



*Water! Today, Tomorrow*

**ANNUAL REPORT AND  
FINANCIAL STATEMENTS**

36<sup>th</sup> Edition









# ANNUAL REPORT AND FINANCIAL STATEMENTS FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2023



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## MESSAGE FROM THE CHAIRPERSON



### Preamble

I am delighted to present the 2023 Zambezi River Authority Annual Report which showcases the Authority's significant achievements in fulfilling its mandate. Our mandate is to harness the resources of the Zambezi River in order to drive economic, industrial and social development in the Contracting States. We strive to maximize the benefits of this natural asset through efficient and cost-effective management thereof by providing water for electricity generation and other purposes that benefit the Contracting States.

This report highlights our progress in achieving these goals and our commitment to sustainable development.

The year started with a record low Lake level of 475.60m, resulting in 0.77% of water being available for power generation. This was mainly due to over-utilisation of the allocated water by the Utilities, ZESCO Limited and Zimbabwe Power Company (ZPC).

As I present this report for the year 2023, I am pleased to announce that the Authority's continued engagement with both Power Utilities resulted in their strict adherence to the utilisation of the water allocated until the close of the period under review.

### Budget Performance Review

The Council of Ministers approved a budget in the sum of **US\$20.76 million** for the year 2023. The Authority's operating income, however, was **US\$20.71 million**, resulting in an adverse variance of **US\$0.05 million** or **0.25%** of the budget. On the other hand, the Authority's operating expenditure was **US\$15.71 million** against a budget of **US\$27.58 million**, resulting in a variance of **US\$11.87 million** or **43%** of the budget. This was primarily occasioned by reduced Project Management costs relating to key projects such as the Batoka Gorge Hydro - Electric Scheme (BGHES) that did not take off as planned.

### Dam Safety and Maintenance of Kariba Dam

During the period under review, various dam safety inspections were undertaken which included the collection of data and analysis thereof. In addition, maintenance activities were executed in accordance with the standing operating procedures as well as the implementation of several five-yearly inspection recommendations. It is encouraging to note that the results of these activities indicated that the dam exhibited normal responses and behavior that was consistent with the prevailing loading conditions. The dam proved resilient and was not adversely impacted by the dewatering and excavation works of the Plunge Pool which is located downstream of the dam wall.

### Kariba Dam Rehabilitation Project (KDRP)

By the end of the year 2023, the Plunge Pool Reshaping works were 94% complete. Excavation works were completed in December 2023 while the Fault Treatment works were scheduled to commence at the beginning of 2024 after which the Plunge Pool rewatering would commence.

The Spillway Refurbishment works were almost 68% complete by the end of the reporting period. Offsite manufacturing of the emergency gate and the gantry crane required for the operations of the spillway facility after completion of the project were progressing well in China and South Africa respectively, while the mobile crane was delivered to the project site in November 2023. In addition, procurement of a tractor and trailer were ongoing with delivery expected during the first quarter of 2024. The Spillway Refurbishment works are expected to be completed by the end of the first quarter of 2025.





## Hydrological Outlook and Reservoir Operations at Kariba

It is noteworthy that climate variability has been compromising the accurate predictions of inflows into the Lake. While the 2022/2023 rainfall season was projected to be normal to above normal, the actual performance recorded was normal to below normal. As a result, the water allocated to be shared equally between the two Power Utilities, ZESCO Limited and Zimbabwe Power Company (ZPC) was reduced from 40 Billion Cubic Meters (BCM) to 30 BCM.

### Lake Levels at Kariba

I am elated to highlight the fact that both Power Utilities utilised water within their respective 15 BCM of water allocated. As of 31<sup>st</sup> December 2023, the Power Utilities had cumulatively utilised 29.88 BCM, which translated to 99.59% of their combined 2023 water allocation. The continued weekly tripartite meetings between the Authority on the one hand and the Power Utilities on the other hand were fruitful as the latter adhered to their generation plans meant to ensure that the utilisation of water did not exceed their respective allocations. Consequently, the end of year closing lake level on 31<sup>st</sup> December 2023 was 477.23m translating to 12% of live storage.

### Implementation of the 2400MW Batoka Gorge Hydro-Electric Scheme (BGHES)

By the end of 2023, key milestones regarding the execution of the BGHES had been achieved. Following the Council of Ministers resolution passed at its 39<sup>th</sup> meeting held in December 2021 to competitively retender the project, Cabinet approval was granted by the two Contracting States to proceed with the disengagement with the Developer, the consortium of Power China and General Electrical (GE).

A technical meeting involving the African Development Bank (AfDB); African Legal Support Facility; the Governments of Zambia and Zimbabwe; the Zambezi River Authority; ZESCO Limited and ZESA Holdings on the Development of the BGHES was held in South Africa in January 2023. The outcome of the technical meeting assisted in the formulation of a roadmap that will make the BGHES project become bankable. I am optimistic that with the engagement of the AfDB, the much-anticipated project will be executed within a satisfactory timeframe.

### Execution of the Devil's Gorge Hydro-Electric Scheme (DGHES)

Tractebel Engineering of France (Tractebel) was engaged on 5<sup>th</sup> September 2023 as the Consultant to undertake prefeasibility studies for the implementation of the DGHES. By December 2023, Tractebel had completed and shared the initial draft inception report. The studies are scheduled to be completed by the end of the first quarter of 2025.

### Diversification of Sources of Energy

Cognisant of the need to diversify the sources of energy and to increase the Authority's contribution in respect of clean energy generation sources in line with the United Nation's Sustainable Development Goal number 7 as well as the Contracting States' respective National Energy Policies, the Authority's Council of Ministers approved the implementation of a Floating Solar Photo Voltaic power plant as a single, bilateral project to be implemented by the Authority. It is anticipated that the procurement of a consultant to undertake prefeasibility studies for this project will be completed during the second quarter of 2024.

### Execution of Projects under the Zambezi Valley Development Fund (ZVDF)

Efforts to ensure access to social amenities by the Riparian Communities that were displaced during the construction of the Kariba Dam and relocated to ten districts in Zambia and Zimbabwe continued throughout the year 2023. Projects which were being implemented ranged from water supply and irrigation schemes to construction of clinics and classroom blocks, among others. It is envisaged that six completed projects in





both Contracting States would be commissioned in 2024. During the reporting period, **US\$ 424,039.00** was expended on the various ZVDF projects in both countries.

### Enhancement of the Authority’s Corporate Image: Media Coverage

The Authority continued to enjoy positive corporate reputation. Of over 300 articles regarding the Authority that were published in various media, most of them were generally objective and positive. On the Authority’s owned media platforms, over 3 million people were reached, with data analysis indicating that the Authority continued to increase its digital footprint across the globe. While the numbers were impressive, it is envisaged that the Partner and Client Satisfaction Survey which was commissioned towards the close of 2023 would assist the Authority to determine a baseline satisfaction index that would guide stakeholder engagement initiatives.

### Financial Situation

The Power Utilities’ Trade Receivables increased from **US\$85.39 million** in 2022 to **US\$90.13 million** in 2023, representing an increase of **6%**. On the other hand, I am pleased to report that the unliquidated balance on the restricted cash in Zimbabwe was **US\$5.3 million**, representing 43% decrease over the previous year’s balance which stood at **US\$10.20 million**. This resulted in the total amount owed by the Power Utilities and restricted cash being **US\$95.93 million**.

### Changes in Corporate Governance

The Authority’s Corporate Governance Structure saw new appointments being made in 2023, at both Council of Ministers (COM) and Board levels.

In September, Hon. Edgar Moyo, MP, was appointed as Minister of Energy and Power Development in Zimbabwe, succeeding Hon. Zhemu Soda, MP, who was reassigned to the Ministry of National Housing and Social Amenities.

Meanwhile, Eng. Himba Cheelo was appointed Permanent Secretary (Technical Services) for Zambia’s Ministry of Energy, taking over from Dr. Francesca Chisangano- Zyambo, who was reassigned as Permanent Secretary (Administration). In October, I was appointed Permanent Secretary (Technical Services) for Zambia’s Ministry of Energy and hence also appointed Board Chairperson, as Zambia held the chairpersonship for that year.

### Acknowledgments

With support from cooperating partners, stakeholders, Management and employees, the Authority remains committed to enhancing the economic and social lives of the peoples of the two Republics.

**Mr. Peter Mumba**  
Board Chairperson  
Permanent Secretary (Technical Services) - Ministry of Energy, Zambia





**ZAMBEZI RIVER AUTHORITY**

# **PROFILE**





# ZAMBEZI RIVER AUTHORITY PROFILE

The Zambezi River Authority was established as a body corporate on 1<sup>st</sup> October 1987 by parallel legislation in the Parliaments of Zambia and Zimbabwe following the reconstitution of the Central African Power Corporation (CAPCO).

The Authority is jointly and equally owned by the governments of Zambia and Zimbabwe.

The Authority’s primary function is to operate, maintain, monitor and regulate the water level in the Kariba reservoir. It is also mandated to construct, operate, monitor and maintain any other dams on the stretch of the Zambezi River that constitutes a common border between the two countries and to collect, accumulate and process hydrological and environmental data of the Zambezi River for better performance of its functions and for any other purpose beneficial to the Contracting States.

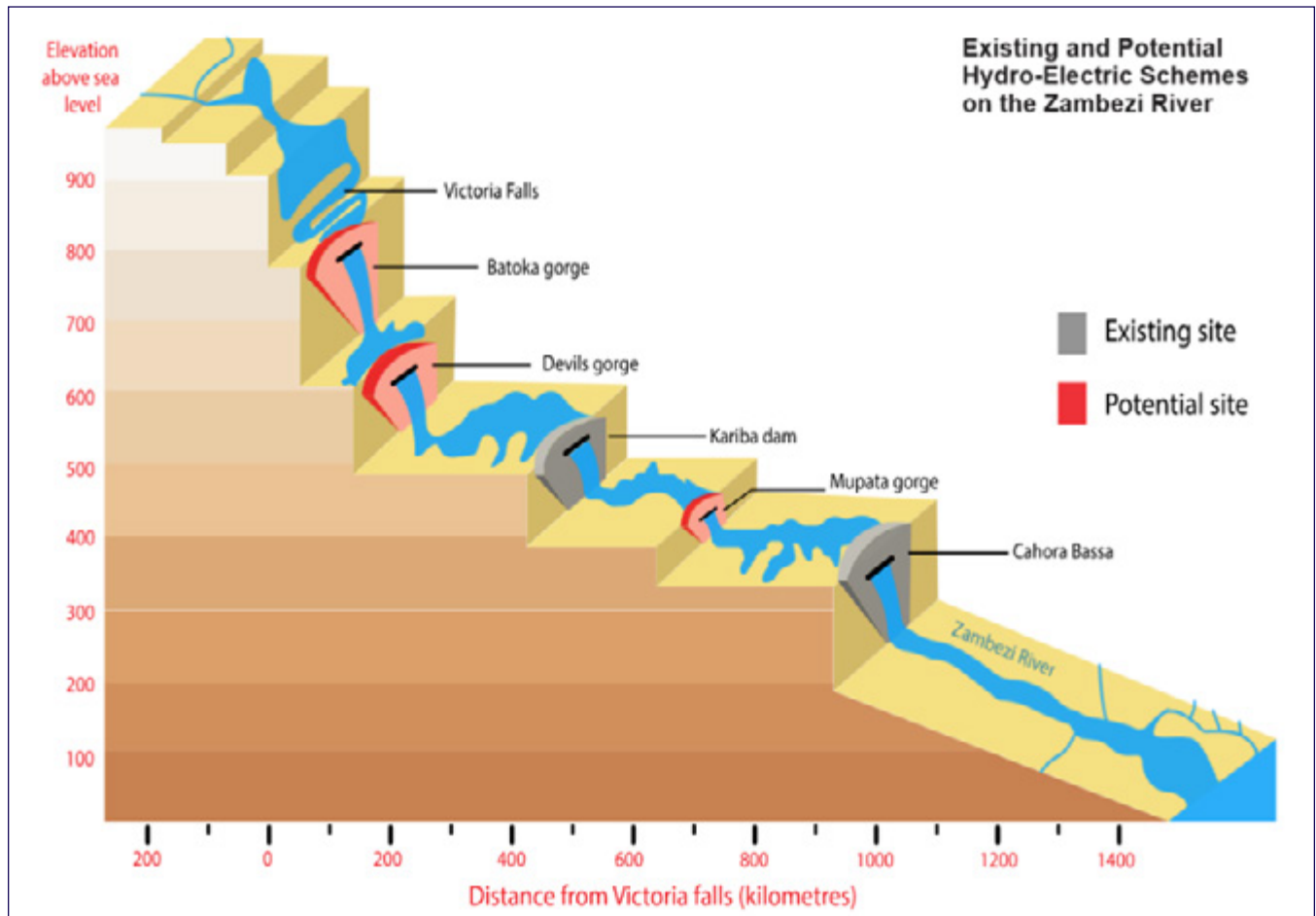


The Authority is the only dam management organisation serving two states within the Zambezi River basin. The Authority generates its revenue from the sale of water from the Kariba Dam which is used for power generation by ZESCO Limited in Zambia and Zimbabwe Power Company (ZPC) in Zimbabwe.



## EXISTING AND POTENTIAL HYDRO-ELECTRIC POWER SITES ON THE ZAMBEZI RIVER

The image below shows the existing Hydro-Electric Power Scheme, the Kariba Complex, as well as the envisaged ones being the Batoka Gorge, the Devil's Gorge and Mupata Gorge Hydro-Electric Schemes.



## INTEGRATED RESULTS BASED MANAGEMENT (IRBM) ALIGNED 2020-2024 CORPORATE STRATEGIC OBJECTIVES

1. To increase water storage volume on the Zambezi River Basin catchment under the Authority's jurisdiction from the current 181 billion cubic metres to 182.65 billion cubic metres by 2024
2. To improve corporate governance and compliance from 86% to 98% by 2024.
3. To increase access to sustainable social- amenities in the Riparian Communities by US\$1.2million by 2024.
4. To reduce the negative variance between actual and forecasted volume of water allocated for power generation from 10% to 3% by 2024.
5. To reduce resistance to change by 50% annually from baseline to be established by December 2020.
6. To increase the partnership satisfaction index by 10% annually from baseline to be established by December 2020.
7. To improve the client satisfaction index from 60% to 98%.
8. To improve organisational performance by 10% annually from the baseline to be established by December 2020.
9. To improve the Acid Test Ratio from 3% to 75% by 2024.
10. To increase Non-Traditional Revenue Growth from 1.5% to 2.5% of Operating Revenue by 2024.






**OUR MISSION**

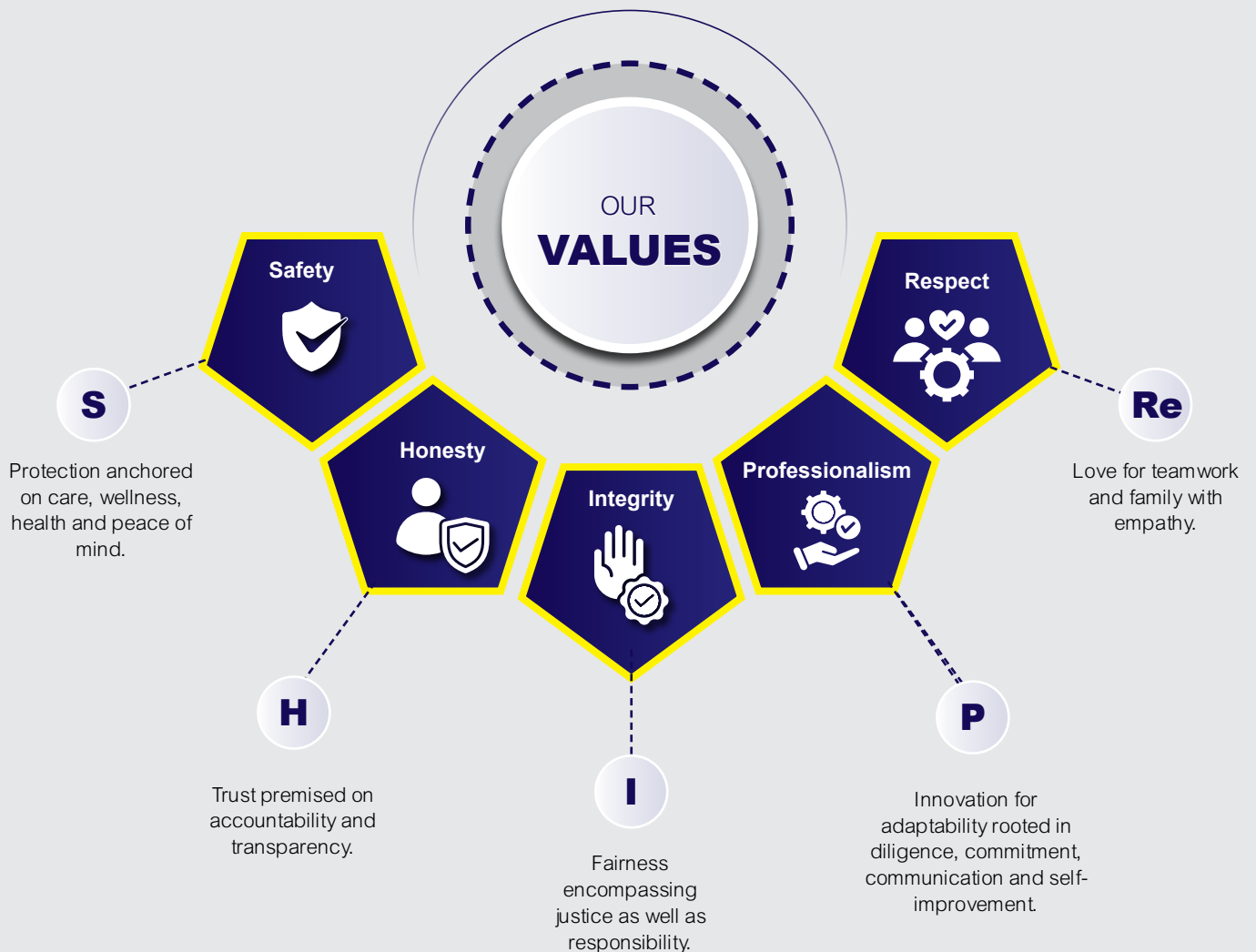
To encapsulate safety, professionalism and respect in harnessing the water resource for socio-economic development, exhibiting integrity through honesty.



**OUR VISION**

To be the model organisation in dam and water resources management in the Zambezi River basin.

In order to assist employees to internalise the organisation’s core values, an acronym for the values - SHIPRe - was devised.





## COUNCIL OF MINISTERS

The Zambezi River Authority is governed by a Council of Ministers (COM) consisting of four Ministers, two of whom represent the Government of the Republic of Zambia while the other two represent the Government of the Republic of Zimbabwe.

The ministers designated as members of COM are those who hold the portfolios of Energy and Finance in the Contracting States.

