



# ERWAT: Second Quarter Departmental Performance Reporting Template

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# 2022/22 QUARTERLY REPORTING TEMPLATE AGAINST THE APPROVED BUSINESS PLANS

## 1. Executive Summary by the Department

ERWAT achieved five (5) out of the eight (8) reportable key performance indicators. ERWAT did not meet its targets on 3 indicators namely Percentage compliance with wastewater treatment works license conditions and/or exemptions standards (79.3% against target of 80%), Percentage of repairs and maintenance budget spent (43% against target of 50%) and Number repeat audit findings ( 5 repeat findings against target of 0).

The challenges for not meeting the target were mainly driven by ESKOM stages 4-6 load shedding having a constant increasing detrimental impact on the treatment processes which are largely electromechanical requiring electricity supply at all times. Resultantly the bio-chemical process do not have sufficient time to recover before the next loadshedding event. A total 3597 hours of loadshedding and power failures were experienced on the WCW for Q2. In addition, a number of industrial pollution incidents were recorded including critical Equipment failures. The target on Total Revenue generated from external business and Audit Opinion were achieved in this quarter. Furthermore, percentage procurement spend allocated to SMME's was exceeded due to measures put in place at specification stage to prioritise SMME's on certain contracts. Percentage capital expenditure on planned projects was also met however percentage of repairs and maintenance budget spend was not met.

ERWAT is striving and working hard towards addressing all Mega Catalytic projects to accommodate new developments within the City of Ekurhuleni. The planned capacity upgrade of the Water Care Works needs to be upgraded urgently to cater for the current backlog in capacity and to make provision for future housing and industrial developments. ERWAT does not have enough Capex funds to implement the upgrade of the Water Care Works. As part of the mitigation plan with regards to electricity supply ERWAT will conduct a feasibility for the installation of a 1MW plant at one of the medium sized plants commencing the 1<sup>st</sup> of July 2023. As part of the mitigation plan for curbing critical equipment failure an additional R70 million will be allocated towards maintenance in the last 6 months of the year.

**Table A: Summary of Service Delivery Performance**

<b>Service Delivery Monitoring</b>					
	<b>Total number of targets</b>	<b>Total number of targets set for the quarter</b>	<b>Achieved</b>	<b>Not achieved</b>	<b>Variance</b>
<b>City Wide SDBIP</b>	3	3	2	1	1
<b>Department SDBIP</b>	5	5	3	2	2

## 2. Service Delivery Monitoring

### 2.1 CITY-WIDE SDBIP

#### KPI 1 – City-Wide

##### Total revenue generated from external business

##### Method of Measure

Increased Commercial Business revenue generated from commercial sources (Absolute Rand Value per quarter). The indicator target is measured cumulatively across the Quarters Revenue generated from: External Income (none NDA)

##### Evidence

Invoices - (The invoices to be coupled with general ledger with a balance that agree to the amount reported for SDBIP purposes)

##### Q2 Target

R10 000 000

##### Q2 Actual

R10 247 257,76

##### Comment:

The target for the first **quarter** of R10 000 000 in external revenue was achieved.

##### Target Exceeded

The target was achieved because we managed to maintain the current projects and all invoices raised on the finance system were integrated.

##### Corrective Measure

On-going interrogation of quarterly figures to ensure that all invoices have been integrated.

#### KPI 2 – City-Wide

##### Audit Opinion

##### Method of Measure

The Audit Opinion is defined by the Auditor General. It is given across a qualitative, ordinal scale including Unqualified with no findings; Unqualified with findings; Qualified with findings; Adverse with findings; and disclaimed with findings. For those who have not **completed** the process 'Outstanding audits' are recorded.

**Evidence**

Dated and signed Audit report from AGSA

**Q2 Target**

Unqualified Audit Opinion

**Q2 Actual**

Unqualified Audit Opinion

**Comment**

Target Met

**KPI 3 – City-Wide**

**Percentage compliance with wastewater treatment works license conditions and/or exemptions standards**

**Method of Measure**

The indicator measures the compliance of wastewater works effluent to the requirements of biological and chemical indicators as per the water use license granted by the Regulator. It is calculated by dividing the number of determinants complying to the Water Use Authorization with the total number of determinants.

**Evidence**

Water quality Data of each Wastewater Treatment Works (from the Lab) Spreadsheet used to calculate over all compliance. Applicable Water use authorization of each Wastewater Treatment Works.

**Q2 Target**

80%

**Q2 Actual**

79.3%

**Comment**

KPI not achieved.

Reasons for non-compliance

1. Industrial pollution incidents
2. Critical equipment failures (impacting directly on compliance)
3. Power outages and loadshedding
4. Industrial action: ERWAT shift workers
5. Shortage of critical chemicals

## 1. Industrial pollution incidents:

Eight (8) WCW (water care works) received significant industrial pollution during Quarter 2 impacting negatively on the plant operations and final effluent compliance.

(Refer to Table below and Section 3.4 for further details of organic loading per WCW)

WCW	Number of industrial pollution incidents in Q2(days)
Rondebult	8 of 92
Bickley	11 of 92
Jan Smuts	19 of 92
Esther Park	10 of 92
Heidelberg	17 of 92
Olifantsfontein	31 of 92
Ancor	21 of 92
Hartebeestfontein	80 of 92

It should be noted that even though some the WCW listed above met the target, they are still negatively impacted by industrial pollution.

Hartebeestfontein WCW experienced extreme industrial pollution incidents where the entire population of micro- organisms are lost in the reactors. (Detail as per Table below)

Date	Type of pollution	Impact	Impact on compliance
19-Sep-22	Black oily substance (diesel/engine oil)	Reactors turned black and resulted in effluent non-compliance	3 weeks (excluding loadshedding that prolongs recovery)
14-Oct-22	Coloured pink influent	High COD's which resulted in effluent non-compliance	2 -3 days
24-Oct-22	Coloured pink influent with floating fats	High COD's which resulted in effluent non-compliance	2-3 days
	Coloured red influent	High COD and EC which resulted in effluent non-compliance	2-3 days
18-Nov-22	Coloured green influent	High COD and SS which resulted in effluent non-compliance	2-3 days
23-Nov-22	Foam	High COD, SS and surfactants which resulted in effluent non-compliance	3+ days
09-Dec-22	Black oily substance (diesel/engine oil)	Reactors turned black and resulted in effluent non-compliance	3 weeks (excluding loadshedding that prolongs recovery)
10-Dec-22	Black oily substance (diesel/engine oil)	Reactors turned black and resulted in effluent non-compliance	3 weeks (excluding loadshedding that prolongs recovery)

## 2. Critical equipment failures

The following WCWs experienced several critical equipment impacting directly on the effluent compliance.

WCW	Critical equipment failures Q2 2022/2023
Benoni	2
Heidelberg	2
Rynfield	3
Ancor	5
JP Marais	7
Dekema	7
Hartebeestfontein	8
Ratanda	10
Daveyton	12
Tsakane	12
Vlakplaats	17
Olifantsfontein	19
Welgedacht	70
Waterval	85

It should be noted that several critical equipment failures were not resolved in previous quarters and the impact on compliance are thereof carried over from quarter to quarter.

## 3. Power outages and Loadshedding

The following WCWs experienced frequent loadshedding and/or power failures during Quarter 2 impacting the compliance of the WCWs directly. It must be noted that the impact of loadshedding during ESKOM stages 4-6 have an increasing detrimental impact on the WCW as the processes don't have sufficient time to recover before the next loadshedding event. It can be noted that in total 3597 hours of loadshedding and power failures were experienced on the WCW for Q2. (Some of the WCW do not have installed generators at all critical plant processes whilst others are not operational, awaiting repairs).

Plant		Quarter 2 2022				Total hours without
		Scheduled Loadshedding	Total hours Loadshedding	Power failures	Total hours Power Failures	
Benoni	DD3	1	2	4	35	37
Esther Park	DD3	107	224	4	67	290
Hartebeestfontein	DD3	165	350	3	48	398
Olifantsfontein	DD3	0	0	5	9.5	10
Rynfield	DD3	188	273	0	0	273
Ancor	DD4	0	0	6	29	29
Daveyton	DD4	79	329	7	56	386
Jan Smuts	DD4	130	296	0	0	296
JP Marais	DD4	117	329	15	21	350
Welgedacht	DD4	0	0	12	106	106
Herbert Bickley	DD5	38	76	0	0	76
Heidelberg	DD5	61	238	8	47	285
Tsakane	DD5	57	128	2	32	160
Ratanda	DD5	0	0	13	72	72
Carl Grundlingh	DD5	0	0	1	5	5
Dekema	DD6	169	349	0	0	349
Rondebult	DD6	22	51	2	48	99
Vlakplaats	DD6	160	358	1	19	377
Waterval	DD6	0	0	0	0	0
<b>Total number of hours without electricity on all impacted Water care Works for Q2.</b>						<b>3597</b>

#### 4. Industrial Action

There was industrial action from the 31<sup>st</sup> of October 2022 to the 9<sup>th</sup> of November 2022 which had a negative impact on compliance due to shift workers deserting their scheduled duties as no nightshifts were worked. The WCW were therefore left unmanned during the nights. The industrial action was due to the implementation of the Variation order as received from the Bargaining Council.

#### 5. Critical Chemical shortages

Due to ongoing challenges at the manufacturing plants of the sole producer in South Africa, a national shortage of ferric chloride and chlorine gas were experienced, impacting directly on the quality of the final effluent of most of the WCW.

<b>WCW</b>	<b>Ferric chloride shortages (Number of days)</b>	<b>Chlorine gas shortages (Number of days)</b>
Hartebeestfontein	6 of 92	0 of 92
Ancor	13 of 92	0 of 92
Jan Smuts	26 of 92	0 of 92
Dekema	14 of 92	0 of 92
Rondebult	2 of 92	0 of 92
Vlakplaats	17 of 92	0 of 92
Waterval	0 of 92	4 of 92
Carl Grundling	0 of 92	2 of 92

Ferric chloride is used in the treatment process to remove ortho-phosphate from the final effluent as well as improving the settleability of solids in the settling tanks, whilst chlorine gas is used to disinfect the final effluent before discharge to the receiving water bodies.

### **Action plans:**

#### **1. Industrial pollution incidents**

ERWAT works closely with the CoE and report all incidents as soon as detected to assist in tracing the source of the pollution. However, the source of the pollution is almost never identified by the CoE as it is difficult to trace in the vast sewer networks. ERWAT and CoE have worked jointly on a concept to develop an improved industrial effluent management model. The CoE must appoint a professional service provider (project has not moved forward due to lack of funding from CoE since 2018).

#### **2. Critical equipment failures**

Asset Care plans for critical equipment were developed for all WCW and partially implemented, therefore breakdowns still frequently occur. An additional R70 million has been allocated to deal with the most pressing critical equipment failure.

#### **3. Power outages and Loadshedding**

Standby diesel generators were installed at some of the most critical process units of the various WCW. However, some WCW are still awaiting CAPEX funding to procure and install. It must however be noted that standby diesel generators cannot operate for extended outage periods due to the very high consumption rate and cost of diesel.

#### **4. Industrial Action**

Shift workers resumed their duties on the 09 of November 2022 after communication from Office of Managing Director regarding the consequences of not honouring shift contract, and no work no pay action was taken against the employees that deserted their scheduled duties.

#### **5. Chemical shortages (Ferric chloride and Chlorine gas)**

ERWAT is in daily contact with the supplier to secure product and prioritise deliveries according to the stock levels of the various WCW. The service provider had a shut down on the manufacturing plants on 08 December 2022 due to explosion caused by lightning strike at the plant. Production was resumed on the 17th of December 2022 on low scale and the production has not been consistent due to frequent breakdowns. It must also be noted that preference is given to potable water plants over wastewater plants due to the health hazard of drinking water that is not disinfected. The availability of product, especially ferric has worsened during December, severely affecting biofilter WCW compliance.

### **KPI – Departmental SDBIP**

#### **KPI 1 : % Capital expenditure on planned projects**

##### **Method of Measure:**

Increase ERWAT Wastewater Treatment Plants (WWTP) treatment capacity and improve process efficiency through infrastructure development projects (CAPEX). The total capital expenditure on major capital projects associated with increasing capacity and improving process efficiency in ERWAT Wastewater Treatment Plant according to green drop requirements and ERWAT Facility Development Plan (FDP 2032).

##### **Evidence**

Project progress reports (weekly, quarterly and annual reports)

- a) Payments certificates
- b) Invoices

##### **Q2 Target**

60%

##### **Q2 Actual**

69.94%

##### **Reasons for Variance**

ERWAT has currently **spent** R64 033 585.60 (69.94%) of its capital budget at the end of the second quarter. The planned SDBIP target for the quarter has been achieved with a 9.94% positive variance.

**Remedial Actions:**

None

**KPI 2 – Departmental SDBIP**

**Percentage of repairs and maintenance budget spent**

**Method of Measure:**

The indicator measures the total budget spent. The indicator target is measured cumulatively across the quarters.

The indicator formula is (1) Expenditure year to date / (2) total approved maintenance budget approved.

**Evidence**

Finance year to date expenditure report (Budget Variance Report)

**Q2 Target**

50%

**Q2 Actual**

43%

**Comment:**

The department did not achieve the 50% target as planned

The expenditure year to date is R57 845 254,00 against the approved maintenance budget of R135 315 650.

This yields to 43% repairs and maintenance budget spent in Quarter 2 and the variance thereof is 7%. The reasons are attributed to the fact that December is a short month and Invoices of an amount of R13 096 936,87 were submitted after the financial cut-off date of the 15th of December 2022 and therefore were not included as part of the total expenditure for Q2. When the department include late submitted invoices spending to date for Q2 is 52%.

**Reasons for Variance**

The reasons are attributed to **the** fact that December is a short month and Invoices of an amount of R13 096 936,87 were submitted after the financial cut-off date of the 15th of December 2022 and therefore were not included as part of the total expenditure for Q2. When the department include late submitted invoices spending to date for Q2 is 52%.

**Remedial Actions:**

Departmental expenditure is on track and **Target** for Q3 will be realized.

### **KPI – 3 Department SDBIP**

#### **Percentage of procurement spend allocated to SMME's**

##### **Method of Measure**

The indicator measures the percentage of procurement spend allocated to SMME's through ensuring appropriate application of the preferential procurement practices. This support will be calculated as a percentage of the total value paid to Small, **Medium** and Micro Enterprises either directly or via the principal contractor in terms of a Preferential Procurement Regulation 4 or 9 contractual condition.

The indicator formula is:

$$(1) \text{ rand value of procurement spend allocated to SMME's} / (2) \text{ rand value of total procurement spend} \\ *100$$

##### **Evidence**

Dated and signed Letter of appointment or subcontract with support (contract) amount Award AND Listing (Register) of SMME supported with support amount.

##### **Q2 Target**

45%

##### **Q2 Actual**

79%

##### **Comment:**

Term contracts in place with QSE and or EME accreditation

##### **Remedial Actions:**

None

### **KPI – 4 Department SDBIP**

#### **Number repeat audit findings**

##### **Method of Measure**

The indicator tracks the number of findings made on the same matter as of the last audit cycle. The "Repeat" findings refer to those findings that have persisted from one year of reporting to the next. These are identified as repeat **findings** by the Auditor-General on the following administrative areas including but not limited to: i) Annual financial statements and annual report.

The formula for the indicator is the (1) Simple count of the number of "repeat" findings itemized in the Auditor-**General's** report of each municipality

**Evidence**

AGSA signed **management** letter

**Q2 Target**

0

**Q2 Actual**

5

**Comment**

Although management resolved some findings, five (5) remained unresolved.

**Remedial Action**

Management will develop and implement a detailed **action** plan for the audit findings raised. The Audit and Risk Committee, Board and its Sub-Committees will monitor the developed plan quarterly.

**KPI – 5 Department SDBIP**

**Total rand value of surplus realised from revenue generated from external business**

**Method of Measure**

This will be calculated by subtracting the total expenditure from **the** revenue generated.

**Evidence**

1. General ledger with a balance that agree to the amount reported
2. Invoices Listing  
Invoices - (The invoices to be coupled with general ledger with a balance that agree to the amount reported for SDBIP purposes)

**Q2 Target**

R3 000 000

**Q2 Actual**

R5 736 303.56

**Comment:**

The target for the first quarter of R3 000 000 was achieved and exceeded.

**Target Exceeded**

All vacant positions were put on hold.

**Corrective Measure**

Timeously filling of all vacant positions.

### 3.1 City-Wide/Institutional SDBIP 2022/23

## Refer to the City-wide SDBIP 2022/23.

**Table1: City-Wide Indicators**

**NB: Please note that reasons for variance must be provided for both overachievement and under achievement**

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2021/22)	Annual Target (2022/23)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
<b>IDP Strategic Objective 2: To Build a Clean, Capable and Modernised Local State</b>															
Ekurhuleni Water Care Company (ERWAT)	Improved Quality of water (including wastewater r)	ER W1.1	Total revenue generated from external business	Invoices coupled with general ledger with a balance that agree to the amount reported	R 11 731 475	R34 000 000	R10 000 000	R10 247 257,76	R 247 257,76	Target achieved	Target achieved for the quarter.	All projects have been maintained. Integration of all invoices from the previous quarters.	Tracking integration of all invoices raised on the finance system.	OPEX	OPEX
	To build a clean, Capable and Modernised Local State	ER W1.2	Audit Opinion	Dated and signed Audit report from AGSA	Unqualified	Unqualified	Unqualified	Unqualified	N/A	Unqualified	Target met	N/A	None	OPEX	OPEX
<b>IDP Strategic Objective 4: To protect the natural environment and promote resource sustainability</b>															
Ekurhuleni Water Care Company (ERWAT)	Improved Quality of water (including wastewater r)	ER W1.3	Percentage compliance with wastewater treatment works license conditions and/or exemptions standards	Water Quality Data of each Wastewater Treatment Works (from the Lab) Spreadsheet used to calculate	84%	80%	80%	79,3%	-0.7%	Target not met	78	Critical equipment failures (impacting directly on compliance)  Power outages and	Critical equipment failures and loadshedding events - Asset Care plans for critical equipment	OPEX	OPEX

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2021/22)	Annual Target (2022/23)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
				over all compliance. Applicable Water use authorization of each Wastewater Treatment Works								loadshedding Industrial action: ERWAT shift workers (31 Oct to 9 Nov. 2022) Country wide Shortage of chemicals (no of days without chlorine and/or ferric) 5. Major Industrial pollution incidents.	were developed for all WCW and partially implemented. Standby diesel generators were installed at some of the most critical process units of the various WCW; however, some WCW are still awaiting CAPEX funding to procure and install. It must however be noted that standby diesel generators cannot operate for		

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2021/22)	Annual Target (2022/23)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
													<p>extended outage periods due to the very high consumption rate of diesel.</p> <p>1. Industrial Action</p> <p>Shift workers resumed their duties on the 09 of November 2022.</p> <p>ERWAT is in daily contact with the supplier to secure product and prioritise deliveries according to the stock levels of the various WCW. The</p>		

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2021/22)	Annual Target (2022/23)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
													<p>service provider had a shut down on the manufacturing plants on 08 December 2022 due to explosion caused by lightning strike at the plant. Production was resumed on the 17th December 2022 on low scale and the production has not been consistent due to frequent breakdowns. It must also be noted that preference is given to potable</p>		

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2021/22)	Annual Target (2022/23)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
													<p>water plants over wastewater treatment plants due to the health hazard of drinking water that is not disinfected. The availability of product, especially ferric has worsened during December, severely affecting biofilter WCW compliance.</p> <p>Producer of chlorine gas and ferric chloride is the sole producer in South Africa and the manufacturing plants</p>		

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2021/22)	Annual Target (2022/23)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
													<p>experienced several serious breakdowns where no chemicals were produced.. Industrial pollution incidents: ERWAT works closely with the CoE and report all incidents as soon as detected to assist in tracing the source of the pollution. However, in most cases the sources are never established. ERWAT and CoE have worked jointly on a concept to</p>		

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2021/22)	Annual Target (2022/23)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
													develop an improved industrial effluent management model. The CoE must appoint a professional service provider (project has not moved forward due to lack of funding since 2018).		

