



10. WATER AND SANITATION DIVISION
IMPLEMENTATION OF AN EQUITABLE SANITATION TARIFF POLICY FOR
THE CITY OF TSHWANE METROPOLITAN MUNICIPALITY (CTMM)
(From the Special Portfolio Committee: Water and Sanitation:
26 November 2001)

Report of the Municipal Manager:

1. BACKGROUND

The proposed new sanitation tariff policy, which is mainly applicable to off-site sanitation systems (a water-borne sewerage system is a system for conveying waste water through a pipe system to a waste water treatment plant), has been developed not only to comply with the relevant legislation, but also to add value to the delivery of sanitation services to consumers in the CTMM. The 'user pays' principle and the principle of supplying free basic services to households has been included as part of the tariff policy.

The tariff policy has been scientifically developed based on sound financial principles to ensure a fairer, more reasonable and acceptable sanitation tariff for consumers. This effective and equitable tariff policy will be the key to a sustainable sanitation service.

The new tariff comprises the following:

1. An availability charge for all non-domestic consumers based on the zoning and size of the premises.
2. Normal conveyance and treatment cost of waste water with a pollution loading (quality) equal to domestic waste water.
3. Extraordinary treatment cost for consumers who exceed the pollution loading of domestic waste water.
4. Penalties for all consumers who exceed the set concentration limits of certain substances.

2. PURPOSE

The purpose of this report is to propose a new sanitation tariff policy for the CTMM for implementation from 1 July 2002. This new policy is mainly applicable to off-site sanitation (water borne sewerage system) consumers. The provision of appropriate on-site sanitation systems (pit latrines, chemical toilets, french drains, etc.) will be dependent on the National Sanitation Policy which has currently been presented to Parliament. The figures, certain variables and comparisons in this report are based on the present budget and merely serve as an indication to the Council what the effect of the new tariff policy will be on the different consumer categories. The actual figures and variables will have to be determined annually.

3. HISTORY/...

3. HISTORY

Municipalities are responsible for rendering safe and adequate sanitation services to all residents within their municipal areas. In order to do so on a sustainable basis, sanitation service authorities will need to establish effective management systems and generate local revenue from the services provided. The implementation of effective and equitable tariff policies is the key to ensuring the sustainability of service provision in the future.

A draft sanitation tariff policy was approved on 22 November 2000 by the then Greater Pretoria Metropolitan Council and the KHORO, which resolved as follows:

(Unaltered)

- 7.1 That cognisance be taken of the different sanitation tariff structures presently applied in the GPMC area.
- 7.1 That the principle of determining the volume of waste water discharge into the sewerage system as a percentage of the water supply be accepted.
- 7.2 That the sanitation tariff structure for households, calculated from the same base as the sliding scale for water consumption, in principle be supported as an option.
- 7.3 That the introduction of an availability charge or fixed charge based on the stand size as part of the tariff structure be considered.'

4. TARIFF POLICY PRINCIPLES

The Water Services Act, 1997, and the Municipal Systems Act, 2000, prescribe certain norms, standards and principles in respect of setting tariffs for sanitation services.

4.1 PRINCIPLES AND REQUIREMENTS PRESCRIBED BY THE WATER SERVICES ACT (Section 10)

The Municipality must, when determining its revenue requirements on which tariffs for sanitation services are based, take into account at least the need to -

- (a) recover overhead, operational and maintenance costs;
- (b) recover the cost of capital not financed through any grant, subsidy or donation;
- (c) provide for the replacement, refurbishment and extension of sanitation infrastructure;
- (d) ensure that all households have access to basic sanitation;
- (e) support the viability and sustainability of sanitation services for the poor;

(f) recognise/ ...

- (f) recognise the significant public benefit of efficient and sustainable sanitation services; and
- (g) discourage usage practices that may degrade the natural environment.