According to the Zambezi River Authority Acts, the Chairpersonship of COM is held alternately by the Ministers responsible for Energy in the Governments of the Republics of Zambia and Zimbabwe. For the year under review, Zambia held the Chairpersonship of COM.



**Hon. Peter Chibwe Kapala**

COM Chairperson  
Minister of Energy, Zambia



**Hon. Edgar Moyo, MP**

COM Co-Chairperson, Minister of Energy and Power Development, Zimbabwe  
(Appointed on 11<sup>th</sup> September, 2023)



**Hon. Zhemu Soda, MP**

Reassigned on 11<sup>th</sup> September 2023 from Ministry of Energy and Power Development to Ministry of National Housing and Social Amenities, Zimbabwe



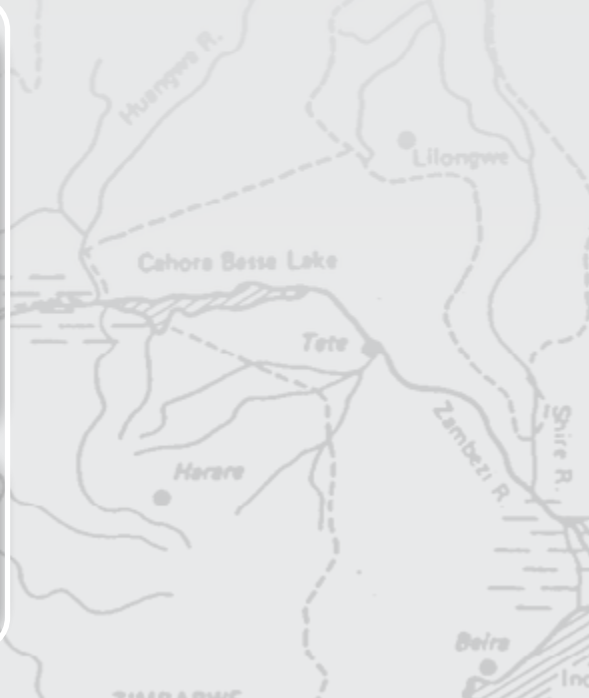
**Hon. Dr. Situmbeko Musokotwane, MP**

Minister of Finance and National Planning, Zambia



**Hon. Prof. Mthuli Ncube, MP**

Minister of Finance, Economic Development and Investment Promotion, Zimbabwe








# THE BOARD OF DIRECTORS

The Authority’s Board of Directors comprises two Permanent Secretaries with the Energy portfolios and two Permanent Secretaries with the Finance portfolios in the two Contracting States. In addition, the Board also comprises one independent member from each Contracting State. The Board is chaired alternately by the Energy Permanent Secretaries.



**Mr. Peter Mumba**

*BA Industrial Psychology and Business Administration; MSc Human Resource Development and Adult Education*

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**Board Chairperson**  
Permanent Secretary (Technical Services) - Ministry of Energy, Zambia.  
*(Appointed: 12<sup>th</sup> October, 2023)*



**Eng. Himba Cheelo**

Reassigned as Permanent Secretary to Ministry of Fisheries, Zambia.




**Dr. Gloria S. Magombo**

*Pr. (Eng.); FZIE; MSc Mechanical Eng.; MBA, PhD (Hon.)*

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**Board Co-Chairperson**  
Secretary - Ministry of Energy & Power Development, Zimbabwe



**Mr. Danies Chisenda**

*BSc (Hons) Economics; MSc Development Economics*

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**Permanent Secretary**  
Ministry of Finance and National Planning, Zambia



**Dr. Chisangano F. Zyambo**

Reassigned as Permanent Secretary (Administration), Ministry of Energy, Zambia.



**Mr. George T. Guvamatanga**

*ACI; Dip. Banking; MBA Banking.*

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**Secretary**  
Ministry of Finance, Economic Development and Investment Promotion, Zimbabwe



**Eng. Bernard Chiwala**

*BEng. Civil Engineering, MBA*

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**Independent Board Member,**  
Zambia



**Eng. Israel Rwodzi**

*Pr. (Eng); FZWeE; MZA/GE; BSc (Hons) Civil Eng; Hon. Doc. Eng*

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**Independent Board Member,**  
Zimbabwe



## SUMMARY OF THE BOARD CHARTER



*Zambia hosted the December 2023 Council of Ministers (COM) meeting in Livingstone. Pictured are esteemed members of the Council, that gathered to discuss key issues meant to foster cooperation among the two Contracting States.*

The Authority recognizes the importance of adopting and practicing good Corporate Governance in its business operations. To this end, the Authority subscribes to and actively champions, the principles of sound corporate governance and always strives to ensure that the principles of fairness, transparency and accountability inform all its business decisions.

The Authority's Board of Directors (the Board), in terms of the Zambezi River Authority Acts, Chapters 467 and 20:23 (the ZRA Acts) of Zambia and Zimbabwe, respectively, is responsible for the policy, control and management of the Authority. The Board, in the discharge of its aforesaid statutory functions, recognizes that there is a contribution that good Governance and attendant procedures could make to the Authority, particularly in enhancing its performance and efficient utilization of resources; further cementing of stakeholder relations and increasing its prospects of access to local, regional and international capital as well as hedging against reputational and investment risks. It is this recognition that motivated the Board to adopt the Board Charter as one of the Authority's several strategic interventions aimed at placing the Authority as one of the leading good Corporate Governance champions in the Water and Energy sector within the region and beyond.

The Board Charter is molded around fostering the following principles in the discharge of business operations by the Authority: Transparency; Accountability; Honesty; Integrity and Fairness. Inherent in these principles and elaborated more within the provisions of the Board Charter are good ethical conduct, avoidance of conflict of interest, Corporate Social Responsibility as well as compliance to regulatory and statutory provisions.

### REMUNERATION AND COMPENSATION POLICY FOR BOARD MEMBERS

The Remuneration and Compensation Policy is provided for in the Board Charter as follows: -

- a. Each member of the Board shall be paid out of the funds of the Authority such remuneration and allowances, if any, as the Council of Ministers may determine.
- b. Currently, Board Members are paid a quarterly fee determined and approved by the Council of Ministers and a variable fee per each meeting. The Chairperson and the Co-Chairperson are paid amounts which are higher than the rest of the Members to compensate for the increased responsibilities that they perform.
- c. In addition, a fixed sum subsistence allowance is paid to Board Members when they attend meetings held outside their home towns.

### REMUNERATION AND COMPENSATION FOR THE YEAR 2023

The total remuneration and compensation availed to Board members during the year 2023 was **US\$ 99,348.70.**





## BOARD COMMITTEES

The Board recognises that in this global and complex business environment, demand on the Board's time continues to increase thereby necessitating the need to delegate issues to specialist Board Committees. In this regard, the Board Charter in Articles 26, 27 and 28 provides for the establishment of three (3) Board Committees as follows:

### a. Finance, Human Resource and Remuneration

This Committee has been charged with the prime responsibility of reviewing accounting systems and financial reporting to safeguard the Authority's assets; monitoring the competence with which the Budget activities are carried out and recommending to the Board measures that would ensure the Authority's continued viability. The Committee has also been mandated to review and recommend to the Board, comprehensive policies and strategies relating to the remuneration and terms and conditions of employment for employees, succession planning, training and development and separations. Further, the Committee has been charged with the prime responsibility of reviewing and recommending Executive Management employees' and Director's remuneration policies by ensuring that such policies remain relevant in attracting, retaining and motivating both Executive Management employees and Directors. The Committee comprised the following members:

| NAME   | MEETINGS ATTENDED | NOTES |
|--|-------------------|-------|
| <b>Mr. Danies K. Chisenda</b><br>Permanent Secretary, Ministry of Finance and National Planning – Zambia                     | 4/4               | None  |
| <b>Mr. George T. Guvamatanga</b><br>Secretary, Ministry of Finance, Economic Development and Investment Promotion – Zimbabwe | 4/4               | None  |

### b. Audit, Risk Management and Corporate Governance

This Committee reviews accounting systems and financial reporting to safeguard the Authority's assets, monitors the competence with which external audits are carried out and ensures that the Auditor's recommendations are given due consideration.

In order to improve performance, the Board is required to understand how to better manage risk. The Committee is therefore charged with the duty and responsibility of ensuring that the Authority has appropriate risk management systems and that the Board understands the key risk factors, their likely impact on Authority operations as well as how well the risk mitigation factors are working.

Further, the duty and responsibility of the Committee in relation to Corporate Governance is to ensure sound corporate governance structures and systems in the Authority, consider and deliberate on matters relating to the Board and individual Board Members, including appointments, induction, training and development and Board Procedures. The Committee comprised the following members:



| NAME   | MEETINGS ATTENDED | NOTES |
|--|-------------------|-------|
| <b>Eng. Bernard Chiwala</b><br>Independent Board Member -Zambia    | 4/4               | None  |
| <b>Eng. Israel Rwodzi</b><br>Independent Board Member – Zimbabwe   | 4/4               | None  |
| <b>Dr. David Kalaba</b><br>Independent Committee Member – Zambia   | 4/4               | None  |
| <b>Ms. Tariro Mhuka</b><br>Independent Committee Member – Zimbabwe | 4/4               | None  |

### c. Technical and Projects

This Committee is mandated to discharge the prime responsibility of reviewing technical issues arising from the two (2) engineering departments of the Authority being the Projects and Dam Management Services Department and the Water Resources and Environmental Management Department, including reports issued by the Authority's consultants. The Committee also makes necessary recommendations to the Board on all technical issues.

#### The Committee had the following members:

| NAME   | MEETINGS ATTENDED | NOTES   |
|--|-------------------|---|
| <b>Eng. Bernard Chiwala</b><br>Independent Board Member -Zambia                              | 4/4               | None  |
| <b>Eng. Israel Rwodzi</b><br>Independent Board Member – Zimbabwe                             | 4/4               | None  |
| <b>Eng. Victor Mapani</b><br>Managing Director, ZESCO Limited – Zambia                       | 1/4               | <b>Proxies:</b><br>2 <sup>nd</sup> Meeting - Eng. Wesley Lwiindi.<br>3 <sup>rd</sup> Meeting - Eng. Justin Loongo.<br>4 <sup>th</sup> Meeting - Eng. Justin Loongo. |
| <b>Eng. Washington Mareya</b><br>Acting Managing Director, Zimbabwe Power Company - Zimbabwe | 1/4               | <b>Proxy:</b><br>Eng. Nobert Matarutse attended the outstanding meetings.   |





## EXECUTIVE MANAGEMENT COMMITTEE



**Eng. Munyaradzi C. Munodawafa**

**Chief Executive**



**Mr. Peter Kapinga**

**Board Secretary/Corporate Services  
Director**



**Mr. Edward M. Kabwe**

**Director – Finance**



**Eng. Sithembinkosi Mhlanga**

**Director  
Projects and Dam Management Services**



**Eng. Christopher Chisense**

**Director  
Water Resources & Environmental  
Management**





# **STRATEGIC REPORTS**

**GROUPED PER KEY RESULT AREA**



## KRA 1: DAM, WATER RESOURCES AND ENVIRONMENTAL MANAGEMENT



*Authority Engineers conducting an inspection of the dam safety instruments inside one of the adits at the Kariba Dam.*

### 1.1. Dam Safety Management

Dam Safety Management focuses on the monitoring and maintenance of Authority-owned dam infrastructure on the Zambezi River.

#### 1.1.1 Dam Safety Monitoring

Dam safety monitoring consists of various activities that are performed on dams meant to detect and remedy anomalous behaviours before they translate into safety deficiencies that may lead to failure or collapse of dams. In this regard, the Authority carried out various surveillance and monitoring (S&M), inspections, operations and maintenance (O&M) activities in compliance with the provisions of the Standing Operating Procedures (SOP) and Five-Yearly Inspection recommendations. This report, therefore, provides assurance that the Kariba Dam continues to be managed in strict adherence to best practises where dam safety is prioritised and associated risks are managed in accordance with the as-low-as-reasonably-practicable (ALARP) principles for the protection of communities, the environment and economies should an unexpected release of water occur.

**Major highlights and achievements recorded during the year include the following:**

- a. Operation of floodgates 2, 5 and 6 to facilitate the implementation of the Kariba Dam Rehabilitation Project (KDRP) activities under the Plunge Pool Reshaping and Spillway Refurbishment Works of the project.
- b. Installation of new and rehabilitation of old electrical circuitries and light fittings in PS1 and PS2 shafts and adits 1315, A and 1440.
- c. Fabrication and installation of handrails along steep slopes on the south bank and plinth along the thrust block between galleries F and E.
- d. Construction of a retaining and slope protection wall along the hairpin bend.
- e. Repair of deteriorated south bank surface seals by stone pitching, general cleaning of dam galleries, shafts, adits and the removal of guano and calcite-build ups.

Data was collected and analysed from all twenty-six (26) instrumentation sets including additional measurements that were recorded twice daily to monitor the response of the dam to the dewatering activities of the KDRP. In addition, various O&M activities were executed in line with the Authority's mandate and strategic objectives. In this regard, the following achievements were recorded:



- a. A compliance level of 94.43% against a target of 92% in respect of the implementation of S&M activities of data collection and analyses as well as dam inspections in accordance with the SOP.
- b. A compliance level of 76.71% against a target of 75% in respect of the implementation of the O&M plan in accordance with the SOP.

### 1.1.1.1 Dam Safety Programme Dashboard

The dashboard below provides an overview of the achievements measured against the SOP, hence indicating the status of the Kariba Dam. The dashboard gives a qualitative indication of the levels of implementation of the S&M and O&M elements of the dam safety programme and overall risk profile of the dam failure modes. The arrows indicate whether the status is improving, deteriorating or remained unchanged.

|  |               |   |
|--|---------------|---|
| <b>Risk Profile and Issues Management</b>  | <b>G</b><br>→ | <p><b>Risk Profile:</b> The aggregated risk profile remained high but unchanged during the year, with a major milestone of plunge pool excavation achieved.</p> <p><b>Programme Non-Conformances:</b> None.</p> <p><b>New and Current Issues:</b> None. Implementation of the KDRP continued with the aim of reducing high-risk probable failure mode to acceptable levels in accordance with recommended actions. The monitoring of the behaviour of the dam continued during the execution of the rehabilitation works.</p> |
| <b>Surveillance and Monitoring</b>         | <b>G</b><br>↑ | <p><b>Dam Inspections:</b> All scheduled monthly and bi-annual dam inspections were completed as per the SOP requirements.</p> <p><b>Data Collection and Analysis</b> Data was collected and analysed from various monitoring instruments in accordance with the SOP. Further, data was collected twice daily from selected instruments in order to timeously detect any abnormal behaviour during the implementation of the KDRP works.</p>  |
| <b>Operations, Maintenance and Testing</b> | <b>G</b><br>↑ | <p><b>Civil Maintenance:</b> All the planned civil maintenance and recommended Five-Yearly Inspection works were carried out in accordance with the SOP.</p> <p><b>Electro-mechanical and Floodgates:</b> Floodgate nos. 2, 5 and 6 were successfully operated to facilitate execution of the KDRP works.</p>   |
| <b>Legend:</b>                             | <b>G</b>      | All Dam Safety programme areas are implemented to a satisfactory level. Minor, isolated issues may exist but not deemed to be indicative of deteriorating dam safety performance.   |
|  | <b>Y</b>      | One or more areas within the programme elements exhibit or are at risk of underperformance and are being monitored.   |
|  | <b>R</b>      | One or more areas within the programme elements exhibit unsatisfactory performance and require correction.  |
|  | ↑             | Status of the programme elements improved over the reporting period.  |
|  | →             | Status of the programme elements was unchanged over the reporting period.   |
|  | ↓             | Status of the programme elements deteriorated over the reporting period.  |

Table 1: Dam Safety Programme Dashboard



A “high risk” priority was maintained during the year, indicating that there were no changes on the overall condition and state of the dam. Although a major milestone and completion of the excavation and reshaping of the plunge pool was achieved in December 2023, this risk profile recognises that significantly high public safety, environmental and economic damage would result from uncontrolled release of water from the dam. It is expected that serviceability of the spillway floodgates and the overall dam safety risk profile will be restored and reduce, respectively, at completion of the KDRP works.

### 1.1.2 Surveillance and Monitoring

Various surveillance and monitoring activities of data collection, treatment and analyses from the instrumentation and dam inspections were carried out during the year. Analyses of the results showed no abnormal behaviour of the dam and abutment structures.

#### 1.1.2.1. Dam Pendulums

Six sets of pendulums with thirty-one (31) reading tables were installed to monitor deflections along true vertical lines at various locations in the dam. The pendulums have been in operation since 1989 and now form part of the most important set of instruments that are used to monitor deflections and therefore, dam behaviour.

Results of the time history radial displacements at the crest of the dam are shown in Figure 1. The global trend of deflections towards the downstream measured approximately ~3 mm until about July 2023, followed by a stable transition throughout August before the displacements reversed when the deflections were predominantly towards the upstream until the end of the year in response to the increasing or receding reservoir water levels, respectively. This behaviour is consistent with historical observations under similar seasonal air temperature and hydrostatic loading.

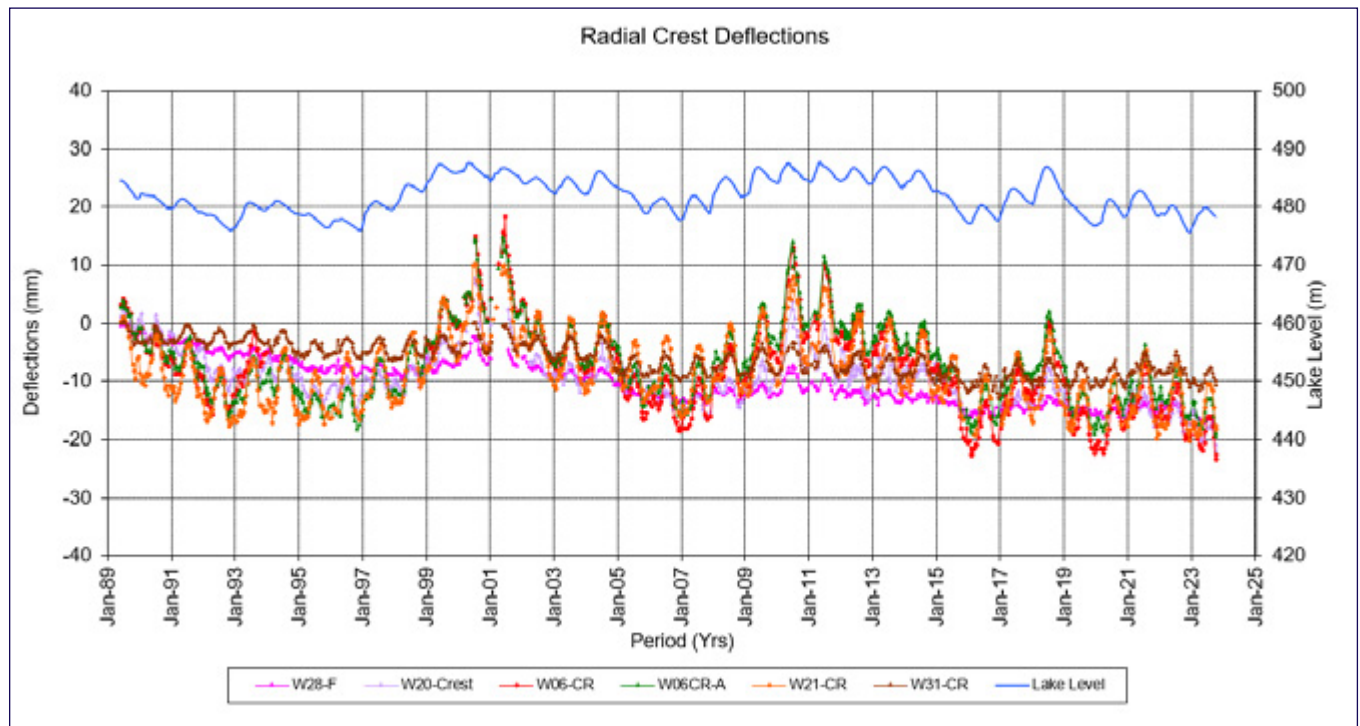


Figure 1. Deflections measured at the various locations during the year 2023.