### 3.2 Entity's SDBIP Score card with Key Performance Areas and Indicators 2022/23

**Table 2: Entity's SDBIP**

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2021/22)	Annual Target (2022/23)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
<b>IDP Strategic Objective 2: To build a clean, capable and modernized local state</b>															
Ekurhuleni Water Care Company (ERWAT)	Improved Quality of Water including Wastewater	1.M	Percentage Capital expenditure on planned projects	Finance year to date expenditure report	15.8%	95%	60%	69.94%	+9.94	69.94%	Target Achieved	good performance attributed to good planning and performance of projects	None	R54 935 280	R 64 033 585.60
	Improved Quality of Water including Wastewater	2.M	Percentage expenditure on repairs and maintenance budget	Expenditure report from Finance AND Listing of R&M vote numbers and expenditure	37%	95%	50%	43%	7%	43%	Not Achieved	The reasons are attributed to the fact that December is a short month and Invoices of an amount of R13 096 936,87 were submitted after the financial cut-off date of the 15 <sup>th</sup> of December 2022 and	Departmental expenditure is on track and Target for Q3 will be realized.	R135 315 650.	57 845 254.00

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2021/22)	Annual Target (2022/23)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
												therefore were not included as part of the total expenditure for Q2. When the department include late submitted invoices spending to date for Q2 is 52%.			
	Improved Quality of Water including Wastewater	3.M	Percentage of procurement spend allocated to SMME's	Dated and signed Letter of appointment or subcontract with support (contract) amount Award AND Listing (Register) of SMME supported with support amount	93%	45%	45%	97.64%	53%	R162 920 814.13	Target Achieved	Term contracts in place with QSE or EME accreditation	None required	OPEX & CAPEX	R159 079 812.64
	Improved Quality of Water including Wastewater	4.M	Number of repeat Audit findings	AGSA signed management letter	3	0.00	0.00	5.00	-5.00	Target not met	Target not met	Although management resolved some findings,	Management will develop and implement a	OPEX	N/A

Entity	Outcome	Ref No.	Performance Indicator	Portfolio of Evidence	Baseline (2021/22)	Annual Target (2022/23)	Planned Target Quarter 2	Actual Output Quarter 2	Variation	Actual Output Rating	Progress on Targets	Reason(s) for Variation	Remedial Action	Planned Budget Quarter 2	Actual Expenditure Quarter 2
												five (5) remained unresolved.	detailed action plan for the audit findings raised. The Audit and Risk Committee, Board and its Sub-Committees will monitor the developed plan quarterly.		
	Improved quality of water including wastewater	4.M	Total rand value of surplus realised from revenue generated from external business	General Ledger with a balance amount that agrees with the amount reported AND Listing of invoices	R7 017 841	R10 000 000	R3 000 000	R5 736 303.56	R2 736 303.56	Target met and exceeded	Target met and exceeded	All vacant positions were put on hold.	Timeous filling of all vacant positions.	OPEX	OPEX

### 3.3. Reflection on operations/ day-to-day activities (Analytical Narrative Account)

#### A Flows

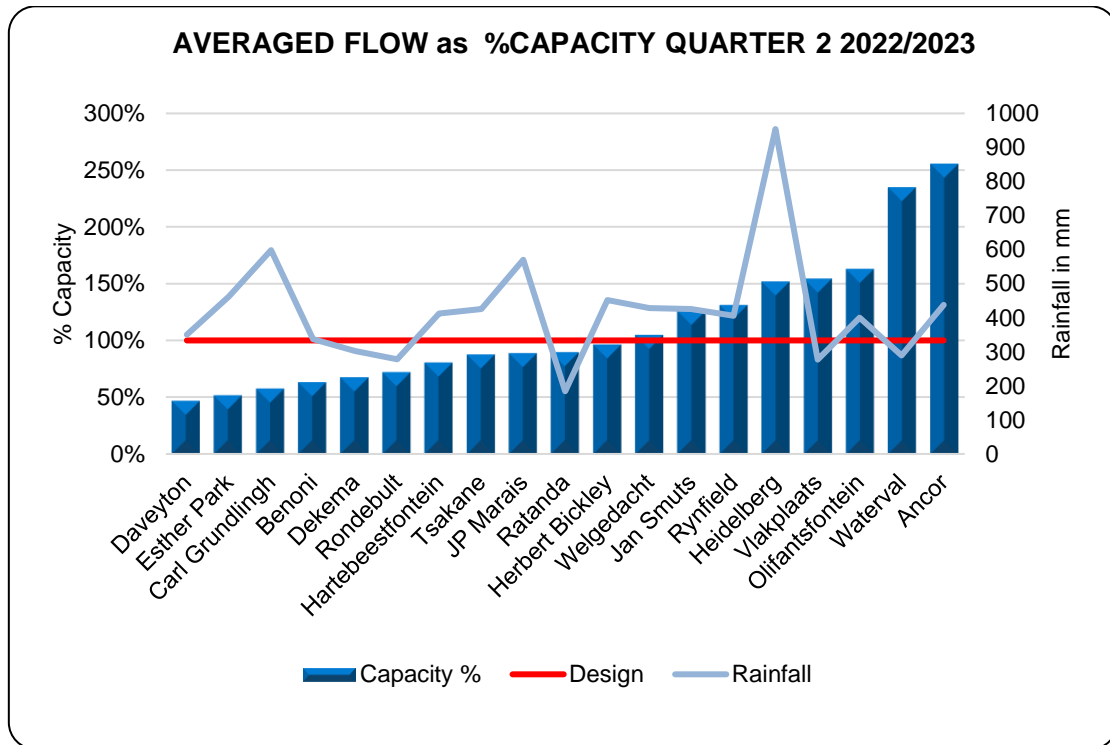


Figure 1

A total of 83 251.61 MI was treated in Quarter 2, at an average of 910.40 MI/day, utilising 146% of the available capacity.

#### Flows

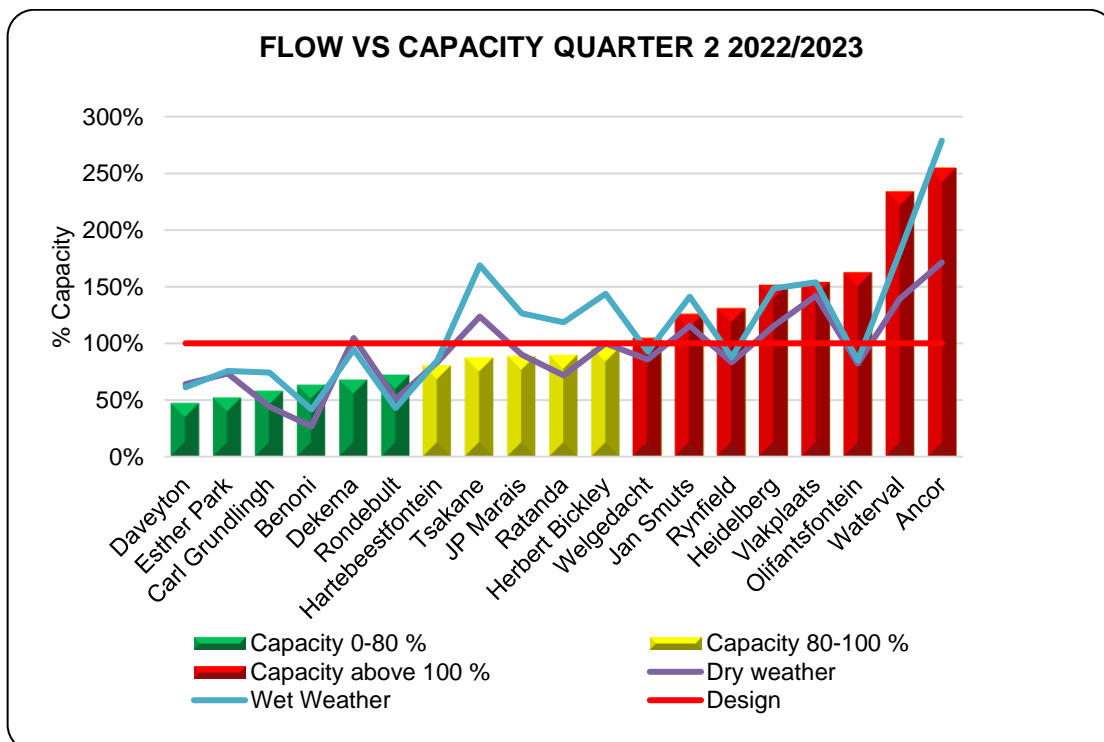


Figure 2

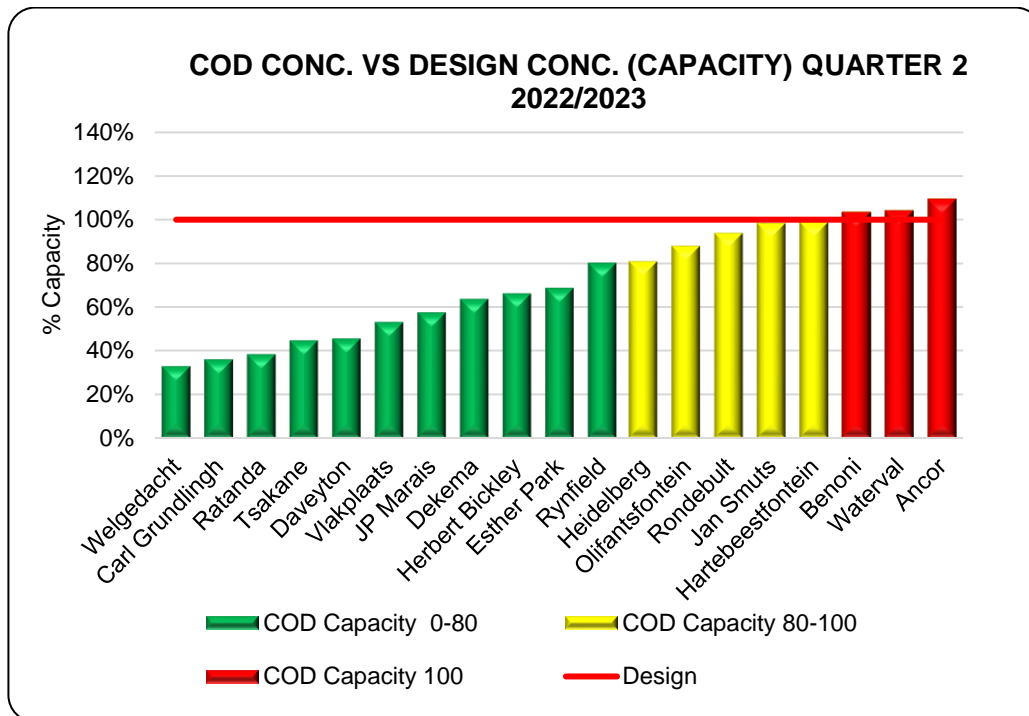
As can be noted in the above graph, during Q2 eight (8) out of nineteen (19) WCW were operating above their hydraulic design capacity, five (5) operating between 80% and 100% and six (6) below their hydraulic design capacity

Ancor operated at 255%, Jan Smuts at 126%, Welgedacht at 105%, Heidelberg at 152%, Olifantsfontein operated at 163%, Rynfield at 131%, Vlakplaats at 154% and Waterval operating at 234% of their capacity. The repair of the Olifantsfontein WCW pipelines feeding 4 of 6 biofilters is in progress with the expected completion date of 31 January 2023.

ERWAT does not have Capex funds to extend/upgrade the WCW that require additional capacity, and therefore have serious challenges in supporting the CoE in meeting the Growth Development Strategy (GDS2055) and the development of the Aerotropolis.

#### Flow and Rainfall table

	Design Capacity	Actual Q2	Rainfall Q2
Ancor	15.00	38.24	438.00
Benoni	7.50	4.75	337.00
Carl Grundlingh	5.20	3.00	598.00
Daveyton	19.00	8.94	350.40
Dekema	31.00	20.98	302.70
Esther Park	1.40	0.72	462.00
Hartebeestfontein	63.00	50.68	954.00
Heidelberg	5.40	8.19	452.00
Herbert Bickley	15.10	14.54	412.50
Jan Smuts	6.00	7.56	425.50
JP Marais	15.00	13.33	570.00
Olifantsfontein	65.00	105.70	400.00
Ratanda	4.70	6.77	358.00
Rondebult	20.00	14.40	278.00
Rynfield	9.80	12.84	406.00
Tsakane	20.00	17.52	425.50
Vlakplaats	55.00	84.82	276.80
Waterval	170.00	397.99	289.50
Welgedacht	95.00	99.45	428.00



**Figure 3**

As can be noted, 3 (three) WCW operated above 100% organic capacity, 5 (five) WCW's operated between 80-100% of the organic design capacity and 11 (Eleven) below their design capacity during Q2. (wet season)

## Action Plan Service Delivery Highlights and Challenges

### 3.4 Plant Specific Challenges

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Ground water pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Benoni	The Plant complied with both the target of 92% and WUL effluent standards of 90% with the Overall compliance of  Chemical = 92% Physical= 97% Micro= 86%  And the overall compliance is 92% in Q2	Plant operated at 63 % of re-graded hydraulic capacity in Q2	Plant operated at 82% of re-graded organic capacity in Q2	There were abnormal flow fluctuations in Q2 due to Tom Jones sump maintenance, Eskom load shedding and power failures.	There were 5 high strength of COD from industrial pollution in Q2	There was 3 critical equipment failure in Q2	There were 4 power outages in Q2, and duration was 35 hrs	Open digester walls are cracking , Humus tank weirs plates worn out	None	None	Dried sludge is stockpiled on the plant	Unlined sludge paddies and maturation ponds could cause possible ground water pollution in Q2	None	None	Sludge classification A1c Screenings and grits that are generated at the plant and are collected by CoE.	Road is accessible	Portable water is available
Esther Park	Plant did not comply	Plant operated at	Plant operated at	0x abnormal flows	10x Industrial	0x critical equipm	44x power failure	Reactor walls	Not applicable	None	Not applicable	Not applicable	Not applicable	Not applicable	Screenings and grits are	Access road is slipper	Drop in water pressu

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
	with both the target of 90% and the WUL standard best practice of 90%  Q2 2022/2023 Physical: 91% Chemical: 87% Micro: 74%. Q2 overall compliance = 84%	53 % of hydraulic capacity (Based on regraded capacity of 1.4 Ml/d)	71 % of organic capacity for Q2.	recorded for Quarter 2 above regraded design capacity of 1.4 Ml/d	effluent pollution incidents in Q2.	equipment failure occurred in the quarter.	incidents recorded in Q2 lasting for total downtime of 205 hours. – Load shedding	are leaking							collected by the CoE	y in the rainy season.	re occasionally that affects chlorine dosing
Hartebeesfontein	Plant Failed to comply with the WUL final effluent target of 80% and WUL with best practice target of 90% with the actual of 48%.	Plant operated at 81% of hydraulic capacity.	Plant operated at 70% of organic capacity	The plant experienced fluctuations in inflows in October - December 2022 (Q2) due to	Plant received industrial high strength effluent 83 times out of 91 days during October - December	3 Critical equipment failures occurred in December 2022.	There were 83 power outages in October - December 2022 (Q2) for duration of 388 hours.	Aging infrastructure: Ferric plant, chlorine, thickeners, clarifier 1-4 bridge and siphons.	Digester 1, 4,6 and 9 sludge recirculation nozzles blocked . Continuous breakdown of primary and	There were no veld fires experienced in October - December 2022 (Q2)	256 500 kg of dry sludge was irrigated to the 200 hectares farm.	Borehole two has high concentration of Nitrates .	Sinkhole next to the fence towards FST 5 & 6 and around the Farm.	License amendment with relaxation on Electrical conductivity, Ammonia, E. coli and COD.	Sludge classification is B2c, not suitable for the intended purpose; this requires further engagement	All roads are accessible; however, grading was done in June 2022.	There was 2 portable leaks of main line feeding farm houses .

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
	October-December 2022/2023 (Q2)  Physical: 80%  Chemical 46%  Micro: 18%  Overall compliance: 48%.			continuous load shedding and heavy rains with average flows of 51ML/d.	ber 2022 (Q2).				secondary aerators.						with the farmer.		
Olifantsfontein	Plant complied with WUL effluent standards target of 60% but failed to comply with the best practice target of 90% with	Plant operated at a hydraulic capacity of 163% in Q2 22-23 With an	Plant operated above original design capacity of 68835 kg/d by 143%	There were abnormal fluctuations of inflows in Q2 22-23 With ranges of 89-125 ML/d in	Plant received industrial high strength effluent (very high Electrical Conductivity above	20 critical equipment failures occurred in Q2 22-29, with failures being 7 in Oct, 10 in Novem	There was 5 power failures in Q2 22-23 with a duration of 9.5 hours. With 4 in October 2022	Module 3 Anaerobic digester s.	Digester 4 of 6 digesters is blocked due to sand accumulation	There was no veld fires in Q2 2022	Total sludge of 278 599 kg was produced in Q2 22-23. With 137 788 kg in October, 92 967 kg in November, and 47	Unlined emergency dams contaminating borehole no.2&3. Borehole 1 runs dry during dry	2 x Sinkholes behind and in front of the old laboratory which occurred in Dec 2019	Olifantsfontein WUL is stringent on Ammonia of < 2mg/l, SS of 15 mg/l and EC of < 80 mS/m.	Sludge is classified into three streams: (1). Dewatering unit(B3a), the sludge not suitable for cultivation	Road to upstream sampling point need to be graded and there is high erosion	YES, there is a water leak that is reoccurring and resulting in water loss

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
	<p>the actual of 62.25%.</p> <p>Chemical = 54.08% Physical= 61.17% Micro= 71.51%</p> <p>The average compliance target of 60% was achieved in Q2 22-23 with the overall compliance of 62.25%.</p>	<p>average flow of 106ML/d.</p>	<p>in Q2 22-23. With 168% in October and 112% in November and 144% in December.</p>	<p>October, 87-151 ML/d in November, and 88-136 ML/d in December 2022.</p>	<p>100 mS/m) with 46 days in Q2 22-23</p> <p>(22 days in October</p> <p>11 days in November and</p> <p>13 days in December 2022 )</p> <p>Plant also experiences fine sand ingress, and fats pollution that solidifies in sedimentation</p>	<p>ber and 12 in December 2022</p>	<p>for the duration of 9 hours and 1 in November 2022 for duration of 30 minutes . One genset was in operation with 657l diesel consumption,</p>				<p>596kg in December. Sludge production is affected by frequent FBP breakdowns. Sludge is disposed on different farms around Bapsfontein area and is used for agricultural purposes</p>	<p>seasons</p>	<p>still not rehabilitated</p>		<p>g crops such as fruits trees (2). Drying beds (A3a), No restrictions and requirements apply</p> <p>3) Grit and screenings is waste that should be dumped at specialised land fill under strict conditions to ensure ENV compliance, waste management by</p>	<p>on the banks. To be reported to the CoE.</p>	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
					tanks as scum.										the city has been affected by lack of collection from site, leading to stockpiling and odour complaints.		
Rynfield	Plant did not comply with both WUL effluent standard target of 79% and the best practise of 90%. Compliance 2022, Physical: 91% Chemical: 60% and Micro: 46%.	Plant operated at 131% of re-graded hydraulic capacity in Q2, which was above the design	Plant operated at 80% of re-graded organic capacity for Q2.	There was high flows received during Q2 due to rain and Pump stations .	None	There were 9 critical equipment' failure in Q2	There were 81 power outages in Q2 with the duration of 342hrs.	. Pavement Cracked and Digesters & reactor tank concrete structure is cracked. Bio-feeder structure is cracked	None	None	Dried sludge is stockpiled on the plant	Unlined sludge paddies and maturation ponds could cause possible groundwater pollution	None	None	CoE collects screenings and grits from the inlet works. Dried sludge is stockpiled on the plant	None	None

