GREEN DROP REQUIREMENTS

Green Drop Training 27th June

green drop
CERTIFICATION
waste water service
REGULATION

Department of Water Affairs
Directorate: Water Services Regulation
Solomon Makate
Technical Regulation

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

Introduction

- Technical and managerial skills are essential in any institution of high performance and compliance are the expected outputs.
- DWA regulate process controller classification with the guidance of Reg.2834 of NWA (1956) and
- Draft Reg.17 from Water Services Act 108 of 1997, is being implemented with respect to process control registration.
- Skills levels in the municipal sector and wastewater sector proves essential to plan and meet water services delivery demands and expectations.

Requirement 1
Process Control, Maintenance & Management Skill

- Class of works determines the process controllers required for the works.
- Place renewed focus on Operational and Maintenance skills requirements.
- To ensure that adequately skilled staff take charge of process controlling and maintenance of this works.

- Regulation 2834 review was to address issues such as Schedules I and II wherein regardless of the complexity of the works, the smaller the size, the lower it is classed, and thus according to the regulation, the fewer skilled process personnel are needed for its' operation.
- This is therefore also holds true for large, less complex processes, that according to the regulation require far more qualified process personnel.
- The proposed regulations will make provision for this so that a small works with complex processes may now require more skilled process personnel than a large works with less complex processes.
- Reg 17 recognise NQF qualification and cater for those with no formal qualification by "Grand Parent" Clause.

GDS: Classification and Registration

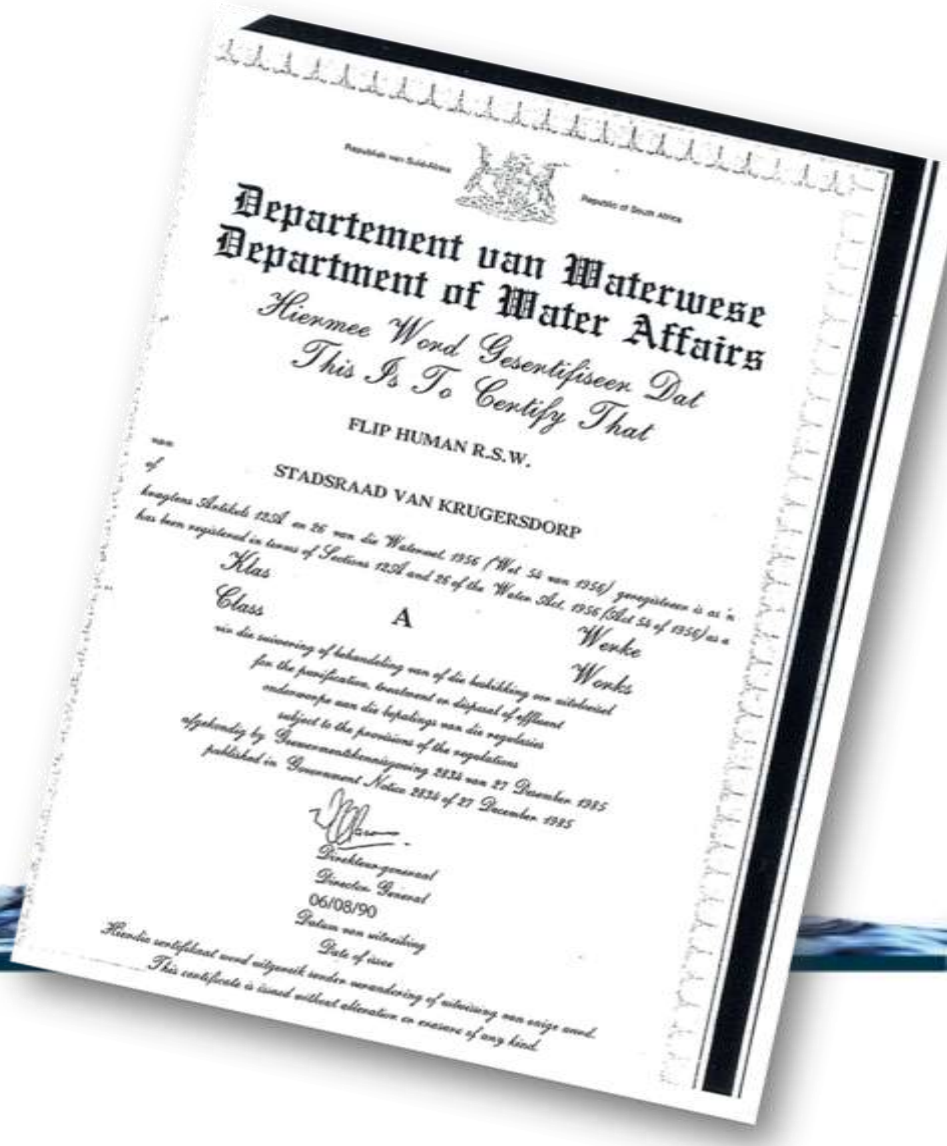
- Registration is done on GDS : web-based systems that used by DWA to review, update and register process controllers.
- The system require a username and password for access.
- The information within each WSA/WSP profile is confidential and can only be accessed by the WSA, certification Program Administrator and the Ministry of Water Affairs.
- Every Water Services Works must be classified in accordance with schedule II.
- Every PC must be registered in accordance with schedule III.
- WSI are required to display the classification/registration certificates in a prominent place.
- Process Controllers and Supervisors must undertake required hours of process training per year.

