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Challenges of water management at local government municipal level in the Eastern Cape of South Africa

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2014 BLUE DROP REQUIREMENTS		
(1) WATER SAFETY PLANNING 35%	**(1.1) WATER SAFETY PLANNING PROCESS** (10%)	**a)** The Water Safety Planning Process is steered by a group of people which includes the technical, financial and management staff of the municipality. Where a Water Services Provider arrangement exist the WSA and Water Services Provider should partake in this process **b)** There should be clear indication that the Water Services Institution conducted a water safety planning process and not only drafted a document **c)** There should be clear reference to the specific water supply system at hand and not only global risk management measurements put in place
	(1.2) RISK ASSESSMENT (35%)	**a)** The Risk Assessment must cover catchment, treatment and reticulation **b)** The Water Services Institution (WSI) must provide information on findings of the Risk Assessment (and detail Risk Prioritisation method followed) for the specific water supply system including water resource quality. Format not important but it should be proven not to be a desktop study **c)** The Water Safety Planning process must include (adequate) Control Measures for each significant hazard or hazardous event identified **d)** A Water Quality Analyses conducted for at least 95% of the SANS 241 list of determinands (min 80%) (SANS 241: 2011). This is to verify whether treatment technology is adequate to treat the raw water to comply with national standard limits **e)** The WSI to proof implementation of mitigation measures from previous Water Safety Plans
	(1.3) MONITORING PROGRAMME (30%)	**a)** Prove **Operational Monitoring** is: i) Informed by the Risk Assessment ii) Required sites to monitor: Raw water, after filtration (per process unit) and final water iii) Determinands (minimum): pH, turbidity and disinfectant residual iv) Frequency of analyses: at least every 8 hours v) Equipment used + calibration records
		b) Prove **Compliance Monitoring** is: i) Informed by the Risk Assessment and SANS 241: 2011 compliant ii) Monitoring programme is registered on BDS iii) Actual monitoring occur according to registered BDS monitoring programme (>80%) iv) Required sites to monitor: Water works final & distribution network + Frequency of analyses: Water works final according SANS 241: 2011; distribution network according SANS 241: 2011 v) Coverage of population served must at least be 80%
	(1.4) CREDIBILITY of DWQ DATA (15%)	**a)** Certificate of Accreditation for applicable methods OR Z-scores results (z-scores must be ≥–2 & ≤ 2 are acceptable) in a recognised Proficiency Testing Scheme **b)** DWQ Data credibility on the BDS (Blue Drop Certified Data)
	(1.5) INCIDENT MANAGEMENT (10%)	**a) Protocol to specify:** 1) Alert levels 2) Response times 3) Required actions 4) Roles & responsibilities 5) Communication vehicles/methods and 6) Must include response on possible risks identified in the Risk Assessment of the Water Safety Planning process **b) Incident Register to include:** 7) Date, location and description of incident 8) Action taken and date of resolution 9) Outcome of cause investigation