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Ground water pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
	Average compliance 65%	capacity.															
Ancor	Plant compliance for Q2 is 65% non-compliant parameters: Chemical 61%, Physical 83% and Micro 52%	Plant operated at 258% of its hydraulic capacity	Plant operated at 113% of organic capacity, which is lower than the loads received pre-lockdown, Q3-	Ancor experienced storm water ingress during heavy rainfall, worsening the overloaded hydraulic capacity; however, the RSA COVID-19 lockdown reduced flows to the WCW.	Plant received high COD industrial effluent on 20 of 92 days. In Q2, decrease due to no storm water ingress	5 critical equipment failures occurred in Q2,	7 outages occurred (29 hrs. total) (Generator backup available for whole plant except disinfection section)	Bio filter flow division boxes partially collapsed, humus tanks/PST's- and digesters structures are crumbling /cracked	3 digesters blocked with sand and are not in operation. This causes the plant to run out of sludge handling capacity, which prevent proper de-sludging and resulting in non-	No veld fires occurred during Q1.	Stockpile area not lined. Stockpiles on plant is a risk due to veld fires and environmental pollution	Unlined sludge paddies pollute underground water	Area around humus tanks and final effluent channel are dolomitic according to Geotech study performed.	N/A	CoE removes solid waste (screenings and grit).	Access road in bad condition with lots of potholes	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
									compliances.								
Daveyton	Plant compliance for Q2 22/33 is 95.00 %.	Plant operated at 47.04 % of its hydraulic capacity in Q2.	Sufficient capacity. Plant operated at 45.5 % of its organic capacity in Q2.	Numerous sewer blockages in the CoE network, Power supply interruption at Etwatwa ext.10 pump station and potable water supply interruption to Etwatwa lead to inconsistent and irregular flow to the plant.	N/A. Domestic only.	12 Critical equipment failures occurred in Q2 namely: Inlet works channel, chlorine booster pump, RAS pump, Compactor at Inlet works, chlorine booster pump suction pipe, and Bypass valve to Welgedacht.	7 power failures totaling 56 hours and loadshedding with a total of 329 hours in Q2.	CCT sometimes leaking. Do not have direct impact on the operation of the plant at the moment	N/A	There were no veld fire incidents in Q2.	Sludge lagoons are unlined Space for solar drying is insufficient	Unlined sludge lagoons pollute the groundwater.	N/A	N/A	Screenings is collected by COE for proper disposal.	N/A	N/A
JP Marais	Plant compliance for Q2 is 96%.	Sufficient capacity.	Sufficient capacity.	None in Q2	None in Q2	7 critical equipment failures	139 loadshedding (344	None	N/A	No veld fire incident	Sludge pumped to Welgedac	Some boreholes polluted	No dolomitic soil	N/A	CoE removes solid waste	N/A	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Ground water pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
		Plant operated at 89% of hydraulic capacity	Plant operated at 60% of organic capacity			occurred in Q2, namely, 2 x WAS pumps, 1 X Aerator 1S, 1 X Aerator 3S, 1 X Aerator 4S, 1 X RAS pump #1, and 1 X Degritter pump.	hours) and power failure occurred 16 times (21 hours).			t experienced in Q2	ht, where it is treated.	. Ongoing monitoring of boreholes.			(screenings and grit) except for PST screenings, due to no screen compact or.		
Welgedacht	Plant compliance for Q2 is 86%.	WCW operated within design capacity of 105% of its capacity	Sufficient capacity WCW operated at 33% organic capacity.	None	3 x Coloured influent and 1 x High incoming COD Load	71 critical equipment failures occurred in Q2, Inlet screw pumps x 9, Aerators x7, Chlorine pumps x 13, was	11 x power outages which lasted for 106 hours due to failures at Eskom substation	N/A	N/A	No veld fires occurred during Q2.	None	Unlined De-chlorination channels and Emergency dam	N/A	N/A	CoE removes solid waste (screenings and grit).and dispose at licensed solid waste site.	Gravel access road in very bad conditions and very slippery when wet.	No potable water supply to the plant. Borehole water used for hygiene. Drinking water is being transp

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Ground water pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water	
						Water pumps x 3, dewatering belts x 5, WAS pumps x 2, Poly pumps x 5, Gensets x 5, Compactors x 4, Sludge holding tank pump x1 and RAS pumps at Module 1 x 10												Imported in from other plants.
Jan Smuts	Plant compliance for Q2 is 74%.	Plant operated at 88% of its hydraulic capacity	Plant operated at 78% of its organic capacity.	34 days of High incoming flows in Q2	Plant received industrial high strength effluent on 29 of the 91	Q2, we had to lower the chlorine pumps in the sump to be able	74 Power outages (138 hours total) due to load shedding	Humus Tanks scum boards, digester number 2's wall, drying beds'	None	None	Dried sludge is stockpiled on site.	Unlined sludge stockpile area can cause ground water	No	No	Screenings incinerated at the plant and the grit buried on site. This practice	Fair	Rand Water	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
					days in Q2	to still dose chlorine when water levels are low	g, Generator backup was not operational from 1 – 31 October 2022	walls and the bio-filters' feed flow division box/tower.				pollution.			does not comply with WUL conditions.		
Heidelberg	Plant Compliance for Q2 is <b>(93.87%)</b> . Physical 99.27%, Chemical 85.57% and Micro 96.77%	Plant operated at 152% of its hydraulic capacity	Plant operated at 80.66% of organic capacity	High incoming flows	The plant received 7 high CODs and 10 high NH <sub>3</sub> s levels that are above the design in the current quarter.	Four critical equipment failures occurred in the current quarter, including three aerators with gearbox issues and an inlet screen with an out-of-line chain that was repaired	Heidelberg had 69 power outages with a duration of 285 hours. Diesel used was 6326 L	The joint sealants of Carousel reactor concrete wall are damaged	None	No veldfires occurred during Q2.	Sludge at the plant stockpiled after dewatering, and is also applied/irrigated to the lands and could potentially contaminate groundwater resources	Unlined sludge paddies /lack of groundwater monitoring in the sludge paddies	None	None	Screenings and grit generated at the plant buried and this practice is not environmentally friendly. Potential groundwater pollution	The access road to Heidelberg works is severely damaged and a new-tarred road is required urgently	None

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Herbert Bickley	Plant Complied with WUL effluent standards (Q2 - 90%) Physical 95.67%, Chemical 96% and Micro 80%	Plant operated at 96% of hydraulic capacity	Plant operated at 59% of organic capacity	High incoming were experienced in Q2.	Plant received industrial high strength effluent on 11 of 92 days	4 Critical Equipment 2x booster pumps, 1xsludge to land pump, 1x chlorine dosing systems.	Herbert Bickley had 59 power outages which lasted 221 hours Diesel used was 6340L	Anaerobic digester cracked concrete structures, Biofilter 1 ans 2 have cracked concrete structures,	4 out of 8 digesters not in use due to blockages and leaking digester pipes	No veldfires occurred during Q2.	Sludge used for irrigation at instant lawn	Irrigation of sludge for Instant lawn is a source of pollution  Activities are carried out as per Guidelines	None	None	Collected by CoE to a dedicated landfill site	Access road to the plant damaged and requires an upgrade	None
Tsakane	Plant compliance for Q2 is 82.16%.	Sufficient capacity. Plant operated at 88% of hydraulic capacity.	Sufficient capacity. Plant operated at 79% of organic capacity.	Minimal incoming flow was experienced at the plant due to equipment breakdowns and spillages at Reticulation pump	Plant received high COD industrial effluent on 3 of 92 days.	19 critical equipment failures occurred in Q2, namely, RAS pump no.1 blockages (2 times). Chlorine system (3	Tsakane had 216 power outages which lasted 335 hours Diesel used was 16 994L. 1 x Backup generator	Digesters and channel for raw sewage feeding HYBACS concrete structures cracked and leaking	N/A	No veldfires occurred during Q2	Sludge pumped to unlined lagoons/paddies for solar drying. Drying beds have been decommissioned	Unlined sludge lagoons and paddies /lack of ground water monitoring at the sludge lagoons and paddies . Unfenced	None (There's a dolomitic report that shows none at Tsakane)	None	Screenings and grit collected by CoE to a dedicated landfill site	None	Potable water leaks next to Tsakane hostel. It also creates a wetland next to the fence.

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Ground water pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water	
				stations (Rockville, Extension 11 and 22)		times), Tsakané Generator (2 times), leaking sludge to land pipeline, (4 times), Raw composite sampler (2 times), Circuit aerator no.8 (2 time), Circuit Aerator no.7 (2 time) Compa ctor no.1 (2 times), Floating aerator no.10 (2 times)	available.					drying paddies						
Carl Grundli	Plant Complied with WUL	Plant operated at	Plant operated at	None	No Pollution	2 x Critical equipm	None	None	N/A	No veldfires	Land application of	Unlined sludge to land	None	None	Collected by CoE to a	Access road to the	None	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Ground water pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
	effluent standards (96%) Q2	58% of its hydraulic capacity	21% of organic capacity,			ent failures for Q2(1xB rush Aerator 4&5)				occurred during Q1	sludge is being used	posing ground water pollution			dedicated landfill site	plant is damaged and requires an upgrade.	
Ratanda	Plant Complied with WUL effluent standards (96,99%) Q2	Plant operated at 149% of its hydraulic capacity	Plant operated at 48% of organic capacity,	Experienced low inflows due to blocked manholes between extension 7&8 on 17-18 November 2022 and high inflows after unblocking of the manholes	None	9x Critical equipment failures for Q2: Shaft mixer no 6, Inlet composite sampler, x2 dropout fuse, x2 motor screen conveyor, generator service	Ratanda had 11 power outages with a total duration of 77 hours in Q2	Drying beds drainage system and chlorine contact tanks are badly leaking structures	N/A	No veldfires occurred during Q2	Dried sludge is stockpiled on-site, potential groundwater pollution	Unlined sludge ponds and leaking drying beds, potential ground water pollution	None	None	Screenings and grit generated at the plant are still being buried and this practice is not environmentally friendly. Potential groundwater pollution. Quotation sourced for legal disposal site	The access road to Ratanda Works is severely damaged and a new tarred road is required urgently	No link to the Municipal Potable Water Supply, water transported from Heidelberg Works and borehole water is used for other domestic purposes
Dekema	Plant did not comply with WUL	Plant operated at 68%	Sufficient capacity.	Plant received high flows on	Plant received high COD	7 Critical equipment	170 Outages occur (367	Channels feeding sections	1 out of 12 Anaerobic	No veld fires occur	Sludge pumped to unlined paddies	Unlawful disposal of grit	None	N/A	Screenings and grit generate	The access road to Dekema	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Ground water pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
	<p>effluent standard Average compliance: 74% Q2</p> <p>Compliant Parameters- Physical – 78% Chemical: 69% Micro: 74%</p>	of hydraulic capacity	Plant operated at 63% organic capacity	0 out of 92 days	industrial effluent on 0 of 92 days	<p>failures occurred in Q2 – Namely:</p> <p>1x Power restoration at the plant after Eskom substation transformer failure,</p> <p>1 x Inflow flow meter,</p> <p>1 x Power restoration at inlet works, Section 7, 8 &amp;9 electric panel,</p> <p>2 x Sludge pump</p>	hrs total) Load shedding is a big concern.	partially collapsed. Biofilters and digesters wall are cracked.	digesters is blocked	ed during Q2	for solar drying and dried sludge spread to land area to be ploughed into land.	and screenings (grit and screenings are buried on-site in a trench).			d at the plant are still being buried and this practice is not environmentally friendly. Potential groundwater pollution	a WCW needs to be tarred as it gets muddy and slippery during rainy season.	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Ground water pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						section 1 & 8, 1 x Mechanical screen and 1x Biofilter pump.											
Rondebult	Plant did comply with WUL standard Average compliance: 90.6% Q2  Compliant Parameters- Physical – 98% Chemical: 89 Micro: 85%	Plant operated at 72% of hydraulic capacity	Exceeded organic capacity. Plant operated at 94% organic capacity	The plant received an average of 14.40 ML/d for Q2 and highest flow recorded was 42.22 ML/d on the 11th of November 2022 due to	Plant received high COD industrial effluent on 8 of 92 days and NH3 on 0 of 92 days	3 Critical equipment failures occurred in Q2 – November 2022. Namely: 1x Primary biofilter feed pump #7	22 Outages occurred (129hrs total) Load shedding is a big concern.	Channels feeding sections partially collapsed. Biofilters and digesters walls are cracked. Biofilter walls cracked. Brick work of open channel	None	No veld fires occurred during Q2	Sludge pumped to unlined paddies for solar drying and dried sludge spread to land area to be ploughed into land.	Unlawful disposal of grit and screenings (grit and screenings are buried on-site in a trench).	None	N/A	Screenings and grit generated at the plant are still being buried and this practice is not environmentally friendly. Potential groundwater pollution	The access road in and around the plant are deteriorating and will need attention soon.	N/A

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
				storm water ingress (rainfall = 30 mm)		December 2022 1x 1000 kVa Generator 1x Faulty phase rotation		s are unstable, collapsing and cracked. The feed pipe from the primary biofilters to the secondary biofilters has collapsed. Anaerobic digester #4 and #5 walls have cracks. Digester #6 dome has open/visible cracks on the surface									
Vlakplaas	Plant did not	Plant opera	Plant operat	High flows of	Plant receive	17 Critical	160 Outage	Office building	None	No veld	Dried sludge is	Unlined Emerge	Area around	N/A	N/A	Access road to	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water	
	comply with WUL effluent standards : Average compliance : 39% Q2  Compliant Parameters- Physical – 66 % Chemical: 43% Micro: 9%	ted at 154% of hydraulic capacity. Needs to be upgraded	ed at 53% of organic capacity	up to 131 Ml/day occurred from dates due to storm water ingress. Rainfall measured at the plant was 0mm.	d industrial high strength effluent on 1 of 92 days	equipment failures occurred in Q2 - Namely : 3 x Failure of mechanical screen 3 x failure of raw sludge pump 2x failure of Humus tank bridge. pump 2x failure of humus pump 1x failure of Humus module C MMC panel	s occur (358 hours in total) Loadshedding is a major concern.	have some cracks.		fires occurred during Q2.	stockpiled on the plant. Demand for instant lawn application is seasonal	ncy dams. Unlawful disposal of grit (grit is buried on-site in a trench).	bio filters at Mod A are dolomitic				final effluent need to be tarred, can't drive on it during rainy season is too muddy and slippery	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Groundwater pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						1x failure of DAF Drive unit 1x failure of clarifier bridge.  1x Failure of ferric tank pipeline 1x failure of Humus pump 1x Power failure due to cable theft 1x failure of Generator to supply power.											

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Ground water pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
Waterval	WCW did not comply to WUL effluent standards : Average compliance : 80.4% Q2  Compliant Parameters- Physical – 90.67% Chemical: 81.40% Micro: 67.35%	Plant operated above capacity (operated at 234% capacity)	Sufficient capacity Plant operated at 104% organic capacity.	Average flow of up to 398 Ml/day received due to developments and bypasses for upstream plants.	Plant received industrial high strength effluent on 0 of 92 days. Plant is receiving and treating 30 m <sup>3</sup> of leachate daily from EnviroServ	85 Critical equipment failures occurred in Q2 2022 Mainly from 7 x DAF Recirculation pumps, 16 x PST and transfer pump failures, 5 x power dip cut, 14 x inlet screen failures and compactor, 10 x blower	0 Hours planned power outage	None	None	0 veld fires at sludge land occurred during Q2	Dried sludge is stockpiled on the plant. Demand for agricultural application is seasonal.	Unlined Emergency dams. Unlawful disposal of grit (grit is buried on-site in a trench).	None	N/A	Screenings and grit generated at the plant are still being buried and this practice is not environmentally friendly. Potential groundwater pollution	N/A	

Plant	Non-compliance of final effluent	Hydraulic Capacity	Organic Capacity	Abnormal fluctuations in inflow	Industrial effluent	Critical equipment failures	Power outages	Ageing infrastructure	Blocked digesters	Veld fires	Sludge stockpiling	Ground water pollution	Dolomitic soil	Very Strict WUL standard	Solid Waste Management	Access Roads	Potable water
						failures, 9 x RAS pump, 10 x aerator failures, 7 x chlorine wash water failure, 5 x cornel pump failures, 2 x Digested pump failures,											

### 3.5. Project/Infrastructure Report

#### 3.5.1 Running Projects

ERWAT currently has no projects aimed at improving the Capacity of the plants due to insufficient budget. The current projects are purely for optimising the plants. Availability of budget continues to be a major challenge for the institution and the implications/consequence thereof is dire.

#### 3.5.2 Planned Projects

This section includes all major projects that will contribute to the Mega Catalytic projects such as the John Dube Development. ERWAT receives new township applications timeously from CoE and provide responses about the capacity availability at various Water Care Works as and when applications are received. This section focuses on feasibilities studies and major projects at ERWAT Water Care Works (WCW), for projects that contribute either directly or indirectly to the flagship projects.

COE and ERWAT undertook a comprehensive "*Wastewater Conveyance and Treatment Systems Regionalisation and 50-year Master Plan*" that will give strategic direction for future wastewater system extensions/consolidation planning, investment and implementation for the next fifty (50) year planning horizon. The plan cover all the Water Care Works operated by ERWAT and conveyance systems within the CoE operational area with the intention to optimize existing WCW systems and wastewater conveyance systems. The proposed "*Wastewater Conveyance and Treatment Systems Regionalisation and 50-year Master Plan*", is to reduce the number of WCWs operated by ERWAT from 19 to 10. The urgent required WCW capacity upgrades to accommodate the short to medium term capacity requirements in line with the Regionalization and 50-year Master Plan is summarized below.

No	Water Care Works (WCW)	CAPEX Requirements
1	Jan Smuts	R 58 500 000,00
2	Vlakplaats	R 364 000 000,00
3	Waterval	R 3 250 000 000,00
4	Ancor	R 455 000 000,00
5	Herbert Bickley	R 325 000 000,00
6	Olifantsfontein	R 650 000 000,00
7	Welgedacht	R 780 000 000,00
8	Ratanda	R 130 000 000,00
9	Hartebeestfontein	R 494 000 000,00
10	Rondebult	-
		<b>R6 506 500 000,00</b>

### 3.5.1.1 Ancor WCW

- a) The Ancor water care works is situated in Springs and falls within the DD5 drainage district. The original design capacity of the plant was 32 Mℓ/d. Conventional biological filtration is employed as the main treatment process. The plant capacity has been downgraded to 15 Mℓ/d. The plant is currently operating above its design capacity, which leads to poor quality of the final effluent. Ancor has older trickling filter technology, which is not suitable to treat high strength sewerage containing industrial pollutants. The new Daggafontein Megacity that is currently under construction directly opposite the plant will require a connection to the Ancor outfall were within this financial year.
- b) Plans are currently underway to upgrade the plant to 50 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that future developments flows are accommodated thereby meeting the required standards as stipulated by the department of water and sanitation (DWS).

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	35 Mℓ/d Plant Upgrade	R 455 000 000,00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan.	The commissioning of the project is subject to the availability of funds.

### 3.5.1.2 Vlakplaats WCW

- a) Vlakplaats water care works is situated in Vosloorus and falls within the DD6 drainage district. The original design capacity of the plant was 83 Mℓ/d. The plant capacity has been downgraded to 55 Mℓ/d. The plant is currently operating above its design capacity, which leads to poor quality of the final effluent. Vlakplaats flow distribution project is currently under construction phase to augment and add a peak flow balancing capacity into the plant by converting the old existing ponds into a balancing tank.
- b) Plans are currently underway to upgrade and restore its original capacity of 83 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that the plant meet the required standards as stipulated by the department of water and sanitation (DWS).

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	28 Mℓ/d Plant Upgrade	R 364 000 000,00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan.	The commissioning of the project is subject to the availability of funds.
3	Flow distribution	R 40 000 000.00	Vlakplaats flow distribution project is currently under construction phase to augment and add a peak flow balancing capacity into the plant.	The commissioning of the project is anticipated to be 2021/2022

### 3.5.1.3 Welgedacht WCW

- a) The Welgedacht water care works is situated in Springs and falls within the DD5 drainage district. The original design capacity of the plant was 85 Mℓ/d. Module 2 have been commissioned and is currently undergoing defects liability period. The plant capacity has been upgraded to 95 Mℓ/d.
- b) Plans are currently underway to upgrade the plant to 155 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that future developments flows are accommodated thereby meeting the required standards as stipulated by the department of water and sanitation (DWS).

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	60 Mℓ/d Plant Upgrade	R 780 000 000,00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan.	The commissioning of the project is subject to the availability of funds.

### 3.5.1.4 Herbert Bickley WCW

- a) The Herbert Bickley water care works is situated south of Nigel town and falls within the DD5 drainage district. The original design capacity of the plant was 18.75 Mℓ/d. The plant capacity has been downgraded to 15.1 Mℓ/d.
- b) Plans are currently underway to upgrade the plant to 40.1 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that future developments flows are accommodated thereby meeting the required standards as stipulated by the department of water and sanitation (DWS).

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	25 Mℓ/d Plant Upgrade	R 325 000 000,00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan.	The commissioning of the project is subject to the availability of funds.