1. Registration Certificate of Works

A plant is registered and classified according to the following criteria:

- Populations supplied
- Infrastructure
- Quality of intake water
- Process parameters
- Control processes
- Sensitivity of water resource

into which treated water containing waste is discharged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2. Registration certificate for process controllers

To qualify for a process controllers registration, a person must:

- Meet education requirements
- Meet experience requirements; and
- Annual Continuing Education (Bonus point GDC)
- Must be currently employed at a waste water works
- GDC requirement: Process Control compliance should be at least 50%/shift

measured against regulation 17

Examples-shift patterns are required for scoring. If a plant has 3 shifts, WSI must have 3 PC's +1 on standby.

Schedule IV – Process compliance against Class of Works

WORKS CLASS	CLASS OF PROCESS CONTROLLERS PER SHIFT	SUPERVISION*	OPERATIONS AND MAINTENANCE SUPPORT SERVICES REQUIREMENTS*
E	Class I	Class V*	These personnel must be available at all times but may be in-house or outsourced: • electrician • fitter • instrumentation technician
D	Class II	Class V*	
C	Class III	Class V*	
B	Class IV	Class V	
A	Class IV	Class V	

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This is to certify that
JOHN CUPIDO
Identity no.
5801075142089
has been registered in terms of section 26 of the National Water Act (Act No. 36 of 1998) as a
Class 0 process controller
for the operation of water care works used for purification, treatment or disposal of effluent.

Director-General
2010-03-12
Date of Issue

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3. Maintenance team

1. Maintenance of waste water infrastructure is critical, and need to be planned for:

- Civil
- Mechanical
- Electrical and where applicable electronic aspects

2. Maintenance work may be done in-house staff or external contractor/s
3. However it remains vital for WSI to Plan, cost and resource the various maintenance function.
4. Types of maintenance include:

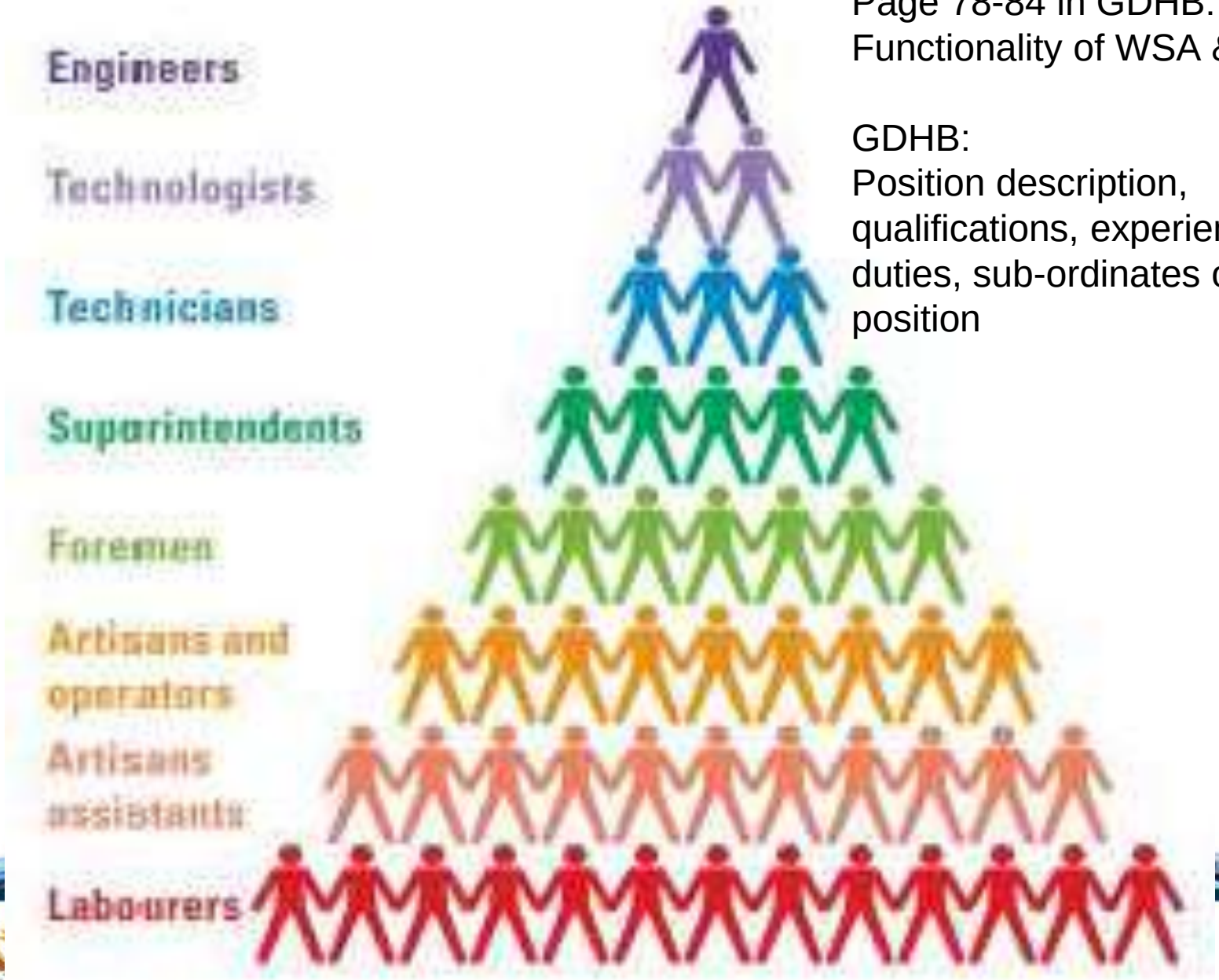
<u>Preventative/routine maintenance</u>:

- maintenance done on a consistent routine base to prevent unnecessary breakdown of infrastructure
- This type of maintenance ensures that the plant can be operated to its full design capacity and optimal treatment expectations.
- This is best practice and the most cost effective way of caring for the 'hardware' of wastewater treatment.

Maintenance continued

Emergency/reactive maintenance:

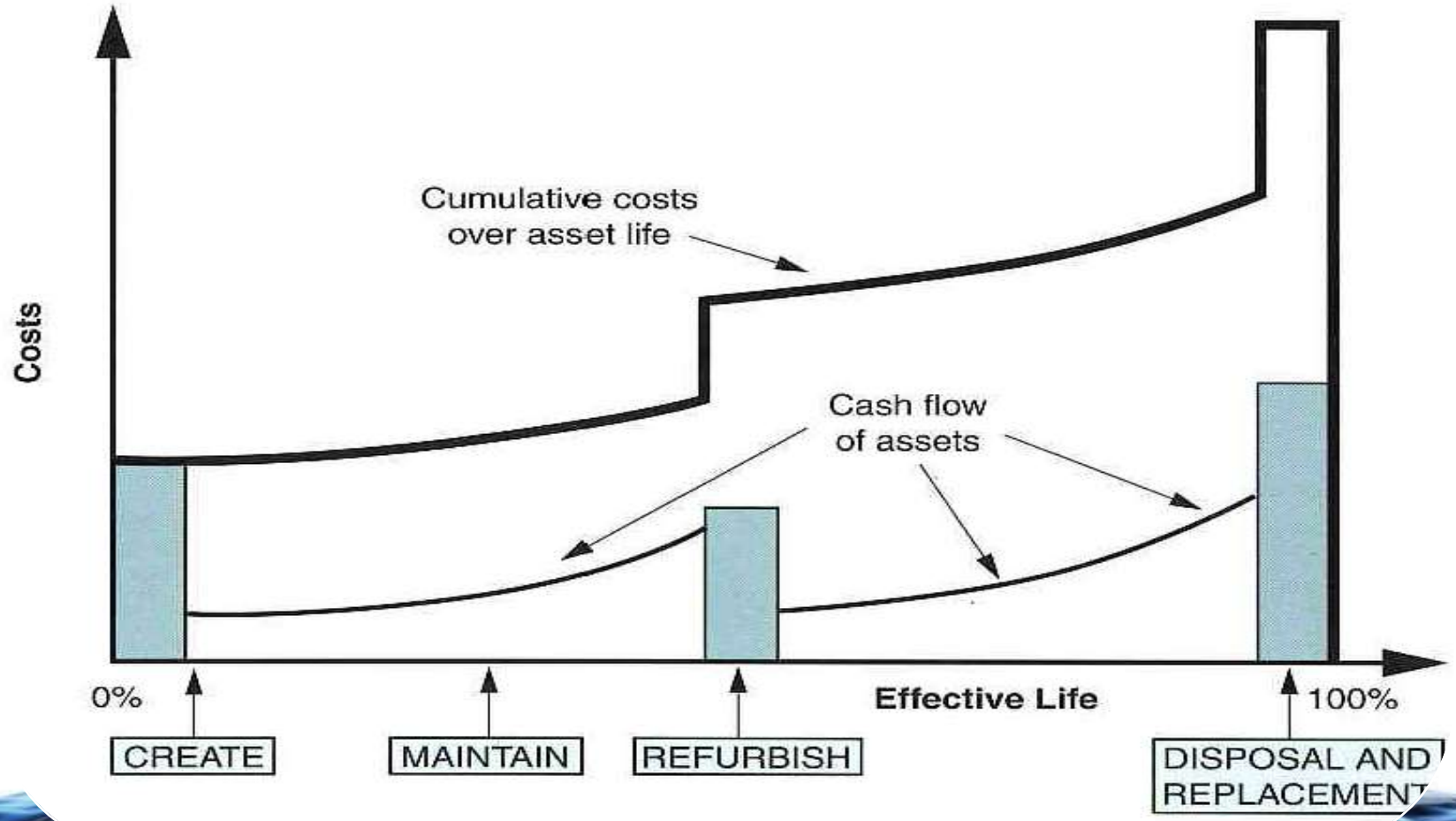
- maintenance done when breakdown has already occurred or when the equipment is in an advanced state of deterioration
- This is reactively addressing problems when plant capacity and treatment efficiency has already been compromised.
- It may also be when an unforeseen event resulted in unexpected breakdown, even if routine maintenance practices are in place.
- This type of maintenance is usually 2-3x more costly than preventative maintenance



