

Provincial Best Performers

Letsemeng and **Tswelopele** are the best performing municipalities in Free State Province:

- ✓ 100% of the municipalities are in medium risk space with CRR/CRR_{max}% deviations of 58-59%

Letsemeng and **Tswelopele** are the municipalities in Free State Province that shows the best progress:

- ✓ 100% of plants shows successful risk abatement (↓)
- ✓ Average CRR/CRR_{max} of Letsemeng improved from 88% (2011) to 58% (2012)
- ✓ Average CRR/CRR_{max} of Tswelopele improved from 85% (2011) to 59% (2012)

Provincial Lower Performers

The **Kopanong**, **Ngwathe**, **Nketoana**, and **Tokologo** represents the highest risk municipalities in Free State Province:

- ✗ 100% (22 of 22 plants) in are in critical risk positions
- ✗ Average CRR/CRR_{max} of 100% (Kopanong), 93% (Ngwathe), 96% (Nketoana), Tokologo (100%)

The **Maluti-a-Phofung**, **Ngwathe** and **Mohokare** represents the municipalities in Free State Province with the most prominent risk decline:

- ✗ 100% of plants (15 of 15) have digressed to more severe risk positions
- ✗ CRR/CRR_{max} increased during 2011 to 2012 as follows:
- ✗ Maluti-a-Phofung (38 to 83%), Ngwathe (54 to 93%), Mohokare (83 to 100%)

Introduction

The Green Drop Report 2011 reported that wastewater services delivery in Free State is performed twenty (20) Water Services Authorities via an infrastructure network comprising of 95 wastewater collector and treatment systems. As result of changes in Local Government and wastewater treatment infrastructure, the current situation reflects that 20 WSAs are providing a service via 95 wastewater systems, which can be summarised as follows:

	MICRO SIZE <0.5 Mℓ/day	SMALL SIZE 0.5-2 Mℓ/day	MEDIUM SIZE 2-10 Mℓ/day	LARGE SIZE 10-25 Mℓ/day	MACRO SIZE >25 Mℓ/day	Undeter mined	Total Mℓ/day
No of WWTPs	4	33	30	7	6	15	95
Total Design Capacity (Ml/day)	1.45	34.73	129.8	108.2	203.6	15	477.8
Total Daily Inflows (Ml/day)	0	5.044	21.6	49.4	123.9	75	274.9

*ADWF = Average Dry Weather Flow

Provincial Risk Analysis

One of the key performance areas within the national Green Drop Certification programme is the ability of a municipality to identify and abate the risks that presents the highest adverse impact on health and environment. The Department has commenced with risk-based regulation in 2008, thereby establishing a baseline risk profile for each plant in South Africa. The following table shows the trend in risk movement for Free State Province over a 3 year period:

CUMULATIVE RISK COMPARATIVE ANALYSIS				
Performance Category	2009	2011	2012	Performance trend _[2009- 2012]
Highest CRR	28.0	28.0	32.0	↑
Average CRR	14.7	16.2	18.6	↑
Lowest CRR	5.0	4.0	6.0	↑
Average Design Rating (A)	1.4	1.4	1.3	↓
Average Capacity Exceedance Rating (B)	4.4	4.5	4.5	→
Average Effluent Failure Rating (C)	5.8	7.1	6.5	↓
Average Technical Skills Rating (D)	3.1	2.8	3.1	↑
AVERAGE % DEVIATION FROM maximum-CRR	74.7	80.9	83.5	↑

N/A = Not applied

↓=improvement, ↑ = digress, →= no change

From the above table, it can be observed that the Province has not been successful in stalling or commence to abate the overall increased risk trend of municipal treatment facilities in the Free State. The most prominent parameters of the provincial risk profile is the drastic upwards movement in risk of the highest

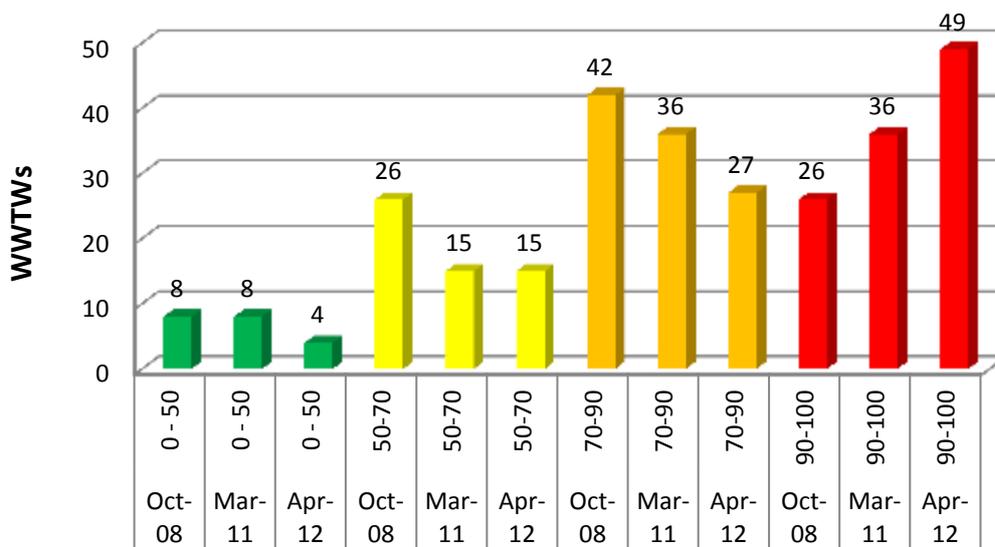
CRR (increased from 28 to 32), the upwards risk trend in average CRR (increased from 16.2 to 18.6) and the CRR/CRRmax%deviation which increased significantly from 74.7% (2009) to 80.9% (2011) to 83.5% (2012).

The technical skills component appears to largely contribute to the declining risk trend in the province, and concerted efforts will have to be contributed to rectify this situation. A positive observation is the improvement in effluent quality as a result of some key players in the province that has made some markable efforts in this regard and thereby raising the cumulative performance of the province. This is one example of how a single municipal performance can contribute positively or negatively to a provincial profile. The same principle would apply where a provincial performance has a measurable impact on the Country's profile as a whole.

The movement of risk can be well observed in the following bar-chart. The clear movement of high risk plants into critical risk positions is disquieting and alarming. In 2011m 36 plants resided in critical risk, and this has now increased to 49 plants. A further concerning trend is seen in the reduced number of plants in low and medium risk positions, as these plants are moving into high and critical risk space.

This trend is alarming, as experience has learnt that the cost and specialist resources are much higher to address critical risk scenario, compared to earlier interventions when detecting early warning signals of a plant moving into distress.

Risk Profile: CRR as % of CRRmax



RISK PERCENTAGE

% Deviation = CRR/CRR(max) TREND	90 – 100% Critical risk WWTPs	
	70 - <90% High Risk WWTPs	
	50-<70% Medium risk WWTPs	
	<50% Low Risk WWTPs	

The following municipalities are in critical and high risk positions in 2011/12 and placed under regulatory surveillance:

Priority	WSA Name	2012 Average CRR/CRRmax % deviation	WWTPs in critical and high risk space	
1	Kopanong LM	100%	All nine plants	
2	Masilonyana LM	100%	All five plants	
3	Mohokare LM	100%	All three plants	
4	Tokologo LM	100%	All three plants	
5	Mafube LM	98%	All five plants	
6	Nketoana LM	96%	All four plants	
7	Mantsopa LM	93%	All four plants	
8	Ngwathe LM	93%	All five plants	
9	Setsotho LM	89%	Clocolan, Marquad, Senekal	
10	Moqhaka LM	87%	Kroonstad	Steynsrus, Viljoenskroon,
11	Nala LM	84%		Bothaville, Wesselsbron
12	Phumelela LM	84%	Warden, Vrede	
13	Maluti A Phofung LM	83%	Makwane, Moeding	Tshiame, Harrismith, Kestell, Phutaditjhaba 1 and 2
14	Dihlabeng LM	82%	Paul Roux	Rosendal, Fouriesburg, Clarens, Bethlehem
15	Matjhabeng LM	80%	Witpan, Odendaalsrus	Theronia, Virginia, Allanridge AS, Mmamahabane, Thabong, Henneman, Phomolong
16	Naledi LM	65%		Dewetsdorp, Wepener
17	Metsimaholo LM	64%		Deneysville, Oranjeville
18	Tswelopele LM	59%		
19	Letsemeng LM	58%		
20	Mangaung LM	54%		Sterkwater, Bloemspuit

	Critical risks
	High risk
	Medium risk

To assist with focussed mitigation of risk within each system, the Regulator has introduced Wastewater Risk Abatement Plans (W₂RAP) as one approach to focus and rectify the 'primary risk areas' before high risk scenarios develop. The following table indicate the status of W₂RAPs in the Free State. When compared to other Provinces, the Free State shows a marked absence of risk management and focussed risk abatement, which might explain the risk decline in the region.

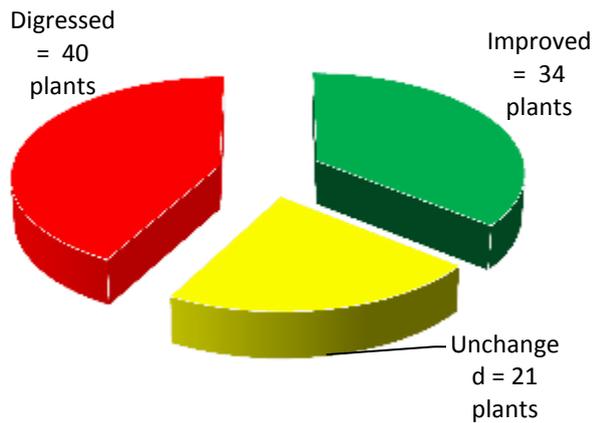
Municipalities which has started to use W ₂ RAPS to abate risk as part of business	Municipalities which have basic / conceptual W ₂ RAPs in place	Municipalities which has not conceptualised targeted risk abatement as part of the business process	
Manguang	Letsemeng	Dihlabeng	Naledi
Mafube	Maluti A Phofung	Kopanong	Ngwathe
Mohokare	Matjhabeng	Mantsopa	Nketoana
Tswelopele		Masilonyana	Phumelela
		Metsimaholo	Setsotho
		Moqhaka	Tokologo
		Nala	
4	3	13	

Conclusion

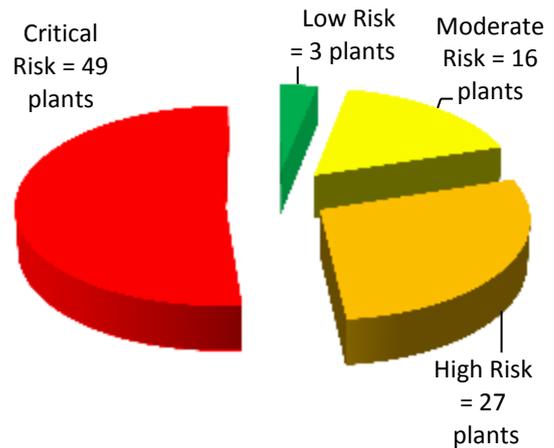
Free State progress can be summarised as follows:

- i. 40 plants shows in digress by taking up higher risk positions, whilst 34 plants improved and 21 remained unchanged
- ii. The majority of plants are in critical risk (49) and high risk (27), whilst a smaller fraction is in moderate risk (16) and only 3 plants in low risk positions.

CRR/CRRmax Trend Analysis



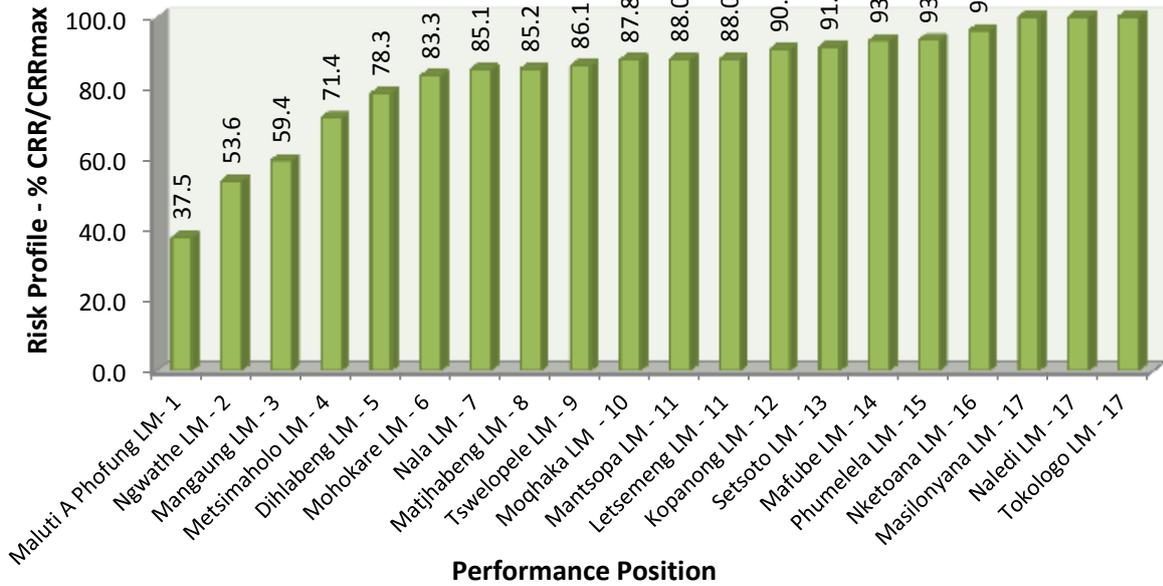
2012 Risk Category Split



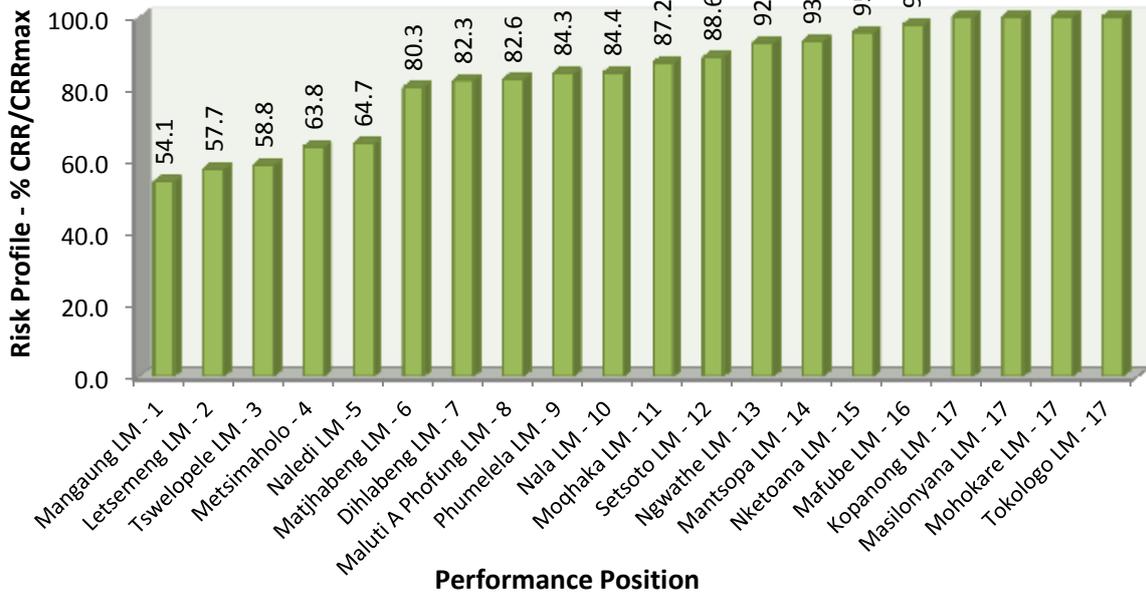
It is important to understand that well performing municipalities will elevate the provincial performance and risk profile, whilst poor performing municipalities will downgrade the collective score and thereby neutralising the positive contributors. It is therefore important that DWA Regional Offices identify the lower performers and those municipalities with high and critical risk plants and focus corrective action and intercessions accordingly.