The radial displacements measured from the two centrally located pendulums W05 and W06 are presented as a function of reservoir (left) and plunge pool water level (right) in Figure 2. Based on the analyses of the results, the displacements appear to be predominantly influenced by the reservoir



water level than the dewatering and change of water level in the plunge pool. This is observed from the measured displacements that were predominantly towards the downstream during the first stage of dewatering to approximately 8m below the normal operating tail water levels. Contrast this with the behaviour measured during the next stage of dewatering when the plunge pool was dewatered 24m below normal tail water level at 460 meters above sea level (masl); the deflections at the crest of the dam were predominantly towards the upstream. This contrasting behaviour was also measured during the next stage of dewatering when the plunge pool water level was lowered to 352 masl and the deflections at the crest of the dam tended to stabilise before inverting again towards the downstream. This confirmed that the dam behaviour measured from the pendulums at the crest was not or was barely influenced by the changes in the plunge pool water levels but rather, the behaviour of the dam was largely influenced by the seasonal variations of the reservoir water levels, coupled with the changing ambient air temperatures.

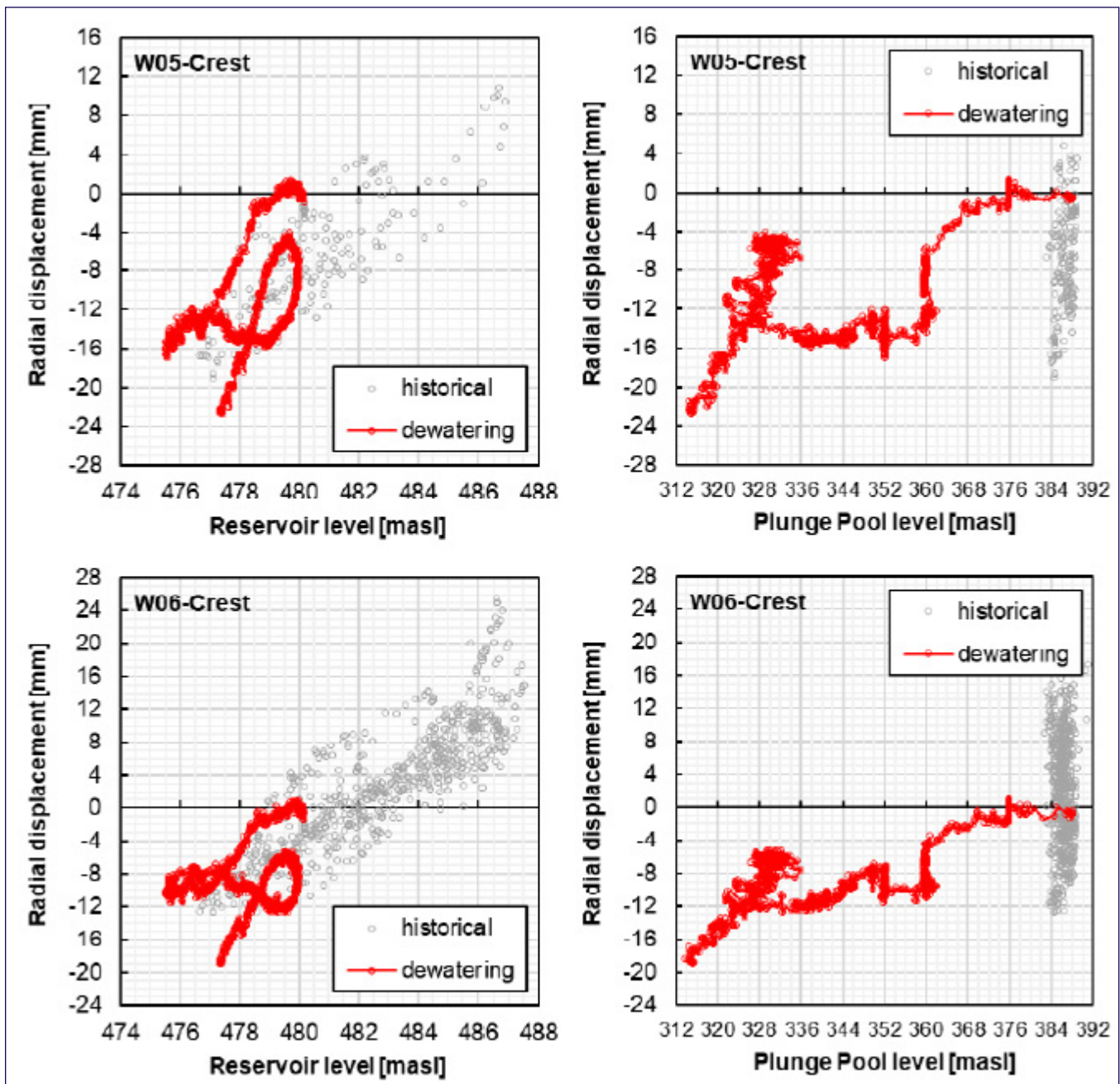


Figure 2. Radial displacements measured at the crest of the dam from centrally located pendulums W05 and W06 presented as a function of the reservoir (left) and plunge pool (right) water levels.



From the dam pendulum measurements collected during the one-year circle when the highest and lowest reservoir level of 479.94 and 475.60 masl were recorded, respectively, the displacements at the crest of the dam did not show reversible behaviour. The deflections were predominantly towards the upstream with little to no evidence that the dewatering of the plunge pool had any impact on the recorded dam behaviour. Similar behaviour has been observed during periods of low reservoir water levels such as during the 2015/16 and 2019/2020 rainfall seasons.

### 1.1.2.1.1. Target T434/P434

Deflections at the crest of the dam were also measured and analysed from the mini-geodetic surveys of the beacon P434/T434 that is located on the upstream of pier no. 2. Data from this survey point has been collected since the construction of the dam and impounding of Lake Kariba and therefore helps to countercheck suspicious behavior and records measured from other instruments such as the pendulums. The analyses of displacement measurements measured from target P434/T434 at the crest of the dam confirmed that the deflections were normal but predominantly towards the upstream.

### 1.1.2.1.2. Piezometers

Data was recorded and analysed from both the historic and project-specific piezometers during the reporting period. The SNM and vibrating wire CL1 groups of piezometers that have been operated since 1989 largely showed very slow reaction to changes in plunge pool water levels during the year as indicated in Figure 3.

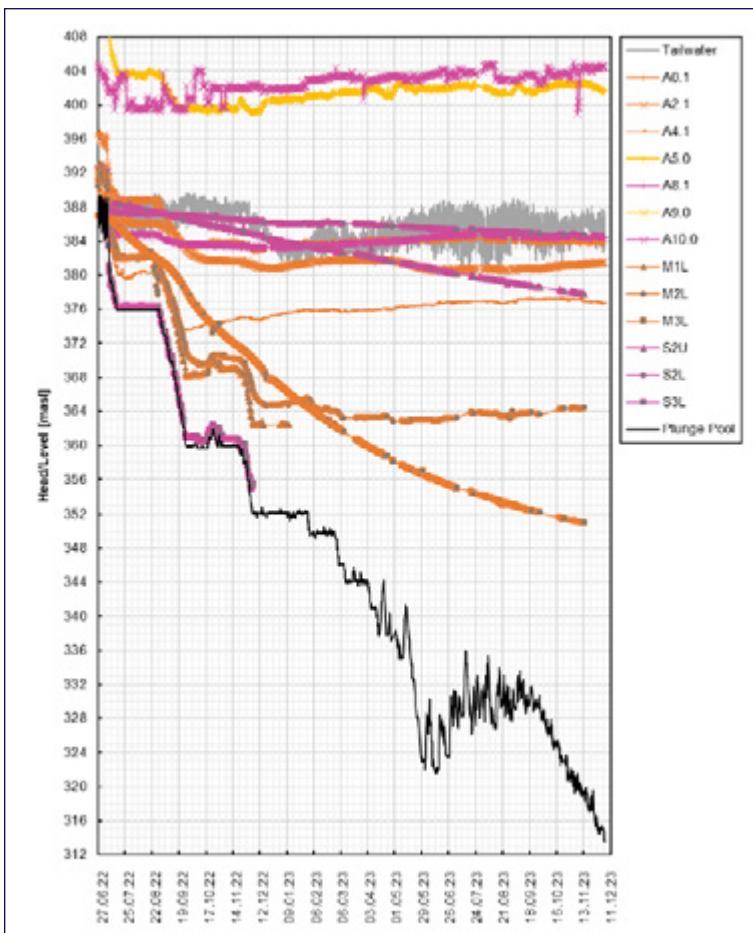


Figure 3. Ground water heads measured on the SNM and CL1 piezometers.



The orange dashed and red continuous lines in Figure 4 represent the alert and emergency piezometric thresholds for dewatering and excavation of the plunge pool. An analysis of the results showed that most of the historic piezometers were either not responsive or reacted very slowly to changes in the water level in the plunge pool, except for those piezometers that are located at the foot of the dam and close to the plunge pool. For example, piezometer A4.1 that is remotely located below the foundation of the dam and far from the plunge pool maintained a steady evolution while piezometers M1L and M2L showed intermediate reaction but remained within acceptable limits during the dewatering of the plunge pool.

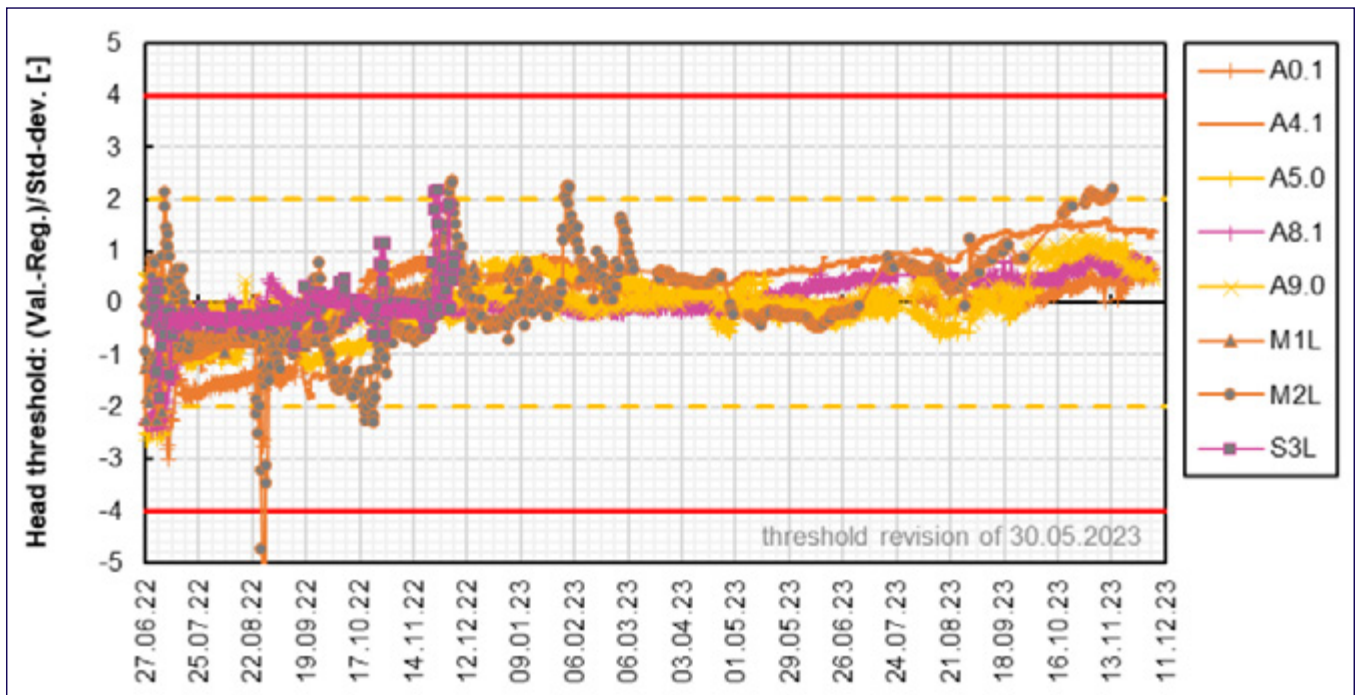


Figure 4. Ground water heads measured on the SNM and CL1 piezometers.

The analyses of data revealed that the piezometers located in remote locations below the dam foundation either did not respond or slowly reacted, while those near the foot of the dam and plunge pool slowly reacted to the dewatering of the plunge pool. The following can be deduced from the measurements:

- Piezometers A-2 and A-3 showed a quasi-instantaneous reaction to the dewatering of the plunge pool.
- Piezometer M3L showed small and slow hysteresis/lagging responses at small piezometric heads when dewatering started and larger changes when the water level in the plunge pool was maintained at 376, 360 and 352 masl. The thresholds were crossed for this and similar piezometers that are remotely located from the plunge pool. It was observed that the correlation coefficient and thresholds for linear relation between reservoir and plunge pool water levels did not accurately represent the behaviour of such deep piezometers. It was therefore deduced that the behavior of remote and deep piezometers is governed more by the reservoir than the plunge pool water level.
- Piezometers M1L; M2L; A0.1; A2.1; A4.1; A8.1 and A5.0 were neither slow nor showed instantaneous reaction to the dewatering. Further, the piezometer series Ax.x located below the dam showed stability as the plunge pool water level decreased below their elevation. This denotes that they became dry as the dewatering process progressed.





In summary, the piezometers recorded normal and expected behavior that was consistent with the prevailing conditions of groundwater table recorded during the reporting period.

### 1.1.3. South Bank Slope Monitoring

The shallow and deep sliding zones of the south bank are monitored from several stations using dedicated pendulums and a geodetic network. Several other discharges and extensometers are also used to monitor the presence of water and slope movements, respectively. Special interest has been placed on monitoring the displacements recorded from pendulums in the PS1 and PS2 shafts that are located within the most active creeping zone of the slope. At these locations, the rate of creeping of the deep and shallow sliding zones range between 1.3 to 2.1 mm/year. This aligns with the long-term average rates of displacements measured at the same locations since 1994 using the geodetic method as summarized in Table 2.

| Monitoring point | X-axis (mm/year) | Y-axis (mm/year) | Monitoring point | X-axis (mm/year) | Y-axis (mm/year) |
|------------------|------------------|------------------|------------------|------------------|------------------|
| SB20             | 0.10             | 0.06             | RD1              | 0.00             | 0.22             |
| 5B4              | 0.01             | 0.12             | PS1              | 0.13             | 1.72             |
| SB5              | 0.14             | 0.11             | PS2              | -0.29            | 1.84             |
| SB8              | 0.30             | 0.55             | P2               | 0.24             | -0.09            |
| SB16             | 0.17             | 0.97             | P4.1             | 0.31             | 0.31             |
| SB17             | 0.13             | 1.09             | P5               | 0.18             | 0.35             |
| SB19             | 0.53             | 1.16             | P8               | 0.12             | 0.03             |
| SB21             | 0.23             | 1.47             | P11.1            | 0.34             | 0.06             |
| SB22             | 0.23             | 0.40             | Tripod           | 0.16             | -0.02            |
| IB3              | 0.25             | 0.96             |                  |                  |                  |

Table 2: Average rates of slope movement of the south bank monitoring points

The significance of monitoring dam safety performance indicators using more than one strategy and in this instance, monitoring the displacements using two methods of pendulums and geodetic survey is that this approach introduces redundancy and allows for the monitoring of a wider area. It is also observed from Table 2 that at P2 and P11 that are located within the buttresses below the thrust block, the rate of creep of 0.27 mm/year was in conformance with the 0.18 – 0.32 mm/year measured using the geodetic method. At RD1, the slope is stable, an indication that it is located outside the sliding zone. At P4, the rate of movement of 0.4 mm/year (0.2 mm/year at P5) agrees with the results measured from the lower reading tables at PS1 and PS2. This confirms that the sheering plane of the deep sliding zone passes between reading tables A and B of pendulums P5 and P6.



### 1.1.3.1. Construction Joints

Figure 5 shows the results of the monitoring and evolution of crack behaviours measured between the construction joints since the construction of the dam wall.