	BONUS (1): Sampler's Training	**To be eligible for this bonus, WSI's must provide proof of training of samplers or Sampling Quality Control measures (Name the Sampling Training Course, Duration, Service Provider, and detail of Attendees)** **1) Evidence of relevant sampling training that will ensure credibility of the sampling process; or** **2) Evidence of control measures to ensure sampling credibility**
	BONUS (2): Incident Management Protocol Communication	**Communication on the Incident Management Protocol process with all relevant staff within the Municipality**
(2) **DWQ PROCESS MANAGE-MENT & CONTROL** **8%**	**(2.1) WORKS CLASSIFICATION COMPLIANCE** (15%)	Treatment works classified according the requirements of Regulation 2834- ONLY the classification as it appears on BDS will be used. Supporting evidence to allow the correct classification to be loaded on BDS, Water Services Institutions remains accountable for correctness of information / classification Certificate to be displayed at treatment works (*confirmed during on-site assessments*)
	(2.2) PROCESS CONTROL REGISTRATION COMPLIANCE (50%)	**a)** Process Control Staff must be Registered according to Regulation 2834 with the Department of Water Affairs. Water Services Institutions to prove per treatment works that Process Control Staff complies with the legislative requirements of: i) Number of Process Controllers' ii) Complying with the required Classification levels **b)** The Supervisor must comply with legislative requirements Information as it appears on BDS will be used ONLY, WSI's to ensure correct classification of all staff per treatment plant
	(2.3) WATER TREATMENT WORKS' LOGBOOK (35%)	**a)** A logbook is in place to record all incidents and observations at the water treatment works **b)** Evidence is presented that the logbook process is (i.e. communication medium between process controllers and shifts) being implemented (It is NOT required to be implemented for the entire assessment period)
	BONUS (1): Process Control Training	**Proof of Process Control staff being subjected to relevant training the past 12 months to allow Process Controllers to meet the education requirements towards higher level draft Regulation 17 Registration (Year 2013)**
	BONUS (2): Process Control Excellence	**a) Process Control Staff classified according the requirements of draft Regulation 17 on the Blue Drop System** **b) Process Control Staff and Supervisor compliance confirmed against draft Regulation 17 (must comply at least 75% in each of the shifts)- WSI must indicate shift patterns and Supervisor on BDS. WSI to explain measures in place when a shift does not comply with regulatory process control requirements** **c) WSI must indicate process controllers and/or supervisors that are 'shared' across different plants/sites**
Water Quality Data Period – 1 January 2013 – 31 December 2013		
(3) **DRINKING WATER QUALITY VERIFICATION**	**(3.1.1) MICROBIOLOGICAL DWQ COMPLIANCE** (50%)	The Microbiological Quality of the water supply must comply with the South African National Standard (specifically, the 2014 Blue Drop Limits which have been derived from SANS241: 2006 and 2011) as per the Excellent Requirements set by the Blue Drop Programme (*E coli*) - Excellent Compliance (97% for <100 000 population) & (99% for >100 000 population)
	(3.1.2) CHEMICAL DWQ COMPLIANCE (45%)	The Chemical Quality of the water supply must comply with the Excellent Requirements set by the Blue Drop Programme for all chemical-health determinands listed in the South African National Standard (the 2014 Blue Drop Limits, derived from SANS241: 2006 and 2011) Chemical – Health (Acute and Chronic): - Excellent Compliance (95% for <100 000 population) & (97% for >100 000 population) - Good Compliance (93% for <100 000 population) & (95% for >100 000 population)

30%	**(3.1.3) OPERATIONAL COMPLIANCE** (5%)	The compliance of operational determinands must comply with the 2014 Blue Drop Excellent Limits set by the Blue Drop Programme - Excellent Compliance (93% for <100 000 population & 95% for >100 000 population) - Good Compliance (90% for <100 000 population & 93% for >100 000 population)
	BONUS (1): Aesthetic DWQ Compliance	The Aesthetic Quality of the water supply must comply with the Excellent Requirements set by the Blue Drop Programme for all aesthetic determinands listed in the 2014 Blue Drop Limits - Excellent Compliance (93% for <100 000 population & 95% for >100 000 population) - Good Compliance (90% for <100 000 population & 93% for >100 000 population)
	PENALTY (1): Data Difference	**Should there be a difference between data available on BDS and that which is presented in hardcopy for verification the penalty will apply**
	PENALTY (2): <11 Months' Data	**Less than 11 months data available to assess Microbiological and Chemical compliance**
	PENALTY (3): Notification of Failure	**If there is any significant (sustained) failure with no evidence of a Water Quality Alert Notice (Boil Water Notice) being issued, this penalty will apply. NB! This may have an implication on qualification for certification**
(4) MANAGE-MENT, ACCOUNTA-BILITY, & LOCAL REGULATION 10%	**(4.1) MANAGEMENT COMMITMENT** (30%)	Management's commitment to effective Drinking Water Quality Operations & Management should be portrayed by Proof of signature approval of the: **a)** Water Safety Plan **b)** DWQ Monitoring Programme **c)** Water Treatment Plant Logbook **d)** Operations and Maintenance Budget **e)** Water Services Development Plan
	(4.2) PUBLICATION OF PERFORMANCE (25%)	Evidence should be provided on the various means of drinking water quality information made public to the constituencies supplied with drinking water from this specific water supply system Forms of Publication: >Newspaper publication >Municipal Billing >Community Radio >Annual Report >Posters & Pamphlets >Population and Promotion of "My Water" >Electronic Webpage Water Services Institutions must provide evidence of adequate marketing of Existing Blue Drop Certified water supply systems
	(4.3) SERVICE LEVEL AGREEMENT/ PERFORMANCE AGREEMENT (15%)	Should there be an institutional arrangement between the Water Services Authority and the Water Services Provider, then it is essential that the legislatively required contract (Section 19 of the Water Services Act) stipulate the Service Level Agreements between the two entities. A copy of this document is required, **OR** Should the Water Services Authority fulfil the function of Water Services Provider as per Section 78 arrangements, then it is required that the responsible manager (official) have a Performance Agreement (Workplan) in place which stipulates Drinking Water Quality Management Responsibilities
	(4.4) SUBMISSION OF DWQ DATA (30%)	**a)** 12 months of data had been submitted on the Blue Drop System (BDS) (DWA will only consider data available on the BDS) **b) All** compliance monitoring test results are required to be submitted **c)** As per a requirement of the Water Services Act, compliance data submission occurred monthly (Section 62 of the Water Services Act, Section 9