### 3.5.1.5 Waterval WCW

- a) The Waterval water care works is the largest works operated by ERWAT and is situated in the DD6 area at the Kliprivier. The original design capacity of the Waterval wastewater care works was 155 Mℓ/d. The plant capacity has been upgraded to 170 Mℓ/d.
- b) Plans are currently underway to upgrade the plant to 420 Mℓ/d in order to enhance the treatment capacity. These upgrades will ensure that future developments flows are accommodated thereby meeting the required standards as stipulated by the department of water and sanitation (DWS).

	PLANNED PROJECTS	BUDGET REQUIRED	STATUS /COMMENTS	COMMISSIONING DATE
1	New 250 Mℓ/d Module 5 - Extension	R3 250 000 000,00	The capacity treatment plant upgrade is planned in relation to the 50-year master plan	The commissioning of the project is subject to the availability of funds.

## Conclusion:

ERWAT is striving and working hard towards addressing all Mega Catalytic projects to accommodate all new developments within the City of Ekurhuleni. As per table above, the mentioned Water Care Works need to be upgraded urgently to cater for the current backlog in capacity and to make provision for future housing and industrial developments. ERWAT does not have enough Capex funds to extend/upgrade the plant.

ERWAT is exploring opportunities to determine appropriate technology solutions for the plant capacity upgrade or retrofit projects through Expression of Interest (EOI) for the water care works that are operating above the design capacity. As funding becomes available the upgrading or retrofitting all the water care works that are operating above the design capacity shall be implemented

## 3. Financial Report

Table 5: Operational expenditure

Line item	Total Original Budget	Total Revised Budget (Applicable only after Adjustment)	Budget for Quarter 2	Actual for Quarter 2	Variance	Actual for FY (Yr to date)	Variance for year (Yr to date)
Employee Related Costs - Salaries & Wages	485 427 553	0	121 356 888	98 570 229	22 786 659	195 531 147	40%
Remuneration of Directors	3 374 802	0	843 701	317 766	525 935	637 446	19%
Bad Debts (Provision for Bad Debts)	1 742 850	0	435 713	(1 385 857)	1 821 570	(1 538 651)	(88%)
Depreciation	102 999 602	0	25 749 901	25 749 902	-	51 499 802	50%
Repairs and Maintenance	135 315 650	0	33 828 913	51 833 135	(18 004 223)	57 845 254	43%
Interest Expense	41 252 448	0	10 313 112	7 280 441	3 032 671	14 146 483	34%
Bulk purchases	349 744 361	0	87 436 090	71 401 828	16 034 262	124 238 551	36%
General Expenses - Other	195 790 579	0	48 947 645	30 839 562	18 108 083	51 672 248	26%
<b>TOTAL OPERATING EXPENDITURE</b>	<b>1 315 647 845</b>	<b>0</b>	<b>328 911 961</b>	<b>284 607 006</b>	<b>44 304 956</b>	<b>494 032 280</b>	<b>38%</b>

## Expenditure:

Year to date ERWAT has spent 38% (R494 032 280/R1 325 647 825) of the total approved budget. The total overall underspending is 12% due to the following reasons:

1. Employee costs due to a moratorium placed on recruitment by the COE resulted in delayed recruitment of vacant positions.

2. A reduction in the number of Directors from 8 to 5 compared to the prior years.
3. Repairs and Maintenance, the variance is due to the fact that December is a short month and Invoices of an amount of R13 096 936,87 were submitted after the financial cut-off date of the 15th of December 2022 and therefore were not included as part of the total expenditure for Q2. When the department include late submitted invoices spending to date for Q2 is 52%.
4. Interest expense savings due to lower interest rates paid on the outstanding balance of loan facilities.
5. Bulk purchases, due to issues with the supply of Ferric and Chlorine for a few months (Problems with NCP, which could not produce). Load shedding significantly impacts the electricity charges, which are included in Bulk purchases (Fuel costs increased). Provision has been made for the Eskom annual increase in April 2023 which still needs to be realised. There is R6 million on the budget for the new contract for the removal of screenings and grit that was only awarded in late November/early December 2022 therefore no expenditure as yet.
6. General expenditure, mainly due to the timing differences of expenditure yet to be incurred such as insurance costs.

*Table 6: Capital expenditure*

<b>Project Detail</b>	<b>Total Original Budget</b>	<b>Total Revised Budget (applicable only after Adjustment)</b>	<b>Budget for Quarter</b>	<b>Actual for Quarter</b>	<b>Variance</b>	<b>Total Budget for the year</b>	<b>Actual for FY (Yr. to date)</b>	<b>Variance for year (Yr. to date)</b>	<b>% Completion</b>
CAPITAL PROJECTS	R91, 558, 800.00	R91, 558, 800.00	R22 889 700,00	R30 304 760,76	R7 415 060,76	R91, 558, 800.00	R64 032 575,60	R9 097 295,60	69.94%

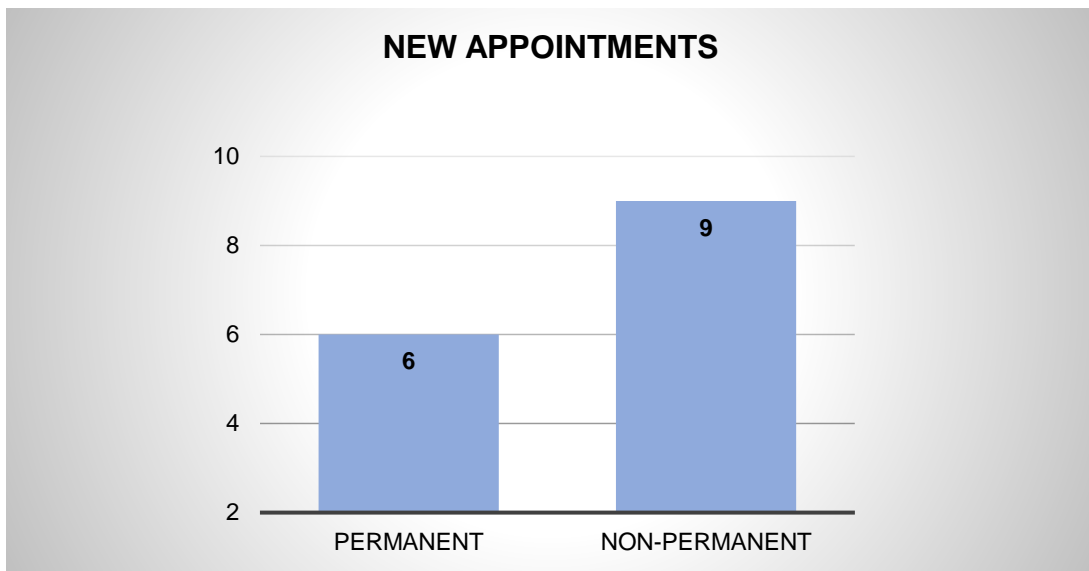
CODE	COST CENTRE	DEPARTMENT NAME	Original Capital Budget (2022/23)	Virements YTD 31 Dec 2022	Capital budget 31 Dec 2022	Actual spend (YTD) 2022/2023	% Spend
73436456020TCXBCZZER	7343	SCIENTIFIC SERVICES	7,000,000.00	2,216,523.00	9,216,523.00	7,496,871.42	
73436460020TCXBAZZER	7343	SCIENTIFIC SERVICES	770,000.00	-	770,000.00	1,199.99	
73536449420TCXBHZZER	7353	OLIFANTSFONTEIN	27,162,891.00	5,334,054.00	21,828,837.00	18,054,329.95	
73546449420TCXBHZZER	7354	HARTEBEESTFONTEIN	5,769,549.00	1,328,453.00	4,441,096.00	1,918,339.55	
73616449420TCXBHZZER	7361	ANCOR	3,649,929.00	350,944.00	3,298,985.00	1,340,812.77	
73626449420TCXBHZZER	7362	BENONI	1,300,000.00	1,063,405.00	2,363,405.00	2,178,114.23	
73636449420TCXBHZZER	7363	C GRUNDLING	12,767,353.00	-	12,767,353.00	1,343,568.00	
73646449420TCXBHZZER	7364	HEIDELBERG	1,903,968.00	-	1,903,968.00	1,902,306.39	
73656449420TCXBHZZER	7365	H BICKLEY	1,992,409.00	-	1,992,409.00	-	
73666449420TCXBHZZER	7366	JAN SMUTS	1,348,193.00	361,117.00	987,076.00	503,596.60	
73676449420TCXBHZZER	7367	J P MARAIS	3,991,510.00	-	3,991,510.00	3,776,915.42	
73686449420TCXBHZZER	7368	DAVEYTON	703,652.00	218,564.00	922,216.00	196,011.60	
73696449420TCXBHZZER	7369	RYNFIELD	1,458,276.00	-	1,458,276.00	1,380,520.36	
73706449420TCXBHZZER	7370	RATANDA	1,194,389.00	-	1,194,389.00	1,193,191.91	
73716456020TCXBCZZER	7371	TSAKANE	1,795,545.00	75,859.00	1,871,404.00	1,827,843.40	
73726449420TCXBHZZER	7372	WELGEDACHT	5,542,079.00	2,898,378.00	8,440,457.00	7,925,075.71	
73816449420TCXBHZZER	7381	DEKEMA	5,364,932.00	214,000.00	5,150,932.00	2,303,374.72	
73826449420TCXBHZZER	7382	RONDEBULT	1,230,408.00	-	1,230,408.00	954,576.23	
73836449420TCXBHZZER	7383	VLAKPLAATS	3,122,956.00	-	3,122,956.00	2,844,867.48	
73846449420TCXBHZZER	7384	WATERVAL	3,490,761.00	1,115,839.00	4,606,600.00	4,605,666.88	
Invoices pending processing to GL						2,286,402.99	
<b>TOTAL</b>			<b>91,558,800.00</b>	<b>-</b>	<b>91,558,800.00</b>	<b>64,033,585.60</b>	<b>69.94%</b>

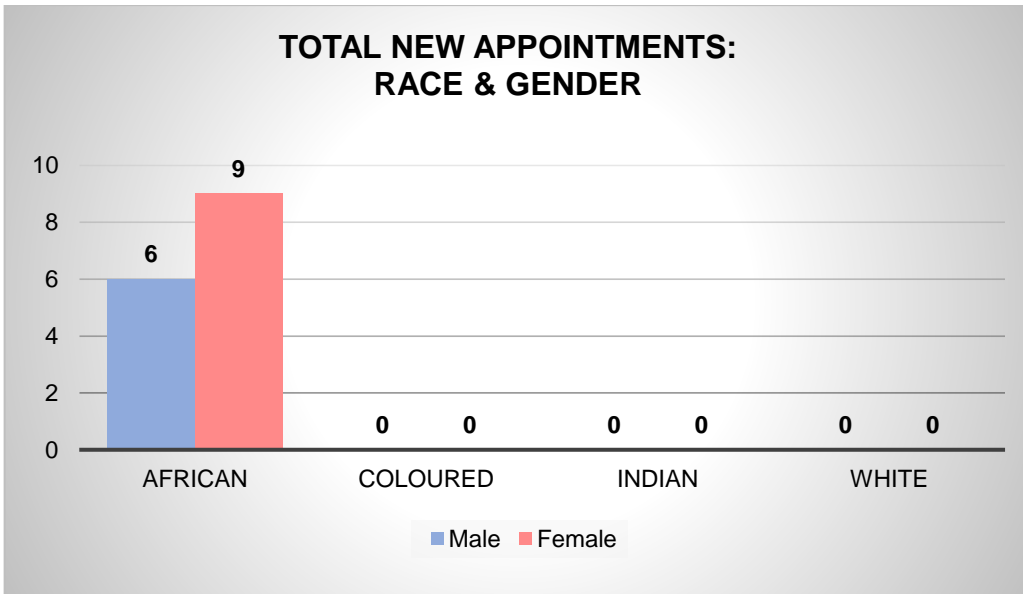
## 4. Human Resources

### 4.1 Staff Movements

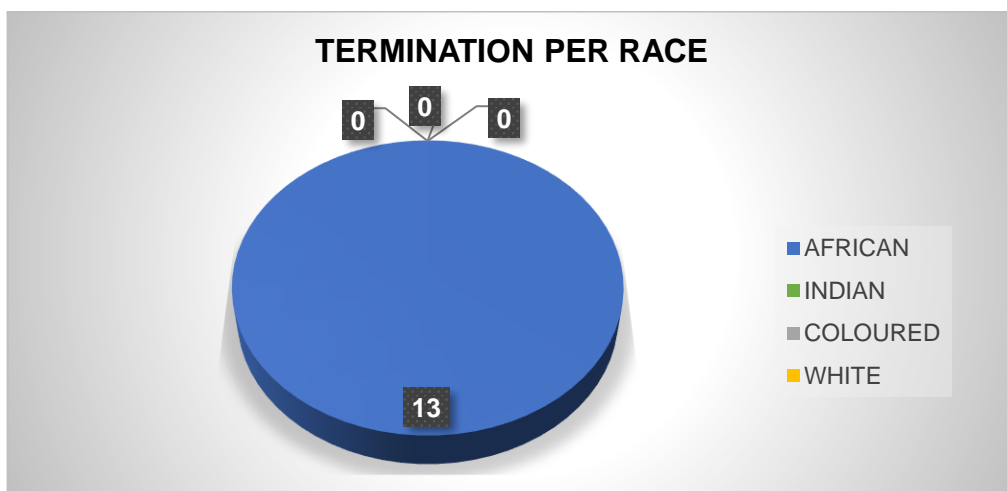
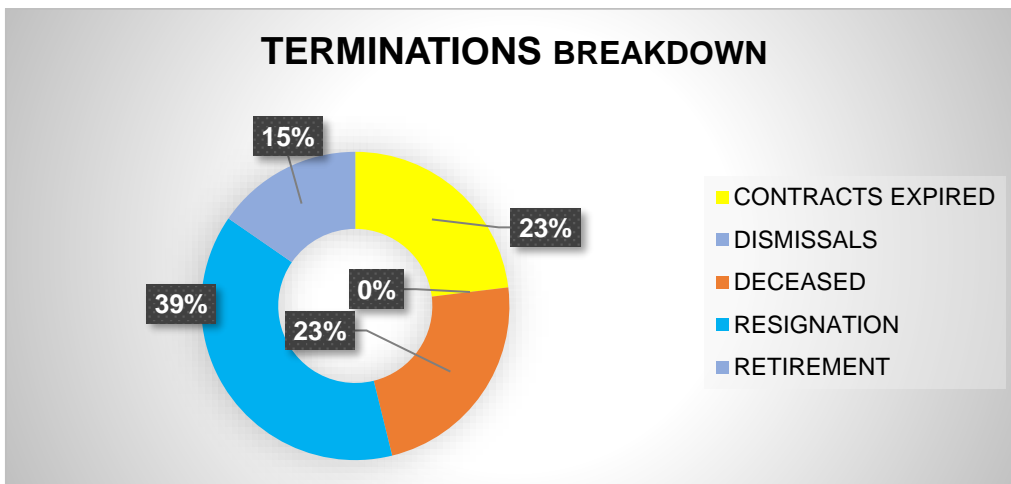
Staff Movements	African		Coloured		Indian		Whites		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
Recruitments	6	9	0	0	0	0	0	0	15
Resignations	4	1	0	0	0	0	0	0	5
Retirements	2	0	0	0	0	0	0	0	2
Contract Expired	2	1	0	0	0	0	0	0	3
Dismissals	0	0	0	0	0	0	0	0	0
Deceased	3	0	0	0	0	0	0	0	3
Promotions	0	0	0	0	0	0	0	0	0

#### 4.1.1 Appointments





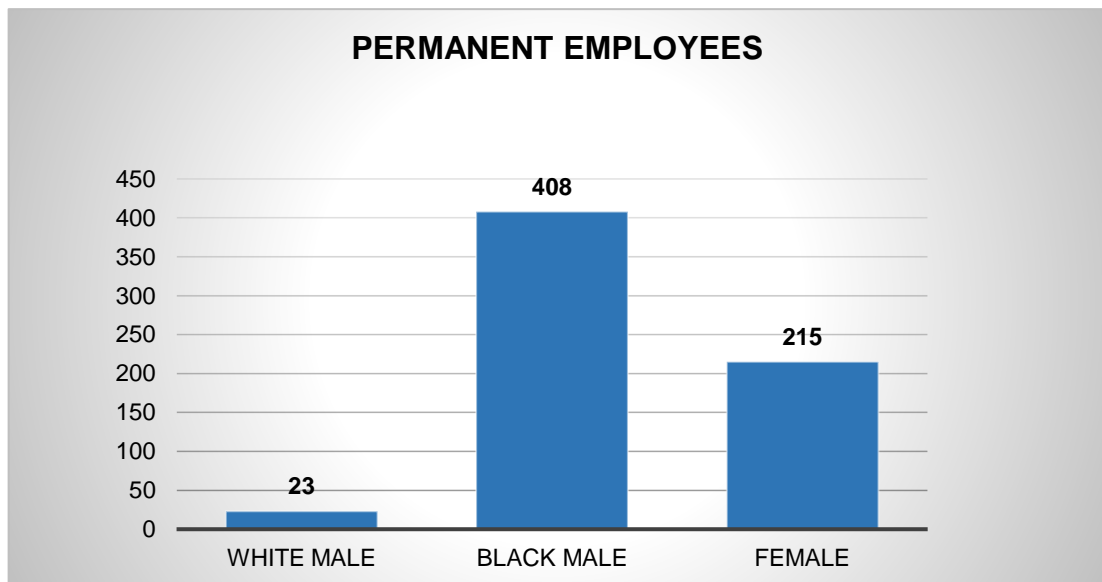
#### 4.1.2 Terminations



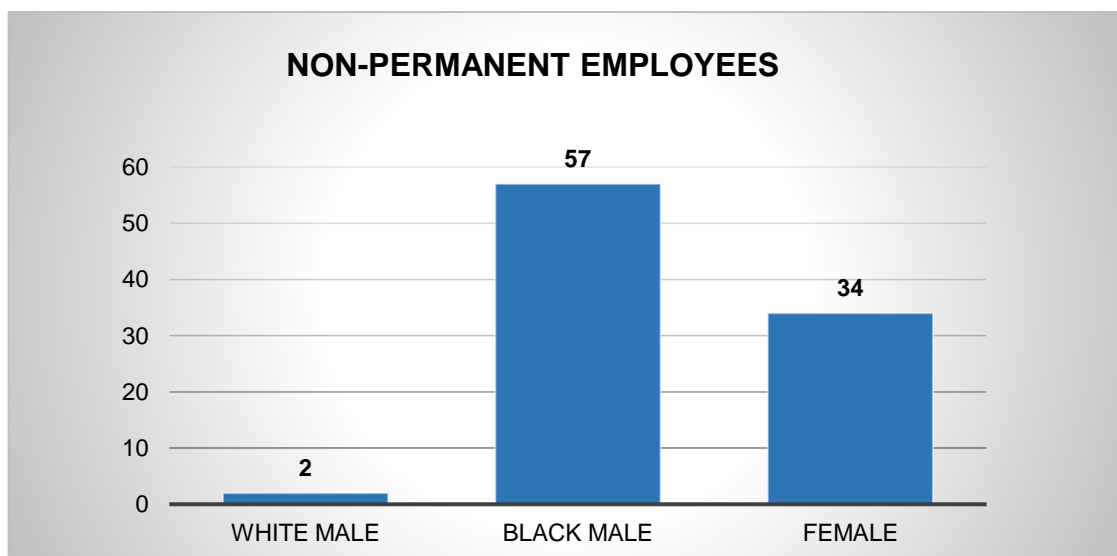
## Status Analysis

1. During the period under review, 15 employees were appointed.
2. During the period under review, 13 employees exited the organisation for the following reasons;
  - a) 3 contracts expired;
  - b) 5 employees resigned;
  - c) 3 employees passed away; and
  - d) 2 employees went on retirement during the period under review

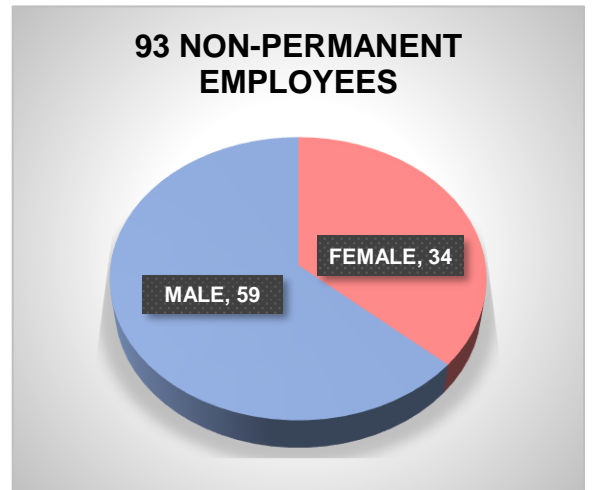
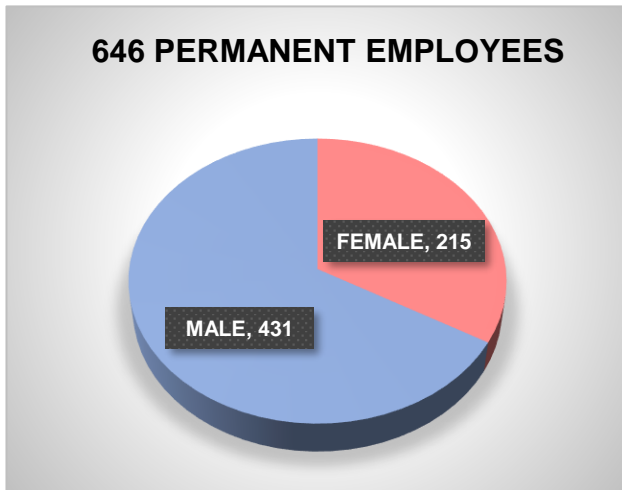
## 4.2 Employment Equity Demographics



ERWAT has **646** permanent employees.



