



2013

BLUE DROP



PROGRESS REPORT



water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA



blue drop
CERTIFICATION

drinking water quality
REGULATION

Together committed to excellent Water Quality for the future

Appendix C: The Blue Drop Risk-rating (PAT) assessment criteria

The 2013 risk-assessments were done on water quality compliance data, information and actions during the period:

1 January 2012 – 31 December 2012
2013 PAT Progress Assessment Period

For comparison purposes, the Department however also re-assessed information for the period 1 January 2011 – 31 December 2011 and expressed the latter as a **2012** risk-statement.

The following aspects were included in the 2013 Blue Drop Progress Assessment Tool:

#Nr	Blue Drop Criteria	Description of Criterion	Additional comments
1	Population	Number of People Served	As on BDS, per supply system
		Class of Works	Approved Classification on BDS, as per Regulation 2834
	Classification & Capacity	Design Capacity (MI/day)	As indicated on the 2013 Municipal Information Sheet (MIS), verified against 2012 BD Report / scorecard information
		Operational Capacity in %	As indicated on the 2013 MIS, verified against 2012 BD Report / scorecard information
		Supervisor Complying with Regulation 17 (Yes/Partial/No)	Approved Classifications on BDS, as per draft Regulation 17 (staff availability per shift, per supply system)
2	Process Control Skills Compliance with R17	Number of Shifts at WTW per day	As indicated on the 2013 MIS, assumed 1 in cases of no information (<1MI/day operation)
		Number of Process Controllers complying with Legislation	Approved Classifications on BDS, as per draft Regulation 17 (staff availability per shift, per supply system)
		Process Controller Compliance rate (%)	Calculated %- staff available/nr shifts+1
		Maintenance Team Availability (Yes/Partial/No)	Evaluated from information on MIS and proof of work done BDS
3	Microbiological Monitoring Programme Compliance	Total Microbiological Monitoring Programme Compliance (%)	% on BDS (WSA registered programme (weighted calculation applied if both the municipality or WSP submitted data)
		Microbiological Quality Compliance (%)	Actual compliance calculated from data available on BDS (weighted formula's applied where WSA / WSP relationship's apply)
4	Drinking Water Quality Verification (compliance)	Chemical Quality Compliance (%)	Default >99.9% compliance applied to all systems
		Risk-defined Compliance (%)	Default >99.9% compliance applied to all systems
		Is Water Safety Planning process in place (Yes/Partial/No)	Evaluated from supporting information on BDS
5	Risk Management	Was full SANS 241 conducted within the Assessment Period? / Is the Monitoring Programme Risk Informed? (Yes/No/Partial)	Evaluated from data loaded on BDS for the assessment period, 1 Jan-31 Dec 2012, against SANS 241: 2006 determinand list (<i>E. coli</i> and Chemical-health in particular)

The “formula” used to calculate the Blue Drop Risk-ratings were:

$$\text{BDR} = 0.25\text{A} + 0.25\text{B} + 0.5\text{C}$$

Where:

- A** = Treatment Capacity Risk Rating
- B** = Process Control Risk Rating
- C** = Water Quality Compliance Risk Rating

The full mathematical formula were as follows-

$$\text{BDRR} = 0.25(\text{Population.R} \times \text{Ops Capacity.R}) + 0.25(\text{Works.R} \times (\text{PC} + \text{Supervisor} + \text{Maintenance.R})) + 0.5\{\text{Population.R} \times [0.8 \times (0.5\text{Micro} + 0.2\text{Chem} + 0.3\text{Risk}) + 0.2 \times (0.6\text{WSP} + 0.2\text{Monitoring} + 0.2\text{Full SANS})]\}$$

The 2013 Blue Drop Progress Assessment Tool were developed making provision, amongst other, for the following types of information, data / conditions related the assessment criteria (each factor presenting a different risk-value):

