Department also allocated R 6 900 000 - This allocation has been made available to the MMM through the National Transfers Programme (NTP). The scope of work is similar as it comprises of the replacement and recomissioning of critical PRVs in Thaba

Nchu on the main lines. It should be noted that pipe replacement is not taking place on this project.

- (c) The replacement can only be completed when full required funds are allocated. Although there are constraints as far as funding is concerned, the plan is to accomplish the task in the next five (5) years (2013 – 2018).
- (d) The budgeted amounts and prioritized projects are tabled below (**table 4**):

Table 4: Summary of funding requirements for all water supply interventions:

| Project | Total Cost | Secured | Not Secured |
|---|-----------------------|---------------------|-----------------------|
| Water Demand and Water Conservation interventions | R245,100, 000 | R197,100,000 | R48,000,000 |
| Raw Water Supply Interventions | R1,030,300,000 | R215,300,000 | R815,000,000 |
| Bulk Water Supply Interventions | R2,313, 500,000 | R246,000,000 | R1,885, 500,000 |
| Internal Distribution Interventions | R377,390,000 | R140,190.000 | R237,200,000 |
| Small Town Interventions | R103,000,000 | R14,000,000 | R89,000,000 |
| Total | R3,887,290.000 | R597,290.000 | R3,074,700,000 |

With the secured funding, projects are already underway in the short term, but concerted effort is being made to source the remainder of the funding to finalise all the projects within the time frame of 2013 to 2018.

- (e) A Water Reconciliation Strategy Study for the Greater Bloemfontein Area was undertaken by the Department, in collaboration with Bloem Water (BW), the MMM, Mantsopa LM, Naledi LM, Kopanong LM, and a final report was completed in June 2012.

The Water Reconciliation Strategy was then adopted as an encompassing detail plan to deal with all infrastructure refurbishment and upgrade required. The purpose of the Reconciliation Strategy is to determine the current water balance situation and develop various possible future water balance scenarios up to 2035 and beyond. It aims to describe the proposed strategy, and the associated actions, responsibilities and timing of such actions that are urgently needed to reconcile the supplies and requirements, to enable additional interventions to be timeously implemented. Furthermore, the proposed programme entail funding requirements as indicated above in the budget requirements.

The pipeline in question pertains to the assessment of the integrity of the 40 year old Welbedacht pipeline with a distance of 112 km long and a diameter of 1200 mm. Currently the main focus is to repair critical sections of the pipe to avoid pipe bursts and further deterioration. The long term plan of the Bulk Water Supply intervention requires funding amounting to R 2,313,500,000 of which R 1,576,000,000 has been earmarked for replacement of the Welbedacht pipeline.

The Bloem Water/ MMM has planned to complete the replacement project by 2018 pending the availability of the financial resources. In the next five years Bloem Water/ MMM has so far budgeted R 76 million towards the project.

The Greater Bloemfontein supply system provides the majority of potable water requirements to the larger centers of Bloemfontein, Thaba Nchu and Botshabelo, as well as the smaller towns of Wepener, Dewetsdorp, Reddersburg, Edenburg, and Excelsior, which are also dependent to varying degrees on local water sources. Bloemfontein has been the focus of development in recent years resulting in a decline in many of the small rural towns. Migration from farms to towns by farm workers in search of employment opportunity has further placed increased burden on the water supply to the towns. Currently approximately 66% of the

treated water is supplied by Bloemwater, primarily through Welbedacht and Rustfontein Water Treatment Plant (WTP) and the balance via MMM's Maselspoort WTP.

The actions to ensure adequate and sustainable reconciliation of future water requirements in the Greater Bloemfontein Area so as to prevent the risk of a water shortage becoming unacceptable and the key water supply interventions identified to alleviate the status quo comprise of the following:

- Implementation of Water Conservation and Water Demand Management (WCWDM) to achieve substantial water savings (11.5 million m³ could be saved at a cost of R240 million);
- Assessment of the integrity of 40 year old Welbedacht pipeline (112 km long DN1200) to avoid pipe bursts and further deterioration;
- Increase capacity of Tienfontein Pump Station (40% water supply derived from here);
- Address and reduce the siltation problems at Welbedacht Water Treatment Plant (WTP) (Turbidity has changed from 500 – 2300 NTU since 1976 to 1994);
- Scouring of the Welbedacht Dam to restore about 40% raw water capacity.

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