ERWAT has **93** non-permanent employees.



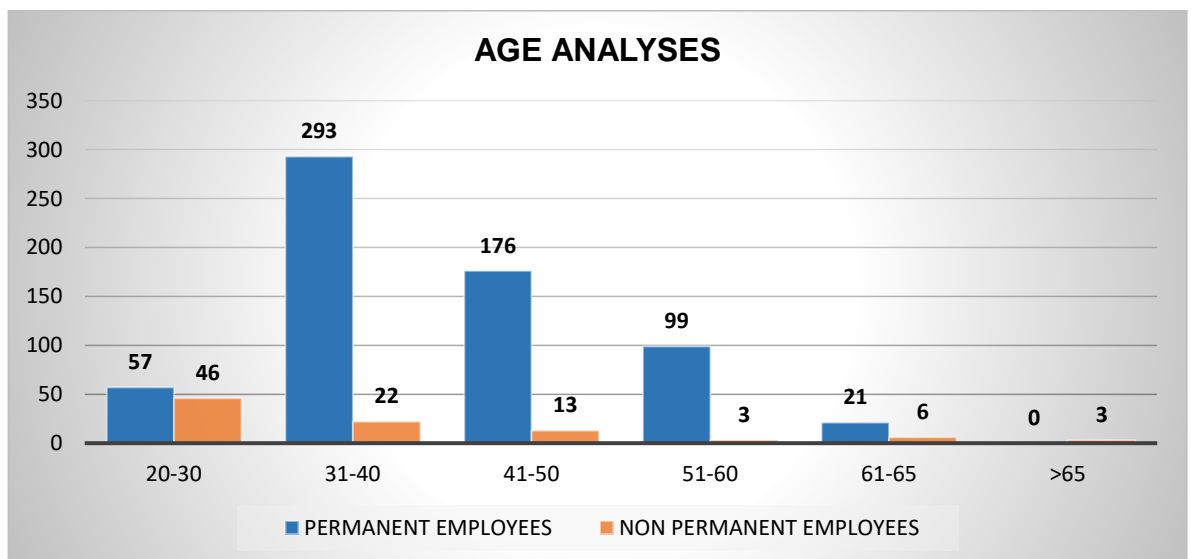
### Status Analysis

3. The employment demographics of ERWAT as at 31<sup>st</sup> December 2022 reflects:
  - a) Females in both permanent and non-permanent positions within ERWAT account for 249 or 34% of total positions filled.
  - b) Males in both permanent and non-permanent positions within ERWAT account for 490 or 66% of total positions filled.

### 4.3 Employment Equity Update

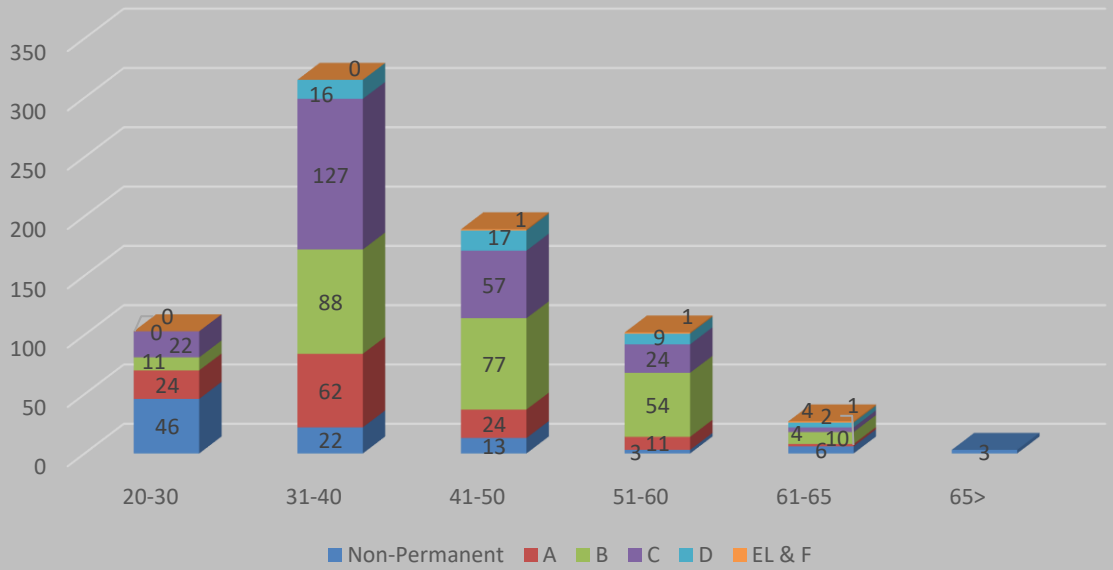
The Employment Equity Committee met on 11 August 2022 to align the Employment Equity recommendations with positions advertised at the beginning of quarter 1.

### Age Analysis



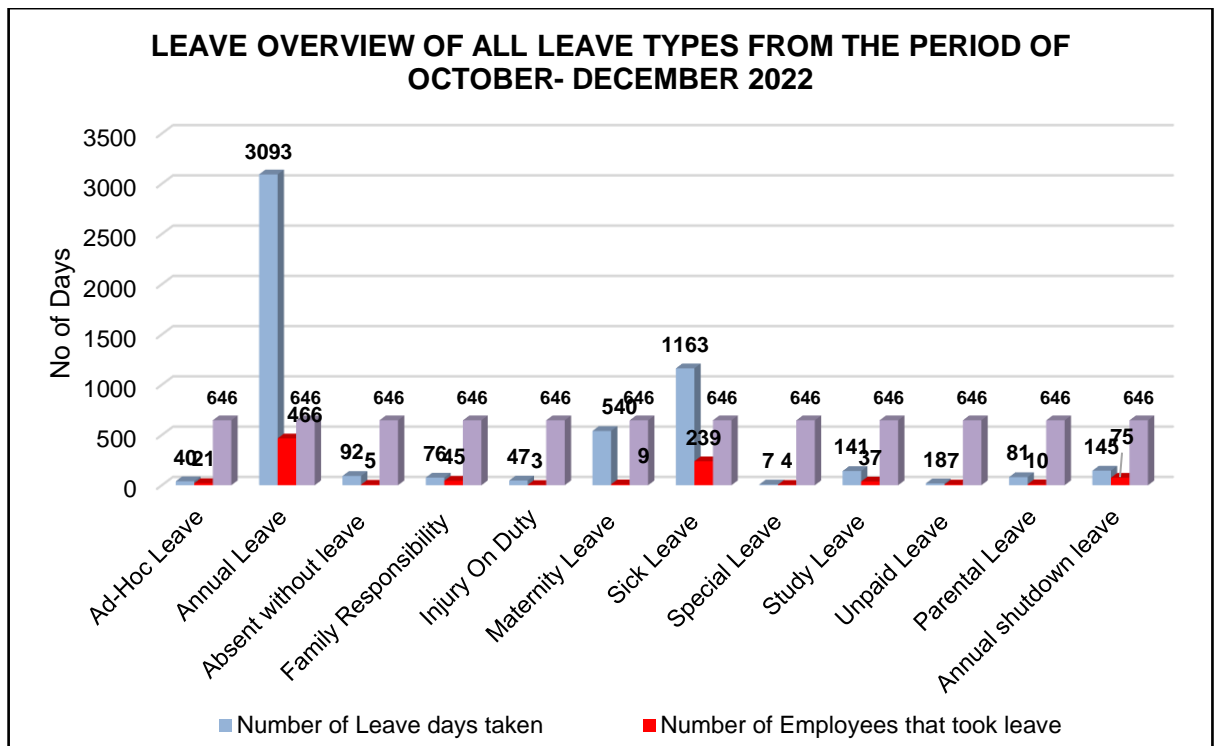
Average age as at 12/2022 = 35

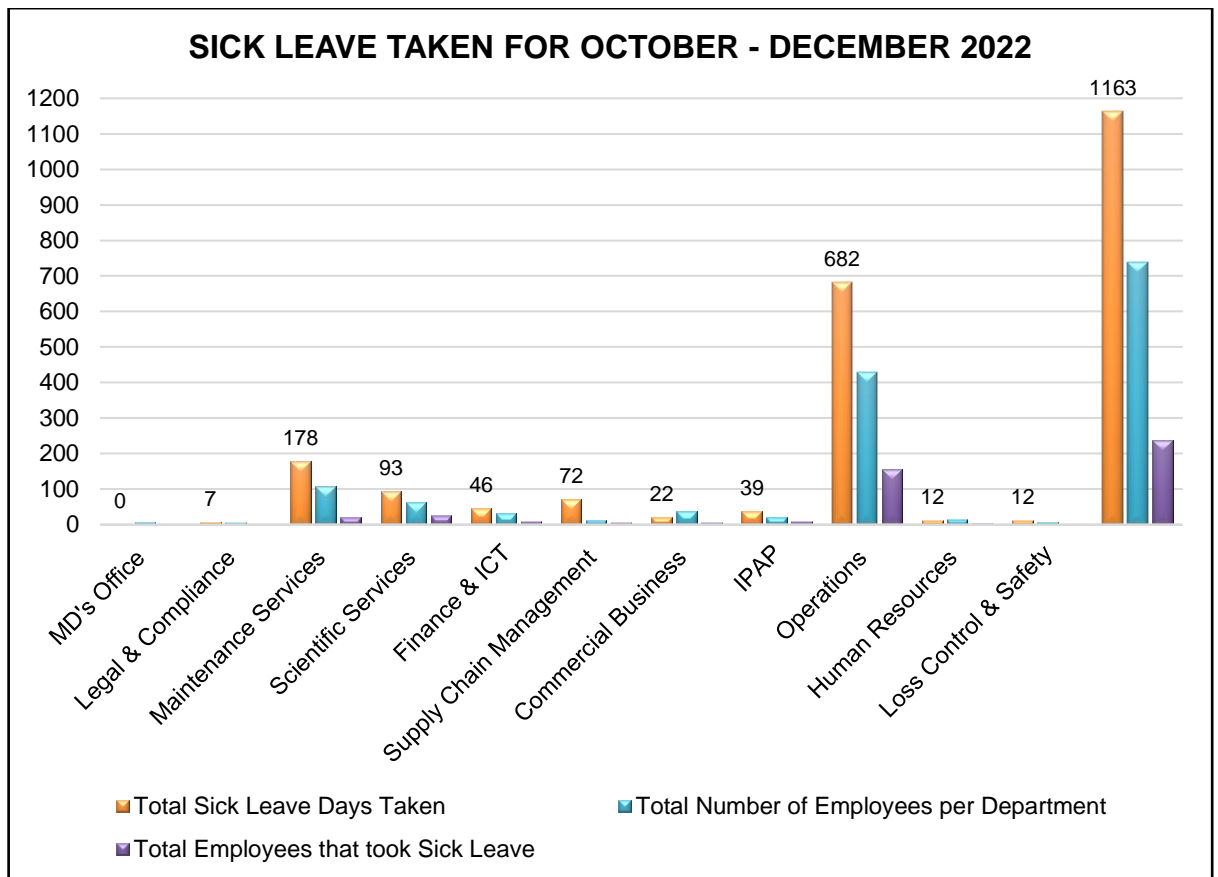
### AGE DISTRIBUTION FOR EMPLOYEES BY JOB GRADE



### 4.4 Leave Management

#### LEAVE OVERVIEW OF ALL LEAVE TYPES FROM THE PERIOD OF OCTOBER- DECEMBER 2022





### Status Analysis

- a) Total number of employees who took sick leave during the period under review are 239. The total sick leave taken equates to an approximate minimum of 4.9 days per employees.

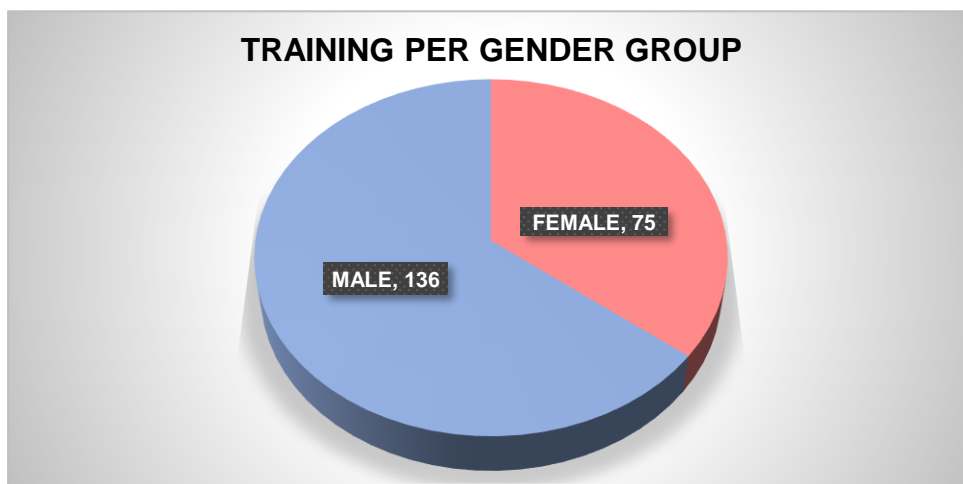
### 4.5 Overtime Trends

	Quarter 1	Quarter 2
Total Hours	62 512.50	47 208.00
Total Cost	9 532 458.56	7 534 204.36
Budget	10 374 757.25	10 374 757.25

Overtime is monitored and approved by management, as per the needs of the various business units.

#### 4.6 Training and Development

The reporting period saw **211 employees** attending various training interventions



- a) 27 Delegates attended MS PowerPoint Intermediate and Advanced training Programme on 14-18 November 2022
- b) 29 Delegates attended MS Excel Intermediate Advanced training Programme on 08-11 November 2022
- c) 29 Delegates attended Emergency Evacuation training Programme on 27-28 October 2022
- d) 33 Delegates attended SHE Rep training Programme on 25-26 October 2022
- e) 6 Delegates attended Board Leadership Programme on November 2022
- f) 56 delegates enrolled for Learnership SAQA ID 58951: National Certificate in Water and Wastewater Treatment Process Operations: 136 Credits on Level 2, start date on 28 March 2022 currently attending theory
- g) 21 delegates enrolled for Learnership SAQA ID 58951: National Certificate in Water and Wastewater Treatment Process Operations: 136 Credits on Level 2, start date on 22 August 2022 currently attending theory
- h) 10 unemployed learners enrolled for Learnership SAQA ID 61709: FET Training Certificate in Water and Wastewater Treatment Process Control Supervision: 166 Credits on Level 4, currently undergoing practical.

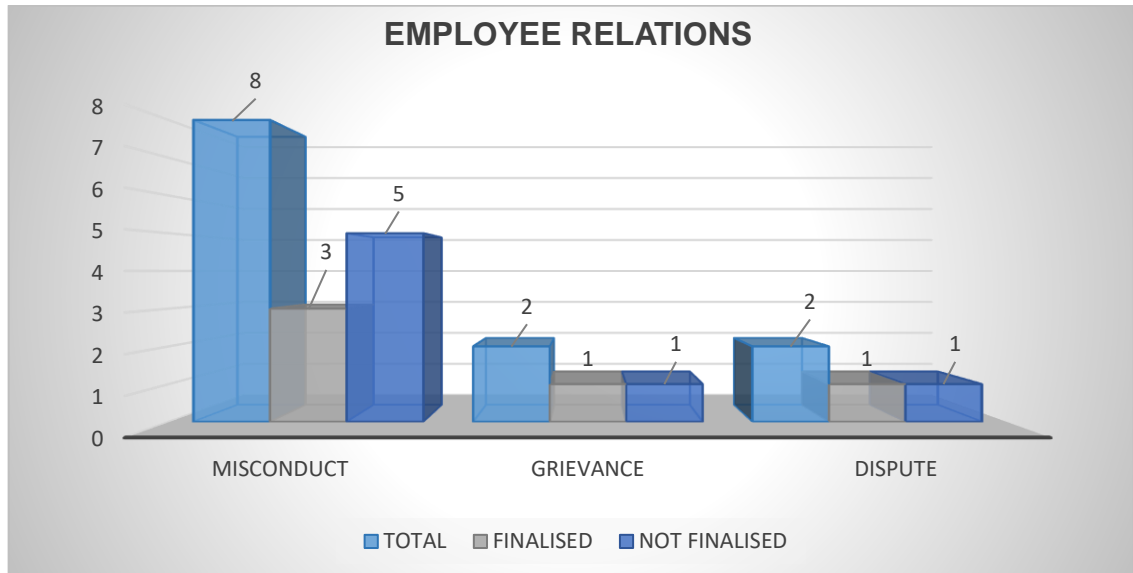
#### 4.7 Performance Management

##### Status Analysis

Quarter 4 (2021/2022 year-end) and Quarter 2 (2022/2023 mid-year) evaluations will be conducted for all employees (permanent and non-permanent) during Quarter 3 of the 2022/2023 financial year.

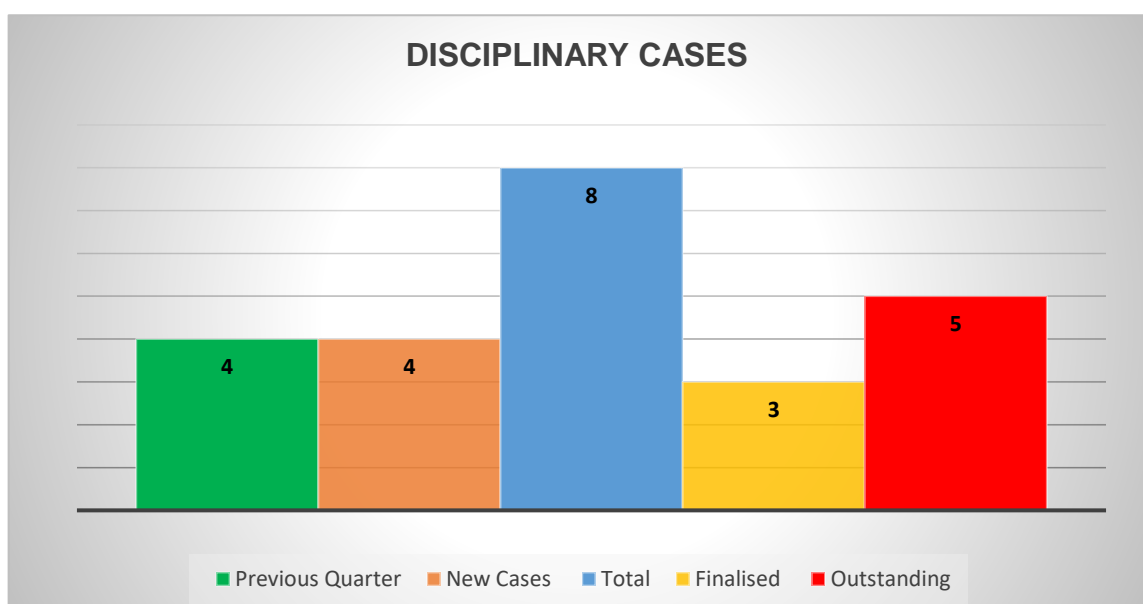
## 4.8 Employee Relations

The HR department, has received, recorded and administered the following processes for the reporting quarter, below is the statistical data of all cases and the analysis thereof.