The CRR/CRRmax% deviation for the Province can be unpacked by considering the various contributions made by the respective municipalities.

PROVINCIAL PERFORMANCE LOG 2011



PROVINCIAL PERFORMANCE LOG 2012



FREE STATE WSA PROGRESS INDICATOR:

34✓

40x

FREE STATE RISK POSITION IN SOUTH AFRICA:

9th

Assessment Areas	Bethlehem	Clarens/Kgubetswana	Fouriesburg/Mashaeng
Technology	Activated sludge and BNR, biofilters and sludge drying beds	Biofilters and sludge drying beds	Activated sludge (SBR) and sludge drying beds
Design Capacity (MI/d)	25.6	1.5	1.9
Operational % i.t.o. Design Capacity	69.9%	66.7%	78.9%
i) Microbiological Compliance	NM	NM	NM
ii) Chemical Compliance	NM	NM	NM
iii) Physical Compliance	NM	NM	NM
Annual Average Effluent Quality Compliance	NM	NM	NM
Wastewater Risk Rating (%CRR/CRRmax)	70.4% (↓)	76.5% (↓)	82.4% (↓)
Highest Risk Area	No effluent compliance monitoring	No effluent compliance monitoring	No effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	No W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	R5.9m	R12.0m	
Description of Projects' Expenditure	Refurbishment of electrical equipment and plant	Upgrading of plant to 2.5MI/day, installation of flow meters	Upgrading of plant to 2.25MI/day
Assessment Areas	Paul Roux	Rosendal/Mautse	
Technology	Oxidation ponds	Activated sludge (SBR) and sludge drying beds	
Design Capacity (MI/d)	1.3	0.5	
Operational % i.t.o. Design Capacity	NM	NM	
iv) Microbiological Compliance	NM	NM	
v) Chemical Compliance	NM	NM	
vi) Physical Compliance	NM	NM	
Annual Average Effluent Quality Compliance	NM	NM	
Wastewater Risk Rating (%CRR/CRRmax)	94.1% (↑)	88.2% (↑)	
Highest Risk Area	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring	
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	
Capital & Refurbishment expenditure in 2010/2011	R0.0m	R1.5m	
Description of Projects' Expenditure	N project listed	Upgrading of plant to 1.5MI/day	
Wastewater Risk Abatement planning	No risk management or abatement is in place		
Additional Notes	Paul Roux plant to be upgraded at the conclusion of the bulk water supply project		

Regulation Impression

One plant is categorised as a medium risk plant, three are categorised as medium risk plants and one plant as a high risk plant. The risk rating at all plants is increased due to the lack of effluent compliance monitoring. The lack of information with regard to the quality of the final effluent and compliance with discharge standards impacts on the optimisation and

monitoring of the treatment process and the reduction of the risk rating difficult to achieve. The risk at the Paul Roux plant and Rosendal/Mautse plant is further increased due to the lack of influent monitoring to enable an assessment of the operating capacity against the design capacity. Non compliance with R2834 with regard to the operating and maintenance staff also increases the risk of the plant.

The Municipality is to be commended for the upgrading and refurbishment interventions already implemented. This demonstrates a proactive approach to ensuring optimal treatment performance and will result in a reduction in the risk rating.

The Department encourages the Dihlabeng Local Municipality to develop a Green Drop Implementation Plan and W₂RAP for to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

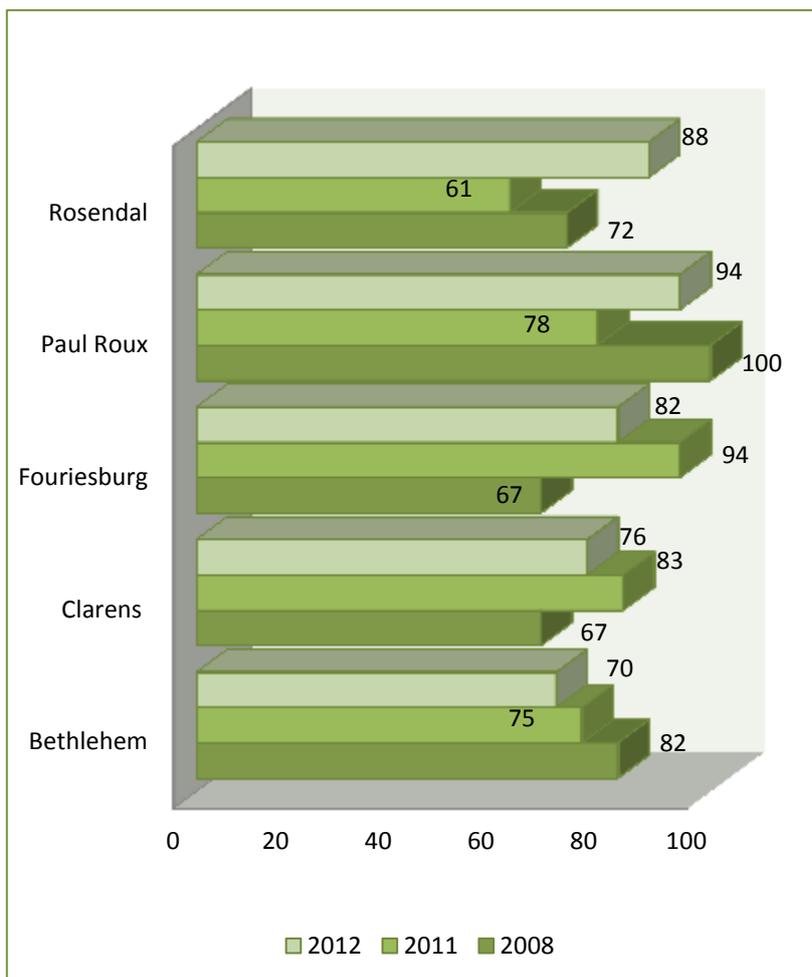
Risk Trend Analysis 2008 - 2012

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	3
No change	0
Digress	2

Progress Indicator



Risk trend per plant as CRR/CRR_{max} %



Assessment Areas	Bethulie	Edenburg	Fauresmith	Gariep Dam
Technology	Oxidation ponds	Oxidation ponds	Oxidation ponds	Biofilters, anaerobic digestion and sludge drying beds
Design Capacity (MI/d)	0.5	1.08	1.0	2.8
Operational % i.t.o. Design Capacity	NI (Assume 100%)	NI (Assume 100%)	NI (Assume 100%)	NI (Assume 100%)
vii) Microbiological Compliance	NM	NM	NM	NM
viii) Chemical Compliance	NM	NM	NM	NM
ix) Physical Compliance	NM	NM	NM	NM
Annual Average Effluent Quality Compliance	NM	NM	NM	NM
Wastewater Risk Rating (%CRR/CRRmax)	100% (↑)	100% (→)	100% (→)	100% (→)
Highest Risk Area	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff
Risk Abatement Process	No W ₂ RAP			
Capital & Refurbishment expenditure in 2010/2011	NI	NI	NI	NI
Description of Projects' Expenditure	NI	NI	NI	NI
Assessment Areas	Jagersfontein	Phillipolis	Reddersburg	
Technology	Biofilters, anaerobic digestion and sludge drying beds	Oxidation ponds	Oxidation ponds	
Design Capacity (MI/d)	2.2	0.47	0.75	
Operational % i.t.o. Design Capacity	NI (Assume 100%)	NI (Assume 100%)	NI (Assume 100%)	
x) Microbiological Compliance	NM	NM	NM	
xi) Chemical Compliance	NM	NM	NM	
xii) Physical Compliance	NM	NM	NM	
Annual Average Effluent Quality Compliance	NM	NM	NM	
Wastewater Risk Rating (%CRR/CRRmax)	100% (→)	100% (↑)	100% (↑)	
Highest Risk Area	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	No W ₂ RAP	
Capital & Refurbishment expenditure in 2010/2011	NI	NI	NI	
Description of Projects' Expenditure	N project listed	N project listed	N project listed	

Assessment Areas	Springfontein	Trompsburg
Technology	Oxidation ponds	Oxidation ponds
Design Capacity (Ml/d)	0.5	0.73
Operational % i.t.o. Design Capacity	NI (Assume 100%)	NI (Assume 100%)
xiii) Microbiological Compliance	NM	NM
xiv) Chemical Compliance	NM	NM
xv) Physical Compliance	NM	NM
Annual Average Effluent Quality Compliance	NM	NM
Wastewater Risk Rating (%CRR/CRRmax)	100% (↑)	100% (↑)
Highest Risk Area	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	NI	NI
Description of Projects' Expenditure	N project listed	N project listed
Wastewater Risk Abatement planning	No risk management is practiced in the municipality	
Additional Notes	None	

Regulation Impression

It is of concern that the Kopanong Local Municipality has not demonstrated any progress. All plants are now categorised as critical risk with a maximum risk rating. The parameters that contribute to the continuing and increasing high risk rating is the lack of influent flow monitoring, no effluent compliance monitoring and non compliance with R2834 with regard to operating and maintenance staff. The lack of this information renders the management of the treatment process difficult to monitor and optimise and the reduction of the risk rating difficult to achieve.

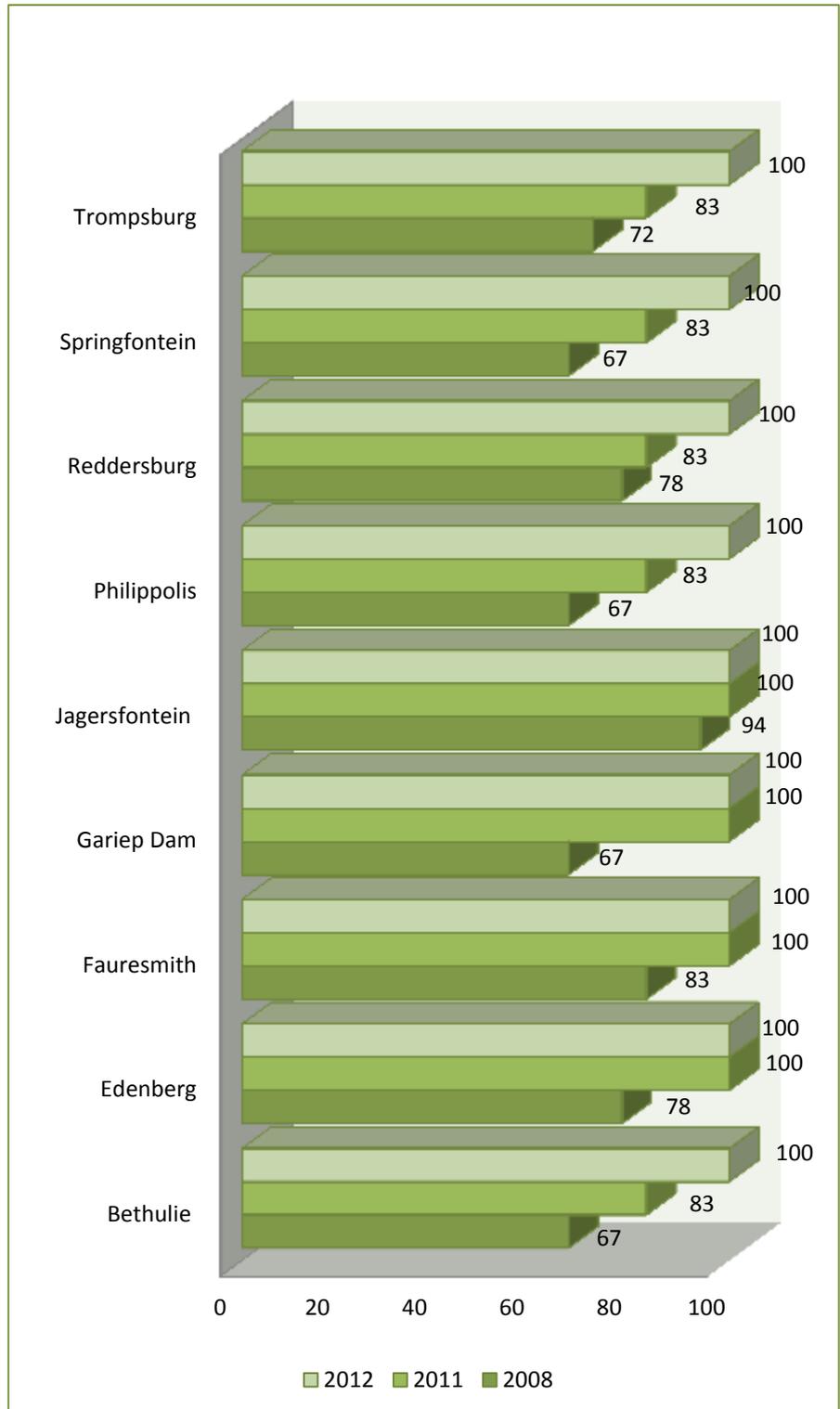
Urgent action is required to reverse the critical situation and risk rating of all the wastewater treatment plants. The Municipality has not yet developed a Green Drop Implementation Plan despite the poor performance in previous Green Drop assessment. The Department urges the Kopanong Local Municipality to develop a Green Drop Implementation Plan and W₂RAP to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk Trend Analysis 2008 - 2012