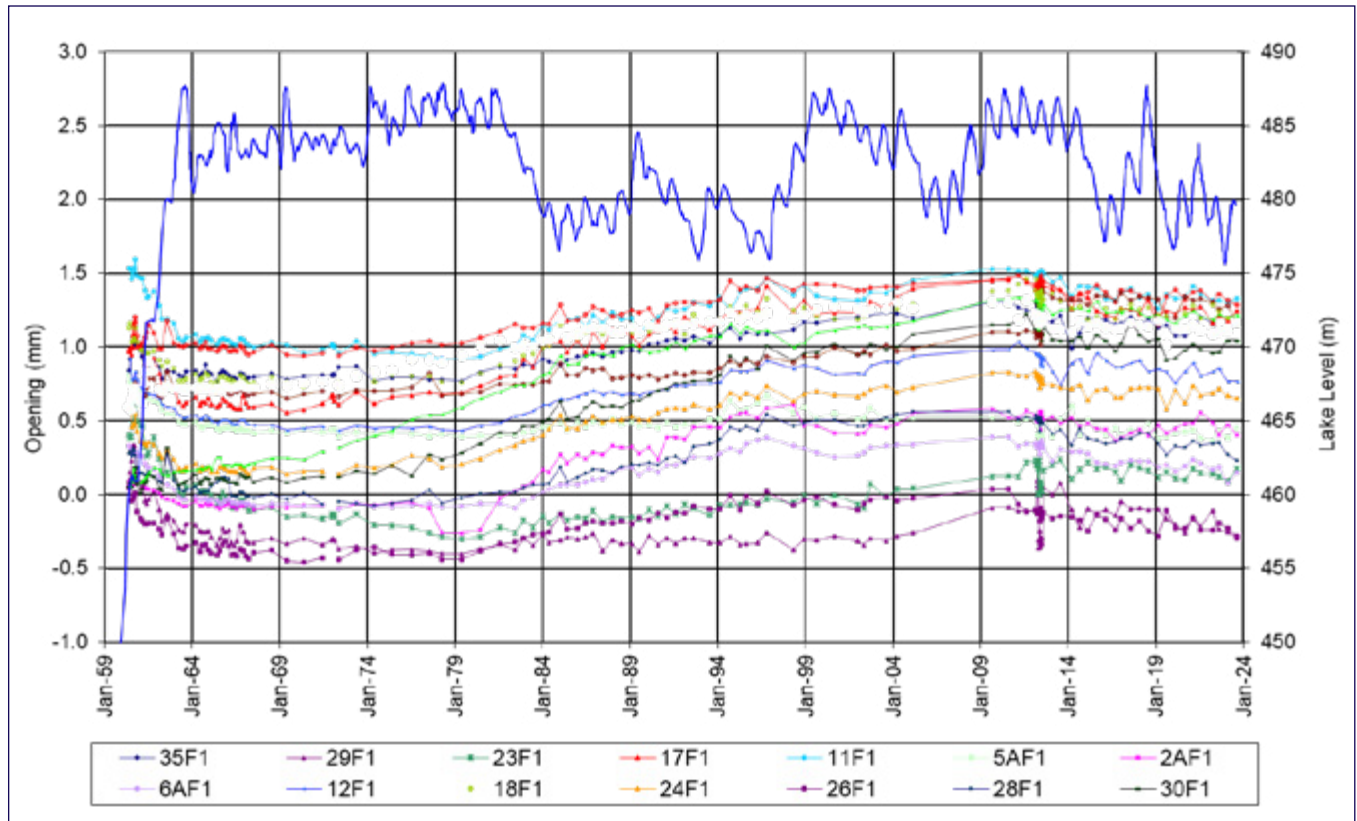


Figure 5. Results of dam joint measured in gallery F.

The construction joints have been monitored since the first filling of the reservoir. An analysis of data from the joint meters provides information whenever there is a separation happening between the construction joints. The results of measurements from those dam joints located in gallery F and shown in Figure 5 exhibit some evolution while the joints located below gallery D hardly show movement. While there is evidence that the joints located in gallery F close to the crest exhibit signs of opening because of alkali silica reaction (ASR), no significant movement has occurred since 1972 and the joints have been stable since 2000. The small variations recorded in 2012 were in response to the underwater blasting and cofferdam removal during the Kariba North Bank Extension (KNBE) project. In summary, results of the measurement and monitoring of dam behaviour at the joint meters showed normal dam behaviour during the year.

### 1.1.4 Dam Inspections

Ten monthly and two bi-annual inspections were carried out during the year in accordance with the provisions of the SOP. Further, routine dam inspections were carried out during the execution of daily S&M and O&M activities. Figure 6 shows a team of engineers and technicians during a safety brief before the start of a biannual inspection between 10<sup>th</sup> and 14<sup>th</sup> July 2023. No abnormalities were observed during the inspections on both the dam and appurtenant structures.





*Figure 6. Safety briefing during a bi-annual dam inspection.*

### **1.1.5 Operations and Maintenance**

Various O&M activities of the SOP and Five-Yearly Inspection recommendations were carried out during the year. These included general management of stormwater drainages, the refurbishment and maintenance of light fixtures in dam galleries, south bank adits and shafts and the operation of floodgate Numbers 2, 5 and 6 to facilitate the execution of the KDRP activities. That notwithstanding, the floodgates could not be operated under full load because of the on-going constraints arising from the dewatering and reshaping of the plunge and the refurbishment works of the spillway. Therefore, the floodgates were operated under dry run conditions after the installation of the cofferdam and dewatering of the sluiceways by pumping the water into the reservoir.

### **1.1.6 Maintenance and Testing of Floodgates**

The operations, maintenance and testing of floodgates under full load remained constrained by the plunge pool and spillway refurbishment works of the KDRP. Therefore, the floodgates could not be operated when the sluice was full of water. That notwithstanding, the servicing and testing of electric motors, programmable logic control (PLC) and maintenance of the mechanical components of the hoisting system were carried out during the year. This work involved the de-coupling, testing and re-coupling of the electric motors and brake solenoids as shown in Figure 7. Part of the servicing and testing of the electrical and mechanical components of the floodgates' controls were done in preparation of either the raising or lowering of floodgate numbers 2, 5 and 6 to facilitate the execution of spillway refurbishment works under the KDRP.



*Figure 7. Maintenance of the electrical (left) and mechanical (right) systems of the spillway hoist.*



Floodgate Numbers 2, 5 and 6 were operated and tested under dry run by completing cycles of raising and lowering. On 20<sup>th</sup> October, floodgate Number 6 was lowered and the sluice rewatered to mark completion of the refurbishment works on the sluiceway. From the observations and analyses of load cell readings, the floodgates' operations exhibited smooth movement that are attributable to the refurbishments carried out on the roller paths and sealing planes.

## 1.2 Water Resources And Environmental Management



*The Authority's environmental team collecting and analysing water samples from Lake Kariba to test for potential water quality issues and detect any impurities.*

The Water Resources and Environmental Monitoring key result area focuses on collecting, accumulating and processing of the Zambezi River's hydrological and environmental data for the enhanced performance of the Authority's functions and for any other purpose beneficial to the Contracting States. In addition, it regulates the water level in the Kariba reservoir and will continue to perform this function upon completion of the construction of any other reservoirs by the Authority.

As per its water allocation mandate for the Kariba Reservoir operations, the Authority allocated forty Billion Cubic Meters (40 BCM) of water in September 2022 for power generation in 2023, to be shared equally between ZESCO Limited and Zimbabwe Power Company (ZPC). The allocation was informed by outcomes from the 26<sup>th</sup> Southern Africa Regional Climate Outlook Forum (SARCOF-26) that was held in August 2022 and further confirmed by the downscaled rainfall forecasts from the respective Meteorological Agencies of Zambia and Zimbabwe. Both Agencies projected that the Southern African Development Community (SADC) Region and the Kariba Catchment would receive Normal to Above Normal rainfall during the 2022/23 rainfall season.

The actual performance of the 2022/23 rainfall season for the Kariba catchment, however, turned out to be Normal to Below Normal. Accordingly, during the 2023 first quarter hydrological review, the Authority reduced the water allocation from 40 BCM to 30 BCM that was shared equally between ZESCO Limited and ZPC. The reduction was made to ensure continued availability of water for power generation at Kariba Dam going into the year 2024.

Both Utilities utilised water within their respective 15 BCM allocation. The end of year closing lake level on 31<sup>st</sup> December 2023 was 477.23m with 12% live storage. Further details are given in the following sections.



The Twenty-Seventh Annual Southern Africa Regional Climate Outlook Forum (Sarcof-27) held in September 2023 projected that the bulk of the SADC region was likely to receive Normal to Below-Normal rainfall for most of the period October to December (OND) 2023, apart from the north-western part of Angola, much of the Democratic Republic of Congo, the southern half of the United Republic of Tanzania, north-eastern Zambia, northern Malawi, northern Mozambique, Comoros, eastern Madagascar, and Mauritius where Normal to Above-Normal rainfall was expected. The northern half of the United Republic of Tanzania and Seychelles were projected to receive Above Normal rainfall during this period of the 2023/24 season.

On the other hand, the period December, January and February (DJF) 2023/2024 was expected to receive Normal to Above Normal rainfall for most of the region except for the south-western fringes of Namibia, south-western South Africa, southern part of Zimbabwe, eastern half of Botswana, northern South Africa, Eswatini and southern Mozambique where Normal to Below-Normal rainfall was expected

### 1.2.1 2022/23 Regional Climate Seasonal Forecast

The 2022/23 rainfall season was characterised by both delayed onset and Below Normal rainfall performance for most of the Kariba Catchment during the period October to December 2022. The period January to March 2023 recorded Normal to Above Normal rainfall as was projected by SARCOF-26 and the respective Meteorological Agencies for Zambia and Zimbabwe.

Figure 8 below shows relative rainfall performance for Southern Africa as monitored by the Climate Prediction Center (CPC) of the National Weather Service of the United States of America for the period October to December 2022.

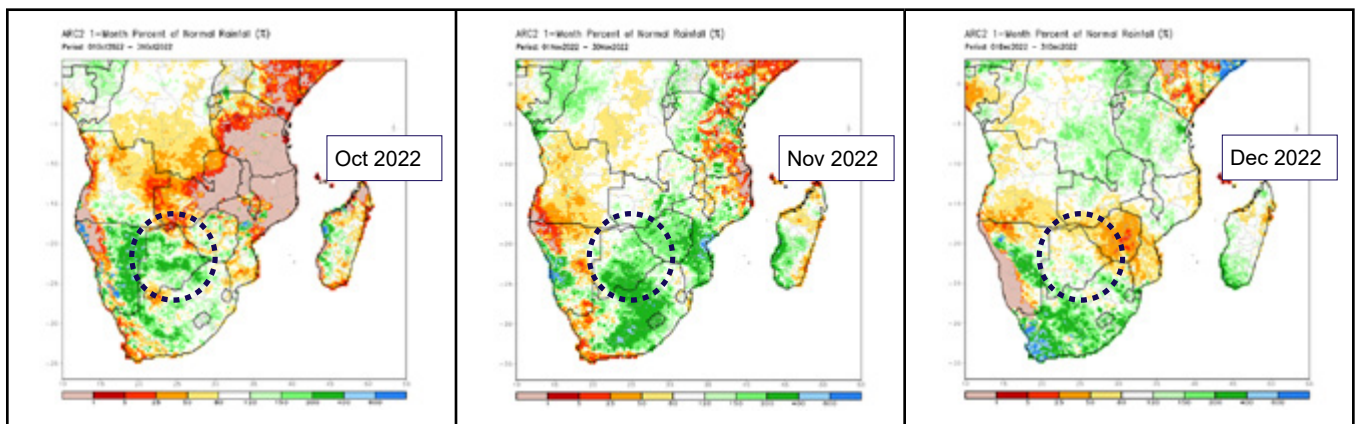


Figure 8. Rainfall Performance for OND 2022 – Southern Africa (dotted circle highlights the location of the Kariba Catchment)

Source: <https://www.cpc.ncep.noaa.gov/products/international/safrica/safrica.shtml>

### 1.2.2 Rainfall Performance – 2022/23 Season

The World Meteorological Organisation indicates that the period October to March constitutes the main rainfall season for the Southern African region. The actual rainfall season, however, practically ended in April 2023, with OND (October, November and December) recording Below Normal rainfall while JFM (January, February and March) recorded Normal to Above Normal rainfall. Accordingly, Normal to Below-Normal rainfall was generally recorded over most of the Kariba Catchment for the 2022/2023 rainfall season. Figure 9 below shows rainfall amounts recorded at the Authority's gauging stations across the Kariba Catchment.

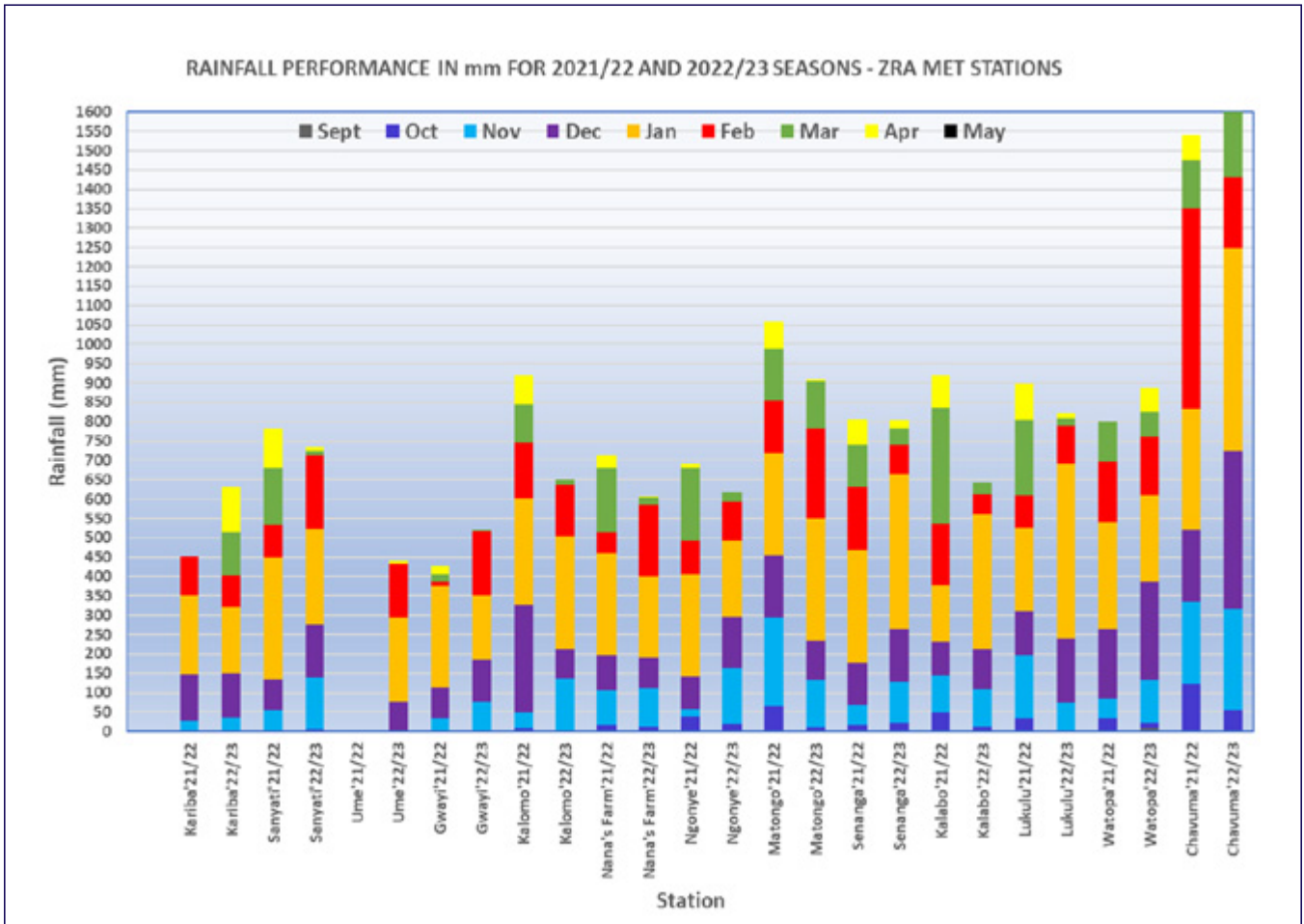


Figure 9 : Rainfall performance for 2021/2022 and 2022/2023 seasons

### 1.2.3 River Flows

Flows in the mainstream Zambezi River during the 2022/23 hydrological year (spanning from October 2022 to September 2023 ) were generally average as shown graphically in Figures 10 and 11. The hydrographs show the river flows in 2023 . January 2023 recorded peak river flows towards the end of the month, with a second peak recorded in April 2023 before receding in September 2023 at the close of the 2022/2023 hydrological season. October 2023 marked the official onset of the 2023/2024 rainfall season. An increase in river flows at Chavuma (the station where Zambezi River flows from Angola are gauged) was initially recorded at the close of November 2023 as illustrated in Figure 10.



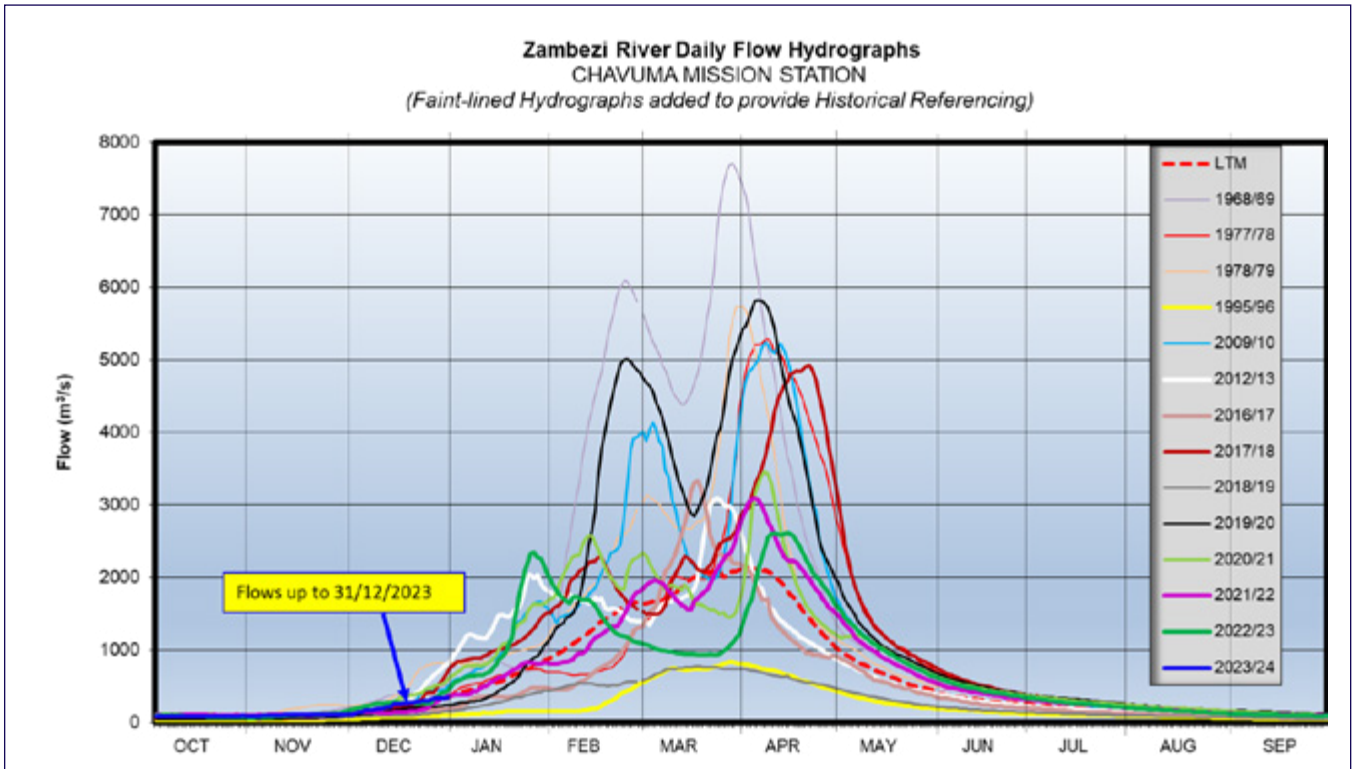


Figure 10 . Zambezi River at Chavuma – Hydrograph Overlay

River flows recorded at Nana’s Farm (Victoria Falls) were slightly higher as flows from the Zambezi River catchment in Angola, Namibia and Botswana are recorded at this point. Figure 11 graphically represents data from this gauging station:

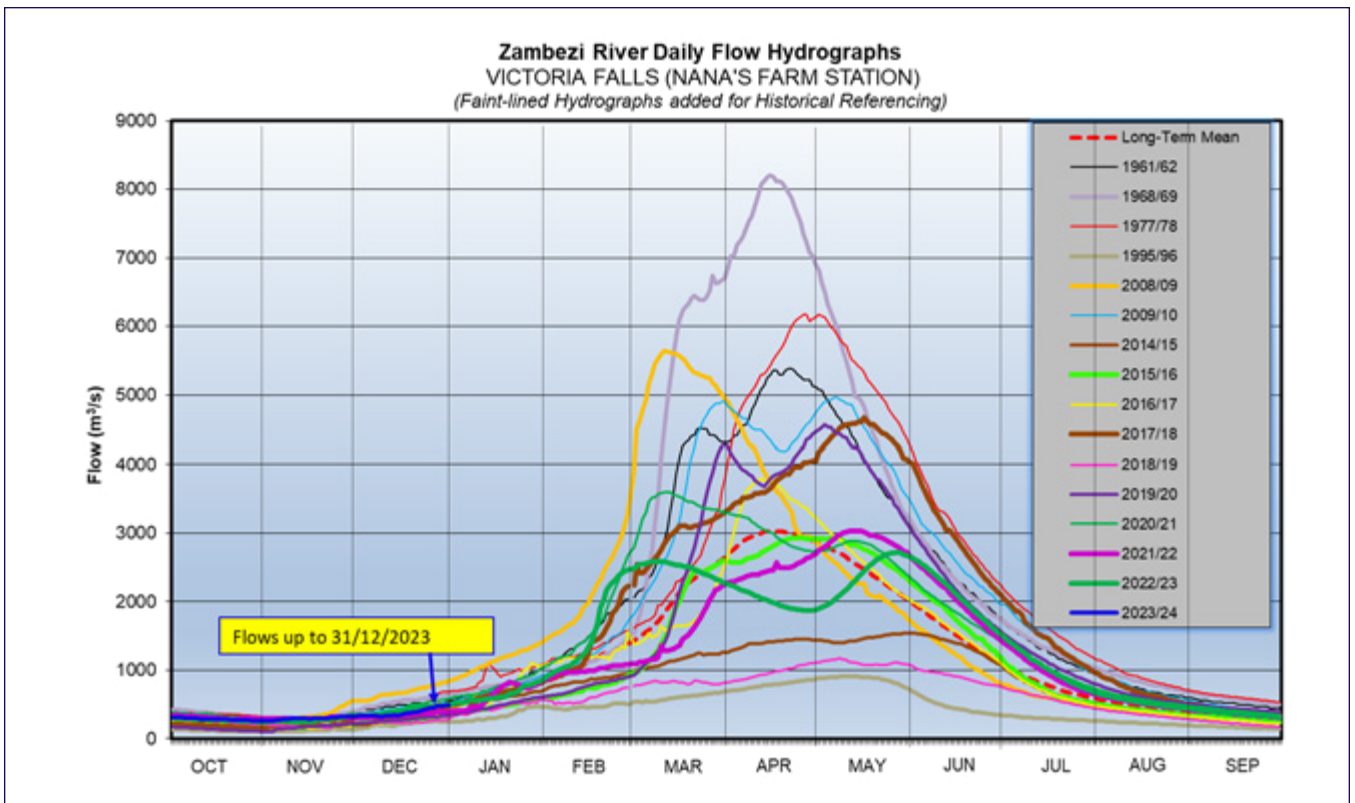


Figure 11. Zambezi River at Victoria Falls (Nana’s Farm Station) – Hydrograph Overlay



Table 3 below provides a comparative analysis of flows at Nana's Farm/ Victoria Falls gauging station, one of the key stations for monitoring flows into Lake Kariba for the years 2022 and 2023.

| Parameter  | Year       |           | Long-Term Mean (LTM) | % Departure of 2023 from: |      |
|--|------------|-----------|----------------------|---------------------------|------|
|  | 2023       | 2022      |                      | 2022                      | LTM  |
| Flow on January 1 (m <sup>3</sup> /s)                          | 502        | 403       | 521                  | 25%                       | -4%  |
| Flow on December 31 (m <sup>3</sup> /s)                        | 490        | 499       | 514                  | -2%                       | -5%  |
| Annual Mean Flow (m <sup>3</sup> /s)                           | 1,173      | 1,112     | 1,109                | 6%                        | 6%   |
| Peak Flow Recorded (m <sup>3</sup> /s)                         | 2,718      | 3,034     | 3,027                | -10%                      | -10% |
| Date Peak Recorded   | 27/5/2023  | 13/5/2022 | 16/4                 |                           |      |
| Minimum Flow Recorded (m <sup>3</sup> /s)                      | 253        | 238       | 251                  | 6%                        | 1%   |
| Date Minimum Recorded  | 31/10/2023 | 1/11/2022 | 31/10                |                           |      |
| Cumulative Annual Discharge at this Station for the Year (BCM) | 46.18      | 44.01     | 34.98                | 5%                        | 32%  |

\*BCM = Billion Cubic Meters

Table 3. Zambezi River Flow Comparisons at Victoria Falls – Nana's Farm Hydrometric Station

### 1.2.4 Water level in Lake Kariba

The Lake level at Kariba Dam increased from 475.61m, with usable storage of 0.54 BCM (0.83% of live/usable storage capacity), at the beginning of the year 2023. A 4.33m lake level increase due to increased inflows resulted in the peak of 479.94m recorded on 3<sup>rd</sup> July 2023, the latter being 4.44m above the Minimum Operating Level (MOL). Afterwards, the Lake level receded to 477.23m recorded on 31<sup>st</sup> December 2023, giving a net annual level gain of 1.62m during the year 2023.

In comparison, the Lake closed the previous year at a lower level of 475.60m on 31<sup>st</sup> December 2022, with 0.498 BCM usable storage (0.77% of total live/usable storage capacity).



Stunning view of 'Kaliba', the inspiration behind the name Kariba. The word 'Kaliba' translates to a trap.



Figure 12 below shows a hydrographic overlay of lake level variations for various past years in comparison with 2022/23.

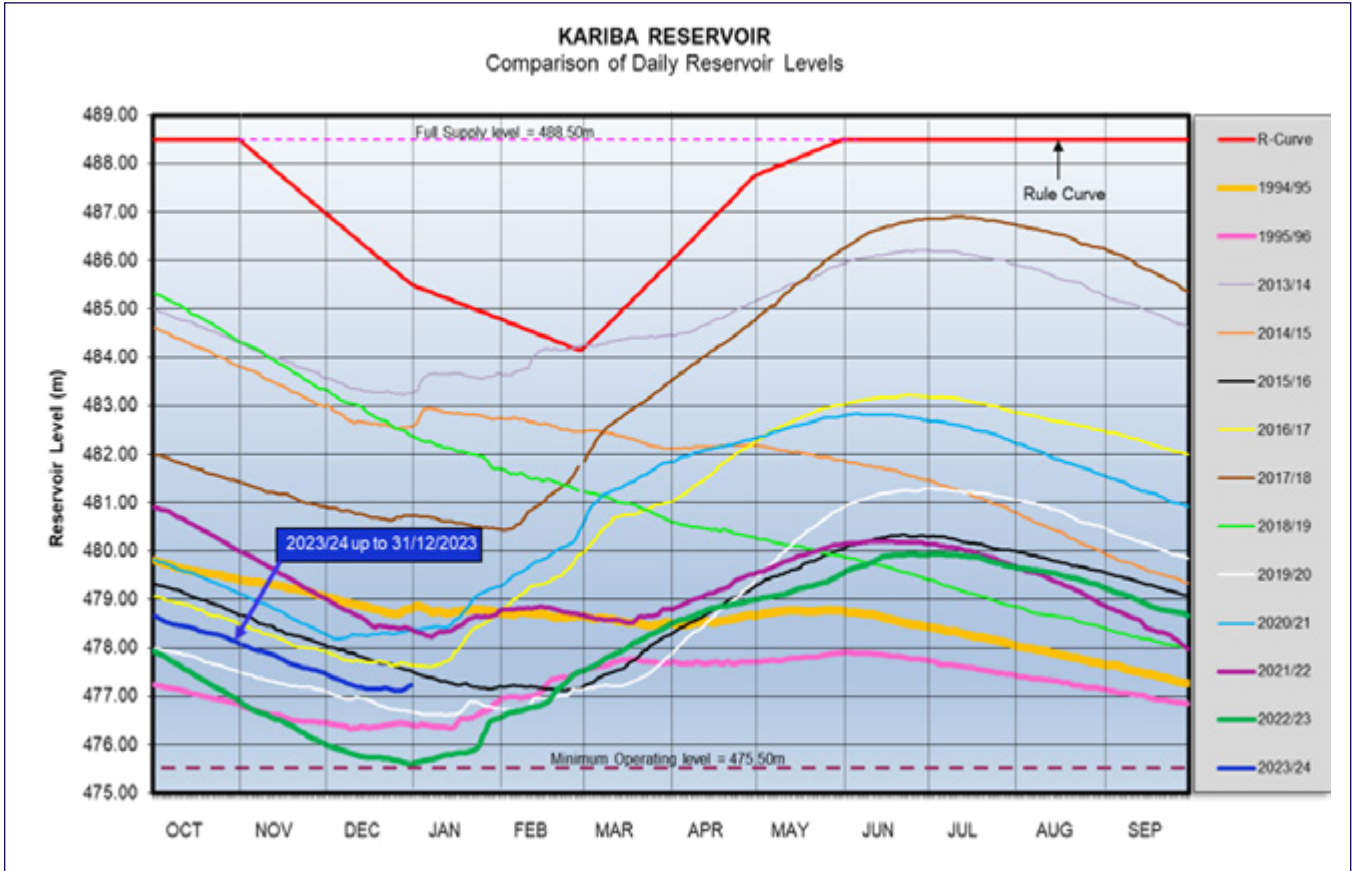


Figure 12. Lake Levels Hydrographic Overlay of selected Years in comparison with 2023.

### 1.2.5 Operation of Spillways

The spillway gates at Kariba remained closed as the water levels remained below the Flood Control Rule Curve (see Figure 12 above). Therefore, there was no need for spilling.

### 1.2.6 Water Balance

The total gross inflow into Lake Kariba during the year 2023 (calendar year) was 46.18 BCM, a slight increase of about 4.9% from the year 2022. The Lower Catchment contribution accounted for 20% inflow volume into Lake Kariba, compared to 33% recorded during the year 2022, while the rest came from the Zambezi Upper Catchment (as monitored at Victoria Falls / Nana’s Farm Hydrometric Station).

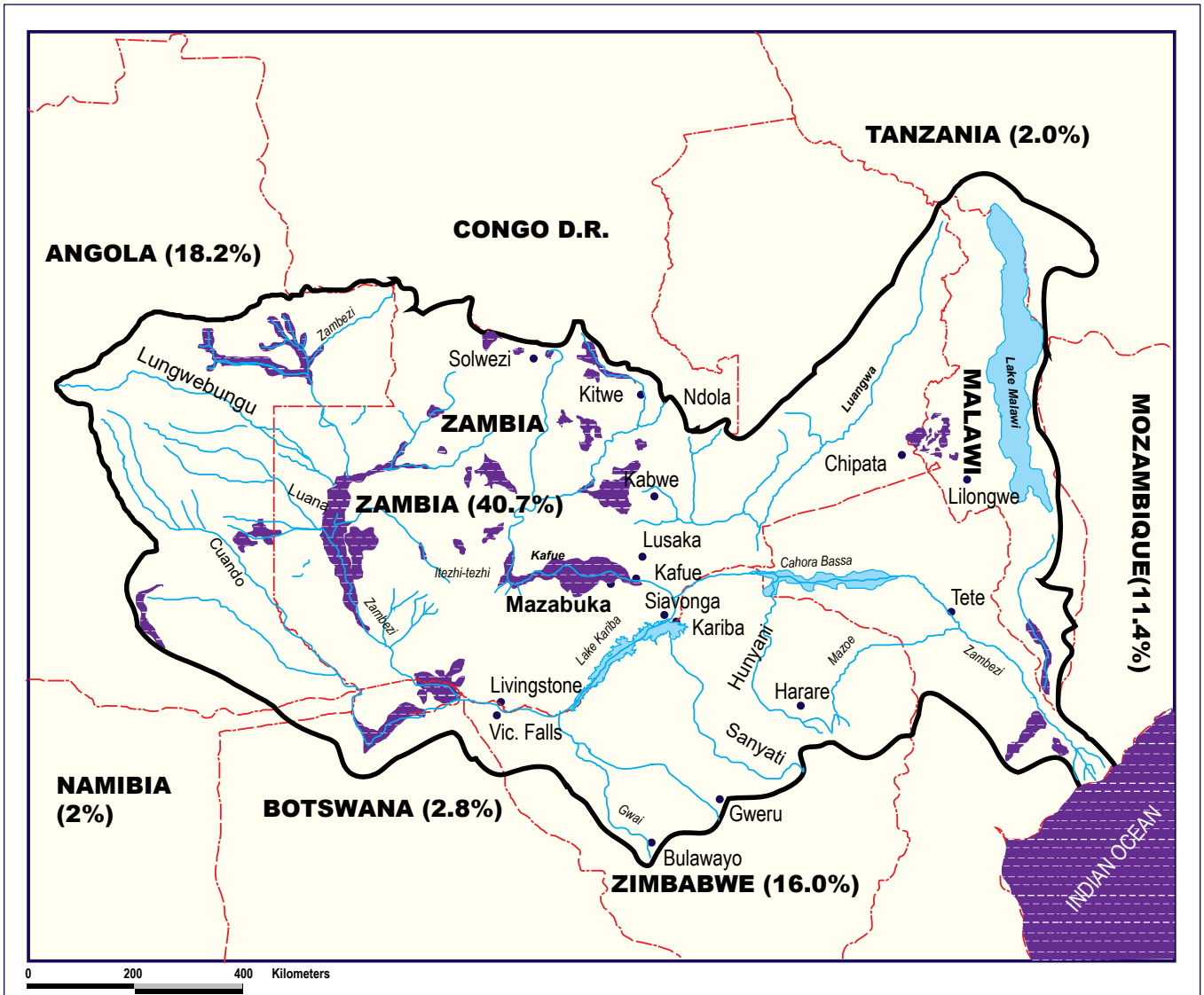


Figure 13: Zambezi Catchment map. The percentages indicate contributions of each country by area of the total Zambezi catchment.

On the other hand, the total outflow from the Lake was 38.73 BCM composed of 29.88 BCM turbine discharge and 9.04 BCM lost to evaporation. The net effect on the Reservoir was a storage gain of 7.44 BCM which resulted in the reservoir closing with a live storage of about 7.756 BCM (11.97% full in terms of usable storage).

Table 4 below shows the annual water balance computations for Lake Kariba for 2023 compared to the two preceding years. The same information is further presented graphically in Figure 9, while Figure 10 presents a schematic representation of the monthly water balance dynamics for 2023. Historical water balance time series (monthly) data is also presented graphically in Figure 16.





| <b>KARIBA RESERVOIR WATER BALANCE</b>                                    |                                      |              |              |              |
|--|--------------------------------------|--------------|--------------|--------------|
| Parameter  |                                      | 2023         | 2022         | 2021         |
| <b>1) Opening Usable Storage - Billion Cubic Meters (BCM) in January</b> |                                      | <b>0.50</b>  | <b>13.06</b> | <b>13.01</b> |
| <b>2) GROSS INFLOWS FOR THE YEAR (BCM)</b>                               | 2.1) From the Kariba Upper Catchment | 36.88        | 29.39        | 33.78        |
|  | 2.2) From the Kariba Lower Catchment | 9.29         | 14.62        | 25.42        |
|  | <b>Sub-total (BCM)</b>               | <b>46.18</b> | <b>44.02</b> | <b>59.21</b> |
| <b>Total Inflows Year (BCM)</b>  |                                      | <b>46.67</b> | <b>57.08</b> | <b>72.22</b> |
| <b>3) OUTFLOWS FOR THE YEAR TO DATE (BCM)</b>                            | 3.1) Turbine Discharge               | 29.88        | 47.60        | 49.76        |
|  | 3.2) Spillway Discharge              | 0.00         | 0.00         | 0.00         |
|  | 3.3) Evaporation                     | 9.04         | 8.98         | 9.39         |
|  | <b>Sub-Total (BCM)</b>               | <b>38.92</b> | <b>56.58</b> | <b>59.16</b> |
| <b>4) Carry-over Usable Storage at End of Reporting Month (December)</b> |                                      | <b>7.76</b>  | <b>0.50</b>  | <b>13.06</b> |
| <b>Total Outflows Year (BCM)</b>   |                                      | <b>46.67</b> | <b>57.08</b> | <b>72.22</b> |

Table 4. Comparative Annual Water Balance for Lake Kariba (January - December)