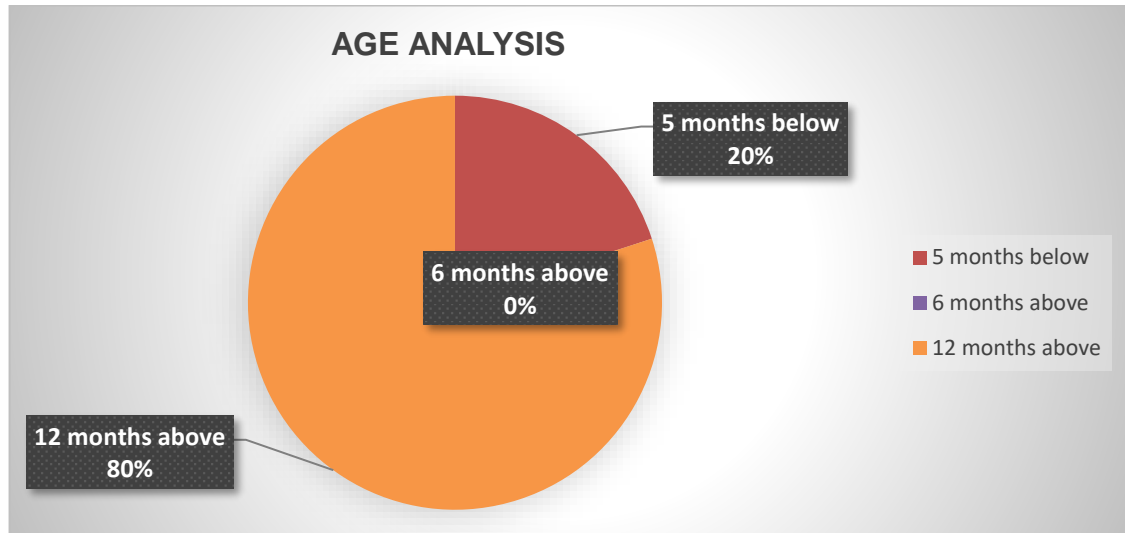
### 4.8.1. Disciplinary Cases

- Four (4) cases were not concluded in the previous quarter hence brought forward.
- Four new cases were received; the total for all disciplinary cases is eight (8). Total cases finalized is three (3) with a remaining balance of five (5) cases outstanding.



#### 4.8.2. Age Analysis of Disciplinary cases

- a) The age analysis of the five (5) cases outstanding, 20% are below five (5) months, 0% above four (4) months and 80% are above twelve (12) months old.

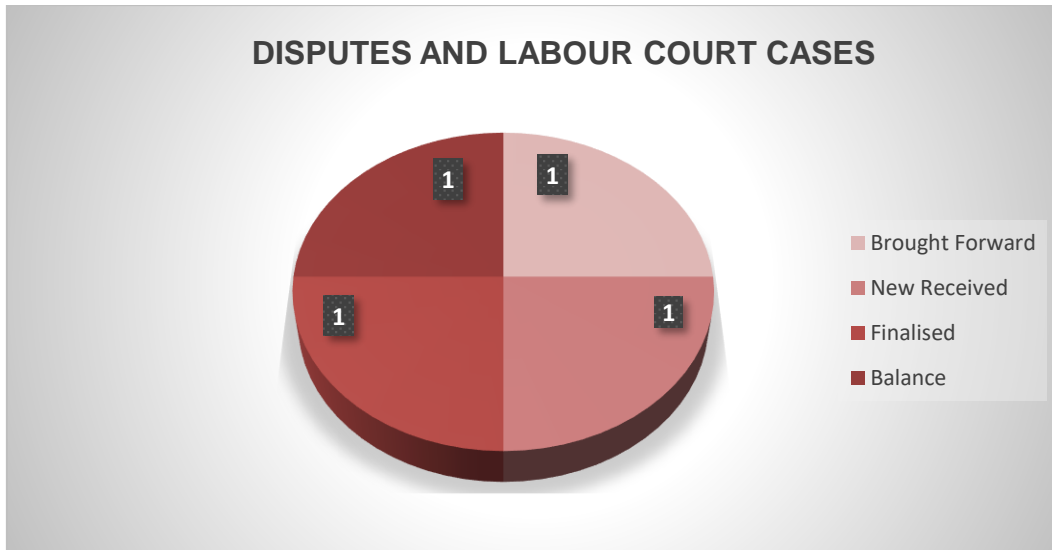


**The age analysis of the five (5) outstanding cases is as follows:**

- a) Cases that are three (3) months old =1  
b) Cases that are more than twelve (12) months old=4

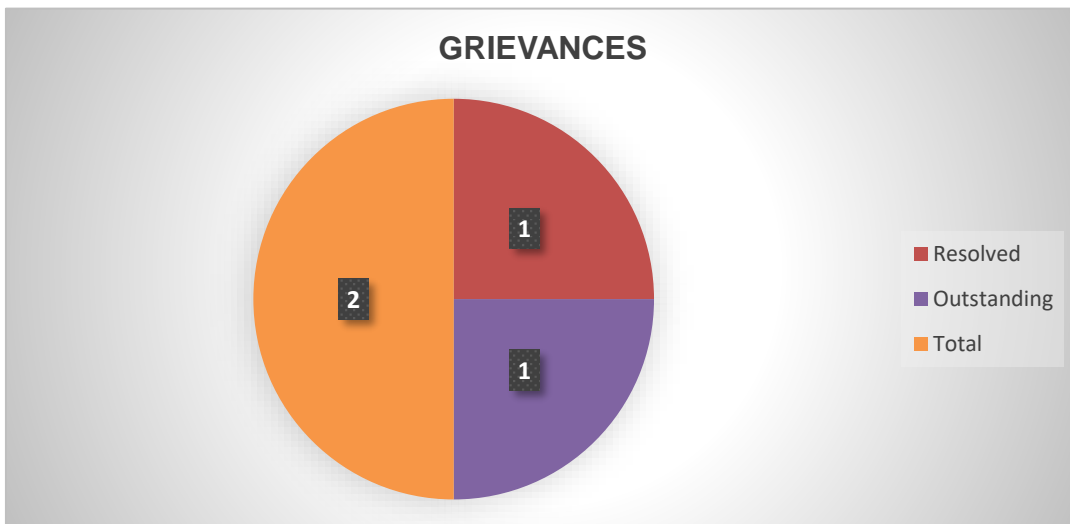
#### 4.8.3. Disputes, Arbitrations & Labour Court Cases

- a) Total cases brought forward One (1) as at end of previous quarter.  
b) One new case was received  
c) One case has been finalised  
d) In respect of disputes at the bargaining Council and Labour Court cases, ERWAT is sitting at One (1) case.  
e) The above case is pending adjudication at the appropriate forums.



The graph illustrates the statistical data of disputes at the Bargaining Council and Labour Court, as at the end of Q2, with one (1) case still pending

#### 4.8.4. Grievances



Total grievances outstanding is one (1).

#### 4.8.5. Suspensions

There were no suspensions for the period under review.

### 4.9 Employee Wellness Programme & OHS

ERWAT Occupational Health Services offers Wellness Programme as follows:

- a) ERWAT has 47 Wellness Champions (WC) that are placed on all 19 Plants including the Laboratory and Head Office. During the period under review, no workshops were conducted, due to the COVID-19 pandemic.

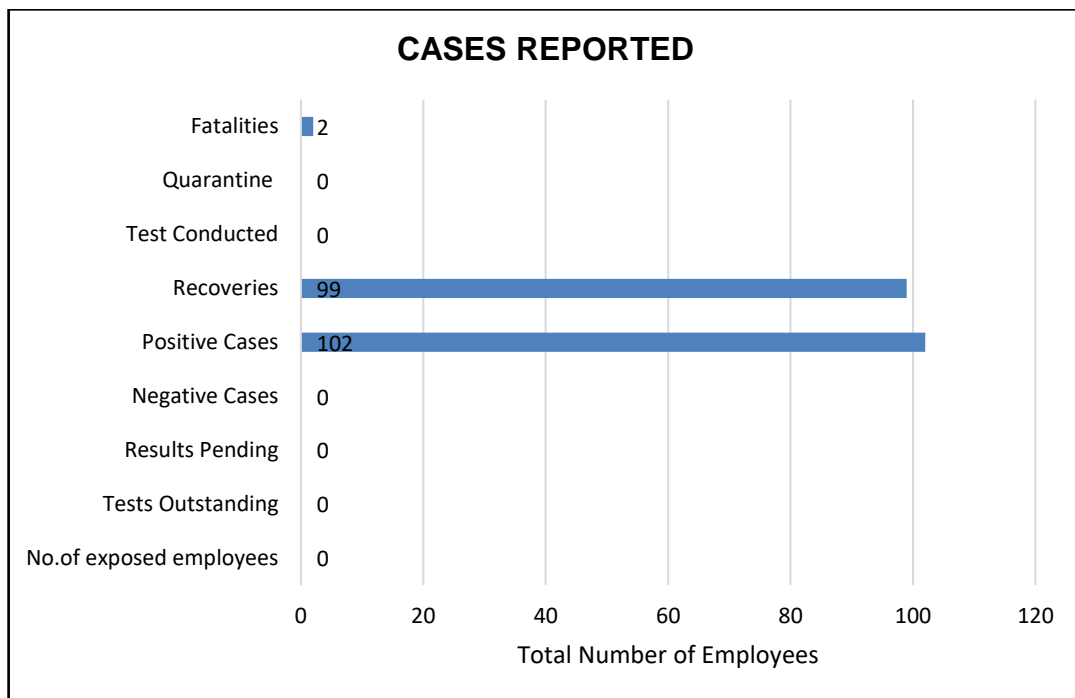
- b) The core function of the WC is to assist the Occupational Health Nurse, in identifying any health and wellness concerns amongst employees, monitor absenteeism; they also provide health education in a form of frequently scheduled meetings with employees on site.

During the period under review:

- a) 4 on boarding examination for new employees, 9 routine examinations for training purposes, 5 (exiting due to 2 - retirements & 3 - resigned) exit medical examinations were conducted for employees.
- b) 11 Health and Safety meetings were attended.
- c) 5 employees received Psychotherapy counselling sessions offered by ERWAT Occupational Health Services.
- d) 11 first aid boxes were inspected and refilled in October & November 2022 for DD3.

#### 4.9.1 COVID-19 Statistics

The statistics below are Consolidated COVID -19 stats reported for the period ending the 14/12/2022



#### 4.10 Percentage of Salary to OPEX.

	Quarter 1	Quarter 2	YTD - Actual
Total Manpower Cost	97 280 598,00	98 887 995,00	196 168 593,00
Total Operational Expenditure	209 425 274,00	286 145 657,00	495 570 931,00
<b>% of Salary to OPEX</b>	<b>46%</b>	<b>35%</b>	<b>40%</b>

## 5. Procurement Practices, Job Creation and Mainstreaming

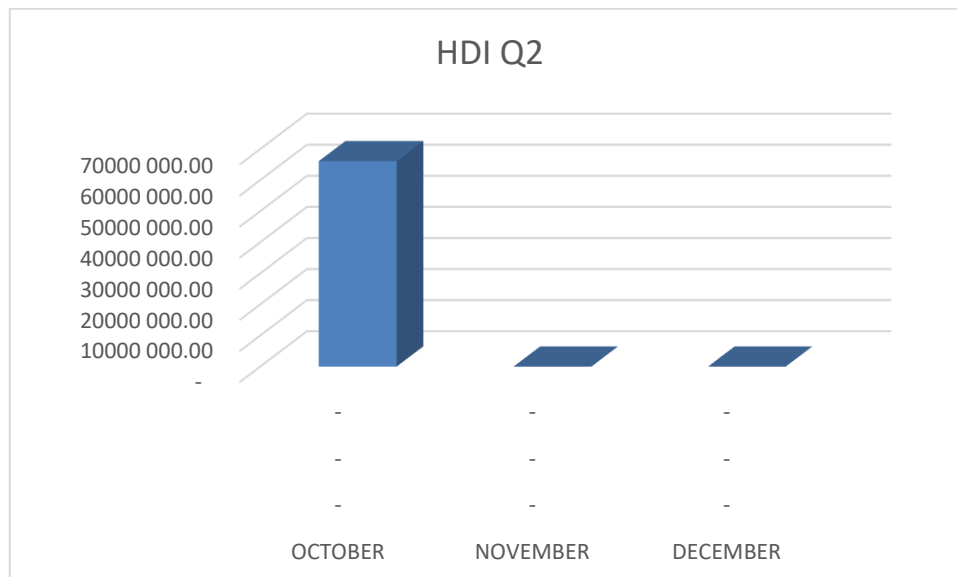
1. BEE spend in respect of supplier and contractor (PDIs)
2. Job creation is encouraged by including a provision for locally situated bidders within the set criteria in the functionality section where it could be broken down further where bidders could be scored for indicating in the supporting documents and tables their intention to employ new staff from the areas they will be operating from in the event that they are awarded a tender. This is however included on a case-by-case basis where it is practically implementable.
3. ERWAT is not in a position to utilise the EPWP program due to being an Entity and cannot apply directly to National Treasury for this grant through the Division of Revenue Act. Going forward, ERWAT will during its budget cycle identify potential projects where the EPWP can be included and utilised. ERWAT will require access and training on the respective EPWP portal for registration of projects and reporting.
4. GEYODI

### ANNEXURE A - SUMMARY OF AWARDS

CATEGORY	QUARTER 2			YEAR TO DATE TOTAL	% OF YEAR TO DATE TOTAL
	OCTOBER	NOVEMBER	DECEMBER		
0% HDI / JURISTIC PERSON	-	-	-	-	0%
1-50% HDI	-	-	-	-	0%
51-99% HDI	-	-	-	-	0%
100% HDI	66 066 773.00	-	-	66 066 773.00	100%
<b>TOTAL</b>	<b>66 066 773.00</b>	<b>-</b>	<b>-</b>	<b>66 066 773.00</b>	<b>100%</b>
<b>SIZE OF COMPANY</b>	<b>OCTOBER</b>	<b>NOVEMBER</b>	<b>DECEMBER</b>		
LARGE	66 066 773.00			66 066 773.00	100%
MEDIUM				-	0%
SMALL				-	0%
MICRO				-	0%
<b>TOTAL</b>	<b>66 066 773.00</b>			<b>66 066 773.00</b>	<b>100%</b>
<b>AWARDS MADE TO:</b>	<b>OCTOBER</b>	<b>NOVEMBER</b>	<b>DECEMBER</b>		
FEMALES				-	
BLACK FEMALE 30-100%	66 066 773.00			66 066 773.00	100%
HDI 50-100%	66 066 773.00			66 066 773.00	100%
100% HDI	66 066 773.00			66 066 773.00	100%
MILITARY VETERANS					0%
PWD					0%
YOUTH	66 066 773.00			66 066 773.00	100%

<b>BBEE SCORE CARD</b>	<b>OCTOBER</b>	<b>NOVEMBER</b>	<b>DECEMBER</b>		
EME					0%
QSE					0%
GENERIC	66 066 773.00			66 066 773.00	100%
<b>TOTAL</b>	<b>66 066 773.00</b>		<b>R 0.00</b>	<b>66 066 773.00</b>	<b>100%</b>
<b>AWARD MADE TO</b>	<b>OCTOBER</b>	<b>NOVEMBER</b>	<b>DECEMBER</b>		
COE BASED COMPANIES	66 066 773.00		R 0.00	66 066 773.00	100%
NON COE BASED			R 0.00	-	0%
	<b>66 066 773.00</b>		<b>R 0.00</b>	<b>66 066 773.00</b>	<b>100%</b>

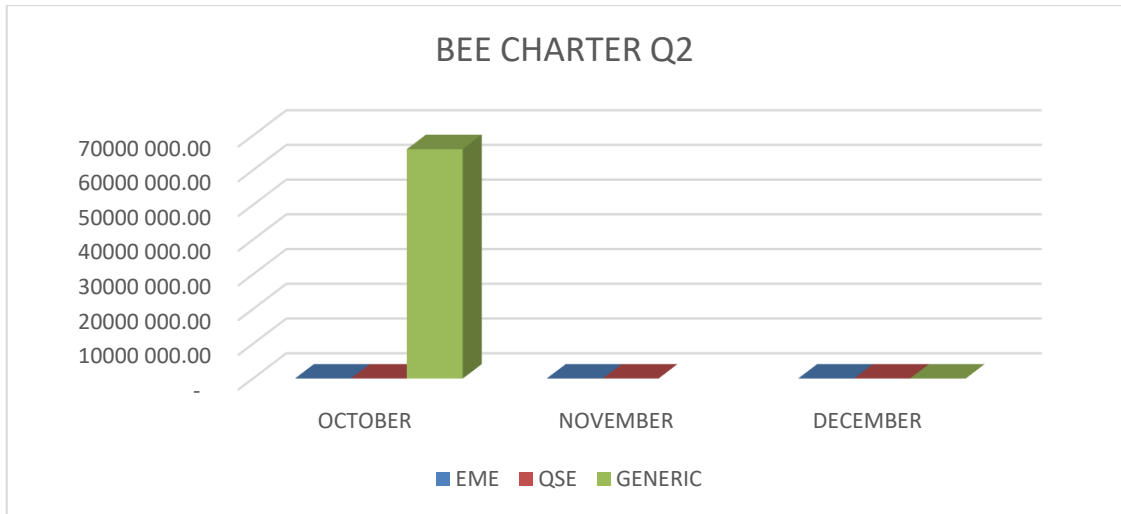
The following table and charts indicate the respective BEE spend and GEYODI expenditure for Quarter 2 (Period: October 2022 to December 2022):



**Figure 1**

<b>TRANSACTIONS IN SUPPORT OF HDI OWNED BUSINESSES</b>	<b>PAID IN THE RESPECTIVE % CATEGORIES</b>
Service providers with 0% HDI ownership	R0
Service providers with 1 -50% HDI ownership	R0
Service providers with 51 - 99% HDI ownership	R0
Service providers with 100% HDI ownership	R66 066 773

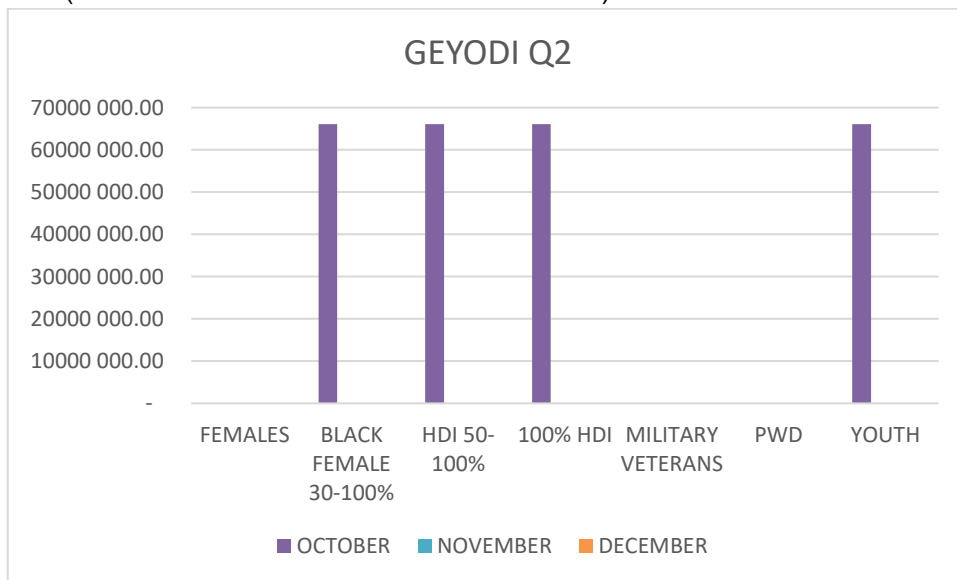
Figure 2 shows the bids indicating expenditure spent on companies accredited according to the recognized B-BBEE score cards for Quarter 2 (Period: October 2022 to December 2022):



**Figure 2**

TRANSACTION IN SUPPORT OF THE RESPECTIVE BEE CHARTERS	PAID IN THE RESPECTIVE ACCREDITATION CATEGORIES
Service providers with EME BEE Accreditation	R0
Service providers with QSE BEE Accreditation	R0
Service providers with GEN BEE Accreditation	R66 066 773