Risk trend per plant as CRR/CRR_{max} %

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	0
No change	4
Digress	5

Progress Indicator



Assessment Areas	Jacobsdal	Luckhoff	Koffiefontein
Technology	Biofilters, oxidation ponds and anaerobic digesters	Oxidation ponds	Activated sludge
Design Capacity (Ml/d)	1.54	1.6	2.3
Operational % i.t.o. Design Capacity	2.9%	NI	60.9%
xvi) Microbiological Compliance	92.0%	92.0%	100.0%
xvii) Chemical Compliance	35.3%	79.3%	75.0%
xviii) Physical Compliance	47.0%	69.3%	80.7%
Annual Average Effluent Quality Compliance	58.1%	80.2%	85.2%
Wastewater Risk Rating (%CRR/CRRmax)	52.9% (↓)	58.8% (↓)	52.9% (↓)
Highest Risk Area	Poor effluent compliance, non compliance with R2834 for operating and maintenance staff	Poor effluent compliance, non compliance with R2834 for operating and maintenance staff	Poor effluent compliance, non compliance with R2834 for operating and maintenance staff
Risk Abatement Process	Rough draft of W ₂ RAP	Rough draft of W ₂ RAP	Rough draft of W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	NI	NI	NI
Description of Projects' Expenditure	N project listed	N project listed	N project listed
Assessment Areas	Oppersmansgronde	Petrusburg	
Technology	Oxidation ponds	Oxidation ponds	
Design Capacity (Ml/d)	0.5	2.0	
Operational % i.t.o. Design Capacity	NI	35.0%	
xix) Microbiological Compliance	92.0%	100.0%	
xx) Chemical Compliance	71.0%	68.5%	
xxi) Physical Compliance	58.3%	61.3%	
Annual Average Effluent Quality Compliance	73.8%	76.6%	
Wastewater Risk Rating (%CRR/CRRmax)	64.7% (↓)	58.8% (↓)	
Highest Risk Area	Poor effluent compliance, non compliance with R2834 for operating and maintenance staff	Poor effluent compliance, non compliance with R2834 for operating and maintenance staff	
Risk Abatement Process	Rough draft of W ₂ RAP	Rough draft of W ₂ RAP	
Capital & Refurbishment expenditure in 2010/2011	NI	R8.45m	
Description of Projects' Expenditure	N project listed	Upgrading of the plant	
Wastewater Risk Abatement planning	The municipality has started to conceptualise a risk abatement plan, but the plan has not progress sufficiently for the Regulatory to assess and comment.		
Additional Notes	Implementation of O&M manual at each plant by process controllers		

Regulation Impression

The Letsemeng Local Municipality has made good progress with the risk rating of all wastewater treatment plants reducing from medium risk ratings to low risk ratings. Key risk parameters are poor effluent compliance with regard to chemical and physical parameters, non compliance with R2834 for operating and maintenance staff and the lack of influent monitoring at the Petrusburg plant and Luckhof plant. The Oppersmansgronde plant is currently undergoing upgrading which will facilitate the improvement in treatment performance and a reduction in the risk rating.

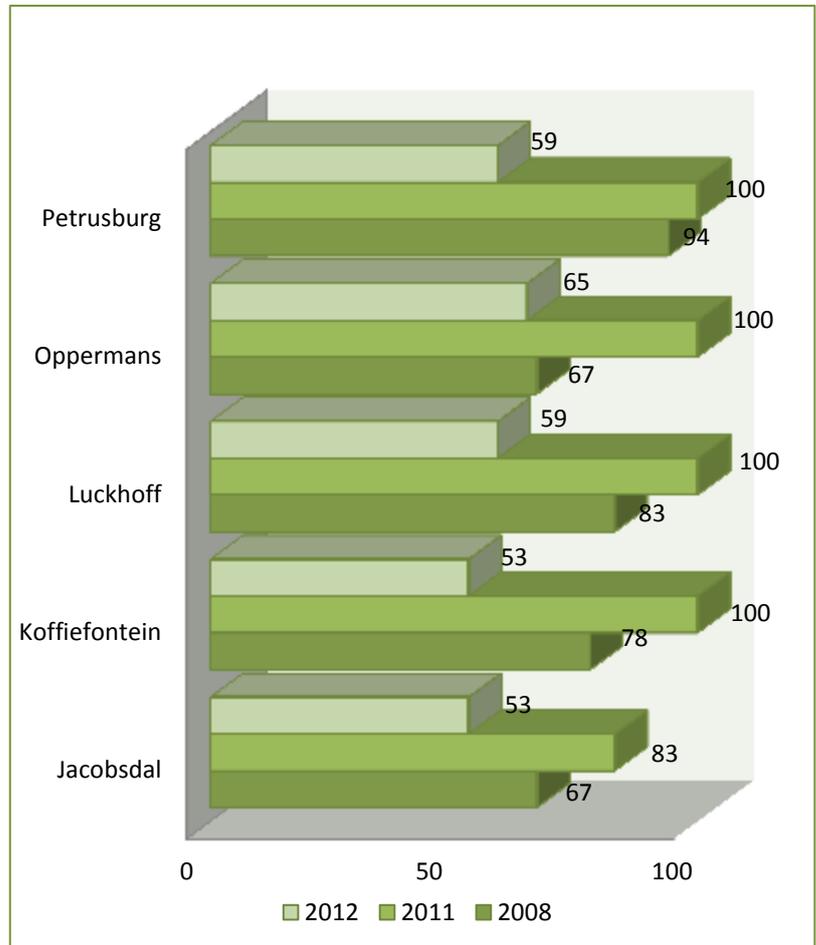
The Municipality has initiated the development of a W₂RAP. The Department encourages the Municipality to finalise and implement the W₂RAP to facilitate the implementation of risk based interventions to improve compliance and to continue to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk Trend Analysis 2008 - 2012

Risk trend per plant as CRR/CRR_{max} %

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	5
No change	0
Digress	0

Progress Indicator



Assessment Areas	Cornelia	Frankfort	Tweeling
Technology	Activated sludge and sludge drying beds	Aerated and facultative ponds	Oxidation ponds
Design Capacity (Ml/d)	0.25	1.23	1.0
Operational % i.t.o. Design Capacity	NI	NI	NI
xxii) Microbiological Compliance	NM	NM	NM
xxiii) Chemical Compliance	NM	NM	NM
xxiv) Physical Compliance	NM	NM	NM
Annual Average Effluent Quality Compliance	NM	NM	NM
Wastewater Risk Rating (%CRR/CRRmax)	94.1% (↑)	100.0% (→)	100.0% (→)
Highest Risk Area	No influent monitoring, non compliance with R2834 for operating and maintenance staff, no effluent compliance monitoring	No influent monitoring, non compliance with R2834 for operating and maintenance staff, no effluent compliance monitoring	No influent monitoring, non compliance with R2834 for operating and maintenance staff, no effluent compliance monitoring
Risk Abatement Process	Final W ₂ RAP	Final W ₂ RAP	No W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	R1.5m	R5.7m	R17.0m
Description of Projects' Expenditure	Upgrading of pump station	Upgrading of pump station	Upgrading of the plant
Assessment Areas	Namahadi	Villiers/Qalabotjha	
Technology	Biofilter and oxidation ponds	Biofilter and oxidation ponds	
Design Capacity (Ml/d)	2.8	1.8	
Operational % i.t.o. Design Capacity	NI	NM	
xxv) Microbiological Compliance	NM	NM	
xxvi) Chemical Compliance	NM	NM	
xxvii) Physical Compliance	NM	NM	
Annual Average Effluent Quality Compliance	NM	NM	
Wastewater Risk Rating (%CRR/CRRmax)	100.0% (→)	94.1% (↑)	
Highest Risk Area	No influent monitoring, non compliance with R2834 for operating and maintenance staff, no effluent compliance monitoring	No influent monitoring, non compliance with R2834 for operating and maintenance staff, no effluent compliance monitoring	
Risk Abatement Process	Final W ₂ RAP	No W ₂ RAP	
Capital & Refurbishment expenditure in 2010/2011	R9.0m	R11.15m	
Description of Projects' Expenditure	Upgrading of the plant	Upgrading of outfall sewer, pump station and plant	
Wastewater Risk Abatement planning	A risk abatement plan is in place for 3 of the 5 facilities which if implemented, should assist to reallocated some resources and technical expertise to reduce the elements that contribute to the highest risk areas		
Additional Notes	None		

Regulation Impression

It is of concern that all wastewater treatment plants within the Mafube Local Municipality are categorised at a critical risk rating. The risk rating of the plants are rated at a maximum of 100% due to the lack of monitoring and lack of basic

information regarding the operating and design capacity, no effluent compliance monitoring and the non compliance with R2834 with regard to operating and maintenance staff. The lack of information with regard to the operating capacity and design capacity and the compliance of the final effluent render the management of the treatment process difficult to monitor and optimise and reduction of the risk rating difficult to achieve. Non compliance with R2834 with regard to the operating and maintenance staff also increases the risk of the plant.

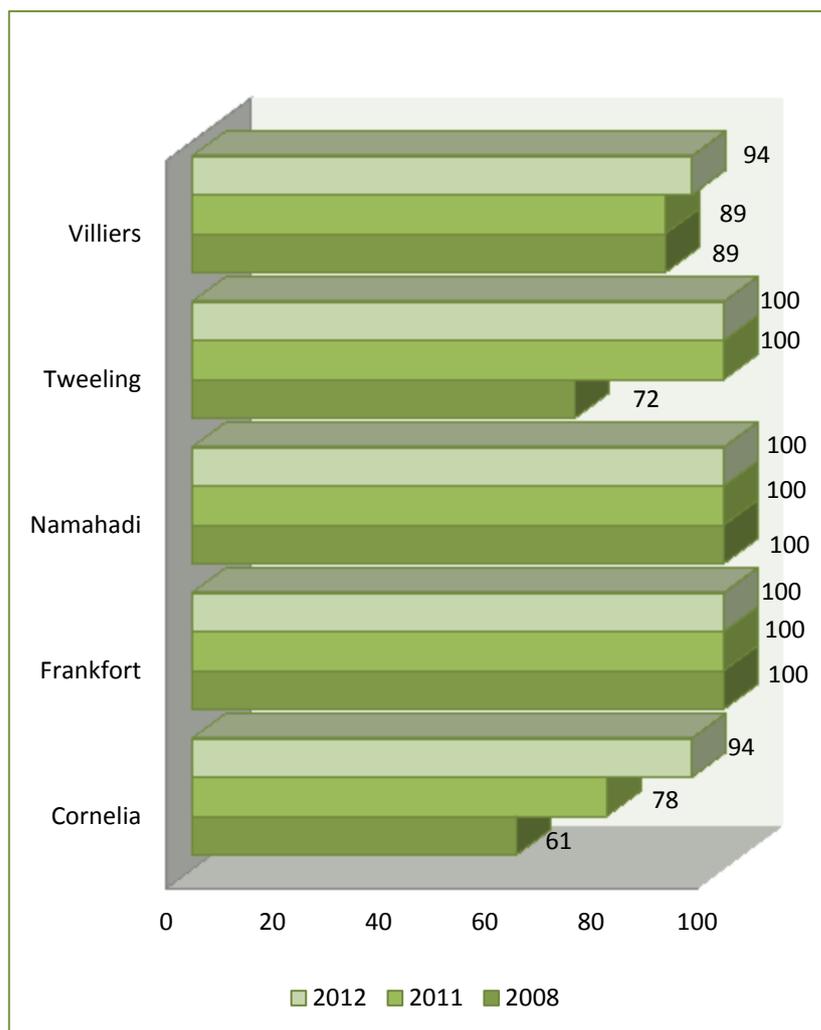
The Mafube Local Municipality has initiated interventions to improve the operation and maintenance of their plants. Maintenance has been outsourced to a service provider and the municipality intends to implement effluent compliance monitoring. In addition, a W₂RAP has been developed for three of the five plants. The Department encourages the Municipality to finalise and implement a W₂RAP for each plant to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk Trend Analysis 2008 - 2012

Risk trend per plant as CRR/CRR_{max} %

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	0
No change	3
Digress	2

Progress Indicator



Assessment Areas	Elandsriver	Kestell	Makwane/ Matsegeng	Moeding
Technology	Activated sludge and sludge drying beds	Biofilters, oxidation ponds and sludge drying beds	Biofilters, oxidation ponds and sludge drying beds	Biofilters, oxidation ponds and sludge drying beds
Design Capacity (MI/d)	1.8	1.6	1.6	1.6
Operational % i.t.o. Design Capacity	27.8%	50.0%	NI	NI
xxviii) Microbiological Compliance	70.0%	78.0%	46.0%	42.0%
xxix) Chemical Compliance	65.3%	73.5%	50.0%	40.5%
xxx) Physical Compliance	72.3%	79.3%	64.7%	47.0%
Annual Average Effluent Quality Compliance	69.2%	76.9%	53.6%	43.2%
Wastewater Risk Rating (%CRR/CRRmax)	76.5% (↑)	76.5% (↑)	94.1% (↑)	94.1% (↑)
Highest Risk Area	Poor effluent compliance, non compliance with R2834 for operating staff	Poor effluent compliance, non compliance with R2834 for operating staff	No influent monitoring, poor effluent compliance, non compliance with R2834 for operating staff	No influent monitoring, poor effluent compliance, non compliance with R2834 for operating staff
Risk Abatement Process	Draft W ₂ RAP	Draft W ₂ RAP	Draft W ₂ RAP	Draft W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	R0.0m	R0.0m	R0.0m	R0.0m
Description of Projects' Expenditure	Upgrading of sludge drying beds	N project listed	N project listed	N project listed
Additional Notes	NI	Training of process controllers ongoing	NI	NI
Assessment Areas	Phuthaditjaba	Tshame	Wilge/ Harrismith	
Technology	Biofilters, anaerobic digestion and sludge drying beds	Activated sludge and sludge lagoons	Activated sludge, biofilters, anaerobic digestion, oxidation ponds, sludge drying beds	
Design Capacity (MI/d)	16.0	1.6	6.0	
Operational % i.t.o. Design Capacity	75.0%	75.0%	100.0%	
xxxii) Microbiological Compliance	75.0%	75.0%	8.0%	
xxxii) Chemical Compliance	45.0%	70.8%	33.5%	
xxxiii) Physical Compliance	70.3%	81.0%	44.7%	
Annual Average Effluent Quality Compliance	63.4%	75.6%	28.7%	
Wastewater Risk Rating (%CRR/CRRmax)	77.3% (↑)	82.4% (↑)	77.3% (↑)	
Highest Risk Area	Poor effluent compliance, non compliance with R2834 for operating staff	Poor effluent compliance, non compliance with R2834 for operating staff	Operating capacity at design capacity, poor effluent compliance, non compliance with R2834 for operating staff	
Risk Abatement Process	Draft W ₂ RAP	Draft W ₂ RAP	Draft W ₂ RAP	
Capital & Refurbishment expenditure in 2010/2011	NI	NI	R80.0m	
Description of Projects' Expenditure	N project listed	N project listed	Design for plant upgrade complete	

Wastewater Risk Abatement planning	A draft risk abatement plan is under development and should assist Maluti-a-Phofung to reprioritise its resources to implement the risk mitigation measures. The focus should be on implementation in a system manner and monitoring of the progress on a continuous basis. If not, the risk plan will not contribute to the municipality's situation.
Additional Notes	Monthly plant audits undertaken and should contribute to the risk abatement plan.