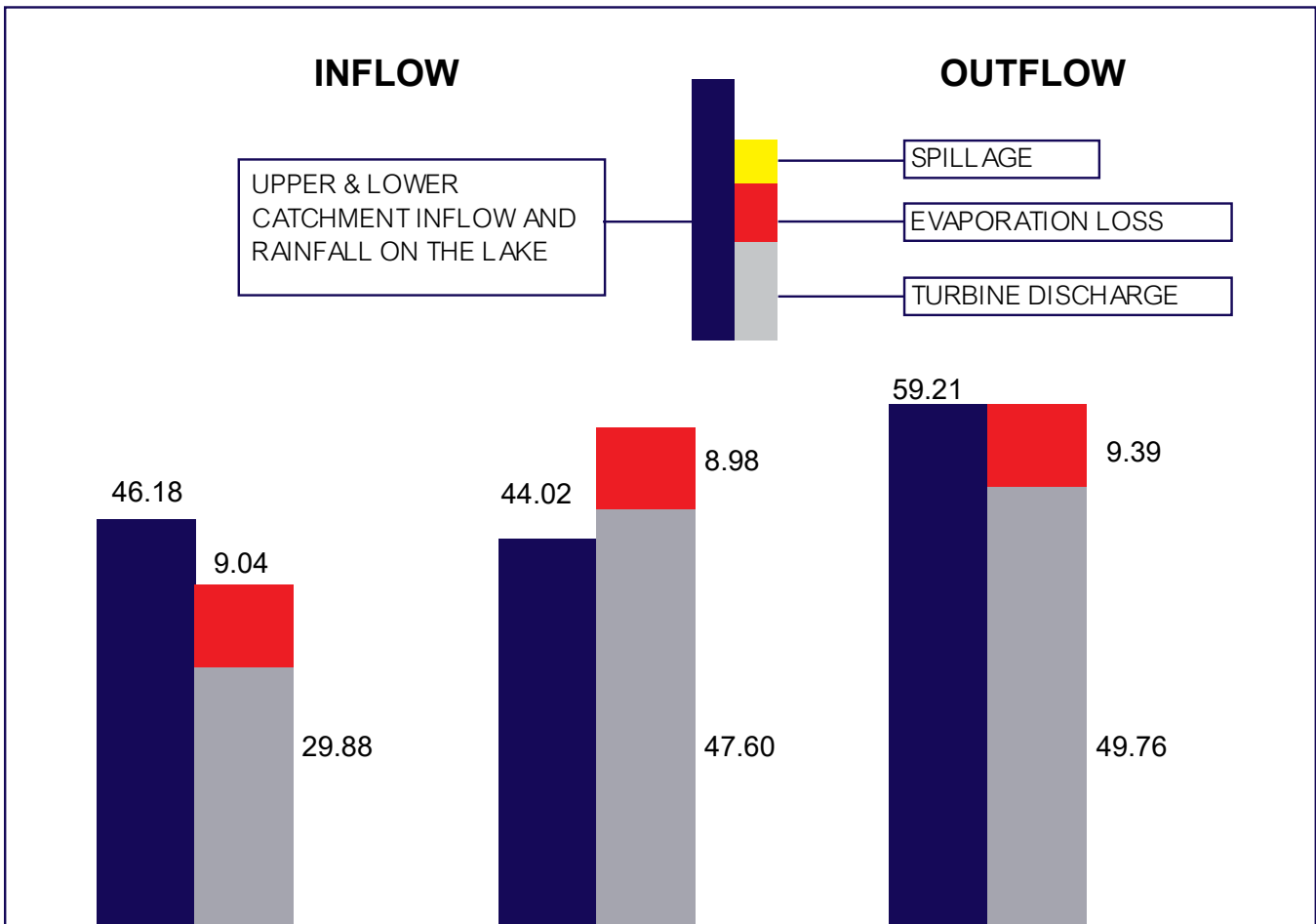


Figure 14. Lake Kariba Water Balance graphical Comparison over Three Recent Past Years

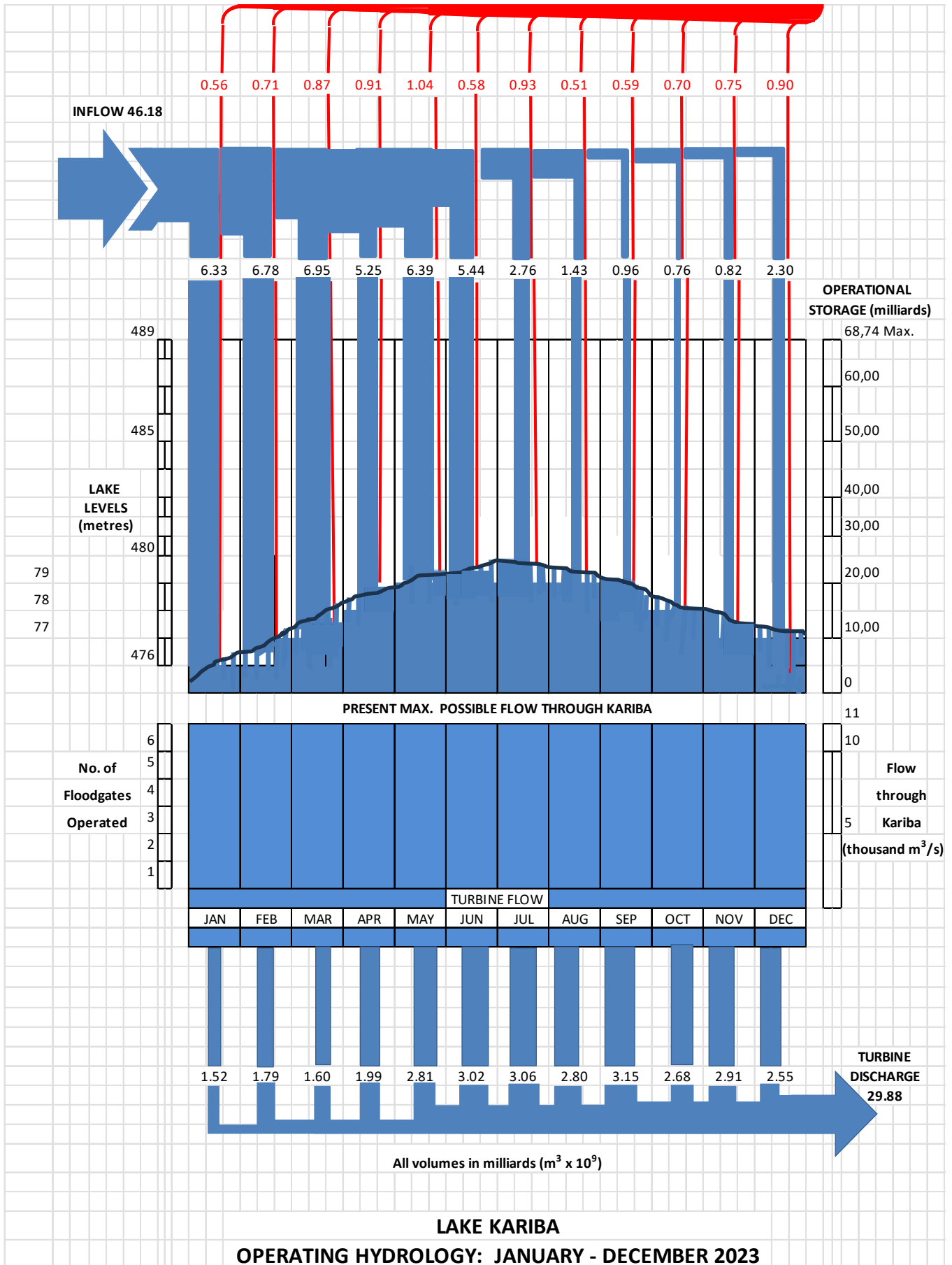


Figure 15. Schematic Representation of the Kariba Water Balance for 2023



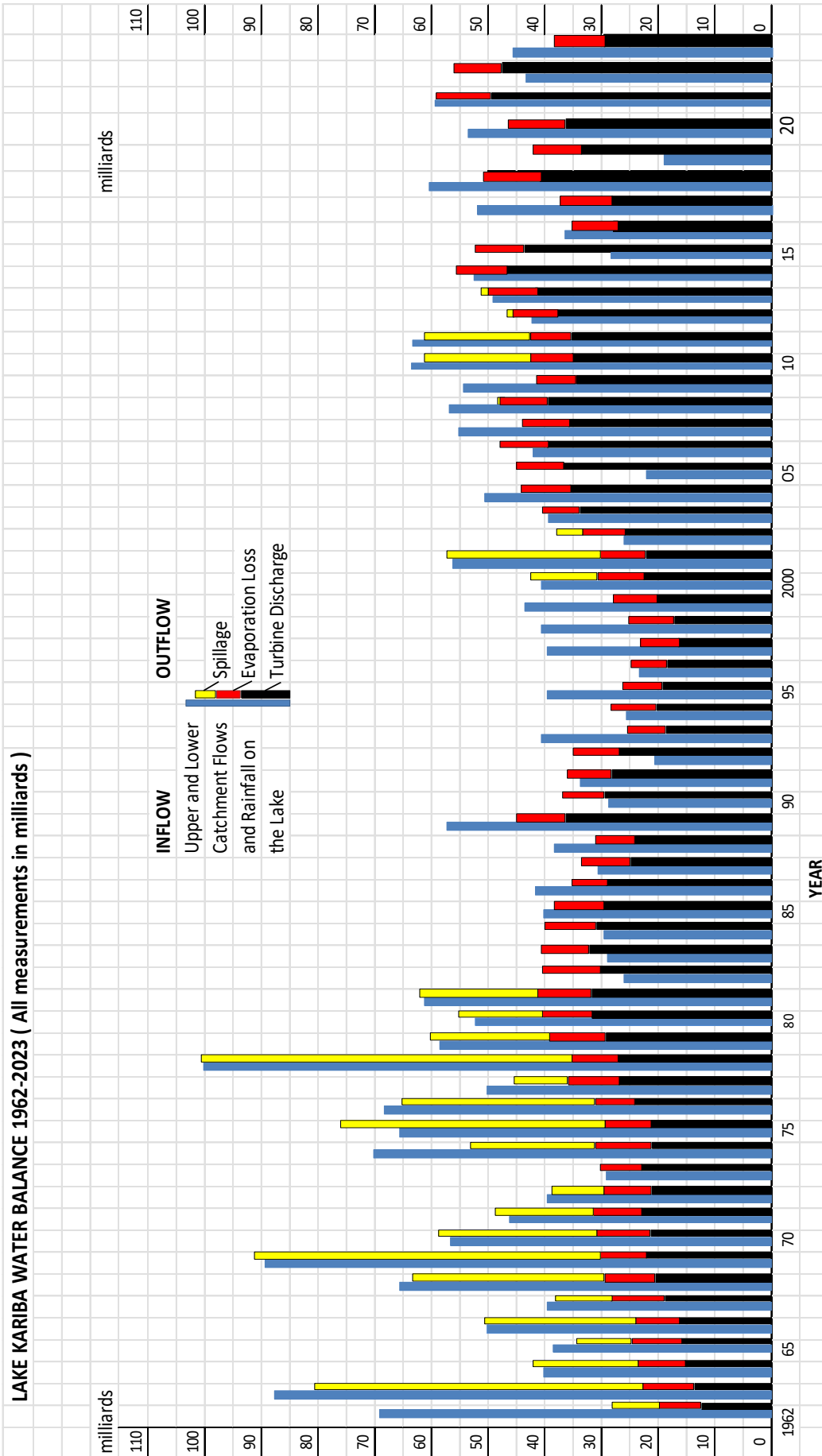


Figure 16. Kariba Water Balance 1962 - 2023 (All Volumes in Milliards)



### 1.2.7 Water Usage for Energy Generation at Kariba

Water usage for power generation at Kariba is monitored and reported daily through the Daily Hydrological Bulletin that is circulated internally as well as to the two Utilities, ZESCO Limited and ZPC.

Based on the rainfall outlook as predicted in August and September 2022 by the 26<sup>th</sup> Southern Africa Regional Climate Outlook Forum (SARCOF-26) and the downscaled national forecasts for Zambia and Zimbabwe, an initial total of 40 Billion Cubic Meters (BCM) of water for energy generation at Kariba was allocated for the calendar year 2023 to be shared equally between the two Power Utilities. This water allocation was to provide for a combined average generation output of the order of 1,000MW combined or 500MW for each Power Utility.

However, the actual rainfall performance for the 2022/23 rainy season as recorded at the end of March 2023 was in the Normal to Below Normal range. This outlook resulted in a revised projected gross inflow yield of 43.79 BCM, which is slightly below the average annual inflow into Lake Kariba.

Following a consultative process with ZESCO Limited and ZPC in April 2023 under the auspices of the Joint Technical Committee (JTC) comprising the Authority and the said two Power Utilities, the water allocation was reviewed downwards to 30 BCM (which was equivalent to 772MW combined average production) to be shared equally between the two Power Utilities. With this level of water utilisation, the reservoir was projected to close the year 2023 with approximately 10% of usable storage to support power generation operations at Kariba going into the first quarter of the year 2024.

As of 31<sup>st</sup> December 2023, the Power Utilities had cumulatively utilized 29.8783 BCM, which translated to 99.59% of their combined 2023 water allocation. The following is the breakdown of water utilisation for each Power Utility in 2023:

- a. The ZESCO Limited owned Kariba North Bank Power Station utilised 14.9956 BCM, which represented 99.97% of the 15 BCM 2023 water allocation.
- b. The ZPC owned Kariba South Bank Power Station utilised 14.8827 BCM, which represented 99.22% of the 15 BCM 2023 water allocation.

The water utilisation statistics by the two Power Utilities at Kariba are as indicated in Table 5.



*Kariba North Bank water intake point, where water from Lake Kariba flows into the power station.*



### 1.2.8 Summary of Water Used for Power Generation at Kariba Complex

| Month  | Kariba North   |            |                     | Kariba South |            |                     | Cumulative<br>Utilisation Plan | Cumulative<br>at Kariba | % of<br>Utilisation<br>Plan |
|--------|--|------------|---------------------|--------------|------------|---------------------|--------------------------------|-------------------------|-----------------------------|
|        | Utilisation  | Actual     | % of<br>Utilisation | Utilisation  | Actual     | % of<br>Utilisation |                                |                         |                             |
|        | Annual Allocation (revised in April 2023 from 20,000MCM or 20BCM to 15,000 MCM or 15BCM) |            |                     |              |            |                     | Water Used                     |                         |                             |
|        | Plan (MCM)   | Used (MCM) | Plan (MCM)          | Used (MCM)   | Plan (MCM) | Used (MCM)          | Complex (MCM)                  | Complex (MCM)           | Utilisation Plan            |
| JAN    | 810.00   | 781.30     | 96.46%              | 700.00       | 736.83     | 105.26%             | 1,510.00                       | 1,518.13                | 100.54%                     |
| FEB    | 920.00   | 889.33     | 96.67%              | 900.00       | 904.03     | 100.45%             | 3,330.00                       | 3,311.50                | 99.44%                      |
| MAR    | 580.00   | 542.03     | 93.45%              | 1,100.00     | 1,056.01   | 96.00%              | 5,010.00                       | 4,909.53                | 97.99%                      |
| APR    | 880.00   | 805.38     | 91.52%              | 1,200.00     | 1,188.82   | 99.07%              | 7,090.00                       | 6,903.73                | 97.37%                      |
| MAY    | 1,160.00   | 1,078.83   | 93.00%              | 1,900.00     | 1,732.82   | 91.20%              | 10,150.00                      | 9,715.37                | 95.72%                      |
| JUN    | 1,450.00   | 1,335.79   | 92.12%              | 1,690.00     | 1,686.36   | 99.78%              | 13,290.00                      | 12,737.53               | 95.84%                      |
| JUL    | 1,290.00   | 1,316.00   | 102.02%             | 1,800.00     | 1,741.93   | 96.77%              | 16,380.00                      | 15,795.46               | 96.43%                      |
| AUG    | 1,630.00   | 1,533.01   | 94.05%              | 1,900.00     | 1,263.69   | 66.51%              | 19,910.00                      | 18,592.15               | 93.38%                      |
| SEP    | 1,690.00   | 1,497.26   | 88.60%              | 900.00       | 1,648.67   | 183.19%             | 22,500.00                      | 21,738.08               | 96.61%                      |
| OCT    | 1,470.00   | 1,858.62   | 126.44%             | 900.00       | 826.01     | 91.78%              | 24,870.00                      | 24,422.72               | 98.20%                      |
| NOV    | 1,810.00   | 1,883.51   | 104.06%             | 900.00       | 1,025.92   | 113.99%             | 27,580.00                      | 27,332.14               | 99.10%                      |
| DEC    | 1,370.00   | 1,474.55   | 107.63%             | 900.00       | 1,071.64   | 119.07%             | 29,850.00                      | 29,878.34               | 100.09%                     |
| Total: | 15,060.00  | 14,995.61  | 99.97%              | 14,790.00    | 14,882.73  | 99.22%              | 29,850.00                      | 29,878.34               | 99.59%                      |

MCM = Million Cubic Metres

Table 5: Summary of Water Used for Power Generation at Kariba Complex in Million Cubic Meters (MCM) January – December 2023





Both Power Utilities operated within their respective 15 BCM water allocation for 2023 and this resulted in the reservoir closing the year at 477.23m with 7.756 BCM usable storage which represented 11.97% of live storage.

### 1.2.9 Joint Operations Technical Committee (JOTC)

In order to collaboratively manage the Zambezi Watercourse, the Zambezi River Authority and other dam and water resource management institutions operating in the Zambezi River Basin met during the 33<sup>rd</sup> Joint Operations Technical Committee and 22<sup>nd</sup> Executive Committee Meetings in October 2023. During the meetings, optimized operations of the Zambezi and Kafue Rivers for economic benefits for Zambia, Zimbabwe and Mozambique were deliberated upon.

Timely information exchange to inform decision making for the respective dam and water resources management institutions was key in the deliberations.

### 1.2.10 Environmental Monitoring and Management Programme

During the period under review, the Authority implemented its scheduled sampling programmes in line with its Environmental Monitoring Programme (EMP). Generally, the analysed results from the sampled stations indicated that the lake continued to be in a non-threatening condition with respect to the parameters which were consistent with the Authority’s Water Quality Guidelines and the environmental regulatory limits.

Figure 17 is a map of the Zambezi catchment showing stations that are normally sampled and their respective frequency of sampling.

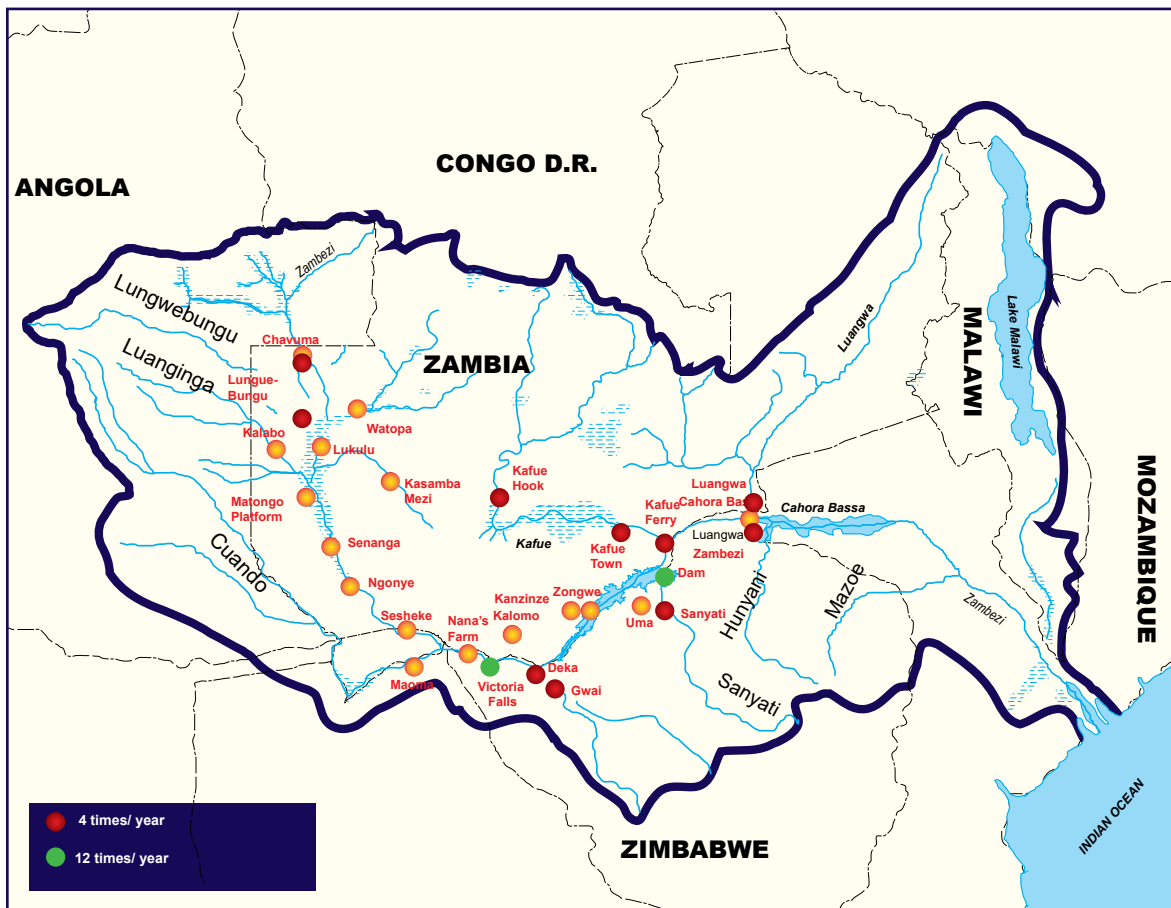


Fig 17: Location of the Authority’s water quality sampling sites in the Zambezi Basin.