		Regulations) (measured as BDS submission compliance)
	BONUS (1): **Publication of Performance**	**Availing information on Drinking Water to relevant public in 3 or more forms listed**
	BONUS (2): **Performance Agreement**	**Workplans of Process Controllers aligned to Operations and Maintenance Manual**
	BONUS (3): **Procurement processes**	**Proof that systems are in place to not run short of Chemicals & Consumables required for treatment**
	PENALTY: Submission of DWQ Data	Penalty will apply should the Department find proof during / post assessment that the WSI are guilty of an offence as per Section 82 of the Water Services Act, by only submitting partial information in order to present a false impression of DWQ Performance and/or compliance
(5) **ASSET MANAGE-MENT** **14%**	**(5.1)** **ANNUAL PROCESS AUDIT** (20%)	Process Audit Report on technical inspection/assessment of treatment facility and evidence of implementation of findings This process assessment should've been done within the 12-month assessment period
	(5.2) **ASSET REGISTER** (15%)	The Institution must present a complete Asset Register. The asset register must: **a)** Detail relevant equipment and infrastructure **b)** Indicate asset description **c)** Location **d)** Condition (remaining life) **e)** Replacement value
	(5.3) **AVAILABILITY & COMPETENCE of MAINTENANCE TEAM** (15%)	**a)** The Institution must present evidence of a competent Maintenance Team (in form of Organogram; Contract or Invoice). Logbook with maintenance entries will serve as adequate evidence (for Mechanical, Electrical, Instrumentation and Civil work) **b)** Additional prove required on team competency (e.g. Qualification & Experience & Trade-test)
	(5.4) **OPERATIONS & MAINTENANCE MANUAL** (15%)	O&M manual to contain: **a)** Civil, mechanical, electrical detail / drawings of plant **b)** Design capacity of plant **c)** Operational schedules, maintenance schedules **d)** Process detail and control **e)** Mechanical and electrical equipment specification **f)** Fault finding **g)** Monitoring

	(5.5) OPERATIONS & MAINTENANCE BUDGET and EXPENDITURE (20%)	The Institution must present credible evidence of: **a)** Maintenance Budget (as part of Operations Budget) **b)** Maintenance Expenditure (as part of the Operations Expenditure) **c)** Maintenance Expenditure should be more than 5% of the Operations Expenditure in Total for the preceding Financial Year Financial expenditure to apply as per Municipal Budget Year: Jul 2012 to Jun 2013
	(5.6) DESIGN CAPACITY vs. OPERATIONAL CAPACITY (15%)	Proof to be submitted of the documented design capacity and documented daily operating capacity over the past 12 months Groundwater dependant systems must have an acceptable plan which stipulates abstraction patterns that will prevent aquifer damage Flow meters must be calibrated at least annually
Blue Drop Requirements= TOTAL 97%		