Figure 3 shows the bids indicating expenditure spent on companies owned by Youth for Quarter 2 (Period: October 2022 to December 2022):



**Figure 3**

TRANSACTION IN SUPPORT OF YOUTH OWNERSHIP	PAID IN RESPECTIVE % CATEGORIES
Service providers with 0% youth ownership	R0
Service providers with 1 -50% youth ownership	R0
Service providers with 51 - 99% youth ownership	R66 066 773
Service providers with 100% youth ownership	R0

Figure 3 shows the bids indicating expenditure spent on companies owned by Women for Quarter 2 (Period: October 2022 to December 2022):

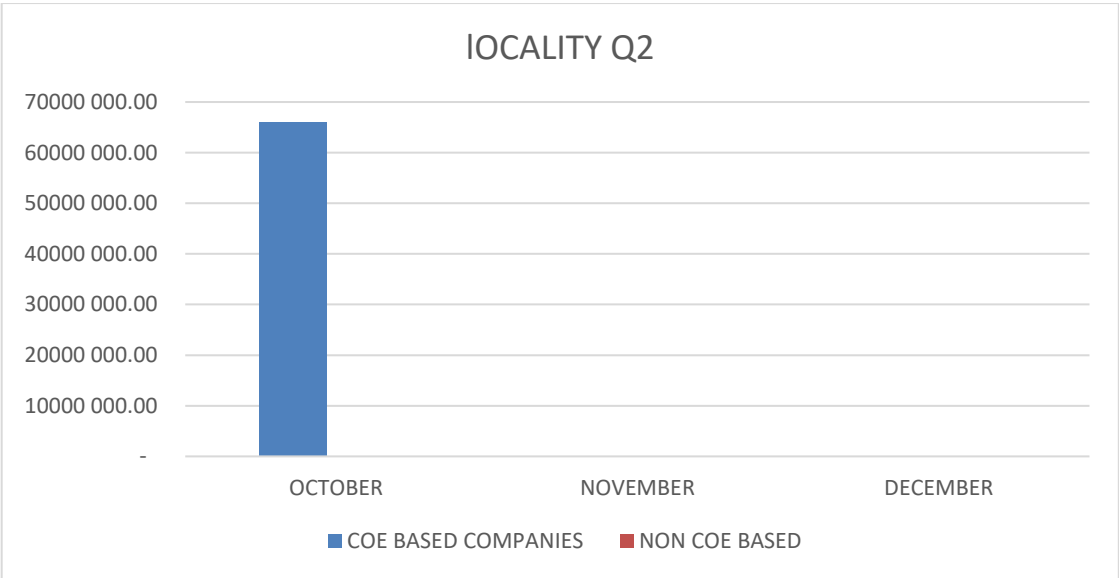
<b>TRANSACTION IN SUPPORT OF WOMEN OWNERSHIP</b>	<b>PAID IN RESPECTIVE % CATEGORIES</b>
Service providers with 0% women ownership	R0
Service providers with 1 -50% women ownership	R0
Service providers with 51 - 99% women ownership	R66 066 773
Service providers with 100% women ownership	R0

The table below shows the bids indicating expenditure spent on companies owned by Military Veterans for Quarter 2 (Period: October 2022 to December 2022):

**There were not payments done to business owned by Military Veterans for Quarter 4**

<b>TRANSACTION IN SUPPORT OF BUSINESSES OWNED BY MILITARY VETERANS (MV)</b>	<b>PAID IN RESPECTIVE % CATEGORIES</b>
Service providers with 0% MV ownership	R0
Service providers with 10 -50% MV ownership	R0
Service providers with 51 - 99% MV ownership	R0
Service providers with 100% MV ownership	R0

Figure 4 shows the bids indicating expenditure spent on companies based in COE and non-COE for Quarter 2 (Period: October 2022 to December 2022):



**Figure 4**

<b>TRANSACTION IN SUPPORT OF BUSINESSES LOCATED WITHIN/OUTSIDE COE AREA</b>	<b>PAID IN RESPECT OF LOCALITY</b>
Service providers located <b>WITHIN</b> the COE Area	R66 066 773
Service providers located <b>OUTSIDE</b> COE Area	R0

## 6. Risk Management

### SUMMARY OF RISKS

The Board of Directors has committed to the process of risk management in the Board Charter which states that the board appreciates that strategy, risk, performance and sustainability are inseparable and give effect to this by satisfying itself in that all material risks and business plans have been duly considered, addressed by management. Risk Management has become an integral part of strategy setting, forming part of senior management's Key Performance Areas.

#### **ERW1. Inadequate integrated planning between the City and the Entity**

An integrated approach is key to ensuring that there is adequate capital injection in order to be able to achieve the entity's infrastructure requirements as set out in the 50 year Master Plan that will eventually increase the operational capacity. This can be realised by the entity being part of the City's Capital Investment Forum to benefit from the full value chain of planning.

#### **ERW2. Inadequate Capacity to treat wastewater**

Ekurhuleni is fast becoming a city that is growing at a rapid pace, placing a high burden on infrastructure capacity. The current status quo: The Infrastructure is old and operating above their design capacity, resulting in frequent breakdown of critical equipment

#### **ERW3. Inadequate Cash flow to meet business requirements**

ERWAT derive a substantial portion of its revenue from CoE (user charges, grants funding etc.), the potential delays in the payment from COE to ERWAT has a detrimental impact in the entity's ability to settle its short term obligations as they become due.

#### **ERW4. Inadequate/limited revenue generation to supplement the approved budget**

ERWAT receives its operational and capital budget from the City of Ekurhuleni. The entity strives to augment its total budget by generating additional income through the commercial business department. There is a growing number of private companies offering the same services as ERWAT thus making the water sector highly competitive

#### **ERW5. Inability to achieve Capital Expenditure set target**

There is a growing trend within the country of project disruptions by communities and business demanding a stake in the project. These can include other factors such as unavailability of material and unfavourable weather conditions at construction sites.

#### **ERW6. Inadequate preparedness in the event of an emergency/disaster.**

The water care works are both hydraulically and organically overloaded threatening future growth of the City and receiving environment. Conditions that contribute to these threats are aged treatment infrastructure without water flow diversion capabilities and no emergency dams that can act as mitigation.

#### **ERW7. Potential loss of key skills**

ERWAT recognises there is a growing demand of skilled personnel in the water sector (Ref: Scarce Skills 2019, Vol 6). The loss of key skills within the organisation remains a threat that can impact negatively on the organisational objectives. Some of the employees may succumb to the pandemic.

#### **ERW8. Potential delay in supply and delivery of critical goods/services**

The entity imports some of the equipment and consumables that is critical in testing water for the City, the entity and customers. There are long lead times in the global supply chain due to the pandemic and restrictions by various countries.

#### **ERW9. Potential loss of the ISO 17025 Accreditation**

Aging laboratory equipment is a threat to losing the ISO certification gives the general public and customers an assurance that ERWAT applies best practice in while testing the water, it is a requirement for both the Blue drop and Green drop standards. The

#### **ERW10. Potential Loss of, and Unauthorised Access Critical Information**

The Protection of Personal Information Act places a burden on the entity to safeguard more responsibility to personal information of employees, customers and other stakeholders.

#### **ERW11 Potential injuries to personnel, visitors and contractors**

The entity strive to fully comply with the requirements of Occupational Health and Safety Act by providing a safe working environment. Inadequate maintenance of equipment poses a safety risk to employees.

#### **Strategic Risk Mitigations**

Management and the Board ensures that there are adequate risk mitigation plans in place to strengthen the current control environment. Some of the risk mitigations as identified require a huge budget such as the upgrading of infrastructure.

## ERWAT STRATEGIC RISKS

REF	Risk Title	Contributing Factors		Current Mitigation Controls		RR	Risk Action Plan 2022/2023	Detailed Progress	
ERW 1	Inadequate Integrated planning between the City and the Entity	C	Inadequate communication and coordination between ERWAT and City departments (City planning, Water & Sanitation, waste storm cluster)	CC1 .1.	Service delivery Agreement	Medium	RA P1. 1	Addendum to the SDA (2021/22) Final review of the Service Delivery Agreement and table at the relevant committee for approval	Action plan completed on the entity side - The SDA agreement has been approved by the Board of Directors in August 2022 and is pending final approval by the COE.
		C	Lack of participation in some of the forums established by the City.(e.g. Capital Investment Forum where decisions are taken)	CC1 .2	MMC Senior Management Quarterly Meetings		RA P1. 2	Identify City's forums that are relevant to ERWAT, and formally request to be included as a permanent invitees. (Capital Investment Forum)	A formal letter submitted to the City requesting entity participation in the Capital Investment Forum.
				CC1 .3	Participation at Technical Cluster Meetings				
				CC1 .4	CoE Corporate Governance Framework				
ERW 2	Inadequate Infrastructure to treat wastewater	C	a) Outdated, aging and inadequate infrastructure to treat high strength industrial effluent	CC2 .1.1	Development & Engineering Contribution Policy	High	RA P2. 1.1	Investigate other potential sources of funding for the upgrading of infrastructure (to increase capacity (e.g. PPP etc.)	A report on Public Private Partnerships was submitted to the Board and City 's Technical Cluster for Council approval. The report was tabled at

REF	Risk Title	Contributing Factors		Current Controls	Mitigation	RR	Risk Action Plan 2022/2023	Detailed Progress
			due to lack of budget to implement capacity related projects.					Board meeting on the 18th of August 2022- board approval still pending
			<b>Current Capacity</b> (14 WCWs operating above 100% capacity, 3WCWs operating at 80+ to 100% and only 2 WCWs operating	CC2 .1.2	50-Year Master Plan (Facilities Development Plan)		RA P2. 1.2 No further action plan to be implemented. There is an urgent need to implement capacity related projects however there is no budget.	There will be no reporting for the quarter under review.
			b) Outdated, aging and inadequate technology to treat high strength industrial effluent due to lack of budget to implement newer technologies .	CC2 .1.3	Wastewater Risk Abatement Plans		RA P2. 1.3 Implementation the MTREF 2022-2023 CAPEX Plan Project 1 Olifantsfontein Intervention Project	CAPEX Target – R62 855 061,89 (68.65%) Actual Target – R64 032 575,60 (69.94%) Phase 1a and 1b The commissioning of two phase has been completed and handover to Operation Department on the 8th June 2022. Phase 1c and 1d The project are still in procurement stage awaiting the budget availability.
				CC2 .1.4	Wastewater Research and		RA P2. 1.4 Organic testing of industrial effluent	Organic profiling has been completed on 440 industrial source scans (260 for North East Region Sources and 180 for

REF	Risk Title	Contributing Factors		Current Mitigation		RR	Risk Action Plan 2022/2023		Detailed Progress
				Controls					
					Development Program				South West Region Sources). Industries exceeding bylaw limits are being screened on a monthly basis.
				CC2 .1.5	CoE Schedule A Bylaws Analysis of samples by ERWAT		RA P2. 1.5	No further risk action plan to be implemented	There will be no reporting for the quarter under review.
				CC2 .1.6	Incident management protocol (IMP) .		RA P2. 1.6	Tracking of incidents and on a quarterly to assist in planning to build operational resilience	279 critical equipment breakdown were recorded due to loadshedding.
		C	Inadequate implementation of maintenance plans leading unavailability of equipment	CC2 .2.1	Asset Management Policy & Asset Management Strategy		RA P2. 2.1	Review the Asset Management Policy and Strategy	Asset Management Policy is being reviewed and will serve at the next board meeting in January 2023.
		F		CC2 .2.2	Asset Management Care Plans, limited available budget		RA P2. 2.2	Implementation of Maintenance Plan 2022/2023	Target 67 657 825 Achieved 57 845 253. The reasons are attributed to the fact that December is a short month and Invoices of an amount of R13 096 936,87 were submitted after the financial cut-off date of the 15 <sup>th</sup> of December 2022 and therefore were not included as part of the total expenditure for Q2. When the department include late submitted

REF	Risk Title	Contributing Factors		Current Mitigation		RR	Risk Action Plan 2022/2023		Detailed Progress
				Controls					
									invoices spending to date for Q2 is 52%.
				CC2 .2.3	Equipment Operating Manuals		RA P2. 2.3	No further risk action plan to be implemented	There will be no reporting for the quarter under review.
		C F 2. 3	Inadequate budget allocation to maintain infrastructure	CC2 .3.1	Maintenance budget		RA P2. 3.1	Implementation of the 2022/2023 Maintenance Plan	Target 67 657 825 Achieved 57 845 253. The reasons are attributed to the fact that December is a short month and Invoices of an amount of R13 096 936,87 were submitted after the financial cut-off date of the 15 <sup>th</sup> of December 2022 and therefore were not included as part of the total expenditure for Q2. When the department include late submitted invoices spending to date for Q2 is 52%.
		C F 2. 4	Delays in bringing back equipment's and services due to long lead time of spares of spares sourced overseas and inadequate service master contracts	CC2 .4.1	Maintenance Service contract		RA P2. 4.1	Expand the pool of Service Master Contracts established in the 2021/2022 FY for critical equipment both electrical and mechanical	Action completed.
				CC2 .4.2	ERWAT Procurement Plan				

REF	Risk Title	Contributing Factors		Current Mitigation Controls		RR	Risk Action Plan 2022/2023		Detailed Progress
		C F 2. 5	Storm water ingress (be incorporated into the CoE register)	CC2 .5.1	No current control	High	RA P2. 5.1	No further risk action plan to be implemented	There will be no reporting for the quarter under review.
		C F 2. 6	Rapid population and industrial growth within CoE	CC2 .6.1	50 Year Master Plan		RA P2. 6.1	No further risk action plan to be implemented	There will be no reporting for the quarter under review.
ERW 3	Inadequate Cash flows to meet business requirements	C F 3. 1	Lack of a consolidated cash-flow forecast based on actual departmental requirements	CC3 .1	Cash-flow projections are created based on assumptions of a uniform monthly expenditure	Medium	RA P3. 1	Implementation of cash-flow projections taking into account the actual departmental cash-flow requirements	Cash flow projections are performed quarterly based on the estimated expenditure and reported to the Board
		C F 3. 2	Unforeseen increases in overhead costs such as labour costs, overtime and increase to the pay scales, etc.	CC3 .2.1	Overtime Policy		No further risk action plan to be implemented	There will be no reporting for the quarter under review.	
				CC3 .2.2	Leave Encashment (Leave Policy)				
				CC3 .2.3	Remuneration Policy				
CC3 .2.4	Monitoring of actual expenditure against approved budget and taking								

REF	Risk Title	Contributing Factors		Current Controls	Mitigation	RR	Risk Action Plan 2022/2023	Detailed Progress	
					conservative approach to cash flows management				
		C F 3. 3	Inadequate budgetary increases granted by the CoE due to economic pressures (Historic and Current)	CC3 .3	Budget deficiency Formal Communicating to all stakeholders not receiving adequate funds to discharge its mandate and		RA P3. 3.1	Investigate other sources of funding.(e.g. PPP)	A report on Public Private Partnerships was submitted to the Board and City 's Technical Cluster for Council approval. The report was tabled at Board meeting on the 18th of August 2022- board approval still pending
		C F 3. 4	Available funds not prioritised in order of its most effective use.	CC3 .4.1	Cost Containment Policy		RA P3. 4.1	Development and Implementation of a cost containment strategy	Progress to be reported in quarter 2
		C F 3. 5	Significant loan repayments resulting in cash-flow shortages	CC3 .5.1	Cash-flow management by arrangement of partial payment with suppliers in		RA P3. 5.1	Review of Credit Management Policy to incorporate charging of interest.	Action plan completed.

REF	Risk Title	Contributing Factors		Current	Mitigation	RR	Risk Action Plan 2022/2023		Detailed Progress
				Controls					
					order to stretch available funds.				
		C F 4. 6	Inadequate measures for granting credit and revenue collection	CC4 .6.1	Credit Collection and Debt Management policy		RA P3. 6.1	Appointment of credit vetting agency	To report in quarter 3
		C F 3. 7	Delayed settlement of invoices raised by ERWAT for payment by the CoE in relation to service charges and CAPEX grants	CC3 .7.1	Credit & Debt Management Policy		RA P3. 7.1	Review of the SDA to include processes for to address late payment of invoices.	The SDA agreement has been approved by the Board of Directors in August 2022 and is pending final approval by the COE. The late payment of invoices by Government entities has been adequately addressed in the Credit Control and Debt Management policy.
		C F 3. 8	Unilateral budget cuts imposed on ERWAT by CoE Water and Sanitation department.	CC3 .8.1	MTREF Budget 2021-2023		RA P3. 8.1	No further risk action plan to be implemented	There will be no reporting for the quarter under review.
<b>ERW 4</b>	<b>Inadequate revenue generation</b>	C F	Inability to secure new business due to overhead costs	CC4 .1.1	Manpower Costing in terms	<b>High</b>	RA P4. 1.1	No further risk action plan to be implemented	There will be no reporting for the quarter under review.

REF	Risk Title	Contributing Factors		Current Controls	Mitigation	RR	Risk Action Plan 2022/2023	Detailed Progress
	to supplement the approved budget	4.1	that are higher than that of competitors.(such as Manpower, laboratory, etc.)		of existing pay scales.			
				CC4 .1.2	Pricing Model. (Scientific Services Price Schedule)		RA P4. 1.2 Review of the Pricing Model.	<p><b>Phase 1 – Update Financial Model</b> The accountant was appointed in October 2022 and has updated the Financial Model using the 30 June 2022 budget and expenditure during December 2022. The updated model is under review to ensure the accuracy of the cost-reflective tariff and will be finalised during Quarter 3.</p> <p><b>Phase 2 – Review Pricing Model</b> Once the review of the financial model has been completed the review of the pricing model will commence as the two models are interrelated.</p>
				CC4 .1.3	Manually costing per project basis.		RA P4. 1.3 No further risk action plan to be implemented	There will be no reporting for the quarter under review.
				CC4 .1.4	Quarterly Business reviews		RA P4. 1.4 No further risk action plan to be implemented	There will be no reporting for the quarter under review.

REF	Risk Title	Contributing Factors		Current Mitigation Controls		RR	Risk Action Plan 2022/2023		Detailed Progress
		C F 4. 2	Loss of existing business through insourcing and companies closing down or reducing costs	CC4 .2.1	Customer Satisfaction Survey		RA P4. 2.1	Develop of Sales Strategy and market penetration plan	The tender to be re-advertised on the open market upon receipt of the non-award letter and the observing the cooling-off period.
		C F 4. 3	Legislative Limitations/MFMA Section 164 Forbidden Activities.	CC4 .3.1	No current control		RA P4. 3.1	Seek Legal opinion from CoE on the interpretation of the Sec 164 Forbidden activities and the MSA	Legislation allows for the entity to conduct business with other municipalities upon approval of such request by the municipality council.
		C F 4. 4	Business requirements limiting of entry to new market (Level of BBB-EEE Compliance/Inadequate and/or no BBEE certificate)	CC4 .4.1	No current control		RA P4. 4.1	Annual review of BBB EE Compliance.	B-BBEE Verification Certificate was issued in quarter 2 and valid for one – year.
		C F 4. 5	Expiry of existing customer contracts/non-renewal of expired contracts	CC4 .5.1	Customer Satisfaction Survey		RA P4. 5.1	Annual Customer Service Survey	The Annual Customer Service Survey tender document approved by the Bid Specification Committee for advertising in the open market.



REF	Risk Title	Contributing Factors		Current	Mitigation	RR	Risk Action Plan 2022/2023		Detailed Progress
				Controls					
		C F 5. 4	Late payment of contractors due to USDG Invoices being paid late	CC5 .4.1	Creditors Policy		RA P5. 4.1	No further mitigation to be implemented	There will be no reporting for the quarter under review.
		C F 5. 5	Members of the community and the local business forums demanding to be sub-contracted in the project.	CC5 .5.1	Community Liaison Officer Appointed through ward councillors to assist with community engagement.		RA P5. 5.1	Engage CSR office prior to commencement of construction project. (CSR plan to include Projects)	There were no new projects in quarter 2.
				CC5 .5..2	Sub-contracting to local business on projects that requires less technical skills.		RA P5. 5.. 2	No further mitigation to be implemented	There will be no reporting for the quarter under review.
		C F 5. 6	Potential disruptions such as Contractor employees going on strike and/or any other disruption caused by contractor	CC5 .6.1	Invoke penalties for poor performance in line with the Supply Chain Management Policy and related Service Level Agreements		RA P5. 6.1	No further mitigation to be implemented	There will be no reporting for the quarter under review.