### 1.2.10.1 Water Hyacinth (*Eichhornia crassipes*) Monitoring

Water Hyacinth monitoring on Lake Kariba was conducted every quarter of 2023. Localised weed mats along the water shores were observed at the University of Lake Kariba Research Station (ULKRS); Crocodile Farm; Andora Harbour; Nyaodza and Charara sampling stations. However, due to low water levels most of the weeds were left stranded along the shoreline of the lake as shown in Figure 18 below.



Figure 18: Weeds Stranded at the shores.

Traces of weed transported by wind current on the lake waters were observed at Kariba North and South bank power station intake areas. The weed at intake areas was removed by physical means.

Morphological monitoring of Water Hyacinth was undertaken through physical observations by assessing the characteristic physical damage on the leaves caused by the weevils of *Neochetina bruchi* species. The biological activities were observed signifying the presence of the bio-control agents.

The picture in Figure 19 (a) below shows a weevil which is the biological agent being used to control the weeds while Figure 19(b) shows the extent of damage to the leaf occasioned by the weevils.



Figure 19(a): Weevils observed on water hyacinth plants

Figure 19(b): Larval Mines indicating the extent of biological damage.



### **1.2.11 Environmental and Social Impact Assessment (ESIA) and Project Brief/ Prospectus**

The Authority reviewed and provided comments involving two Environmental Impact Statements (EIS) and four Environmental Project Briefs/Environmental Prospectuses received from the Zambia Environmental Management Agency (ZEMA) and the Environmental Management Agency (EMA) of Zimbabwe, respectively as input into the respective ESIA review processes conducted by the two environmental regulatory agencies in the two Contracting States.

The documents reviewed included the following:

- a. Environmental Prospectus for Lamcent Hotel – Matebeleland Province by Mazedek Ventures Pvt Limited Environmental Consultants.
- b. Environmental Project Brief for the proposed Mooring Sites on the Zambezi River in Lower Zambezi National Park by River God Adventures Zambia Limited.
- c. Environmental and Social Impact Statement (ESIS) for the Kazungula Water Supply and Basic Sanitation Project by Southern Water and Sanitation Company (SWASCO).
- d. Environmental Project Brief (EPB) for the proposed construction of a Tourism Camp in the Lower Zambezi National Park of Luangwa District by Shear Zone Safaris Limited
- e. Environmental Project Brief (EPB) for the proposed development of a Safari Camp in Lower Zambezi National Park of Luangwa District by Robin Pope Safaris Limited.
- f. Environmental Impact Statement (EIS) for the proposed Effluent Treatment Plant by PADENGA Holdings in Kariba, Zimbabwe.

The Authority continued to collaborate with the two Environmental Management Regulators in ensuring that mitigation measures were implemented by the project proponents as listed in the conditional approval letters from the regulatory agencies.



## KRA 2:PROJECT MANAGEMENT SERVICES



*Project Manager-Spillway, Eng. Sudden Mukuwe, delivers a project overview before leading a guided tour of the Kariba Dam Rehabilitation Project site for the November 2023 Joint Mission of technical experts.*

### 2.1 Preamble

The Project Management Services key result area aims to increase the water storage volume for hydro-power generation and to maintain the structural integrity of dam infrastructure on the stretch of the Zambezi River that falls under the jurisdiction of the Authority. During the year 2023, the Authority continued to implement the Kariba Dam Rehabilitation Project (KDRP). In addition, other activities relating to the procurement of various consultancies including Engineering Feasibility Studies (EFS), Environmental and Social Impact Assessment (ESIA) Studies as well as Legal and Financial Transaction Advisory Services (LFTA) were undertaken to expedite progress on the projects which would facilitate successful execution of the Authority's mandate as programmed for the year.

In addition to operations-related Dam Management activities, the Authority continued with the implementation of the KDRP, with several key milestones being achieved during the reporting period. The overall project progress was recorded as 80.43% by December 2023 against a target of 81.91%. The Plunge Pool component of the project progressed with the excavation works being completed in December 2023. Ninety-three percent completion was achieved by December 2023. Outstanding works were scheduled to be completed by the fourth quarter of 2024, keeping all other factors constant. On the other hand, the Spillway Refurbishment works recorded an execution rate of 67.85% by the end of the year and were anticipated to be completed by the first quarter of 2025.

### 2.2 Project Management Services

Project Management Services, in consultation with the National Electricity Undertakings (Power Utilities), investigates the desirability of constructing new dams on the Zambezi River and makes recommendations thereon to the Council of Ministers (COM). Its mandate further includes the management of dam construction projects.

## 2.2.1. Kariba Dam Rehabilitation Project (KDRP)

KDRP aims to increase the structural integrity of the Kariba Dam in view of the fact that it was constructed over 60 years ago. Estimated to cost US\$294 at its inception in 2017, the Governments of Zambia and Zimbabwe mobilised financing from the African Development Bank (AfDB), the European Union (EU), the Government of Sweden and the World Bank to support the Authority in the implementation of the project.

### 2.2.1.1 Plunge Pool Reshaping Works

The Plunge Pool Reshaping works progressed with the excavation works being completed in December 2023. Following completion of the excavation works, Fault Treatment works will commence at the beginning of 2024, including filling of the cavity with mass concrete and stabilization of an overhang that was discovered at lower levels of the Plunge Pool. These works will continue through 2024, prior to refilling of the Plunge Pool. Overall, the project reached 94% with works scheduled to be completed by the end of 2024.



Figure 20: Works at the Plunge Pool

### 2.2.1.2. Spillway Refurbishment works

The spillway provides passage for excess water from the dam through sluices (openings) in the dam wall. Works progressed during the reporting period with hydro demolition works having been completed for sluice 3 and commenced for sluice 5 and the cofferdam set 1 installed. The rebar works; built-in-parts (BIP) installation for sluice 6 were completed up to a level above the sluice lintel and rewatering was done. Cofferdam set 1 (the cofferdam separates the water in the lake from the dam wall to enable execution of works) was moved from sluice 6 to sluice 5 and hydro demolition works commenced. Sluice 2 BIP installations were completed, while cage installation for the section close to the Dam Crest level was ongoing by the end of the year under review.

On the other hand, the offsite manufacturing of the emergency gate and the gantry crane required for the ongoing operations of the spillway facility after completion of the project was progressing well in China and South Africa, respectively. The emergency gate is a mitigation measure in the event one of the sluice gates fails – it can be used instead. It weighs about 500 tons, hence the requirement of a mobile gantry crane that would be used to lift it from one sluice to another if an emergency occurred. The mobile crane was delivered to site in November 2023, while procurement of the tractor and trailer



were ongoing with delivery expected during the first quarter of 2024. The overall progress by the end of the year was recorded as 67.85%. The works are expected to be completed by the first quarter of 2025.



Figure 21. Works at the spillway gates viewed from the aerial upstream side (lake)

The construction of permanent offices in Zimbabwe was completed and availed for occupation in November 2023, while the construction of the permanent offices in Zambia started in November 2023 and was expected to be completed during the last quarter of 2024. The offices were constructed as part of the KDRP to accommodate project staff as well as the Consultants. They will, however, be handed over to the Authority for its use at the close of the project.

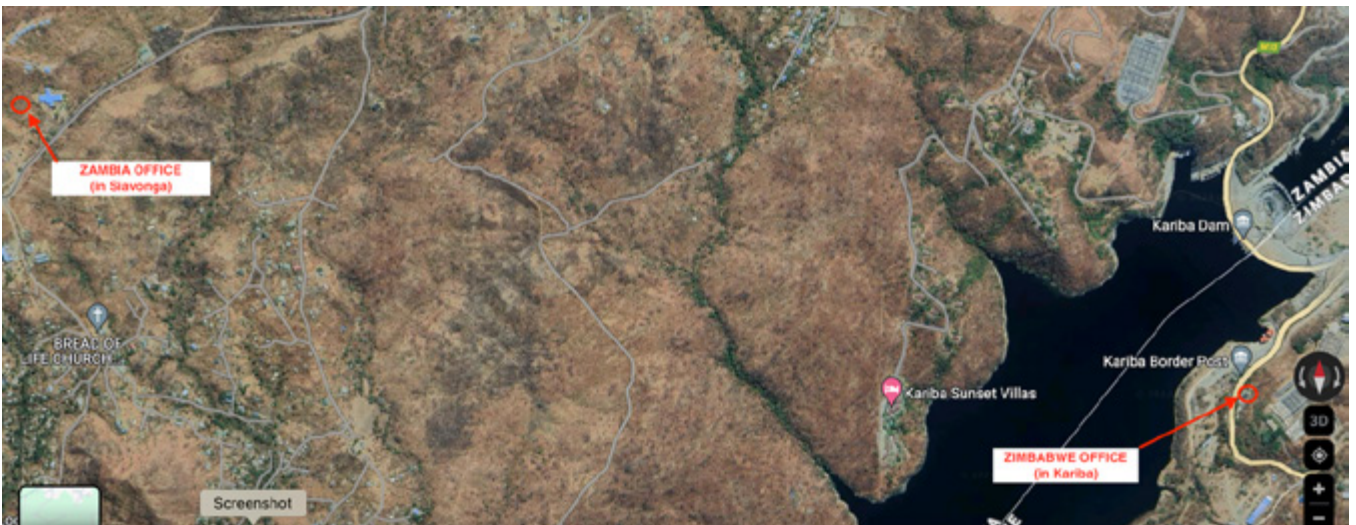


Figure 22: Locations of the two project offices





### 2.2.1.3 . Institutional support

Various activities and consultancies aimed at strengthening the capacity of the Authority to undertake the works progressed well during the year. The Zambezi Valley Development Fund (ZVDF) performance assessment consultancy; Gender Based Violence Mapping; Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) consultancies, among other consultancies, were completed during the reporting year. Furthermore, the Technical Services and Construction Supervision consultancy and the various individual contracts with the Panel of Experts remained effective.

Project financing was also successfully restructured to allow for additional indicators such as the engagement of 20 young female professionals under the Science, Technology, Engineering and Mathematics (STEM) programme. By the end of the year, the Authority had progressed with the recruitment of the candidates who were scheduled to commence their attachment in January 2024.

## 2.2.2. Execution of the Batoka Gorge Hydro-Electric Scheme (BGHES) Project

The proposed BGHES will be in the central portion of the Zambezi River Basin and will extend across the international boundary between Zambia and Zimbabwe. It will be situated upstream of the existing Kariba Dam Hydro-Electric Scheme on the Zambezi River and at about 47km downstream of the Victoria Falls. Based on the latest engineering studies, the current technical configuration under consideration for the BGHES comprises the following:

- a. Construction of a 175m high Roller Compacted Concrete (RCC) dam spanning a total of 720m at crest level across the two banks.
- b. Two surface power plants, one on either bank of the river, equipped with a total generating capacity of 2400MW, split into 1200MW on each bank.

### 2.2.2.1. Technical Meeting with AfDB

A technical meeting attended by the African Development Bank; African Legal Support Facility; Governments of Zambia and Zimbabwe; Zambezi River Authority; ZESCO Limited and ZESA Holdings regarding the development of the BGHES was held at the AfDB offices in South Africa in January 2023. The objective of the meeting was for the technical team to brainstorm on the actions required to be taken to ensure the successful execution of the project following the setbacks suffered due to the failure to develop the scheme despite having engaged the consortium of Power Construction Corporation of China Limited and General Electric to develop the project on an emergency basis. The technical meeting's outcomes resulted in the formulation of a roadmap that will lead to promoting the BGHES project in a manner that would make it bankable.

The two-day technical meeting culminated into a ministerial meeting with the AfDB Vice President Power, Energy Climate Change and Green Growth, Dr Kevin Kariuki. The outcome of the meeting was the development of the roadmap that would guide the preparatory activities towards attaining the bankability status of the BGHES and, subsequently, reaching financial close.



*Figure 23. Attendees of the Technical Meeting*

### **2.2.2.2. Disengagement with the Project Developer**

Following the Council of Ministers resolution to competitively retender the project at its 39<sup>th</sup> meeting held in December 2021, as well as the outcome of the technical meeting to operationalize the disengagement process with the Consortium of Power Construction Corporation of China Limited and General Electric, Cabinet approval was granted by the two countries to proceed with the termination of the contract to develop the BGHES and subsequently disengage with the Developer. The Authority informed the Developer in writing regarding the position taken by the two Governments. A close-out meeting was held between the Authority and the Developer in December 2023 and a final close-out agreement was concluded.

### **2.2.2.3. Outcomes of the Extended 45<sup>th</sup> Session of the World Heritage Committee**

During the 45<sup>th</sup> Extended Meeting of the World Heritage Centre (WHC) in Riyadh (Saudi Arabia) held in September 2023, the State Party of South Africa opened a debate on behalf of the States Parties of Zambia and Zimbabwe, aimed at amending the original Draft Decision 45 COM 7B.10. A team comprising Zambezi River Authority and Government representatives from the two States Parties of Zambia and Zimbabwe (including those from the Ministries of Tourism and the National Heritage Commissions) attended the Session.

The draft decision for the Victoria Falls World Heritage Site property was tabled during the meeting convened by the UNESCO Heritage Committee in September 2023. As per procedure, the Republic of South Africa (RSA) submitted amendments to the draft decision on behalf of Zambia (as a member of the World Heritage Committee) and Zimbabwe (as an Observer member). The submission was supported by technical and economic considerations that re-classified the perceived impact of the project on the Outstanding Universal Value (OUV) of the Mosio-a-Tunya / Victoria Falls World Heritage Site, from major negative to minimal and requested that the draft decision be opened for debate. UNESCO Committee Member States including Japan, Oman, Russia, Rwanda, Egypt, Tanzania, Qatar, Ethiopia and Mali supported the proposed amendments after which the UNESCO Heritage Committee adopted the proposed amendments by South Africa.

The adopted amendment to the Draft Decision 45 COM 7B.10 resulted in clarity and harmony over indistinct issues and provided room for conservation and development to co-exist whilst ensuring that the OUV of the Mosi-oa-Tunya/Victoria World Heritage property is protected. The World Heritage Centre also supported the position taken by Zambia to advocate for piloting the Mosi-oa-Tunya/World Heritage



Site as an exemplary site for demonstrating adherence to and the practicality of the policy on sustainable development in the context of the World Heritage Convention.

#### 2.2.2.4. Council of Ministers Decision

At its 41<sup>st</sup> meeting held in Livingstone in December 2023; the Council of Ministers (COM) directed that the Authority should ensure that Financial Close (FC) for the project is reached by December 2025. Following this decision, the Authority together with its implementing partners, ZESCO Limited and ZESA Holdings together with other cooperating partners started working towards the development of strategies to expedite the development of the Batoka Gorge Hydro-Electric Scheme.

#### 2.2.2.5 Devil's Gorge Hydro-Electric Scheme (DGHES)

The Authority engaged Tractebel Engineering of France (Tractebel) as the Consultant to undertake the prefeasibility studies for the implementation of the Devil's Gorge Hydro-Electric Scheme project.

The studies are expected to be completed by the end of 2024 with all deliverables specified in the Terms of Reference being met. Tractebel completed and shared the initial draft inception report in December 2023.



*Figure 24. Potential site "13" of the Devil's Gorge Hydro-Electric Scheme located at the tail-end of the Kariba Dam.*

#### 2.2.2.6. Diversification of Sources of Energy

The Zambezi River Authority's Council of Ministers approved the implementation of a Floating Solar Photo Voltaic power plant as a single, bilateral project by the Authority. Both Governments, however, are at liberty to undertake individual developments of the solar projects within their boundaries upon extensive consultations with the other Contracting State so as to promote mutually agreed development plans.

Following engagements with various financing institutions regarding the development of the solar project, the Authority settled for the African Development Bank (AfDB) which indicated its intentions to provide a US\$1 million grant financing subject to application by the Authority for undertaking prefeasibility studies. Applications were underway by the close of the year under review with the procurement of the prefeasibility studies consultant set for the second quarter of 2024.





### 2.3. Execution of Projects under the Zambezi Valley Development Fund (ZVDF)

The Authority continued with the implementation of ZVDF projects in the ten districts of Zambia and Zimbabwe. Projects under implementation ranged from water supply and irrigation schemes to the construction of clinics and schools, among others. The livelihood of the local people was positively impacted by these projects. ZVDF projects are funded through contributions made by the Authority, ZESCO Limited and ZPC. The Authority contributes 1% of its annual budget, while the Power Utilities, respectively, contribute 1% of their annual budgets.

The Authority planned to hand over six completed projects in both Zambia and Zimbabwe within the year 2023. Below are the highlights in respect of the status of the projects that were executed during the year 2023.

The total expenditure on ZVDF projects by 31<sup>st</sup> December 2023 stood at **US\$424,039**.