Class of Works	Rating	Operational Capacity	Rating	Supervisor / Maintenance Team- Comply with Reg 17	Rating
Class E	1	<90%	1	Yes	1
Class D	3	90% < 95%	2	Partial	3
Class C	5	95% < 98%	3	No	7
Class B	7	98% <100%	5	Monitoring Programme Risk & full SANS	Rating
Class A	9	100% <105%	7	Yes	1
Multiple (M)	9	105% and More	9	Partial	3
Not Registered (NR)	9	No Information	9	No	7
		Multiple (M)	9		

Population	Rating	Process Control Compliance	Rating	Monitoring Compliance	Rating
<1000	1	0%	9	<30%	9
1000 < 50000	2	>0% < 30%	7	30% < 50%	7
50000 < 100000	3	30% < 50%	6	50% < 70%	4
100000 < 500000	5	50% < 60%	4	70% < 80%	3
500000 < 1000000	7	60% < 70%	3	80% < 90%	2
1000000 and More	9	70% < 80%	2	90% and more	1
No Information	9	80% and More	1		
		No Information	9		

Microbiological Compliance	Rating	Chemical-health Compliance	Rating	Risk-defined Compliance	Rating
Population <100 000		Population <100 000		Population <100 000	
98% and more	1	95% and more	1	95% and more	1
97% < 98%	2	94% < 95%	3	94% < 95%	2
96% < 97%	3	93% < 94%	5	93% < 94%	3
95% < 96%	5	92% < 93%	7	92% < 93%	5
94 < 95%	7	< 92%	9	90% <92%	7
<94%	9	No Information	9	<90%	9
No Information	9			No Information	9
Population >100 000		Population >100 000		Population >100 000	
99% and more	1	97% and more	1	97% and more	1
98% < 99%	3	96% < 97%	3	96% < 97%	2
97% < 98%	5	95% < 96%	5	95% < 96%	3
96% < 97%	7	94% < 95%	7	94% < 95%	5
<96%	9	< 94%	9	93% < 94%	7
No Information	9	No Information	9	<93%	9
				No Information	9

Water Services Authority	Phokwane Local Municipality					
Water Services Provider(s)	Phokwane Local Municipality and Sedibeng Water*					
Municipal Blue Drop Risk Rating	53.08%					
Water Supply System	1. Hartswater		2. Jan Kempdorp		3. Pampierstad ^a	
A: Process Control RR	74.36%		74.36%		53.85%	
B: Drinking Water Quality RR	40.74%		40.74%		11.11%	
C: Risk Management RR	56.52%		56.52%		43.48%	
Water Supply System Blue Drop Risk Rating 2013	60.84%		60.84%		43.38%	
Blue Drop Risk Rating 2012 (+ Progress Indicator)	80.92%	IMPROVE	77.10%	IMPROVE	73.29%	IMPROVE
Upgrades Capital Expenditure (Rm)	R 0		R 0		R 0	
Microbiological Quality	90.90%		93.50%		99.40%	
Chemical Quality	>99.9%		>99.9%		>99.9%	

Regulatory Impression

The risk ratings for the Department of Water Affairs' 2013 evaluation compared to the risk statements using information from the 2012 Blue Drop Report, improved in all 3 of Phokwane Local Municipality's drinking water supply systems. The Municipality is providing the services in the Hartswater and Jan Kempdorp systems while Sedibeng Water is the service provider in the Pampierstad system. The Municipality and Sedibeng Water are commended with this continued improvement since 2010.

Serious microbiological failures were however recorded in the Hartswater and Jan Kempdorp systems while drinking water complied microbiologically in Pampierstad.

Chemical analyses have been done on the drinking water in the 3 supply systems during the last 2 years and no failures were recorded. The Municipality together with Sedibeng Water are now required to use this data and other information to develop risk –informed monitoring programmes for the systems.

The Municipality and Sedibeng Water have the required supervisory competencies to manage the systems but the necessary process controller competencies have not been proven to be in place. Information to prove more than 90% operational capacity on the Hartswater and Jan Kempdorp systems were also not provided and this increased the risks calculated for the two systems.

The Municipality and Sedibeng Water are required to proceed with their risk-based approach, identify key risks including those mentioned above, and develop an improvement plan to progressively further improve the drinking water provided to their citizens.