Regulation Impression

The Maluti-a-Phofung Local Municipality has shown poor progress with the performance of their treatment works with the risk rating increasing at every plant. Two plants are now categorised as high risk plants and five as medium risk plants. The risk rating has increased due to the poor effluent compliance and the non compliance with R2834 with regard to the operating staff. The risk rating at Makwane/Matsegeng plant and Moeding plant is further increased due to the lack of information regarding the operating capacity.

The design of the upgrade for the Wilge/Harrismith plant is ongoing, which will facilitate improved treatment performance and risk reduction once the new plant is implemented.

The Department requires of Maluti-a-Phofung Municipality to finalise and implement their W₂RAP. This will facilitate the municipality to ensure a risk based approach to the development and implementation of actions required to address the poor performance of the WWTWs. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

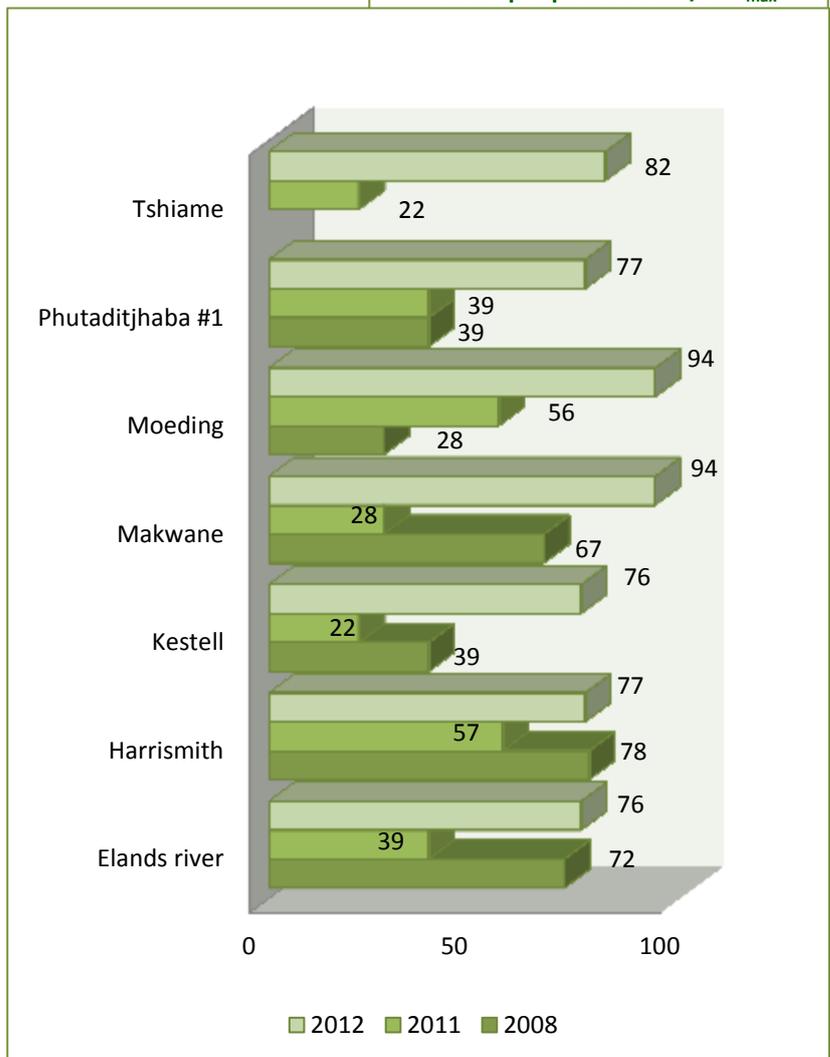
Risk Trend Analysis 2008 - 2012

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	0
No change	0
Digress	7

Progress Indicator



Risk trend per plant as CRR/CRR_{max} %



Assessment Areas	Bainsvlei	Bloemindustria	Bloemspruit	Botshabelo
Technology	Activated sludge and extended aeration and sludge lagoons	Oxidation ponds	Biofilters and anaerobic digestion	Activated sludge with sludge lagoons
Design Capacity (MI/d)	5	0.9	57	20
Operational % i.t.o. Design Capacity	72.0%	NI (Assume 100%)	128.1%	54.0%
xxxiv) Microbiological Compliance	0.0%	0.0%	0.0%	0.0%
xxxv) Chemical Compliance	100.0%	96.0%	51.3%	92.5%
xxxvi) Physical Compliance	100.0%	94.7%	66.7%	100.0%
Annual Average Effluent Quality Compliance	66.7%	63.6%	39.3%	64.2%
Wastewater Risk Rating (%CRR/CRRmax)	35.3% (↓)	58.8% (↓)	75.0% (↑)	45.5% (↓)
Highest Risk Area	Non compliance with microbiological effluent standard	Non compliance with microbiological effluent standard	Poor effluent compliance and operating capacity exceeds design capacity	Non compliance with microbiological effluent standard
Risk Abatement Process	Final W ₂ RAP	Final W ₂ RAP	Final W ₂ RAP	Final W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	R0.0m	R0.0m	NI	NI
Description of Projects' Expenditure	NI	Plant to be decommissioned when new North Eastern WWTW commissioned in 2013	Excess flow to be diverted to new North Eastern WWTW when commissioned in 2013	NI
Assessment Areas	Northern Works	Sterkwater	Thaba Nchu	Welvaart
Technology	Activated sludge and BNR and sludge lagoons	Petro system with activated sludge	Activated sludge and BNR and sludge lagoons	Activated sludge and sludge drying beds
Design Capacity (MI/d)	6	10.5	6	6
Operational % i.t.o. Design Capacity	23.3%	177.1%	75.0%	66.7%
xxxvii) Microbiological Compliance	0.0%	0.0%	0.0%	0.0%
xxxviii) Chemical Compliance	100.0%	80.0%	90.0%	86.3%
xxxix) Physical Compliance	100.0%	90.0%	95.0%	96.7%
Annual Average Effluent Quality Compliance	66.7%	56.7%	61.7%	61.0%
Wastewater Risk Rating (%CRR/CRRmax)	31.8% (↓)	77.3% (↑)	54.5% (↑)	54.5% (↑)
Highest Risk Area	Non compliance with microbiological effluent standard	Non compliance with microbiological effluent standard, operating capacity exceeds design capacity	Non compliance with microbiological effluent standard	Non compliance with microbiological effluent standard
Risk Abatement Process	Final W ₂ RAP	Final W ₂ RAP	Final W ₂ RAP	Final W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	R0.0m	R52.0m		
Description of Projects'	N/A	Plant upgrade to 21	N/A	N/A

Expenditure		MI/day under construction – to be commissioned November 2012		
Wastewater Risk Abatement planning	A risk abatement plan is in place with key risks identified and mitigation measures proposed. The implementation of this approach should result in effective risk reduction and a further downwards movement in CRR ratios			
Additional Notes	Application for licences submitted, process controller training ongoing			

Regulation Impression

The Manguang Metropolitan Municipality has shown good progress with the risk ratings of four wastewater treatment reducing. Three of these plants are now categorised as low risk and the fourth plant, Bloemindustria, as medium risk. The Bloemindustria plant is to be decommissioned once the new North Eastern wastewater treatment plant that is currently being constructed is commissioned in 2013. Sewage is also to be diverted to the new plant from Bloemspruit and Sterkwater plants, which are currently operating at capacities that exceed design capacity. In addition, the design capacity of the Sterkwater plant is being upgraded and will be commissioned in November 2012. The risk rating of the Sterkwater and Bloemspruit plants have increased and both plants are categorised as high risk plants. This increasing trend is expected to be reversed once the operating capacity is reduced.

The risk rating of the Thaba Nchu and Welvaart plants have also increased, mainly as a result of the poor compliance of the final effluent with the microbiological standard. Poor microbiological compliance, zero compliance, is recorded for the final effluent at all of the plants which is an issue of concern and needs to be investigated and addressed.

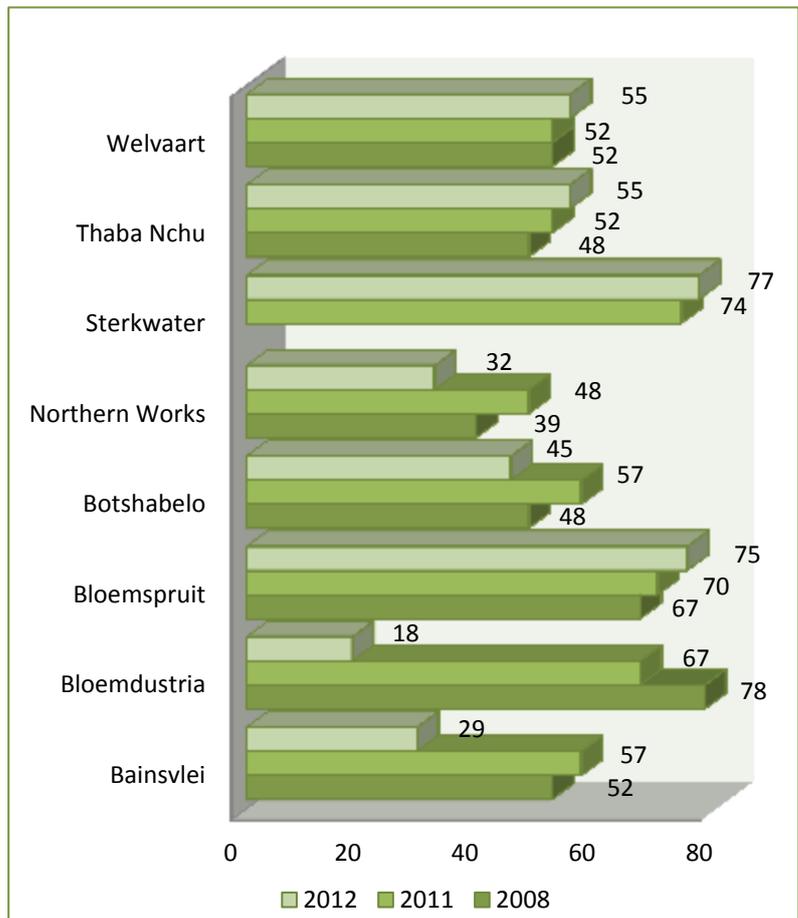
The Municipality has developed a W₂RAP, which will ensure a risk based approach to the development and implementation of actions required to improve the performance of the plants and reduce the risk rating. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk trend per plant as CRR/CRR_{max} %

Risk Trend Analysis 2008 - 2012

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	4
No change	0
Digress	4

Progress Indicator



Assessment Areas	Excelsior	Hobhouse	Lady Brand
Technology	Oxidation ponds	Oxidation ponds	Activated sludge and sludge drying beds
Design Capacity (MI/d)	0.5	0.5	17.5
Operational % i.t.o. Design Capacity	NI	NI	NI
xi) Microbiological Compliance	NM	NM	NM
xli) Chemical Compliance	NM	NM	NM
xlii) Physical Compliance	NM	NM	NM
Annual Average Effluent Quality Compliance	NM	NM	NM
Wastewater Risk Rating (%CRR/CRRmax)	88.2% (↑)	94.1% (↓)	95.5% (→)
Highest Risk Area	No influent monitoring, no effluent compliance monitoring	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	No W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	R0.0m	NI	NI
Description of Projects' Expenditure	N/A	Construction of new package plant	N/A
Assessment Areas	Thaba Phatdisa	Tweespruit	
Technology	Oxidation ponds	Oxidation ponds	
Design Capacity (MI/d)	0.5	0.5	
Operational % i.t.o. Design Capacity	NI	NI	
xliii) Microbiological Compliance	NM	NM	
xliii) Chemical Compliance	NM	NM	
xliii) Physical Compliance	NM	NM	
Annual Average Effluent Quality Compliance	NM	NM	
Wastewater Risk Rating (%CRR/CRRmax)	94.1% (↑)	94.1% (↑)	
Highest Risk Area	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	
Capital & Refurbishment expenditure in 2010/2011	R0	NI	
Description of Projects' Expenditure	N/A	Construction of new package plant	
Wastewater Risk Abatement planning	No risk management is practiced in the municipality		
Additional Notes	Funding requested from ACIP for upgrading of plant		

Regulation Impression

It is of concern plant that the risk rating of four plants are categorised as high risk and one plant as medium risk. Parameters that contribute to the risk are the lack of information regarding operating capacity, no effluence compliance monitoring and non compliance with R2834 with regard to operating and maintenance staff. The lack of information with regard to the operating capacity and the final effluent quality and compliance of the final effluent render the management of the treatment process difficult to monitor and optimise and reduction of the risk rating difficult to achieve.

The plants at Hobhouse and Tweespruit have been upgraded and request for funding has been requested to upgrade the Thaba Phaditsa plant. This will facilitate improved treatment performance and will assist in the reduction of the risk rating provided proper operational and compliance monitoring is implemented.