Page 78-84 in GDHB:
Functionality of WSA & WSP

GDHB:
Position description, qualifications, experience, duties, sub-ordinates of each position

A lack of maintenance accelerate the need for full refurbishment and possible disposal / replacement of the asset.



Results of no O & M

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4. Operation and Maintenance Manual

- Any plant regardless of size and technology should have a site and works specific O&M manual.
- This is also vital to ensure information pertaining to the plant functionality is readily available for plant managers, PCs, maintenance crew & scientific services.
- In the event of personnel leaving and another having to take over this will assist in one to familiarise him/herself to the plant.
- It is quite vital that the O&M manual presented to the inspectors meets the requirements as prescribed in page 91 of the GDHB.

Requirement 1

Operations (Process Control), Maintenance and Management Skill

1.) A copy (certified) of **Registration Certificate of Works** displaying Classification ito (Regulation 2834) **(10%)**	(a) A copy (certified) of Registration Certificate of Works displaying Classification (Regulation 2834)
2.) Copies (certified) of **Registration Certificates of Process Controllers and Supervisors** (Regulation 2834) **(40%)**	(b) Copies (certified) of Registration Certificates of Process Controllers and Supervisors (Regulation 2834) 1. Copies of the classification certificates of all process controllers/Process Controllers 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
3.) Proof of **Maintenance Team** used for general maintenance work at the plant (both mechanical and electrical) **(10%)**	(c) Proof of Maintenance Team used for general maintenance work at the plant & pump-stations(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

Requirement 1 …continue

4.) Proof of a 'sitespecific' Operation & Maintenance Manual (30%)	(d) Proof of a 'site-specific' Operation & Maintenance Manual O&M manual to contain: 1. structural, 2. mechanical, 3. electrical detail of plant, 4. design specifications of plant, 5. reference to drawings, 6. operational schedules, 7. maintenance schedules, 8. process detail and control, 9. instrumentation specification/type, 10. fault finding, 11. monitoring, 12. pump curves, 13. supportive appendices
5.) Operational logbook (10%)	▪ 1. A logbook is in place to record all incidents at the wastewater treatment works. ▪ 2. Evidence is presented that the logbook process is being implemented.
BONUS:	Proof of Process Controllers Being Subjected to relevant training the past 24 months ▪ Provide proof of: ▪ 1. Names of trainees and signature of attendance / Certificate ▪ 2. Date and training subject field ▪ 3. Training provider and content of training

Thanks