2014 NO DROP REQUIREMENTS (Water use efficiency)

(6) WATER USE EFFICIENCY & WATER LOSS MANAGE-MENT 3%	**(6.1) WATER BALANCE** (30%)	Provide MONTHLY and ANNUAL composite IWA water balance diagrams and supporting documents for the complete system as part of the water audit (as a component in the WSDP) as per Regulation 509 of 2001 Clause 10 of the Water Supply Regulations. Balance diagram to specify as a minimum the main components of the IWA balance including Water Losses broken down into: **a)** System input volumes **b)** Billed metered and unmetered usage **c)** Unbilled Authorised Consumption **d)** Water losses broken down into Real and Apparent Losses **e)** Free Basic Water, and **f)** Non Revenue Water and to be supported by a schematic showing bulk meters, zones and main infrastructure components *Note: WSI's to ensure that units are clearly indicated against numeric values in water balance (e.g. 100 kl/annum, 50 m^3/day, etc)*
	(6.2) WDM STRATEGY and BUSINESS PLAN and IMPLEMENTATION (30%)	**a)** Evidence must be provided of a Council approved WDM strategy and business plan consisting of at least the following: - Background and Context - Situation Assessment including a Needs Statement - Key Issues and Challenges - Focus Areas of Intervention - List of Proposed Interventions - Set targets for demand, NRW, commercial and real losses - Budget and Multi-year Implementation Timeline **b)** Provide evidence of implementation against the above Plan in terms of: - List of Interventions (Projects) - Movement against targets for demand, NRW, commercial and real losses - Budget and Multi-year Implementation Timeline *(Reg 509 of 2001 Clause 10)*
	(6.3) COMPLIANCE and PERFORMANCE (40%)	**a)** Provide historic data in order to calculate the following: - Physical (real) water loss trend - Commercial water loss trend - Water use efficiency trend **b)** Provide the following data (grey cells only) with supporting documentation, in order to calculate the WSI baseline profile for: - Physical (real) water loss status - Commercial water loss status - Water use efficiency status

Population number served:		**SIV (System Input Volume) (kl/annum):**		**Average system pressure (m):**	
Households served:		**Authorised, Billed and Metered (kl/annum):**		**Usage (l/cap/day):**	
Total connections:		**Authorised, Billed and Unmetered (kl/annum):**		**Non-revenue (l/cap/day):**	

		Metered connections:		Authorised and Unbilled (kl/annum):		Real losses (l/cap/day):	
		Unmetered connections:		Authorised Consumption (kl/annum):		% Metering	
		Households with deemed of flat rate billing:		Revenue water (kl/annum):		Efficiency =	
		Number of metered connections billed:		Non-revenue water (kl/annum):			
		Proven Industrial use (kl/annum):		Water losses (kl/annum):			
		Length of mains installed :		Apparent or Commercial losses (kl/annum):		Water loss =	
		Assumed commercial losses :		Real or Physical water losses (kl/annum):			
	PENALTY: Inclusion in the IDP	Components listed under Criteria 1.2 were not included in the IDP					
	BONUS (1): Training in WDM	a) The Institution must present evidence of a competent Water Loss Management Team (in form of an Organogram) with <20% vacancy ratio in accordance with Clause 66 (Staff matters) of the Municipal Systems Act 32 of 2000 b) Proof required on team manager competency (Qualification & Experience) with the following additional requirement: Manager to have suitable tertiary qualification with suitable experience c) The Institution must present evidence of a competent structured Maintenance Team (in form of Organogram with well-defined positions and job descriptions; Contract or Invoice). Logbook with maintenance entries will serve as adequate evidence d) Additional proof required on team competency for the team presented under (c) above (e.g. Qualification & Experience & Trade-test) e) Indicate number of suitably qualified plumbers per 1000 connections					
No Drop Requirements= TOTAL 3%							

2014 BLUE DROP Score (%) = 97% Blue Drop score (DWQ Management) + 3% No Drop Score (Water use efficiency)

BLUE DROP REQUIREMENTS WILL ACCOUNT FOR 97% OF THE 100% BLUE DROP SCORE

NO DROP REQUIREMENTS WILL ACCOUNT FOR 3% OF THE 100% BLUE DROP SCORE

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

blue drop CERTIFICATION drinking water quality REGULATION

no drop