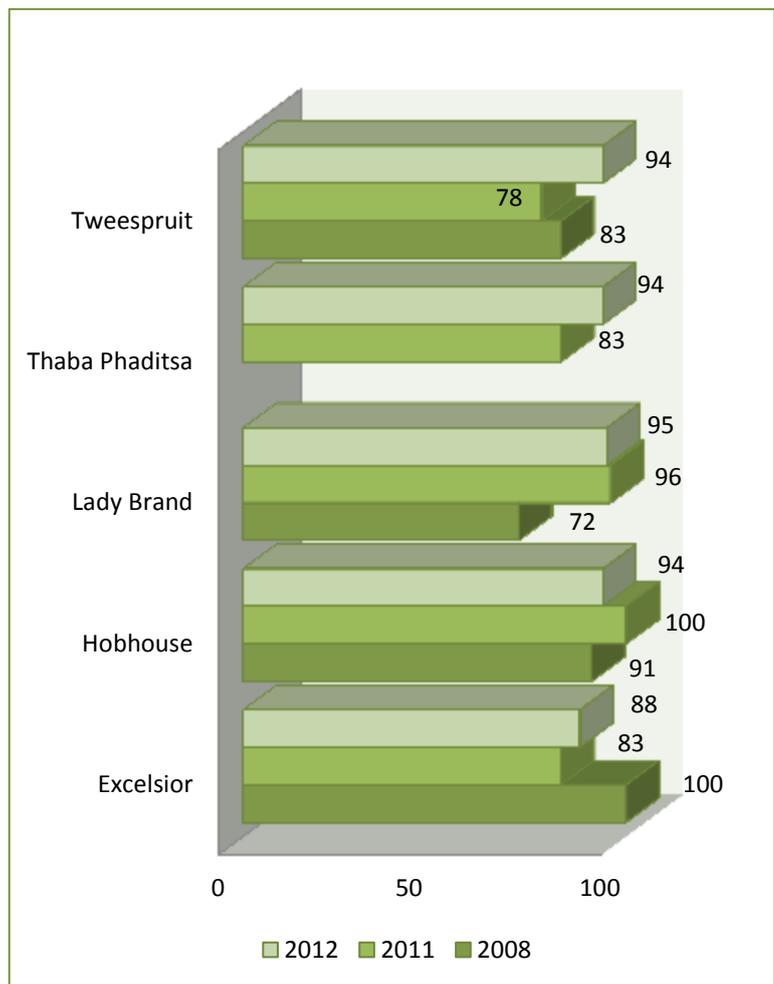
Urgent attention is required by the Matsopa Local Municipality is required to reduce the risk rating of their plants. The Department encourages the Municipality to develop a Green Drop Improvement Plan and W₂RAP to guide a risk based approach to the development and implementation of actions required to improve the performance of the WWTWs and a sustainable reduction of the risk rating at all the wastewater treatment plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk Trend Analysis 2008 - 2012

Risk trend per plant as CRR/CRR_{max} %

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	2
No change	0
Digress	3

Progress Indicator



Assessment Areas	Brandfort	Soutpan	Theunissen
Technology	Biofilters and sludge lagoons	Oxidation ponds	Activated sludge
Design Capacity (Ml/d)	NI	NI	NI
Operational % i.t.o. Design Capacity	NI	NI	NI
xlvi) Microbiological Compliance	NM	NM	NM
xlvii) Chemical Compliance	NM	NM	NM
xlviii) Physical Compliance	NM	NM	NM
Annual Average Effluent Quality Compliance	NM	NM	NM
Wastewater Risk Rating (%CRR/CRRmax)	100% (→)	100% (→)	100% (→)
Highest Risk Area	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	No W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	NI	NI	NI
Description of Projects' Expenditure	Plant to be upgraded	NI	Upgrade of pump stations
Assessment Areas	Verkeerdevlei	Winburg	
Technology	Oxidation ponds	Activated sludge	
Design Capacity (Ml/d)	NI	NI	
Operational % i.t.o. Design Capacity	NI	NI	
xlix) Microbiological Compliance	NM	NM	
l) Chemical Compliance	NM	NM	
li) Physical Compliance	NM	NM	
Annual Average Effluent Quality Compliance	NM	NM	
Wastewater Risk Rating (%CRR/CRRmax)	100% (→)	100% (→)	
Highest Risk Area	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	
Capital & Refurbishment expenditure in 2010/2011	NI	NI	
Description of Projects' Expenditure	Plant to be upgraded	Upgrade of pump stations	
Wastewater Risk Abatement planning	No risk abatement is practiced in the municipality		
Additional Notes	Budget allocated in the IDP for development of Green Drop Implementation Plan to improve compliance		

Regulation Impression

It is of concern that all wastewater treatment plants within the Masiyana Local Municipality continue to be categorised at a critical risk rating. The risk rating of the plants are rated at a maximum of 100% due to non availability of information. The lack of information with regard to the operating capacity and design capacity and the compliance of the final effluent render the management of the treatment process difficult to monitor and optimise and reduction of the risk

rating difficult to achieve. Non compliance with R2834 with regard to the operating and maintenance staff also increases the risk of the plant.

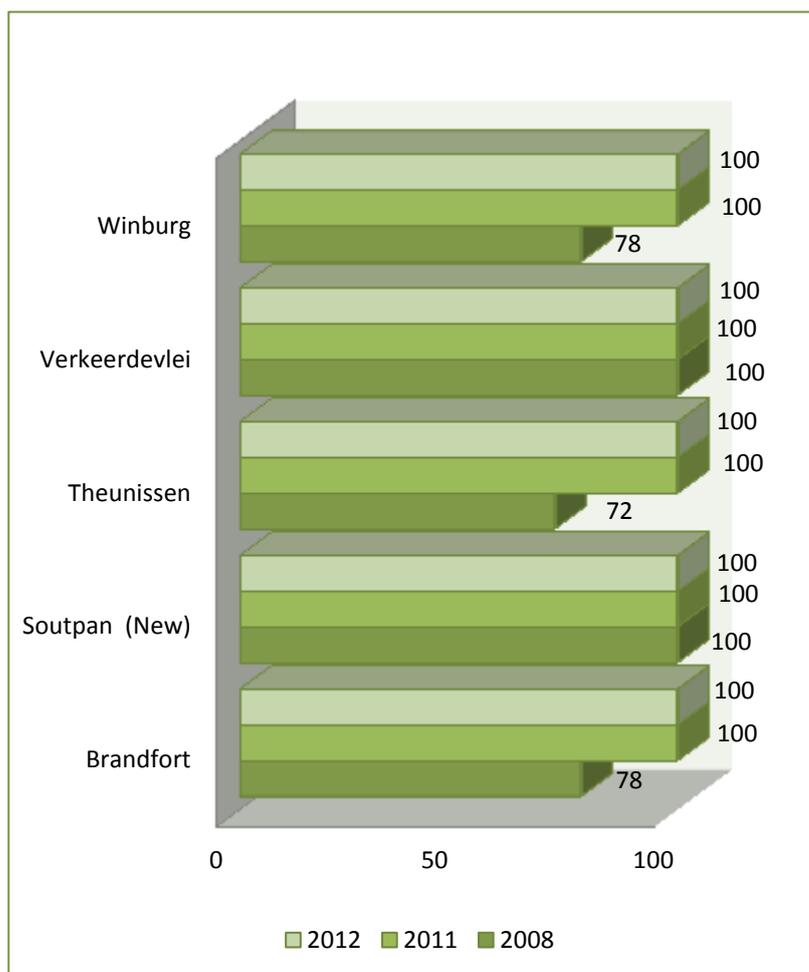
Urgent attention is required by the Masilonyana Local Municipality to address the current situation. Despite the poor performance in previous Green Drop assessment, the Municipality has not yet developed a Green Drop Implementation Plan although funding has been budgeted for this. The Department encourages the Municipality to develop the Green Drop Implementation Plan and a W₂RAP to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk Trend Analysis 2008 - 2012

Risk trend per plant as CRR/CRR_{max} %

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	0
No change	5
Digress	0

Progress Indicator



Assessment Areas	Allanridge	Henneman	Kutlwanong	Mmamahabane-Mbabane
Technology	Activated sludge and extended aeration and sludge drying beds	Activated sludge and extended aeration and sludge drying beds	Activated sludge and BNR and sludge lagoons	Oxidation ponds
Design Capacity (Ml/d)	4.0	4.0	6.0	0.6
Operational % i.t.o. Design Capacity	NI (Assume >100%)	NI (Assume >100%)	NI (Assume >100%)	NI (Assume >100%)
lii) Microbiological Compliance	0.0%	0.0%	0.0%	0.0%
liii) Chemical Compliance	25.0%	67.9%	49.6%	42.4%
liv) Physical Compliance	33.3%	95.1%	69.1%	63.0%
Annual Average Effluent Quality Compliance	19.4%	54.3%	39.6%	35.1%
Wastewater Risk Rating (%CRR/CRRmax)	82.4% (↓)	76.5% (↓)	59.1% (↓)	82.4% (↓)
Highest Risk Area	No influent monitoring, poor effluent compliance and non compliance by staff complement with R2834	No influent monitoring, poor effluent compliance and non compliance by staff complement with R2834	No influent monitoring, poor effluent compliance and non compliance by staff complement with R2834	No influent monitoring, poor effluent compliance and non compliance by staff complement with R2834
Risk Abatement Process	Rough draft W ₂ RAP	Rough draft W ₂ RAP	Rough draft W ₂ RAP	Rough draft W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	R14.3m	R48.0m	R79.7m	R29.4m
Description of Projects' Expenditure	Refurbishment of sewer outfall and construction of two pump stations	Refurbish of plant and aeration system, eradication of bucket system, installation of stormwater system	Refurbish of plant, and pump station, sewer outfall and network, installation of stormwater system	Construction of new WWTW, upgrade of pump station, sewer network and extension of sewer network, installation of stormwater system
Assessment Areas	Odendaalsrust	Phomolong	Thabong	Theronia
Technology	Activated sludge and extended aeration and sludge lagoons,	Activated sludge and BNR and sludge lagoons	Activated sludge and BNR, anaerobic digestion and sludge belt press dewatering	Biofilters, anaerobic digestion and sludge lagoons
Design Capacity (Ml/d)	6.0	4.0	12.0	27.0
Operational % i.t.o. Design Capacity	NI (Assume >100%)	NI (Assume >100%)	NI (Assume >100%)	NI (Assume >100%)
lv) Microbiological Compliance	NM	0.0%	0.0%	0.0%
lvi) Chemical Compliance	NM	68.4%	89.6%	56.2%
lvii) Physical Compliance	NM	86.7%	90.3%	93.9%
Annual Average Effluent Quality Compliance	NM	51.7%	60.0%	50.0%
Wastewater Risk Rating (%CRR/CRRmax)	100% (→)	70.6% (↓)	77.3% (↑)	85.2% (↑)
Highest Risk Area	Plant not operational	No influent monitoring, poor effluent compliance and non compliance	No influent monitoring, poor effluent microbiological	No influent monitoring, poor effluent compliance and non compliance

		by staff complement with R2834	compliance and non compliance by staff complement with R2834	by staff complement with R2834
Risk Abatement Process	Rough draft W ₂ RAP	Rough draft W ₂ RAP	Rough draft W ₂ RAP	Rough draft W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	R26.7m	R36.5m	R221.2m	R1.2m
Description of Projects' Expenditure	Refurbish WWTW – plant re-commissioned October 2011 , relining of sewer reticulation system	Eradication of bucket system, upgrade of outfall sewer, installation of stormwater system	Upgrading and refurbishment of WWTW, extension of sewer reticulation system and outfall sewer	Construction of new pump station and refurbishment
Assessment Areas	Ventersburg	Virginia	Witpan	
Technology	Oxidation ponds	Activated sludge and sludge drying beds	Activated sludge and extended aeration, sludge lagoons and sludge drying beds	
Design Capacity (Ml/d)	0.5	26.0	28.0	
Operational % i.t.o. Design Capacity	NI (Assume 100%)	NI (Assume 100%)	NI (Assume 100%)	
lviii) Microbiological Compliance	0.0%	0.0%	NM	
lix) Chemical Compliance	41.7%	69.7%	NM	
lx) Physical Compliance	66.7%	88.8%	NM	
Annual Average Effluent Quality Compliance	36.1%	52.8%	NM	
Wastewater Risk Rating (%CRR/CRRmax)	64.7% (↓)	85.2% (↑)	100% (→)	
Highest Risk Area	No influent monitoring and poor effluent compliance	No influent monitoring, poor effluent compliance and non compliance by staff complement with R2834	Plant flooded and not operational	
Risk Abatement Process	Rough draft W ₂ RAP	Rough draft W ₂ RAP	Rough draft W ₂ RAP	
Capital & Refurbishment expenditure in 2010/2011	R0.83	R35.0m	R82.0m	
Description of Projects' Expenditure	Refurbish WWTW	Upgrade sludge management, relining sewer lines	Refurbish WWTW and restore operations, reduction of water levels	
Wastewater Risk Abatement planning	The municipality has commenced to conceptualise the risk abatement process and a rough outline is in place. Further work needs to be done before this process would start to have a meaningful contribution to the risk management and abatement of CRR ratios			
Additional Notes	None			

Regulation Impression

The risk rating of six wastewater treatment plants has reduced. Of these plants, three are categorised as high risk plants and three are medium risk plants. Three plants have however increased their risk rating to high risk for two of the plants and one at medium risk. Key risk parameters at all the plants is the lack of influent monitoring and poor effluent compliance. Poor microbiological compliance, zero compliance, is recorded for the final effluent at all of the plants which is an issue of concern and needs to be investigated and addressed. With the exception of the Ventersburg plant, an additional risk is the non-compliance of the operating staff with R2834.

Of concern is the lack of progress with regard to the Odendaalsrust and Witpan plants that are still not operational, which significantly impacts negatively on the receiving environment. The risk rating of these two plants remains at the maximum and both plants are categorised as critical risk plants. Refurbishment work is ongoing to restore operations so it is expected that the risk of these plants will soon be reduced.