4.2 PRINCIPLES AND REQUIREMENTS PRESCRIBED BY THE MUNICIPAL SYSTEMS ACT (Section 74)

1. A municipal council must adopt and implement a tariff policy on the levying of fees for municipal services provided by the municipality itself or by way of service delivery agreements that complies with the provisions of the Act and with any other applicable legislation.
2. A tariff policy must reflect at least the following principles:
 - (a) Users of municipal services should be treated equitably in the application of tariffs.
 - (b) The amount individual users pay for services should generally be in proportion to their use of that service.
 - (c) Poor households must have access to at least basic services through -
 - (i) tariffs that cover only operating and maintenance costs;
 - (ii) special tariffs or lifeline tariffs for low levels of use or consumption of services or for basic levels of service; or
 - (iii) any other direct or indirect method of subsidisation of tariffs for poor households.
 - (d) Tariffs must reflect the costs reasonably associated with rendering the service, including capital, operating, maintenance, administration and replacement costs, and interest charges.
 - (e) Tariffs must be set at levels that facilitate the financial sustainability of the service and take into account subsidisation from sources other than the service concerned.
 - (f) Provision may be made in appropriate circumstances for a surcharge on the tariff for a service.
 - (g) Provision may be made for the promotion of local economic development through special tariffs for categories of commercial and industrial user.
 - (h) The economical, efficient and effective use of resources, the recycling of waste and other appropriate environmental objectives must be encouraged.
 - (i) the extent of subsidisation of tariffs for poor households and other categories of user should be fully disclosed.
3. A tariff policy may differentiate between different categories of user, debtor, service provider, service, service standards, geographical areas and other matters as long as the differentiation does not amount to unfair discrimination.

5. MEASURING OF THE VOLUME OF WASTE WATER DISCHARGES

A Conveyance Master Plan study was executed in the former GPMC area to determine flow patterns in the sewerage system emanating from various sources such as households, businesses, industries, stormwater ingress, etc. The outcome of the study clearly indicates a relationship between the volume of water supply and the volume of waste water discharged into the sewerage system from the household or consumer.

The/ ...

The following ratios between water supply and the volume of waste water discharge for various consumer categories, as determined scientifically, are proposed:

5.1 DOMESTIC CONSUMERS

WATER SUPPLY kℓ/month	WASTE WATER DISCHARGE AS % OF WATER SUPPLY
0-6	98
7-12	90
13-18	75
19-24	60
25-30	50
31-42	10
42+	1

5.2 NON-DOMESTIC CONSUMERS

ZONING	WASTE WATER DISCHARGE AS % OF WATER SUPPLY
Business	80
Church/Places of worship	60
Club	80
College/University	55
Commercial	60
School	45
Creche	55
Entertainment	80
Garage	80
Hall	80
Hospital/Clinics	80
Hotel/Hostel	80
Industrial	65
Municipal/State	80
Retirement village	65
Sport	45
Old age/Welfare	60
Parks/Public open space	2

Where a consumer opposes this method of flow measurement, proper proof must be supplied by such a consumer to substantiate the actual waste water discharge.

6. PROPOSED SANITATION TARIFF POLICY

The tariff comprises the following four elements:

- Availability charge
- Normal conveyance and treatment cost of waste water of quality equal to domestic waste water
- Extraordinary treatment cost for waste water exceeding the domestic waste water quality (industrial effluent)
- Penalty/...

- Penalty charges for exceeding concentration limits of certain substances.

6.1 AVAILABILITY CHARGE

This serves as an incentive for developers and property owners to develop their properties.

As the lifeline principle (free basic service) is also proposed for this tariff policy, no availability charge will be applicable to developed domestic stands. The availability charge is calculated in relation to the land-use (zoning) and stand size. A charge unit measured in square meters (m²) is determined for each zoning or land-use based on the stand size or floor area.

The unit cost per charge unit applicable to this report is R4,12. This unit cost will have to be determined annually for each financial year. The following table reflects the proposed availability charge units for each zoning or land-use:

AVAILABILITY CHARGE UNITS

ZONING	CHARGE UNIT PER	
	POTENTIAL FLOOR AREA OF BUILDING m ²	AREA OF STAND m ²
Residential 1 (undeveloped)		150
Residential 2 (undeveloped)		76
Residential 3 (undeveloped)		52
Business	35	
Places of worship	166	
Clubs	42	
University/Colleges	24	
Commercial	95	
Schools		230
Chreches		100
Entertainment	21	
Garages	31	
Halls	50	
Hospitals/Clinics	10	
Hotels/Hostels/Boarding houses	21	
Industrial	85	
Municipal/State	36	
Retirement villages		75
Sport		230
Old Age/Welfare	22	
Parks/Public open space		4 000

6.2 NORMAL/...

$N_d =$ Ammonia concentration of domestic waste water in milligrams of nitrogen/litre

The following figures are applicable for this report and will have to be determined annually for each financial year:

$t =$ R0,82/k λ
 $COD_6 =$ 600 mg/ λ
 $P_6 =$ 10 mg/ λ
 $N_6 =$ 25 mg/ λ

6.4 PENALTY CHARGES

Certain concentration limits of certain substances ie pH, COD, SS, metals, etc, are prescribed in the proposed new sanitation by-laws of the CTMM. Penalties based on the penalties set by the Department of Water Affairs and Forestry will be applicable for exceeding these limits.

