(Draft) GREEN DROP REQUIREMENTS 2013
Data Assessment Period: July 2011 to June 2012
South African Wastewater Services Incentive-based Regulation

KPA	Sub-requirement	Weight
1	Process Control, Maintenance and Management Skill	10%
2	Wastewater Monitoring Programme Efficacy	15%
3	Submission of Wastewater Quality Results	5%
4	Effluent quality compliance	30%
5	Wastewater Quality Risk Management	15%
6	Bylaws (Local Regulation)	5%
7	Wastewater Treatment Capacity	5%
8	Wastewater Asset Management	15%
		100%
	Bonuses	***+17% max***
	Penalties	***-5% of total***

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Key Performance Area	***Sub-Requirements***
Process Control, Maintenance and Management Skill 10%	(a) A copy (certified) of **Registration Certificate of Works** displaying Classification (Regulation 2834)
	(a) Copies (certified) of **Registration Certificates of Process Controllers and Supervisors** (Regulation 2834) *1. Copies of the classification certificates of **all** process controllers/operators and supervisors/superintendents must be uploaded on the GDS* *2. Compliance with Regulation 2834 (must comply at least 50% in each of the shifts); WSI must indicate shift patterns or measures in place when no shift work is undertaken* *3. WSI must indicate process controllers and/or supervisors that are 'shared' across different plants/sites*
	(a) Proof of **Maintenance Team** used for general maintenance work at the plant (both mechanical and electrical) *1. Information on in-house staff or external contractor/s* *2. Provide additional proof of competency of team (e.g. Qualification & Experience & Trade-test)* *3. Provide a site specific operation and maintenance schedule (routine / scheduled)* *4. Contract or Logbook with maintenance entries will serve as proof of the above aspects*

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Key Performance Area	*Sub-Requirements*
Process Control, Maintenance and Management Skill 10%	**(a) Proof of a 'site-specific' Operation & Maintenance Manual** *1. O&M manual/s to contain: structural, mechanical, electrical detail of plant, design specifications of plant, reference to drawings, operational schedules, maintenance schedules, process detail and control, instrumentation specification/type, fault finding, monitoring, pump curves, supportive appendices*
	(a) Operational Logbook *1. A logbook is in place to record all incidents at the water treatment works* *2. Evidence is presented that the logbook process is being implemented (It is NOT required to be implemented for the entire assessment period)*
	BONUS: **Proof of Process Controllers Being Subjected to relevant training the past 24 months. Provide proof of:** ○ *Names of trainees and signature of attendance* ○ *Date and training subject field* ○ *Training provider and content of training*

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Key Performance Area	***Sub-Requirements***
Wastewater Monitoring Programme Efficacy 15%	(a) Details of **Operational Monitoring:** 1. Proof of Operational Monitoring sites, determinands and frequency 2. Samples must include: ○ *inflow,* ○ *outflow,* ○ *process flows,* ○ *industrial effluent,* ○ *sludge;* 3. Determinands monitored: ○ *As per Authorisation / as per best practice per technology type;* ○ *Frequency : as per Authorisation /as per best practice;*
	(a) Details of **Compliance Monitoring**. 1. Sampling Sites as per Authorisation; 2. Determinands as per Authorisation; 3. Sampling frequency occurs as Authorisation Requirements *Note1: For zero-effluent treatment systems - still need to monitor for impact on catchment / environment (for both lined and unlined systems). Where oxidation ponds are producing effluent for irrigational purposes then General Limits apply.* *Note 2: A monitoring programme will not be sufficient to obtain full scores. Analyses results should proof implementation of the monitoring programme.*

2 cont...

Key Performance Area	*Sub-Requirements*
Wastewater Monitoring Programme Efficacy 15%	**(a) Laboratory** used: 1. Name lab for operational analysis (in-house or on-site) and lab for compliance analysis/checks (in-house or external) 2. Provide the turnaround in laboratory analysis (in hours: from time of submission to time of results dissemination)
	(a) Laboratory Credibility: 1. Certificate of **Accreditation** for applicable methods, *2. Or* Z-scores results following participation a recognised **Proficiency Testing Scheme** (–2 ≥ z-score ≥ 2 are unacceptable) *3. Or* Proof of Intra- and Inter-laboratory proficiency (quality assurance as prescribed in Standard Methods)
	(a) Explain how **monitoring results** are used to **amend/improve process controlling** Practical example: *[The assessor will select at random analytical parameter/s from the presented analytical results to present an audit question]*

3

Submission of Wastewater Quality Results 5%	Proof of **data submission** to DWA (12 months) ▪ *12 months of data submitted to DWA **on the GDS*** ▪ *WSA must ensure that 12 months' sets of results are submitted and recorded on the GDS prior to the assessment. Note: **All compliance results' data required***
	PENALTY: Penalty will apply should wastewater results be available but not captured on GDS
	PENALTY: Penalty will apply should the Department find proof during / post assessment that the WSI is guilty of an offence as per Section 82 of the Water Services Act, by only submitting partial information (on GDS) in order to present a false impression of DWQ Performance and/or compliance.