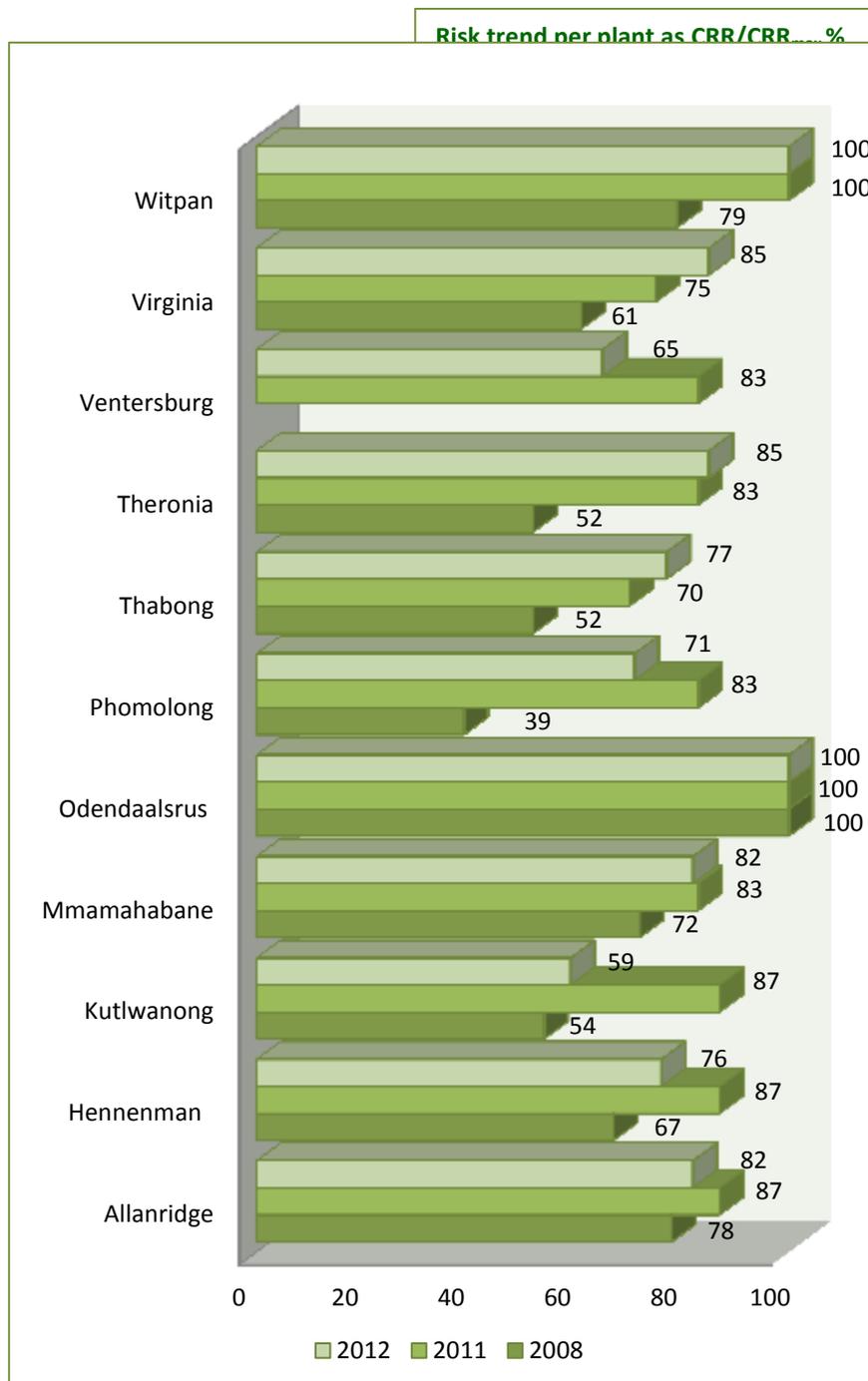
The Majhabeng Local Municipality is to be commended for the refurbishment and upgrading work is ongoing at treatment plants, pump stations and sewerage systems, as well as implementation of stormwater management systems. These interventions will result in an improvement in the performance of the plants and a reduction of the risk ratings.

The Municipality has not yet developed a Green Drop Implementation Plan despite the poor performance in previous Green Drop assessment. However, the current development of the W₂RAP, which will ensure a risk based approach to the development and implementation of actions required to improve the performance of the plants and reduce the risk rating. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk Trend Analysis 2008 - 2012

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	6
No change	2
Digress	3

Progress Indicator



Assessment Areas	Deneysville	Sasolburg	Oranjeville
Technology	Biofilters and sludge drying beds	Biofilters and sludge drying beds	Biofilters and sludge drying beds
Design Capacity (MI/d)	2.1	40.0	0.48
Operational % i.t.o. Design Capacity	NI	82.5%	NI
Ixi) Microbiological Compliance	25.0%	80.0%	33.0%
Ixii) Chemical Compliance	60.5%	99.2%	64.5%
Ixiii) Physical Compliance	89.0%	99.3%	94.3%
Annual Average Effluent Quality Compliance	58.2%	92.8%	63.9%
Wastewater Risk Rating (%CRR/CRRmax)	76.5% (↑)	44.4% (↓)	70.6% (↓)
Highest Risk Area	No influent monitoring, poor effluent compliance		No influent monitoring, poor effluent compliance
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	No W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	NI	R37.0m	NI
Description of Projects' Expenditure	Replacement of pumps and electrical equipment, installation of perimeter fence	Replacement of two biofilters and installation of chlorine dosing system	Replacement of pumps and electrical equipment
Additional Notes	Desludging of ponds, Flow meter to be installed 2012/13	None	Flow meter to be installed 2012/13
Wastewater Risk Abatement planning	No risk abatement is practiced in the municipality		

Regulation Impression

The Metsimaholo Local Municipality has made progress at the Sasolburg plant and Oranjeville plant where the risk rating has reduced. Sasolburg is now categorised as a low risk plant and Oranjeville as a medium risk plant. The poor effluent compliance, particularly microbiological compliance, and the lack of monitoring of the operational capacity are impacting on the risk at the Oranjeville plant. Poor microbiological effluent compliance at the Sasolburg plant is expected to improve now that the new chlorine dosing system has been installed. Non compliance with R2834 with regard to the operating and maintenance staff also increases the risk of the plant.

The risk rating of the Deneysville plant has increased and is now categorised as a medium risk plant. Key risk parameters include the poor effluent compliance, particularly microbiological compliance and the lack of information on the operational capacity. The proposed installation of a flow meter at the plants at Deneysville and Oranjeville in the next financial year will allow the operating capacity to be monitored against the design capacity and facilitate a reduction in the risk rating.

The Municipality is to be commended for the refurbishment interventions already implemented. This demonstrates a proactive approach to ensuring optimal treatment performance and will result in a reduction in the risk rating.

The Department encourages the Metsimaholo Local Municipality to develop a Green Drop Implementation Plan and W₂RAP for to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

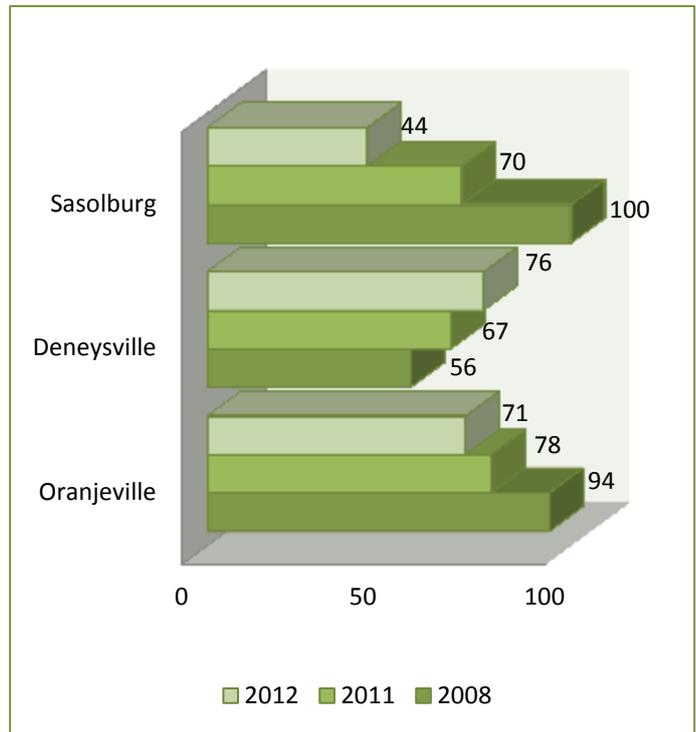
Risk Trend Analysis 2008 - 2012

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	2
No change	0
Digress	1

Progress Indicator



Risk trend per plant as CRR/CRR_{max} %



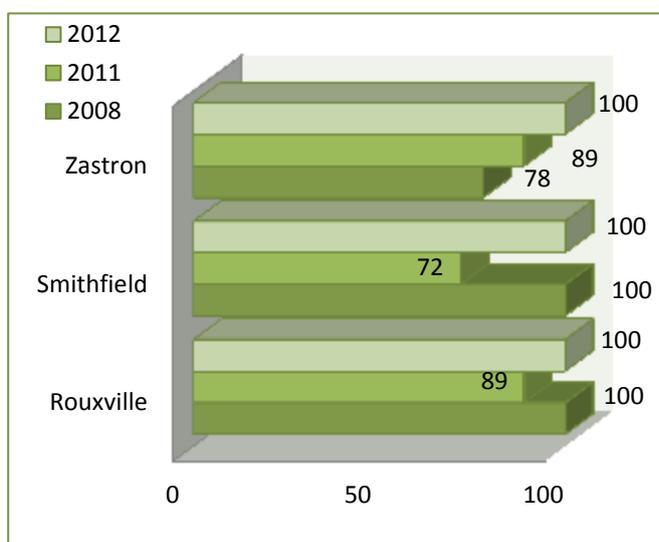
Assessment Areas	Rouxville	Smithfield	Zastron
Technology	Oxidation ponds	Oxidation ponds	Biofilters and sludge lagoons
Design Capacity (MI/d)	1.5	1.0	1.0
Operational % i.t.o. Design Capacity	NI	NI	NI
lxiv)Microbiological Compliance	NM	NM	NM
lxv) Chemical Compliance	NM	NM	NM
lxvi)Physical Compliance	NM	NM	NM
Annual Average Effluent Quality Compliance	NM	NM	NM
Wastewater Risk Rating (%CRR/CRR_{max})	100.0% (↑)	100.0% (↑)	100.0% (↑)
Highest Risk Area	Lack of influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	Lack of influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	Lack of influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff
Risk Abatement Process	Final W ₂ RAP	Final W ₂ RAP	Final W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	R0.0m	Upgrading plant to 1.5MI/day plant, installation of flow meters	
Wastewater Risk Abatement planning	A final W ₂ RAP is in place to commence with risk abatement, as identified and prioritised in the municipality.		
Additional Notes	None		

Regulation Impression

It is of concern that the all the wastewater treatment plants are now categorised as critical risk plants. The parameters that contribute to the increased risk rating are the lack of influent flow monitoring, no effluent compliance monitoring and non compliance with R2834 with regard to operating and maintenance staff. The lack of this information renders the management of the treatment process difficult to monitor and optimise and the reduction of the risk rating difficult to achieve. The interventions that are ongoing at the Smithfield plant will facilitate improved operations and a reduction in the risk rating.

Urgent action is required to reverse the critical situation and risk rating of all the wastewater treatment plants. The Department encourages the Municipality to implement the W₂RAP to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk trend per plant as CRR/CRR_{max} %



Risk Trend Analysis 2008 - 2012

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	0
No change	0
Digress	3

Progress Indicator



Assessment Areas	Kroonstad	Steynsrus	Viljoenskroon
Technology	Biofilters, anaerobic digestion	NI	Activated sludge
Design Capacity (MI/d)	20.0	NI	4.3
Operational % i.t.o. Design Capacity	NI	NI	NI
lxvii) Microbiological Compliance	NM	NM	NM
lxviii) Chemical Compliance	NM	NM	NM
lix) Physical Compliance	NM	NM	NM
Annual Average Effluent Quality Compliance	NM	NM	NM
Wastewater Risk Rating (%CRR/CRR_{max})	90.91 (↑)	88.24% (↑)	82.35% (↑)
Highest Risk Area	No monitoring, technical skill	No monitoring, technical skill	No monitoring, technical skill
Risk Abatement Process	No W ₂ RAP in place	No W ₂ RAP in place	No W ₂ RAP in place
Capital & Refurbishment expenditure in 2010/2011	NI	NI	NI
Description of Projects' Expenditure	NI	NI	NI
Wastewater Risk Abatement planning	No risk abatement is practiced in the municipality		

Regulation Impression

It is of concern that all wastewater treatment plants within the Moqhaka Local Municipality are categorised in the high and critical risk ratings. The risk rating of the plants are rated high due to non availability of information. The lack of information with regard to the operating capacity and design capacity and the compliance of the final effluent render the management of the treatment process difficult to monitor and optimise and reduction of the risk rating difficult to achieve. Non compliance with R2834 with regard to the operating and maintenance staff also increases the risk of the plant.

Urgent attention is required by the Moqhaka Local Municipality to address the current situation. Despite the poor performance in previous Green Drop assessment, the Municipality has not yet developed a Green Drop Implementation Plan. The Department encourages the Municipality to develop a Green Drop Implementation Plan and W₂RAP for each plant to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

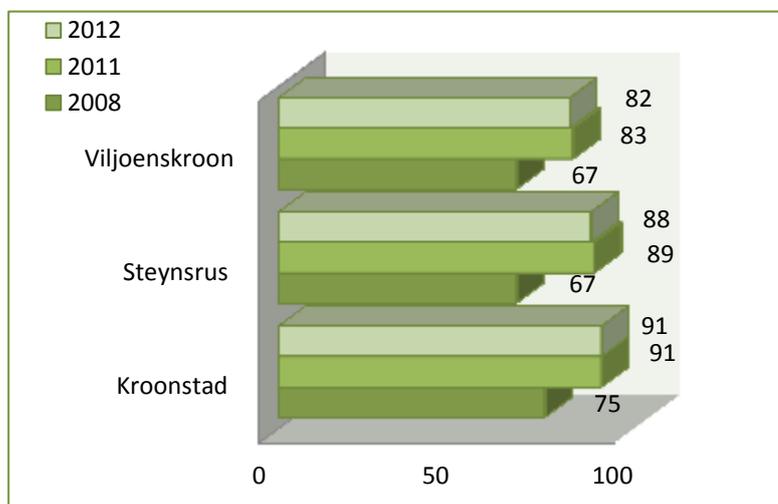
Risk Trend Analysis 2008 - 2012

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	2
No change	1
Digress	0

Progress Indicator



Risk trend per plant as CRR/CRR_{max} %



Assessment Areas	Bothaville	Wesselsbron
Technology	Activated sludge	Activated Sludge
Design Capacity (MI/d)	8.5	1.2
Operational % i.t.o. Design Capacity	NI	NI
lxx) Microbiological Compliance	NM	NM
lxxi) Chemical Compliance	NM	NM
lxxii) Physical Compliance	NM	NM
Annual Average Effluent Quality Compliance	NM	NM
Wastewater Risk Rating (%CRR/CRRmax)	86.36% (↑)	82.35% (↑)
Highest Risk Area	No monitoring of flow or effluent quality, technical skill	No monitoring of flow or effluent quality, technical skill
Risk Abatement Process	No W ₂ RAP in place	No W ₂ RAP in place
Capital & Refurbishment expenditure in 2010/2011	NI	NI
Description of Projects' Expenditure	NI	NI
Wastewater Risk Abatement planning	No risk abatement or management is practiced in Nala LM	
Additional Notes	None	

Regulation Impression

It is of concern that both wastewater treatment plants within the Nala Local Municipality are categorised at a high risk rating. The risk rating of the plants are rated high due to non availability of information. The lack of information with regard to the operating capacity and design capacity and the compliance of the final effluent render the management of the treatment process difficult to monitor and optimise and reduction of the risk rating difficult to achieve. Non compliance with R2834 with regard to the operating and maintenance staff also increases the risk of the plant.