7. BUDGET (for comparison purposes only)

The following income for the 2001/2002 financial year can be expected on application of the new sanitation tariff policy:

	PRETORIA	NPMSS	CENTURION	ODI	Femba	TSHWANE
Availability charge (All non-residential)	R19 053 770	R6 617 868	R4 415 902	R0	R0	R30 097 540
Sewage charge (All stands except wet industries)	R105 773 033	R22 062 623	R50 506 394	R0	R0	R178 341 960
Industrial effluent (Wet industries only)	R2 255 000	R7 640 000	R665 500	R0	R0	R10 560 500
TOTAL						R219 000 000

8. LIFELINE TARIFF (free basic services) FOR DOMESTIC HOUSEHOLDS

The impact of supplying free basic sanitation services (98% x 6 k λ of water = 5,88 k λ of waste water discharged per month) to domestic households was investigated. The following two tables illustrate the two applicable scenarios:

8.1 NO LIFELINE

Income required R178 341 959 a year
Income required R14 861 830 a month

		Water sales (kL/month)	Run-off % per category	Run-off volume	Tariff (per kL of effluent)	Income per month
Residential	0-6	1 926 324	98%	1 887 798	R1.96	R3 697 952
	7-12	1 690 963	90%	1 521 867	R1.96	R2 981 140
	13-18	1 411 074	75%	1 058 305	R1.96	R2 073 082
	19-24	1 031 684	60%	619 010	R1.96	R1 212 560
	25-30	687 397	50%	343 699	R1.96	R673 262
	31-42	872 966	10%	87 297	R1.96	R171 004
	42+	1 575 233	1%	15 752	R1.96	R30 856
Non-residential (excluding wet industrial)		2 949 054	70%	2 053 210	R1.96	R4 021 973
TOTAL		12 144 696		7 588 938		R14 861 830

8.2 LIFELINE (free basic supply)

Income required R178 341 830 a year
Income required R14 861 830 a month

		Water sales (kL/month)	Run-off % per category	Run-off volume	Tariff (per kL of run-off)	Income per month
Residential	0-6	1 926 324	0%	0	R0,00	R0
	7-12	1 690 963	90%	1 521 867	R2,97	R4 524 722
	13-18	1 411 074	75%	1 058 305	R2,97	R3 148 488
	19-24	1 031 684	60%	619 010	R2,97	R1 840 403
	25-30	687 397	50%	343 699	R2,97	R1 021 865
	31-42	872 966	10%	87 297	R2,97	R259 546
	42+	1 575 233	1%	15 752	R2,97	R46 833
Non-residential (excluding wet industrial)		2 949 054	70%	2 053 210	R1,98	R4 021 973
TOTAL				5 699 140		R14 861 830

9. EFFECT OF THE NEW TARIFF STRUCTURE ON CONSUMERS

The following example illustrates the application and effect of the new tariff structure for a typical situation:

ZONING	Size of premises m ²	Building area m ²	Water supply kL	Waste water dis- charged kL	Availability charge	Normal charge	Extra- ordinary charge	Total
Domestic household	1 000		30	16,5	0	R49,00	0	R49,00
Business	1 000	500	30	24	R54,50	R47,00	0	R101,50
Industry	1 000	500	30	19,5	R22,50	R38,00	R42,00*	R102,50

• Calculation/...

- Calculation of the extraordinary charge for the following substance values:

$$\text{COD}_c = 2\,000$$

$$P_c = 50$$

$$N_c = 60$$

$$\begin{aligned} \text{Cost Tc} &= Q_c \times t \left[0,6 \frac{(\text{COD}_c - \text{COD}_d)}{\text{COD}_d} + 0,25 \frac{(P_c - P_d)}{P_d} + 0,15 \frac{(N_c - N_d)}{N_d} \right] \\ &= 19,5 \times R0,82 \left[0,6 \frac{(2000 - 600)}{600} + 0,25 \frac{(50 - 10)}{10} + 0,15 \frac{(60 - 25)}{25} \right] \\ &= R41,73 \end{aligned}$$

The attached table (Annexure A) shows a detailed comparison of the new tariff with the status quo scenario and with other municipalities.

10. IMPLEMENTATION PLAN

The income generated by the new tariff policy compares favourably with that of the existing tariff policies in the former Pretoria, NPMSS and Centurion municipalities but can have a major impact in Mabopane, Ga-Rankuwa, Winterveld and Temba where no sanitation charge is levied at present. The same applies to the industries in Ga-Rankuwa and Babelegi.