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Effluent Quality Compliance 30%	(a) Copy of **Authorisation** (License, GA or permit, detailing Effluent Quality Limits and Discharging standards(in case of oxidation ponds)) *Copy of applicable Authorisation, containing the specified effluent quality limits or standards for discharge to a water body or for irrigation or for other applications*
	(a) Effluent Quality CATEGORIES: (1) 90% microbiological compliance; (2) 90% chemical compliance; and (3) 90% physical compliance
	BONUS **(a) A practical Green Drop Improvement Plan (GDIP) in place – with baseline (current) score, tasks, responsible person, completion date, budget, target GDC score;** **(b) Implementation evidence and proof of management of process**
	PENALTY **(a)Sludge treatment not managed / monitored (Monitoring records must be produced).** **(b)In cases of ponds systems, provide schedule for desludging of system**

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Wastewater Quality Risk Management 15%	(a) Proof of a documented **Wastewater Incident Management Protocol** ▪ Protocol to specify alert levels, response times, required actions, roles & responsibilities and communication measures/vehicles • NB. Include Pump station failure and sewer collector system spillages
	(b) Provide **evidence of implementation** of Protocol • Wastewater Quality Failure Incident and Sewer Spillage Incident register
	(c) A practical and site specific **Wastewater Risk Abatement Plan (W_2RAP)** is in place which identify and prioritise risks, with measures to mitigate inefficiencies/inadequacies that result in non-compliance
	BONUS: WSI is able to provide DWA with Energy Demand Projections and Consumption figures for the specific Wastewater Treatment Works.

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Bylaws (Local Regulation) **5%**	**(a) Proof of the Bylaws** providing for the regulation of: ○ industrial (trade) effluent (volumes & quality) discharged into municipal system ○ package plants ○ decentralized systems ○ vacuum tank discharges ○ Spillages into the environment ○ Stormwater connections to sewer system.
	(a) Evidence of Bylaws enforcement by Local Authority ▪ Proof of application of Bylaw clause in practice, supported by written notice/s to offender
	PENALTY: No evidence of any **Industrial influent monitoring.** ▪ There must be proof in form of results to indicate WSA is performing its local regulation function as per Wastewater Services.
	BONUS: **Annual Publication of** wastewater management performance against the requirements of the site-specific License conditions or General Authorisations Name and date of publication, copy of information pertaining to audit question. Note: Communication must include compliance summary

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Wastewater Treatment Capacity 5%	(a) Documented design capacity (**hydraulic and organic**) of the wastewater treatment facility ▪ *Design capacity as Average Dry Weather Flow (ADWF) and COD load to the plant* and (a) Documented daily **receiving flows** over the 12months of assessed period (ideally ≤ than design capacity) ▪ *Evidence of daily flows and subsequent calculated averages. Measurement method to be explained* ▪ *Evidence of peak wet weather flow to plant during rain events (record rain event and flow to plant)* ▪ *Evidence of minimum nightflow (minimum monitoring: monthly)* ▪ *Water services institution is required to provide motivation/proof of accuracy of meter readings.*
	(a) Medium to long term planning to ensure sufficient **capacity for treatment system** and to ensure effluent quality compliance; ▪ *Detailed Work-plan which stipulates type of work, associated budget and projected timeframe, as well as the planned output of this work*
	(a) Medium to long term planning to ensure sufficient **capacity for collecting system** ▪ *Detailed Work-plan which stipulates type of work, associated budget and projected timeframe, as well as the planned output of this work* ▪ *Note: When the WSI is motivating that 'no work' is needed, then provide basis for such standpoint (i.e. quantified design versus operational capacity, usage of system, expected housing developments, condition of treatment system)*

8 Wastewater Asset Management 15%	(a) Annual **Process Audit** reporting (evidence required of audit findings and recommendations) on treatment facility efficacy. The audit to include the (design) capability of the plant to meet compliance standards, as well as actual performance of plant. (b) Evidence/plan of **implementation of findings** during year following Audit Report required.
	(a) Site inspection of sewer reticulation network and pump-station/s. Provide evidence in form of capacity and condition assessment and recommendations of system. Report to include flow balance that provides evidence which % of total sewage is received at treatment plant. *Note: both the process audit and sewer network report could serve as baseline to the W_2RAP (may run concurrently with "system description and risk identification/rating)*
	(a) Updated sanitation / wastewater **Infrastructure Asset Register** Proof of Asset Register, evidence to be submitted. Asset register to include movable equipment and immovable infrastructure / assets with matching detail (age, value, condition, etc).
	(a) Operation and maintenance **budget** and comparative **expenditure** detail for: 1 - wastewater treatment (in cents/m^3), and 2 - collection system (R/m^3) *The assessor will require the WSI to explain how these figures compare or are **benchmarked** to determine whether budget is (in)sufficient .*
	(a) Maintenance records of pump-stations Proof of maintenance work done on mechanical, electrical, civil per pump station

Additional Bonus	**Add 1:** WSI is able to provide evidence of **improvement partnership initiatives** with smaller municipalities **(Cross-pollination).** Green Drop scores will serve as good evidence to measure the outcomes of such initiative/s.
	Add 2: Proof of a **Storm-water management plan** detailing how storm-water entry is quantified, managed and monitored to prevent entry to sewer systems. Evidence of implementation required
	Add 3: Water Demand Management Plan which provides a strategy and/or workplan that identify, quantify, monitor and manage leakages and water losses of any kind that (may) create an artificial water demand due to higher hydraulic loading of wastewater collection and treatment infrastructure. The bonus will be maximised by providing a wastewater flow balance.

THANK YOU and BEST WISHES in PREPARING FOR THE GREEN DROP 2012 ASSESSMENT !!

Chief Director: Regulation

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