Urgent attention is required by the Nala Local Municipality to address the current situation. Despite the poor performance in previous Green Drop assessment, the Municipality has not yet developed a Green Drop Implementation Plan. The Department encourages the Municipality to develop a Green Drop Implementation Plan and W₂RAP for each plant to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

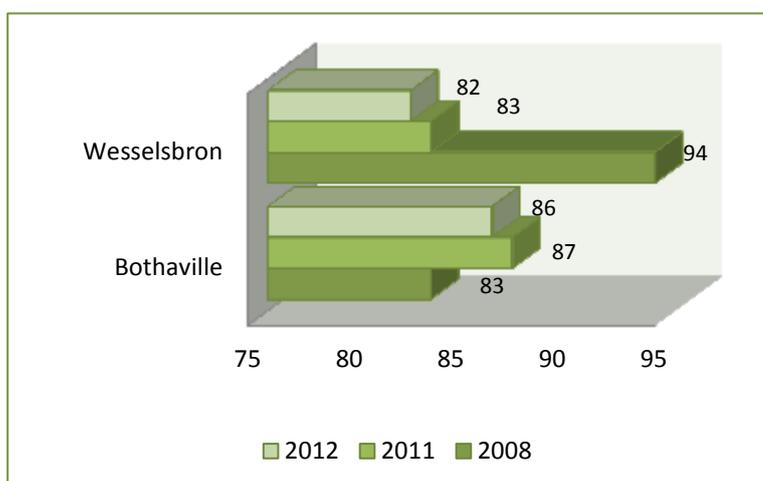
Risk Trend Analysis 2008 - 2012

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	2
No change	0
Degrade	0

Progress Indicator



Risk trend per plant as CRR/CRR_{max} %



Assessment Areas	Dewetsdorp	Van Stadensrus	Wepener
Technology	Activated sludge, anaerobic digestion and sludge drying beds	Oxidation ponds	Activated sludge, anaerobic digestion and sludge drying beds
Design Capacity (MI/d)	2.0	NI	2.0
Operational % i.t.o. Design Capacity	NI	NI	NI
Ixxiii) Microbiological Compliance	33.0%	NMR	100.0%
Ixxiv) Chemical Compliance	66.5%	NMR	91.7%
Ixxv) Physical Compliance	66.7%	NMR	94.4%
Annual Average Effluent Quality Compliance	55.4%	NMR	95.4%
Wastewater Risk Rating (%CRR/CRRmax)	70.6% (↓)	52.9% (↓)	70.6% (↓)
Highest Risk Area	No influent monitoring, poor effluent compliance, non compliance with R2834 for operating and maintenance staff	No influent monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, non compliance with R2834 for operating and maintenance staff
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	No W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	NI	R7.8m	NI
Description of Projects' Expenditure	NI	New plant under construction	NI
Wastewater Risk Abatement planning	Risk management is not practiced in Naledi LM		
Additional Notes	Municipal bylaws compiled		

Regulation Impression

The Naledi Local Municipality has made good progress at their wastewater treatment plants with a reduction in the risk ratings. The three plants are now all categorised as medium risk plants, as a result of the implementation of effluent compliance monitoring. The lack of monitoring of the operating capacity and the non compliance with R2834 with regard to operating and maintenance staff increases the risk of the plants. The poor effluent compliance, particularly microbiological compliance, at the Dewetsdorp plant also contributes to the risk rating.

The risk ratings of the Van Stadenrus wastewater treatment plant has reduced due to the evaporation of the final effluent rather than discharge to the environment which reduces the risk of the plant. The plant is now categorised as a medium risk plant. The key risk parameters are the non-compliance with R2834 with regard to the operating and maintenance staff and the lack of influent monitoring. Although effluent compliance monitoring is not a requirement for calculating the risk of oxidation ponds that do not discharge effluent into the environment, it is recommended to enable the treatment performance of the wastewater treatment works to be monitored. A new wastewater treatment plant is currently under construction, which will facilitate an improvement in the treatment performance and a reduction in the risk rating.

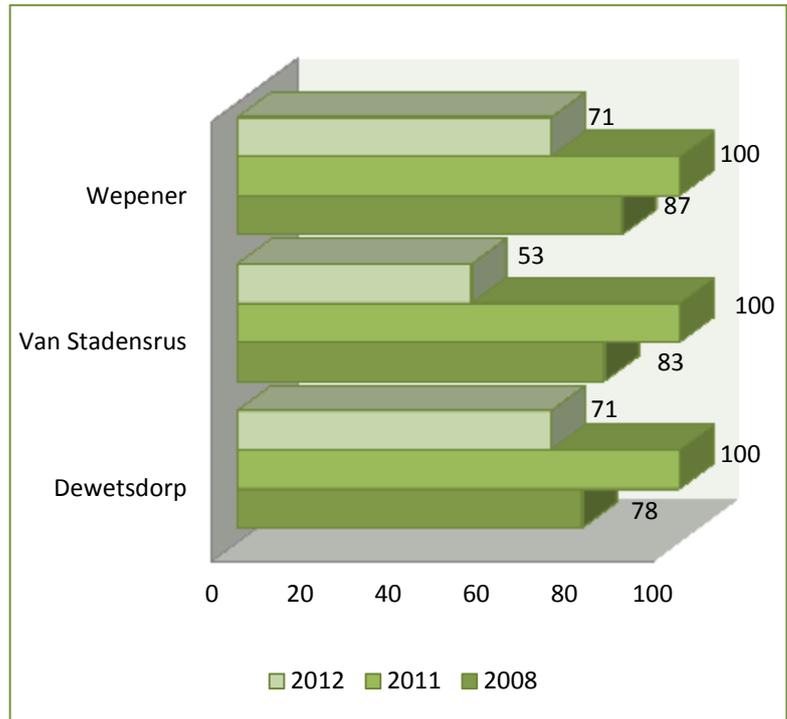
The Department encourages the Naledi Local Municipality to develop a Green Drop Implementation Plan and W₂RAP for to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk Trend Analysis 2008 - 2012

Risk trend per plant as CRR/CRR_{max} %

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	3
No change	0
Digress	0

Progress Indicator



Assessment Areas	Edenville	Heilbron	Koppies
Technology	Oxidation ponds	Anaerobic and aerobic contactors	Activated sludge and sludge lagoons
Design Capacity (Ml/d)	0.25	4.2	3.5
Operational % i.t.o. Design Capacity	NI	NI	NI
lxxvi) Microbiological Compliance	NM	NM	NM
lxxvii) Chemical Compliance	NM	NM	NM
lxxviii) Physical Compliance	NM	NM	NM
Annual Average Effluent Quality Compliance	NM	NM	NM
Wastewater Risk Rating (%CRR/CRRmax)	94.1% (↑)	94.1% (↑)	94.1% (↑)
Highest Risk Area	No influent monitoring, no compliance effluent monitoring, non compliance with R234 for operating and maintenance staff	No influent monitoring, no compliance effluent monitoring, non compliance with R234 for operating and maintenance staff	No influent monitoring, no compliance effluent monitoring, non compliance with R234 for operating and maintenance staff
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	No W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	R0.0m	R12.0m	R6.0m
Description of Projects' Expenditure	No projects	8.2 Ml/day activated sludge plant under construction	Refurbishment of plant
Assessment Areas	Parys	Vredefort	
Technology	Biofilter and sludge drying beds	Aerated oxidation ponds	
Design Capacity (Ml/d)	7.4	5.5	
Operational % i.t.o. Design Capacity	NI	NI	
lxxix) Microbiological Compliance	NM	NM	
lxxx) Chemical Compliance	NM	NM	
lxxxi) Physical Compliance	NM	NM	
Annual Average Effluent Quality Compliance	NM	NM	
Wastewater Risk Rating (%CRR/CRRmax)	90.9% (↑)	90.9% (↑)	
Highest Risk Area	No influent monitoring, no compliance effluent monitoring, non compliance with R234 for operating and maintenance staff	No influent monitoring, no compliance effluent monitoring, non compliance with R234 for operating and maintenance staff	
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	
Capital & Refurbishment expenditure in 2010/2011	R0.0m	R0.0m	
Description of Projects' Expenditure	No projects. Tender closed for installation of flow meter	No projects	
Wastewater Risk Abatement planning	No risk management is practiced in the municipality		
Additional Notes	None		

Regulation Impression

It is of concern that the all the wastewater treatment plants are now categorised as critical risk plants. The parameters that contribute to the increased risk rating is the lack of influent flow monitoring, no effluent compliance monitoring and

non compliance with R2834 with regard to operating and maintenance staff. The lack of this information renders the management of the treatment process difficult to monitor and optimise and the reduction of the risk rating difficult to achieve. The interventions that are ongoing at the plants at Parys and Heilbron will facilitate improved operations and a reduction in the risk rating.

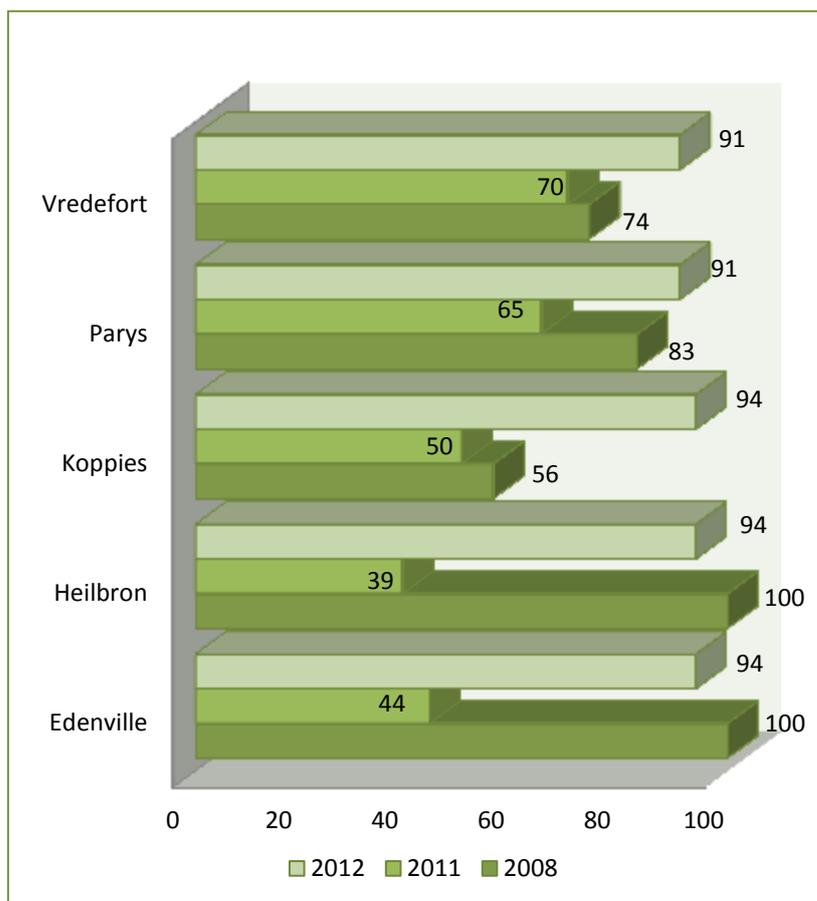
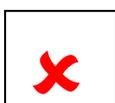
Urgent action is required to reverse the critical situation and risk rating of all the wastewater treatment plants. The Department urges the Ngwathe Local Municipality to develop a Green Drop Implementation Plan and W₂RAP to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk Trend Analysis 2008 - 2012

Risk trend per plant as CRR/CRR_{max} %

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	0
No change	0
Digress	5

Progress Indicator



Assessment Areas	Arlington	Lindley/Ntha	Petrus Steyn	Reitz
Technology	NI	Oxidation ponds	Biofilters	NI
Design Capacity (Ml/d)	NI	NI	NI	NI
Operational % i.t.o. Design Capacity	NM	NM	NM	NM
lxxxii) Microbiological Compliance	NM	NM	NM	NM
lxxxiii) Chemical Compliance	NM	NM	NM	NM
lxxxiv) Physical Compliance	NM	NM	NM	NM
Annual Average Effluent Quality Compliance	NM	NM	NM	NM
Wastewater Risk Rating (%CRR/CRR_{max})	100% (↑)	94.12% (↑)	94.12% (↑)	94.12% (↑)
Highest Risk Area	No monitoring of flow or effluent quality, technical skill	No monitoring of flow or effluent quality, technical skill	No monitoring of flow or effluent quality, technical skill	No monitoring of flow or quality, technical skill
Risk Abatement Process	No W ₂ RAP in place	No W ₂ RAP in place	No W ₂ RAP in place	No W ₂ RAP in place
Capital & Refurbishment expenditure in 2010/2011	NI	NI	NI	NI
Description of Projects' Expenditure	No project listed	No project listed	No project listed	No project listed
Wastewater Risk Abatement planning	No risk management is practiced in the municipality			

Regulation Impression

It is of concern that all wastewater treatment plants within the Nketoana Local Municipality are now categorised at a critical risk rating. The risk rating of the plants are rated at a maximum of 100% due to non availability of information. The lack of information with regard to the operating capacity and design capacity and the compliance of the final effluent render the management of the treatment process difficult to monitor and optimise and reduction of the risk rating difficult to achieve. Non compliance with R2834 with regard to the operating and maintenance staff also increases the risk of the plant.

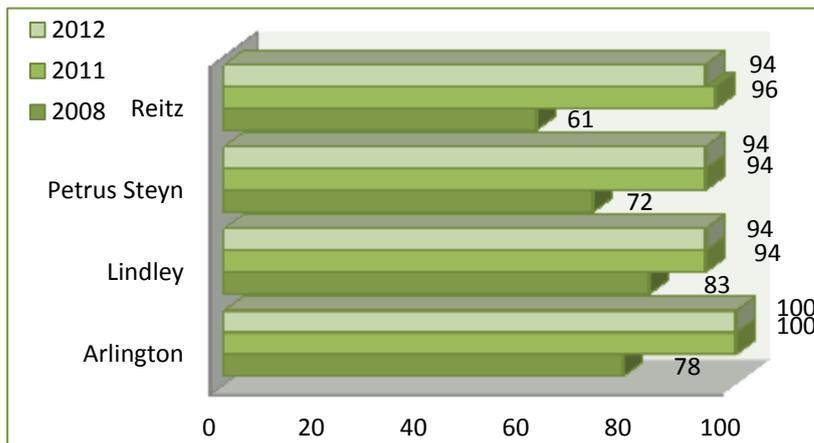
Urgent attention is required by Nketoana Local Municipality to address the current situation. Despite the poor performance in previous Green Drop assessment, the Municipality has not yet developed a Green Drop Implementation Plan. The Department encourages the Municipality to develop a corrective action plan and W₂RAP for each plant to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with Green Drop criteria and a reduction of the risk rating will require management support and appropriate allocation of resources for implementation of corrective actions.