The new sanitation tariff policy and implementation strategy has to be communicated to the consumers to ensure acceptance and understanding of the new policy.

11. COMMENTS OF THE HEAD LEGAL SERVICES

I would like to comment as follow on the above-mentioned report:

Regarding the penalty charge I propose that it be renamed to something else eg. 'excess use charges', 'burden charges' or 'nuisance charges' as the word 'penalty' might leave the impression of blameless liability which in terms of the Constitution of the Republic of South Africa, 1996 (Act 108 of 1996), is unlawful.

Furthermore, Mr P de Klerk has submitted a report on the restriction of water supply to default ratepayers and I submit that the policy should also address the contents of the said report.

Lastly, I take cognisance thereof that this is a report on the policy on water tariffs but that a further report for the approval of the tariffs itself will in due course have to be submitted to Council as soon as possible to be included in the new budget.

I also/...

I also submit that the Regulator being the Minister of Water Affairs and Forestry has in terms of section 10 of the said Act, the authority to promulgate certain regulations which he may set from time to time. These will probably impact on Water Services Authorities (WSA) i.e. Municipalities and Water Services Providers (WSP), i.e. public, private, mixed entities or municipalities itself. The policy will then inevitably have to be reviewed from time to time to meet the requirements of the Regulator.

12. COMMENTS OF THE CHIEF FINANCIAL OFFICER

This Department has no objections in principle to the implementation of an equitable sanitation tariff policy, based on water consumption.

In the Budget Document approved by Council on 25 June 2001 it was mentioned that a new tariff structure was being prepared and that a report in this regard will be submitted to Council during the year.

Please take note of the following that will result from the proposed new structure being based on water consumption:

- Should a correction journal in respect of water consumption be necessary, an additional journal will now also have to be made for sewerage which means more administration.
- The illegal use of water or tampering with the water meter will then also impact negatively on the sewerage income.
- The budgeted sewerage income will then be affected by natural elements (ie rainfall, drought, etc.) and might therefore not necessarily realise which will put the budget under constraint. This may necessitate tariff changes during the financial year.

The calculation of the availability charge on non-residential stands based on the potential floor area of the building may lead to a fair amount of administration before implementation can take place.

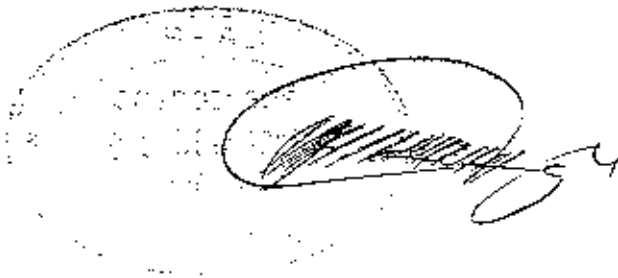
The level of the tariffs can be determined more accurately when the budget is compiled.

The effect of the new structure on the monthly account will differ from consumer to consumer, affecting some positively and others negatively."

RESOLVED:/...

RESOLVED:

1. That cognisance be taken of the different sanitation tariff policies presently applied in the CTMM.
2. That cognisance be taken that the proposed new sanitation tariff policy for the CTMM has been scientifically developed and will result in the same income levels for the Municipality.
3. That the following principles on which the new tariff policy will be based, be accepted:
 - 3.1 the inclusion of a free basic sanitation service or a lifeline tariff for all domestic consumers (5,88 k λ of waste water discharged per month) as part of the tariff policy.
 - 3.2 the volume of waste water discharged is to be determined as a certain percentage of the water supplied to the consumer as indicated in tables 5.1 and 5.2. of the report.
 - 3.3 an availability charge (fixed charge) is applicable to all non-residential stands based on the zoning and stand size or floor area as indicated in the table in paragraph 6.1 of the report.
 - 3.4 the normal conveyance and treatment cost, the extraordinary treatment cost and penalty charges are to form part of the tariff policy.
4. That the proposed new sanitation tariff policy mainly applicable to off-site sanitation systems (water-borne sewerage) be approved for implementation from 1 July 2002 in accordance with an accepted implementation strategy.
5. That the new sanitation tariff policy and implementation strategy be communicated to the relevant stakeholders prior to implementation of the policy.

A circular official stamp, likely from the City of Tshwane Metropolitan Municipality, is partially obscured by a handwritten signature in black ink. The signature is written in a cursive style and extends across the right side of the stamp.