REF	Risk Title	Contributing Factors		Current Mitigation Controls		RR	Risk Action Plan 2022/2023		Detailed Progress
		C5.7	Denial of contractor's access to ERWAT sites due to labour unrest	CC5.7.1	Disciplinary Procedure	High	RA P5.7.1	Disciplinary processes to be taken for illegal strikes as and when they arise	There was an Illegal strike by shiftworkers in the Operations Deptment on the 31 Oct- 9 Nov. 2022. Employees were ordered to go back to work by management. Disciplinary action is in progress.
		C5.8	Denial of contractor's access to ERWAT sites due to community unrest	CC5.8.1	Business Continuity Management Policy		RA P5.8.1	Review the Business Continuity Policy	Action plan completed.
		C5.10	Termination of contract due to poor performance of the contractor and Unexpected withdrawal from projects by the contractor.	CC5.10.1	Service Level Agreement		RA P5.10.1	No further action plan identified	There will be no reporting for the quarter under review.
<b>ERW 6</b>	<b>Inadequate preparedness in the event of an emergency/ disaster.</b>	C6.1	Some plants of the 19 Wastewater Care Works do not have wastewater bypassing systems and emergency dams	CC6.1.1	Water Bypass System for some Wastewater Care Works and emergency dams	High	RA P6.1.1	No further mitigation identified	There will be no reporting for the quarter under review.

REF	Risk Title	Contributing Factors		Current Mitigation Controls		RR	Risk Action Plan 2022/2023		Detailed Progress
		C F 6. 2	Some of the Infrastructure built on dolomitic areas	CC6 .2.1	Geo tech studies conducted (every three years)		RA P6. 2.1	Benchmarking of ERWAT's Geotechnical Standard Operating Procedure with CoE.	Progress to be reported in quarter 3
		C F 6. 3	Inadequate Business Continuity Management Program	CC6 .3.1	Business Continuity Management Policy		RA P6. 3.1	Review Business Continuity Management Policy Enter into a formal Agreement between ERWAT and Lesedi Municipality	Action plan completed. A Memorandum of Agreement drafted between Lesedi and ERWAT. still at inputs stage.
				CC6 .3.2	Incident Management Protocol (Emergency Response Plan)		RA P6. 3.2	Tracking of incidents and on a quarterly to assist in planning to build operational resilience	279 critical equipment breakdown were recorded due to loadshedding.
				CC6 .3.3	Business Continuity Management Risk Assessments for Water Care Works and Support Services		RA P6. 3.3	No further action plan to be implemented	There will be no reporting for the quarter under review.
				CC6 .3.4	BCM Business Impact Analysis		RA P6. 3.4	No further action plan to be implemented	There will be no reporting for the quarter under review.

REF	Risk Title	Contributing Factors		Current Mitigation		RR	Risk Action Plan 2022/2023		Detailed Progress
				Controls					
				CC6 .3.5	Critical Supplies Register	RR	RA P6. 3.5	Update the Critical Supplies Register	The Critical Supplier Register reviewed for continuity and contracts are in place for the goods and services identified as critical. The register is updated as and when goods and services are identified.
				CC6 .3.6	Business Recovery Plans		RA P6. 3.6	Testing of 3 Business Recovery Plan	Progress to be reported in quarter 3
				CC6 .3.7	BCM Steering Committee		RA P6. 3.7	BCM Communications and Awareness	Progress to be reported in quarter 3
				CC6 .3.8	BCM Infrastructure Condition Assessments		RA P6. 3.8	Request the city's Dolomite Division to assist in Conducting Dolomite Hazard Risk Assessment, in line with the CSIR requirements	Progress to be reported in quarter 3
				CC6 .3.9	ICT Disaster Recovery Plan		RA P6. 3.9	No further action plan to be implemented	There will be no reporting for the quarter under review.
ERW 7	Potential loss of key skills	C F 7. 1	Unexpected loss of key employees due to the resignation, death( Natural/ COVID-19), etc	CC7 .1.1	Recruitment Policy	Medium	RA P7. 1.1	'No further action plan to be implemented	There will be no reporting for the quarter under review.
				CC7 .1.2	ERWAT Recruitment Plan		RA P7. 1.2	Implementation of 2022/23 recruitment plan	Recruitment is on hold, due to austerity measures imposed on the Entity by the City.

REF	Risk Title	Contributing Factors		Current Mitigation		RR	Risk Action Plan 2022/2023		Detailed Progress
				Controls					
				CC7 .1.3	Competency Based Progression Plan		RA P7. 1.3	No further risk action plan to be implemented	There will be no reporting for the quarter under review.
				CC7 .1.4	Skills Audit		RA P7. 1.4	Finalise the Work skills Capacity Exercise	Action plan completed. The gathering of information for the Work skills Capacity Exercise completed.
				CC7 .1.5	Covid 19 Policy		RA P7. 1.5	Review the COVID-19 Policy	Progress to be reported in quarter 3. Policy to be revised and amended as a Dreaded Disease Policy to be submitted in Quarter 3 to Board for approval.
				CC7 .1.6	Covid 19 Standard Operating Procedure		RA P7. 1.6	No further action plan to be implemented	There will be no reporting for the quarter under review.
				CC7 .1.7	Covid 19 Risk Assessment		RA P7. 1.7	Conduct COVID-19 Personnel Risk Assessment that will inform COVID-19 Policy Stance	Action plan completed
				CC7 .1.8	6-year Training and Development Plan		RA P7. 1.8	Implementation of 2022/23 annual Training Plan	A total of 211 employees have attended various training programmes.
				C F	Dissatisfaction in the Working Environment (e.g.		CC7 .2.1	Employee Benefits Policies	RA P7. 2.1

REF	Risk Title	Contributing Factors		Current Mitigation		RR	Risk Action Plan 2022/2023		Detailed Progress
				Controls					
		7.2	not fitting in with the organisation's culture and inadequate working resources)	CC7 .2.2	Conducted climate survey	RR	RA P7.2.2	No further action plan to be implemented	There will be no reporting for the quarter under review.
				CC7 .2.3	Psychosocial support		RA P7.2.3	Implement Employee Support Programmes	Ongoing Counselling conducted internally by ERWAT inhouse-Occupational Health Nurse Practitioner (OHNP).
				CC7 .2.4	Management Development Program		RA P7.2.4	Implement the Management Development Program	2nd Group of Management Development Program will Commence in January 2023.
		C F 7.3	Individuals not coping with the workload pressure, expectations on individuals not met and career advancement	CC7 .3.1	Personal Development Plans		RA P7.3.1	Review of Personal Development Plans	Action completed.
		CC7 .3.2	Exit Interview as and when a need arise	RA P7.3.2	No further action plan identified		There will be no reporting for the quarter under review.		
ERW 8	Potential delays in the supply and delivery of critical	C F 8.1	Late commencement of bid processes by user department and non-awarded bids that need to go	CC8 .1.1	Supply Chain Management Policy	high	RA P8.1.1	Review of the Supply Chain Management Policy	Action completed.
				CC8 .1.2	SCM Turn Around Time Procedure		RA P8.1.2	No further risk action plan to be implemented	There will be no reporting for the year under review.

REF	Risk Title	Contributing Factors		Current Mitigation		RR	Risk Action Plan 2022/2023		Detailed Progress
				Controls					
	goods and services		through a re-tendering process	CC8 .1.2	ERWAT Procurement Plan		RA P8. 1.2	Review the 2022/23 Procurement Plan for the 2023/2024 FY	Action completed. Procurement Plan is approved and will be updated in Q3 after approval of the adjustment budget.
				CC8 .1.2	SCM Bid Committees		RA P8. 1.2	No further risk action plan to be implemented	There will be no reporting for the year under review.
				CC8 .1.3	SCM Document Movement Control Tracking Register implemented		RA P8. 1.3	No further risk action plan to be implemented	There will be no reporting for the year under review.
		C F 8. 2	Inadequate monitoring of contract term by the user department	CC8 .1.4	Contract Management Register		RA P8. 1.4	Review the contract Management Register	Ongoing Process, it is updated on an as and when required basis.
		C F 8. 3	Limitations set under the delegation of authority	CC8 .1.7	Delegation of authority		RA P8. 1.7	Review of the SCM Delegations of Authority	Progress to be reported in quarter 3.
C F 8. 4	Long lead time to deliver goods/ services due to external factors such as COVID-19,	CC8 .1.9	Critical Suppliers of Goods and Services Register	RA P8. 1.9	Review the Critical Supplies Register	Action plan completed. The Critical Supplier Register reviewed for continuity and contracts are in place for the goods and services identified as critical. The register is updated as and			

REF	Risk Title	Contributing Factors		Current Controls	Mitigation	RR	Risk Action Plan 2022/2023		Detailed Progress
			Rise in Logistics Cyber Attacks, Shortage of supplies & Consumables etc						when goods and services are identified.
ERW 9	Potential loss of the ISO 17025 Accreditation	C F 9. 1	Aging instrumentation, scarcity of spares and discontinuation of instruments could result in loss of the approved testing methods impacting on service delivery both internally and externally	CC9 .1.1	Scheduled maintenance in accordance with ERWAT's Instrumentation maintenance Plan		RA P9. 1.1	No further action plan to be implemented	There will be no reporting for the quarter under review.
		C F 9. 2	Lack of budget for maintenance of the Laboratory building	CC9 .1.2	Ad-hoc minor maintenance by the Maintenance Department on a daily, weekly and monthly basis.	High	RA P9. 1.2	Implementation of building maintenance plans including power supply loads, building/ roof leaks, etc.	To report in quarter 3.

REF	Risk Title	Contributing Factors		Current Mitigation Controls		RR	Risk Action Plan 2022/2023		Detailed Progress
		C F 9. 3	Lack of control of the laboratory internal environmental temperature resulting in temperature fluctuations that are not within the required limits for the instruments to function and unsuitable temperatures for employees to work in.	CC9 .1.3	Environmental Monitoring (daily)		RA P9. 1.3	Install a new Heating Ventilation Air Conditioning (HVAC) system.	Final commissioning and temperature control is still in the process of being optimised.
		C F 9. 4	Power and water supply disruption due to loadshedding and unstable water supply	CC9 .4.1	UPS at the Laboratory on certain instruments and central generator at Head office		RA P9. 4.1	No further action plan to be implemented	There will be no reporting for the quarter under review.
				CC9 .1.2	Maintenance department assist with reporting power and water disruptions.		RA P9. 1.2	No further action plan to be implemented	There will be no reporting for the quarter under review.

REF	Risk Title	Contributing Factors		Current Mitigation Controls		RR	Risk Action Plan 2022/2023		Detailed Progress
				CC9 .1.3	Storage tanks for de-ionised water.		RA P9. 1.3	Review existing emergency water supply capacity	Installation complete
ERW 10	Potential Loss of, and Unauthorised Access Critical Information	C F 1 0. 1	Aging ICT infrastructure leading to higher hardware failure (40% of the Server Hardware has reached end of life support, leading to difficulties in procuring replacement spare, warranties, etc)	CC1 0.1.1	Asset Management Policy, Strategy and Plans		RA P1 0.1	No further action plan to be implemented	There will be no reporting for the quarter under review.
		C F 1 0. 2	Inadequate of cyber security awareness and behaviour	CC1 0.1.2	ICT security awareness program		RA P1 0.2	Develop (31 Dec 2022) and implement an ICT Cybersecurity Awareness Program	Action plan completed.
		C F 1 0. 3	Inadequate Information Security Controls	CC1 0.1.3	ICT Security Policy and Procedures		RA P1 0.3	Development and approval of Standard Operating Procedures, Frameworks and Guidelines: 1. Security Patch Management Standard	1. Developed an SOP for patch management. 2. In the process of developing a guideline for configuration standards" - Progress to be reported in quarter 3.

REF	Risk Title	Contributing Factors		Current Controls	Mitigation	RR	Risk Action Plan 2022/2023		Detailed Progress
								Operating Procedure 2. Security Configuration Standards	
		C F 1 0. 4	Non- adherence to ICT Policies and Procedure	CC1 0.1.4	Disciplinary Procedure Induction Program		RA P1 0.4	Raise Awareness on ICT Policies through quarterly news flash	Flash for Q2 on Call Logging requirements have been circulated.
		C F 1 0. 5	Inadequate maintenance of Assets that are critical to ICT Environment (e.g fire equipment in the server room, air conditioning system, UPS, Power Generators, location of server room, etc)	CC1 0.1.5	Manually Monitoring of Equipment & Environmental Conditions		RA P1 0.5	Implementation of Environmental Monitoring System on temperature and power	Air Conditioning Systems have been serviced for both Production and DR Environment for the quarter under review.
ERW 11	Potential injuries to personnel, visitors and contractors	C F 1 1. 1	Non- Compliance/ disregarding (Knowingly or unknowingly) Occupational Health & Safety	CC1 1.1.1	Occupational Health & Safety Policy	High	RA P1 0.1 .1	a)Review of the Occupational Health & Safety Policy b) Review of the OHS legal appointments	OHS Policy was tabled and approved by the Board Nov.2022.
				CC1 1.1.2	Occupational Health & Safety		RA P1	No further action plan identified	There will be no reporting for the quarter under review.

REF	Risk Title	Contributing Factors		Current Controls	Mitigation	RR	Risk Action Plan 2022/2023	Detailed Progress
		<p>policies and Standard operating procedures. (e.g. Inappropriate use of PPE; )</p>	<p>Procedures (SOPs)            -MS- SOP-SA002 Health and Safety Representative Procedure            -MS- SOP-SA003 Accident Reporting and Investigation Procedure            -MS- SOP-SA004 Permit to Work Procedures            -MS- SOP-SA005 Confined Space Procedure            -MS- SOP-SA006 Excavation Procedure            -MS- SOP-SA007 Wearing of Safety Harness            -MS- SOP-SA008 Fall Protection Plan            -MS- SOP-SA009</p>		<p>0.1 .2</p>			

REF	Risk Title	Contributing Factors		Current Controls	Mitigation	RR	Risk Action Plan 2022/2023	Detailed Progress
					Control of contractors working at ERWAT -MS- SOP-SA0010 HSE Plan			
				CC1 1.1.3	Occupational Health & Safety Committees	RA P1 0.1 .3	No further action plan identified	There will be no reporting for the quarter under review.
				CC1 1.1.4	6-year training plan	RA P1 0.1 .4	Implementation of 2022-2023 OHS Training, in line with the ERWAT wide training plan	<ul style="list-style-type: none"> <li>•29 Delegates attended Emergency Evacuation training Programme on 27-28 October 2022</li> <li>•33 Delegates attended SHE Rep training Programme on 25-26 October 2022</li> </ul>
				CC1 1.1.5	Safety Awareness Program (Central Safety Meetings, District safety meeting & Tool box talks)	RA P1 0.1 .4	Conduct Medical surveillance	Counselling conducted internally by the ERWAT In-house nurse. No vaccinations were reported for the period under review.
				CC1 1.1.6	Safety Induction	RA P1 0.1 .4	No further action plan identified	There will be no reporting for the quarter under review.

REF	Risk Title	Contributing Factors		Current Mitigation		RR	Risk Action Plan 2022/2023		Detailed Progress
				Controls					
		C F 1 1. 2	Deteriorating workplace condition due to inadequate maintenance	CC1 1.1.7	2022/2023 Maintenance Plan	RR	RA P1 0.1 .4	No further action plan identified	There will be no reporting for the quarter under review.
				CC1 1.1.7	Medical Surveillance policy		RA P1 0.1 .4	Review of the Medical Surveillance Policy to incorporate Compulsory medical examination as part of recruitment process and period medicals for high risk employees	The policy is under review. Inputs into policy has been obtained from service provider.
		C F 1 1. 3	Unauthorised entry to ERWAT properties with the aim of Vandalising, theft,(armed robberies)	CC1 1.1.9	Security Services Policy		RA P1 0.1 .4	No further action plan identified	There will be no reporting for the quarter under review.
				CC1 1.1.1 0	Security Services Standard Operating Procedure -Security Operations Room Procedure -Security Systems Procedure -Trespass procedure		RA P1 0.1 .4	Implementation of Security Awareness Program	To be reported in quarter 3.

REF	Risk Title	Contributing Factors		Current Controls	Mitigation	RR	Risk Action Plan 2022/2023	Detailed Progress	
					-Guarding Procedure -Incident Reporting Procedure				
				CC1 1.1.1 1	Security Induction Program		RA P1 0.1 .7	No further action plan identified	There will be no reporting for the quarter under review.

## **7. Legislative (only if applicable to your department)**

Compliance with legislation that applies to the entity is critical to the existence and operations of ERWAT. Management and the board has identified and prioritised seven (7) key legislation for monitoring. Compliance risk management plans are developed to ensure that all the risks are mitigated. Any changes to legislation is aligned with internal policies and processes The Regulatory Landscape consist of the following

1. Companies Act 71 of 2008
2. Municipal Systems Act 32 of 2000
3. National Water Act 36 of 1998
4. National Environmental Management Act
5. Municipal Finance Management 56 of 2003
6. Labour Relations Act 66 of 1995
7. Occupational Health and Safety Act 85 of 1993
8. Disaster Management Act 57 of 2005

## 8. Key Audit Matters and Progress

ERWAT obtained a qualified audit opinion from the AGSA for the 2020/2021 financial year

Eleven (11) findings were included in the Management Report, of which six (6) were audit report items. Of these eleven (11) findings, seven (7) have been resolved to date (30 June 2022).

No.	Finding Heading	Status	Action plan
1	Fruitless and wasteful expenditure not prevented	Resolved	<ul style="list-style-type: none"> <li>a) Improved cash flow Management procedures. SOPs have been developed and implemented in this regard, these are currently being audited by internal audit in their follow-up audits.</li> <li>b) Re-configuration of the system to ensure it involved little manual intervention. This project is being implemented with BCX and tracked on a weekly basis.</li> <li>c) Continuous awareness on cyber-attacks being communicated via company news flashed.</li> <li>d) Improved procedures implemented when performing changes to the employee details, including a signed form by employee, stamped bank confirmation letter with employee's ID and details, as well as approval from HR and CFO</li> </ul>
2	Irregular expenditure not prevented	Unresolved	<p><b>03/01/2023</b></p> <ul style="list-style-type: none"> <li>a) SCM is currently reviewing the SCM Policy and a few SOP's. The draft Contract Management Policy will also be presented at EXCO and A new deviation register has been developed and will be updated on as and when required basis to ensure that there are no duplications on the reporting side.</li> </ul>
3	Assets not adequately tagged	Unresolved	<p><b>03/01/2023</b></p> <ul style="list-style-type: none"> <li>a) The target of tagging 3000 assets in quarter 1 has been met. Tagging of 3000 assets were targeted for quarter 2 and has been met. The balance of 4000 will be finalised by end of Q3.</li> </ul>
4	Consistency of reporting of % target on Maintenance KPI	Resolved	<ul style="list-style-type: none"> <li>b) Continuous review of the approved business plan against reported targets.</li> </ul>
5	ICT control deficiencies	Resolved	<ul style="list-style-type: none"> <li>a) Obtained appropriate approval for policies (Approved by the board).</li> </ul>
6	Appropriation statement	Resolved	<ul style="list-style-type: none"> <li>a) Implementation of Adequate segregation of duties to ensure proper reviews are performed on the AFS</li> </ul>

	differences – Resolved		before being submitted to the AGSA for audit purposes. b) Filling of vacancies in order to allow for appropriate reviews. This process has commenced.
7	Deviations not in line with regulation 36	Unresolved	<b>03/01/2023</b> a) The SCM Contract Management Policy will be presented at the next EXCO sitting. The Solar Contract Module is active, however challenges have been experienced and are currently being addressed. All active contracts have been capture and only the new approved contracts will be captured. A new deviation register has been developed and will be updated on as as and when required basis to ensure that there are no duplications on the reporting side.
8	CAPEX expenditure differences on reporting	Resolved	a) Continuous review of the approved business plan against reported targets.
9	Maintenance expenditure differences on reporting	Resolved	a) Continuous review of the approved business plan against reported targets.
10	Irregular expenditure Disclosure	Unresolved	<b>03/01/2023</b> a) Management will enhance the AFS review process to ensure accuracy and completeness.
11	Consequence management	Unresolved	<b>03/01/2023</b> a) 2018/2019 investigations into irregular expenditure report was completed on 14/02/2022 by COE internal Audit. b) Disciplinary hearings to be held by quarter 4.