Risk trend per plant as CRR/CRR_{max} %

Risk Trend Analysis 2008 – 2012

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	1
No change	3
Digress	0

Progress Indicator



Assessment Areas	Memel	Vrede	Warden
Technology	Oxidation ponds	Activated sludge and extended aeration and sludge drying beds	Activated sludge and extended aeration, sludge lagoons and sludge drying beds
Design Capacity (Ml/d)	0.5	7.5	2.0
Operational % i.t.o. Design Capacity	NI (Assume >100%)	NI (Assume >100%)	NI (Assume >100%)
lxxxv) Microbiological Compliance	NMR	NM	NM
lxxxvi) Chemical Compliance	NMR	NM	NM
lxxxvii) Physical Compliance	NMR	NM	NM
Annual Average Effluent Quality Compliance	NMR	NM	NM
Wastewater Risk Rating (%CRR/CRRmax)	52.9% (↓)	100.0% (↑)	100.0% (↑)
Highest Risk Area	No influent monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff	No influent monitoring, no effluent compliance monitoring, non compliance with R2834 for operating and maintenance staff
Risk Abatement Process	No W ₂ RAP	No W ₂ RAP	No W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	NI	NI	NI
Description of Projects' Expenditure	No project information	No project information	No project information
Wastewater Risk Abatement planning	Risk management is not practiced in Phumelela LLM		
Additional Notes	None		

Regulation Impression

It is of concern that the Phumelela Local Municipality has not demonstrated any progress. The risk rating of the Memel wastewater treatment plant has reduced and is now categorised as a medium risk plant because the final effluent evaporates and is not discharged to the environment. The parameters that continue to contribute to the risk at the Memel plant are the lack of influent monitoring and non compliance with R2834 with regard to operating and maintenance staff. Although effluent compliance monitoring is not a requirement for calculating the risk of oxidation ponds that do not discharge effluent into the environment, it is recommended to enable the treatment performance of the wastewater treatment works to be monitored.

The risk ratings of the Warden and Vrede plants have however increased to a maximum of 100% and are now categorised as critical. The parameters that contribute to the continuing and increasing high risk rating is the lack of influent flow monitoring, no effluent compliance monitoring and non compliance with R2834 with regard to operating and maintenance staff.

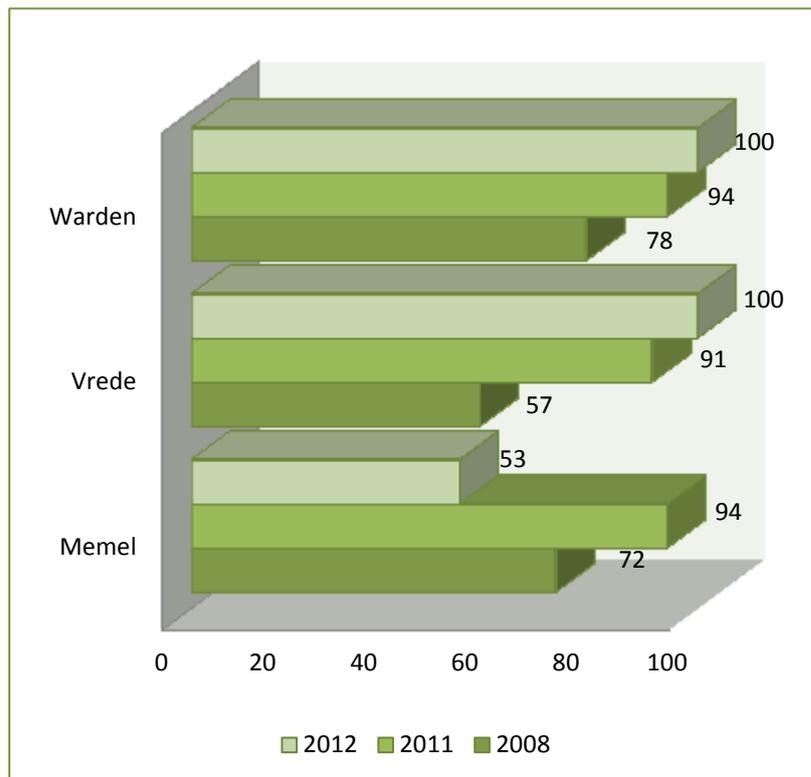
Urgent action is required to reverse the critical situation and risk rating of all the wastewater treatment plants. The Municipality has not yet developed a Green Drop Implementation Plan despite the poor performance in previous Green Drop assessment. The Department urges the Phumelela Local Municipality to develop a Green Drop Implementation Plan and W₂RAP to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk Trend Analysis 2008 - 2012

Risk trend per plant as CRR/CRR_{max} %

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	1
No change	0
Digress	2

Progress Indicator



Assessment Areas	Clocolan	Ficksburg	Marquard	Senekal
Technology	Oxidation ponds	Activated sludge	Oxidation ponds	Oxidation ponds
Design Capacity (MI/d)	NI	12.2	NI	NI
Operational % i.t.o. Design Capacity	NM	65.6%	NM	NM
lxxxviii) Microbiological Compliance	NM	43.0%	NM	NM
lxxxix) Chemical Compliance	NM	65.0%	NM	NM
xc) Physical Compliance	NM	100.0%	NM	NM
Annual Average Effluent Quality Compliance	NM	60.0%	NM	NM
Wastewater Risk Rating (%CRR/CRRmax)	100% (↑)	54.5% (↓)	100% (↑)	100% (↑)
Highest Risk Area	Operating and design capacity not known, non compliance with R2834, no effluent compliance monitoring	Poor effluent compliance	Operating and design capacity not known, non compliance with R2834, no effluent compliance monitoring	Operating and design capacity not known, non compliance with R2834, no effluent compliance monitoring
Risk Abatement Process	No W ₂ RAP in place	No W ₂ RAP in place	No W ₂ RAP in place	No W ₂ RAP in place
Capital & Refurbishment expenditure in 2010/2011	NI	NI	NI	NI
Description of Projects' Expenditure	No project listed	No project listed	No project listed	No project listed
Wastewater Risk Abatement planning	Risk management is not practiced or prioritised in Setsoto LM			
Additional Notes	None			

Regulation Impression

It is of concern that three wastewater treatment plants within the Setsoto Local Municipality continue to be categorised at a critical risk rating. The risk rating of the plants are rated at a maximum of 100% due to the lack of information regarding the operating and design capacity, no effluent compliance monitoring and the non compliance with R2834 with regard to operating and maintenance staff. The lack of information with regard to the operating capacity and design capacity and the compliance of the final effluent render the management of the treatment process difficult to monitor and optimise and reduction of the risk rating difficult to achieve. Non compliance with R2834 with regard to the operating and maintenance staff also increases the risk of the plant.

It is encouraging to see that the risk rating has been reduced achieved at the Ficksburg plant which is now categorised as a medium risk plant. Poor effluent compliance with regard to the microbiological and chemical results contributes to the risk of the plant.

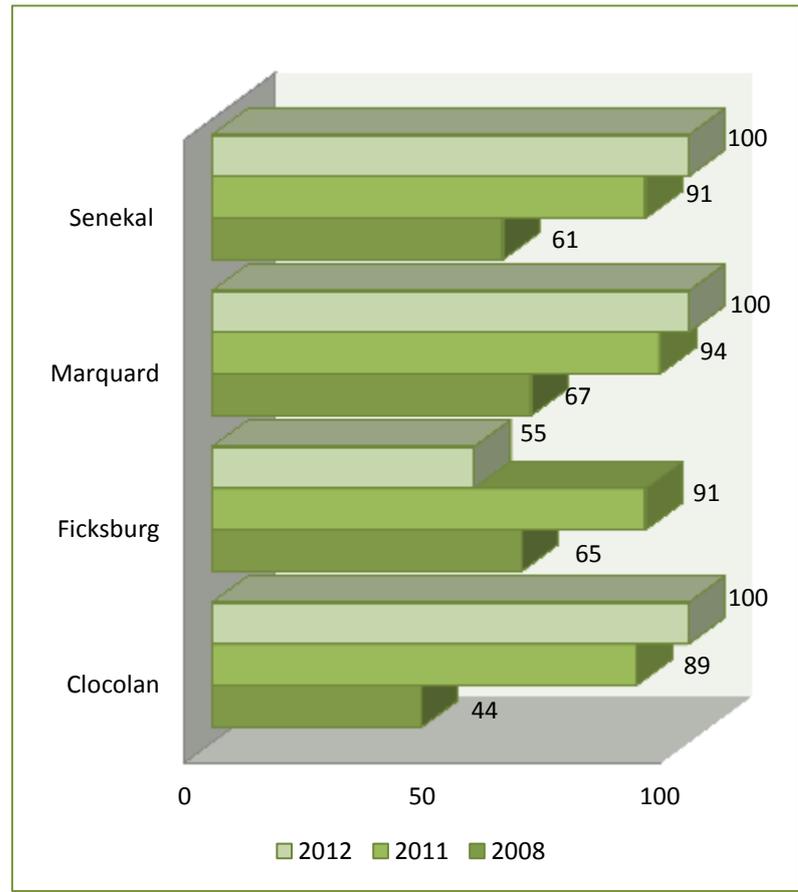
Despite the poor performance in previous Green Drop assessment, the Municipality has not yet developed a Green Drop Implementation Plan. The Department encourages the Municipality to develop a Green Drop Implementation Plan and W₂RAP to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk Trend Analysis 2008 - 2012

Risk trend per plant as CRR/CRR_{max} %

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	1
No change	0
Digress	3

Progress Indicator



Assessment Areas	Boshoff	Dealesville	Hertzogville
Technology	NI	Oxidation ponds	Oxidation ponds
Design Capacity (MI/d)	NI	NI	NI
Operational % i.t.o. Design Capacity	NM	NM	NM
xc) Microbiological Compliance	NM	NM	NM
xcii) Chemical Compliance	NM	NM	NM
xciii) Physical Compliance	NM	NM	NM
Annual Average Effluent Quality Compliance	NM	NM	NM
Wastewater Risk Rating (%CRR/CRR_{max})	100% (→)	100% (→)	100% (→)
Highest Risk Area			
Risk Abatement Process	No W ₂ RAP in place	No W ₂ RAP in place	No W ₂ RAP in place
Capital & Refurbishment expenditure in 2010/2011	NI	NI	NI
Description of Projects' Expenditure	No project listed	No project listed	No project listed
Wastewater Risk Abatement planning	Risk management is not practiced in Tokologo LM and no risk conceptualisation has been done by the technical or financial staff components		

Regulation Impression

It is of concern that all wastewater treatment plants within the Tokologo Local Municipality continue to be categorised at a critical risk rating. The risk rating of the plants are rated at a maximum of 100% due to non availability of information. The lack of information with regard to the operating capacity and design capacity and the compliance of the final effluent render the management of the treatment process difficult to monitor and optimise and reduction of the risk rating difficult to achieve. Non compliance with R2834 with regard to the operating and maintenance staff also increases the risk of the plant.

Urgent attention is required by the Tokologo Local Municipality to address the current situation. Despite the poor performance in previous Green Drop assessment, the Municipality has not yet developed a Green Drop Implementation Plan. The Department encourages the Municipality to develop a Green Drop Implementation Plan and W₂RAP for each plant to facilitate the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

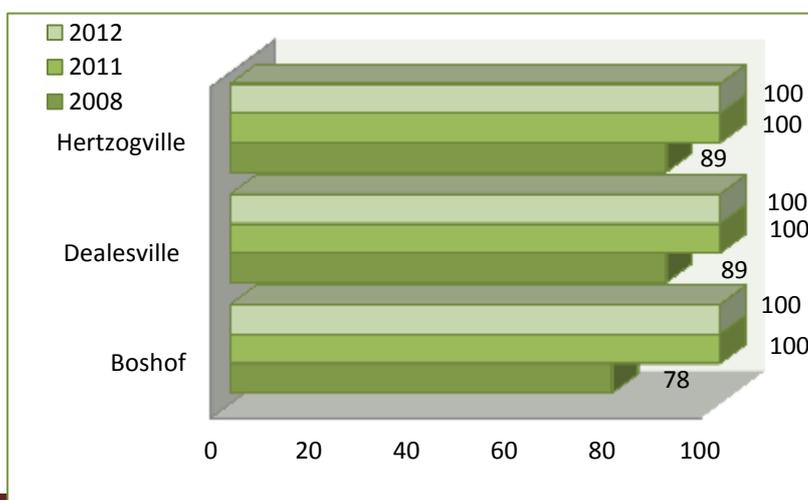
Risk Trend Analysis 2008 - 2012

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	0
No change	3
Digress	0

Progress Indicator



Risk trend per plant as CRR/CRR_{max} %



Assessment Areas	Bultfontein	Hoopstad
Technology	Oxidation ponds	Oxidation ponds and biofilter
Design Capacity (MI/d)	3.0	1.1
Operational % i.t.o. Design Capacity	NI	NI
xciv) Microbiological Compliance	92.0%	50.0%
xcv) Chemical Compliance	63.8%	100.0%
xcvi) Physical Compliance	72.3%	100.0%
Annual Average Effluent Quality Compliance	76.0%	83.3%
Wastewater Risk Rating (%CRR/CRRmax)	64.7% (↓)	52.9% (↓)
Highest Risk Area	No influent monitoring, poor effluent compliance, non compliance with R2834 for operating and maintenance staff	No influent monitoring, poor microbiological; effluent compliance, non compliance with R2834 for operating and maintenance staff
Risk Abatement Process	Final W ₂ RAP	Final W ₂ RAP
Capital & Refurbishment expenditure in 2010/2011	R24.0m	R0.0m
Description of Projects' Expenditure	Construction of new plant	No project
Wastewater Risk Abatement planning	A final W ₂ RAP is in place and will contribute to further improvement in the risk positions and CRR ratios of the municipality.	
Additional Notes	None	

Regulation Impression

The Tswelopele Local Municipality has made good progress at their wastewater treatment plants with a reduction in the risk ratings at both plants. The plants are now all categorised as medium risk plants. Key parameters that contribute to the risk include the lack of information regarding the operating capacity and the non compliance with R2834 for operating and maintenance staff. The poor effluent compliance at the Bultfontein plant and the poor microbiological effluent compliance at Hoopstad also increase the risk rating. A new plant is currently under construction at Bultfontein which will facilitate an improved treatment performance and reduction in the risk.

The implementation of the W₂RAP will facilitate Tswelopele to continue with the implementation of risk based interventions to improve compliance and to reduce the risk rating of the plants. Improved compliance with the Green Drop criteria and a reduction of the risk rating will require management support and the appropriate allocation of resources for implementation of corrective actions.

Risk Trend Analysis 2008 – 2012

Performance trend 2011-2012 (as CRR/CRR _{max} %)	Systems
Improve	2
No change	0
Digress	0

Progress Indicator



Risk trend per plant as CRR/CRR_{max} %