#### 2.3.1 ZVDF Projects in Zambia

| Project Location   | Project Description  | Status  | Project Cost |
|--|--|---|--------------|
| Lusitu Water Supply Scheme in Chirundu                     | Rehabilitation of the Lusitu Water Reticulation System                         | This project has been ongoing for the past four years and was implemented in phases. Phase 6 works are in progress and will be handed over during the second quarter. | US\$44,500   |
| Chabboboma Mothers' Shelter in Gwembe                      | Construction of a Mothers' Shelter at Chabboboma                               | The project was completed and handed over to the Clinic Administration and Town Council.  | US\$47,326   |
| Musisa Primary School 1x2 Classroom Block in Gwembe        | Construction of a 1x2 Classroom Block at Musisa                                | Construction was ongoing at 25%. Works were at substructure level.  | US\$47,326   |
| Nkandazovu School Project in Kalomo                        | Construction of two staff houses at Nkandazovu Primary School                  | The project was at 95% complete. The two houses were roofed and plastered. Internal and external plumbing works were under way  | US\$86,631   |
| Nkandazovu School 1x3 Science Laboratory Project in Kalomo | Construction of 1x3 Science Laboratory at Nkandanzovu in Kalomo District       | Construction was ongoing at 25%. Works were at substructure level.  | US\$66,631   |
| Chiyabi Clinic in Sinazongwe                               | Construction of a clinic at Chiyabi Out-Patient Department Building            | The project was completed and administratively handed over to Sinazongwe Town Council on 18 <sup>th</sup> December 2023.  | US\$30,000   |
| Njabalombe Clinic in Zimba                                 | Construction of a health post at Njabalombe                                    | The project was completed in March 2023. In addition, the Authority procured furniture and equipment to facilitate commencement of provision of services.             | US\$171,000  |
| Mundulundulu Water Scheme Project                          | Two Main Pumps, Pontoon, Water Distribution Network and Reservoirs in Siavonga | The last phase of the project was completed (23km line from Matuwa Primary School to Kariba Store) and handed over  | US\$30,816   |

Table 6: Status of ZVDF projects and expenditure in Zambia

#### 2.3.2 ZVDF Projects in Zimbabwe

| Project Location  | Project Description   | Status   | Project Cost |
|---|---|--|--------------|
| Saba Secondary School Staff Houses x2 at Mlibizi in Binga | Construction of two F14 Modified Staff Houses at Saba Secondary School  | The project was on-going by the end of 2023. Construction of the superstructures was at 60% complete.  | US\$128,815  |
| Nyangwizhu Rural Health Center in Hurungwe                | Construction of a Clinic Block. Project is being implemented in phases. | The construction of the clinic block was at 97%. The superstructure and roofing were completed. Ceiling, electrical and painting works were also completed. Plumbing works were at 90% and were expected to be completed during the first quarter of 2024. | US\$69,215   |



**2.3.2 ZVDF Projects in Zimbabwe(continued)**

| Project Location   | Project Description  | Status  | Project Cost |
|--|--|---|--------------|
| Vumba School Administration Block in Gokwe North           | Construction of a School Administration Block at Vumba, Simchembu Ward                             | The project was on-going by the end of 2023. Construction of the superstructure was at 60% complete.  | US\$121,079  |
| Chidyamugwamu Rural Health Center in Kariba                | Construction of a Clinic Block and Three Staff Houses. The project is being implemented in phases. | The construction of the clinic block and three staff houses was at 95% complete. The four superstructures were completed with roofing in place. The ceiling, electrical and painting works were done (except for one staff house). Plumbing works were underway and were expected to be completed during the first quarter of 2024. | US\$209,215  |
| Jongola Primary School 1x2 Classroom Block in Mola, Kariba | Construction of a 1x2 Classroom Block at Musisa  | Construction was at 70% complete. The substructure and superstructure were completed. Plastering and Roofing was in progress.   | US\$54,326   |

*Table 7 : Status of ZVDF projects and expenditure in Zimbabwe*

**2.3.3 ZVDF Updates of Pictorial Status of projects**



*Chabbobboma Mothers' Shelter in Gwembe District*



*Chidyamugwamu Clinic and three Staff Houses*



*Chiyabi OPD Building in Sinazongwe*



*Nyangwizhu Clinic Block/Building*



*The OPD department under construction at Njabalombe clinic site*



*Staff house constructed at Simchembu clinic.*

## KRA 3: CORPORATE SUPPORT SERVICES



Some of the Authority staff, led by Director of Finance, Mr. Edward Kabwe, take a moment to smile for the camera during the Inter-company relay event held at the Heroes Stadium in Lusaka.

### 3.1 Human Resource Management

Human Resource Management is one of the Key Sub Programmes under the Corporate Support Services Key Result Area charged with the provision of strategic leadership and people management. Under the said Sub Programme, employees serve as change leaders and strategic partners to the business.

The key details regarding the period under review were as follows:

#### 3.1.1 Employee / Employer Relations

The Authority continued to experience harmonious Employee-Employer relations across its entire network during the year 2023. No grievances were raised against the employer (both internally and externally), neither were disciplinary proceedings instituted against any employee. These harmonious relations continued due to the symbiotic relationship that exists between the employer and the employees fostered by the Works Council. The Works Council is a committee comprising Employer and Employee representatives whose functions are:

- a. To focus the best interests of the Authority and employees on the best possible use of its human capital, financial capital, equipment and other resources so that maximum productivity and optimum employment standards may be maintained.
- b. To foster, encourage and maintain good relations between the employer and employees at all levels and to understand and seek solutions to their common problems.
- c. To promote the general and common interest, including the health, safety and welfare of both the Authority and its employees.
- d. To promote and maintain the effective participation of employees in the Authority's operations and to secure the mutual co-operation and trust of employees, the employer and any registered trade union representing employees in the establishment, in the interest of industrial harmony.





### 3.1.2 Employee Establishment

The employee complement as of 31<sup>st</sup> December 2023 was 156 against the approved establishment of 183 positions. The filling of vacant positions could not be achieved during the period under review due to the fact that the recruitment and selection process was put on hold for some positions which were awaiting strategic direction in respect of the undertaking of some key projects.

#### 3.1.2.1 Summary of the employee complement

Details of the employee complement for the period under review were as indicated below:

| Details  | Numbers |
|--|---------|
| Opening number of employees as at 1 <sup>st</sup> January 2023   | 157     |
| Engagements  | 7       |
| Separations  | 8       |
| Closing number of employees as at 31 <sup>st</sup> December 2023 | 156     |

*Table 8: 2023 Employee complement*

#### 3.1.2.2 Summary of employee engagements and separations

The details of employee engagements and separations during the period under review in comparison with those for the year 2022 were as indicated below:

| Engagements/Separations        | 2023 | 2022 |
|--------------------------------|------|------|
| Engagements                    | 6    | 22   |
| Deaths                         | 1    | 1    |
| Retirement/Medical Discharge   | 1    | 4    |
| Resignation                    | 5    | 7    |
| Dismissal                      | 0    | 0    |
| Expiry of Employment Contracts | 0    | 5    |
| Retrenchment                   | 0    | 0    |

*Table 9: Employee engagements and separations*

#### 3.1.2.3 Details of Employee Engagements

The following employees were either engaged or re-engaged during the period under review:

| No. | NAME                        | POSITION  | DEPARTMENT                              | LOCATION      | DATE OF APPOINTMENT          |
|-----|-----------------------------|---|---|---------------|------------------------------|
| 1   | Mr. Peter Kapinga           | Board Secretary /<br>Corporate Services<br>Director | Corporate Services                      | Head Office   | 1 <sup>st</sup> January 2023 |
| 2   | Mr. Rangarirai<br>Muchawaya | Procurement Officer<br>(K)                          | Corporate Services                      | Kariba Office | 9 <sup>th</sup> January 2023 |
| 3   | Mr. Caristo Himambo         | Dam Safety<br>Monitoring Attendant                  | Projects and Dam<br>Management Services | Kariba Office | 17 <sup>th</sup> May 2023    |
| 4   | Mr. Bunny Mandingaisa       | Dam Safety<br>Monitoring Attendant                  | Projects and Dam<br>Management Services | Kariba Office | 22 <sup>nd</sup> May 2023    |



| No. | NAME                 | POSITION             | DEPARTMENT                           | LOCATION      | DATE OF APPOINTMENT             |
|-----|----------------------|----------------------|--------------------------------------|---------------|---------------------------------|
| 5   | Eng. Stephen Maidza  | Projects Coordinator | Projects and Dam Management Services | Head Office   | 1 <sup>st</sup> June 2023       |
| 6   | Eng. Britius Mupeyo  | Designs Engineer     | Projects and Dam Management Services | Kariba Office | 1 <sup>st</sup> June 2023       |
| 7   | Mr. Abel Sikazwe     | Driver               | Corporate Services                   | Kariba Office | 18 <sup>th</sup> September 2023 |
| 8   | Ms. Mackline Chiingo | Messenger            | Corporate Services                   | Head Office   | 4 <sup>th</sup> December 2023   |

Table 10: Employee Engagements and Re-engagements

### 3.1.2.4 Details of Employee Separations

3.1.2.4.1. The following employees separated from the employ of the Authority and were re-engaged:

| No | Name                  | Previous position                | New Position                    | Department                           | Mode of Separation | Date of Separation              |
|----|-----------------------|----------------------------------|---------------------------------|--------------------------------------|--------------------|---------------------------------|
| 1  | Mr. Caristo Himambo   | General Worker                   | Dam Safety Monitoring Attendant | Projects and Dam Management Services | Resignation        | 17 <sup>th</sup> May 2023       |
| 2  | Mr. Bunny Mandingaisa | Motor Vehicle Workshop Attendant | Dam Safety Monitoring Attendant | Projects and Dam Management Services | Resignation        | 22 <sup>nd</sup> May 2023       |
| 3  | Eng. Stephen Maidza   | Quality and Risk Officer -BDGHES | Projects Coordinator            | Projects and Dam Management Services | Resignation        | 1 <sup>st</sup> June 2023       |
| 4  | Eng. Britius Mupeyo   | Project Planning Officer         | Designs Engineer                | Projects and Dam Management Services | Resignation        | 1 <sup>st</sup> June 2023       |
| 5  | Mr. Abel Sikazwe      | General Worker                   | Driver                          | Corporate Services                   | Resignation        | 18 <sup>th</sup> September 2023 |

Table 11: Employee Separations and re-engagements

3.1.2.4.2 The Authority bade farewell to three (3) employees who left the employ of the Authority as indicated below:

| No | Name                | Previous position         | Department                           | Mode of Separation | Date of Separation              |
|----|---------------------|---------------------------|--------------------------------------|--------------------|---------------------------------|
| 1  | Eng. Ernest Katonga | Projects Coordinator      | Projects and Dam Management Services | Resignation        | 31 <sup>st</sup> May 2023       |
| 2  | Nicodemus Rangarira | Dam Maintenance Attendant | Corporate Services                   | Retirement         | 27 <sup>th</sup> July 2023      |
| 3  | Knowledge Taruwinga | Driver                    | Corporate Services                   | Death              | 27 <sup>th</sup> September 2023 |

Table 12: Employee Separations



It is with great sadness that we report the demise of one of the Authority's employees, Mr Knowledge Taruwinga, who departed after serving the Authority for an unbroken period of fifteen (15) years. May His Soul Rest in Eternal Peace.

### 3.1.3 Employee Promotions

There were no employee promotions recorded during the period under review. The Authority, however, has active Succession Plans which are invoked as necessary.

### 3.1.4 Policy review and / or development and implementation

The Board approved five (5) Policies and Procedures which were reviewed and / or developed as indicated below:

| No | Description of the Policy                                    | Remarks                             |
|----|--|-------------------------------------|
| 1  | Recruitment and Selection Policy and Procedures              | Normal review after three (3) years |
| 2  | Remuneration Policy and Procedures                           | Normal review after three (3) years |
| 3  | Performance Management System Policy and Procedures          | Normal review after three (3) years |
| 4  | Results Based Personnel Performance System Procedures Manual | Normal review after three (3) years |
| 5  | Workplace Harassment Policy and Procedures                   | New Policy                          |

*Table 13: Policies and Procedures reviewed*

Other Human Resource and Administration Policies and Procedures will be reviewed during the year 2024.

### 3.1.5 Training and Development / Capacity Building

Every year, the Authority empowers employees with the knowledge and skills vital for ensuring effective execution of its Corporate Strategic Objectives through the facilitation of attendance of training and development programmes. Consequently, the following in- house training programmes were conducted during the period under review:

| No | Description of In-house Training Programme  | Number of Participants |
|----|---|------------------------|
| 1  | Workplace HIV/AIDS Scheme Committee Members and Peer Educators Training           | 15                     |
| 2  | Defensive Driving   | 65                     |
| 3  | Preparation for Retirement  | 39                     |
| 4  | Change Management Strategy Formulation & Implementation for Change Agents/Drivers | 33                     |
| 5  | Fire Fighting Training  | 63                     |
| 6  | SAP Training Programs   | Various                |
| 7  | HIV/AIDS Workshop   | 69                     |

*Table 14: Employee Training and Development / Capacity Building*





### 3.1.6 Performance Management System

The Integrated Results Based Management (IRBM) System was successfully implemented after concluding the implementation process of one component of Phase two in respect of Monitoring and Evaluation (M&E). The implementation of the last component under Phase Two was still underway by the end of the year 2023.

The implementation of the Performance Management System Action Plan was effectively undertaken. Employees executed their Individual Personnel Performance Work Plans and Appraisals and undertook performance assessments for the year 2023. Quarterly Performance Monitoring and Evaluation reviews were conducted in respect of Individual Personnel Performance Work Plans and Appraisals on a quarterly basis. The quarterly performance monitoring and evaluation reviews were based on the agreed performance targets for the period under review for each employee. Performance in respect of forty-five (45) employees (28%) at various levels exceeded the set performance targets, an achievement that lies within the normal (Gaussian or Bell-curve) distribution with respect to performance management.

During the implementation of the IRBM System, the Results Based Personnel Performance System Procedures Manual was developed and approved by the Board. In addition, the Performance Management System Policy and Procedures and Remuneration Policy and Procedures was also reviewed and approved in order to align the same to the IRBM System. In this regard, the Authority effected payment of performance rewards to eligible employees during the year 2023 in respect of the performance cycle for the year 2022.

### 3.1.7 Employee Welfare and Wellness Programmes

The Authority recognizes that healthy employees build a healthy organization and that a healthy organization in turn produces excellent business performance results. Consequently, the Authority continued to improve the welfare and wellbeing of employees through Human Resource Management strategies aimed at achieving the following:

- a. Improved employee satisfaction.
- b. Improved employee productivity.
- c. Mitigating occupational health and safety risks.
- d. Reducing costs associated with absenteeism; and
- e. Improved employee organizational culture.

In that regard, the Authority undertook the following initiatives:

**a) HIV/AIDS** - The Authority continued to support employees by facilitating the provision of counselling services and medical support. Employees who had disclosed their HIV/AIDS status continued to receive food packs and nutritional supplements monthly.

The Workplace HIV/AIDS Scheme Annual Work Plan for the year 2023 was adequately implemented.

**b) Health and Safety** – The Authority continued to recognize employees' wellbeing, satisfaction and productivity and the importance of a healthy and safe environment for its stakeholders. The Authority facilitated safety talks, safety role plays and awareness campaigns in keeping with the Authority's core values which include safety of employees and other stakeholders.

The Occupational Health and Safety Annual Work Plan for 2023 was adequately implemented.

#### c) Social Sports

The Authority values the health and vitality of its employees. This is exemplified by one of the Authority's core values of Safety. In that regard, during the period under review, the Authority facilitated employees' participation in social football, golf and athletics as follows:



### i) Social Football

The Social Soccer Club committee organized both local and out of station social games with other social clubs in Kariba (local), Harare in Zimbabwe and Monze in Zambia (out of station).

### ii) Golf

Employees at Head Office participated in golf tournaments held on the Copperbelt. Further, they also participated in tournaments held locally in Lusaka.

### iii) Provision of Gym facilities

Employees at both the Head Office and Kariba station utilised gym facilities for their stay-fit programmes. This continued during the period under review with the gym equipment being in fair state. However, since the gym premises in Kariba have limited space, plans to expand the same were underway.

### iv) Athletics

Authority employees participated in the 2023 Intercompany Relay in Lusaka, Zambia where the Authority was awarded a trophy for scooping third position in the 100-metre race, Econet Vic Falls Marathon in Victoria Falls, Zimbabwe and Kariba Lake Harvest Marathon in Kariba, Zimbabwe.

## 3.2 Partner and Client Relationship Management



*During his tour of the Kariba Dam, President Hakainde Hichilema of Zambia receives a briefing from Authority Chief Executive, Eng. Munyaradzi Munodawafa, on the progress of works at the Plunge Pool, situated downstream of the dam. The President's visit was to assess the lake levels and gain a comprehensive understanding of the situation.*

The Authority acknowledges that positive stakeholder relations are key in executing its mandate. The various initiatives undertaken during the year 2023 for purposes of ensuring that cordial relations with key stakeholders are sustained are detailed below:

### 3.2.1 Partner and Client Satisfaction Baseline Survey

In a bid to ascertain the Authority's stakeholder satisfaction levels, a Partner and Client Satisfaction Baseline Survey was commissioned during 2023. Executed by Kasek Consultants (Pvt Ltd), the research project is anticipated to be completed in 2024. The findings from this survey will inform future stakeholder engagement strategic initiatives.



### 3.2.2 Stakeholder Engagements

Twenty- six stakeholder engagements were held during the year under review. Of note were high-level visits to the Kariba Dam by His Excellency, the President of the Republic of Zambia, Mr. Hakainde Hichilema; the Honorable Ministers of Energy and Council of Ministers Chairperson, Eng. Peter Kapala (MP) Co-Chairperson, Mr. Edgar Moyo (MP), the Minister of Water Development and Sanitation, Eng. Mike E. Mposha. High-level delegations were also received from the European Union (KDRP financiers) and the Zambezi Watercourse Commission (ZAMCOM). The purpose of these visits was to obtain updates regarding the progress recording regarding the execution of the KDRP and the obtaining water levels in the Kariba reservoir.



*A delegation from the Zambezi Watercourse Commission (ZAMCOM), headed by Executive Secretary Felix Ngamlagosi, visits the Kariba Dam as part of an educational tour, aimed at enhancing their understanding of Zambezi catchment, the dam's operations and its significance in the region.*

The Authority also held its maiden exhibition at the Zimbabwe International Trade Fair (ZITF) in Bulawayo where information regarding the organization's mandate and operations was disseminated. Of interest was the erroneous notion that the Authority restricts water allocation to Power Utilities resulting in load shedding which was dispelled through an intensive campaign throughout the show by using various channels.



*Scores of showgoers flocked to the Authority's booth at the 2023 Zimbabwe International Trade Fair, eager to learn more about our mandate and functions.*

The combined Kariba Dam Riparian Communities Joint Traditional ceremony, which the Authority facilitated on behalf of South Bank (Zimbabwe) Chiefs Mola, Msambakaruma, Nebiri and Negande and North Bank (Zambia) Chiefs Chipepo and Simamba was also held during the year 2023 in keeping with the objective of assisting the displaced communities in their quest to retain their cultural heritage.





### 3.3 Media Coverage

#### 3.3.1 External Media Coverage

A total of 306 articles were published during the year under review. Most articles were objective and positive, save for one disconcerting interview where the interviewee alleged that the Authority’s approach to rehabilitating the Kariba Dam was ill-informed. The Chief Executive, Engineer Munyaradzi C. Munodawafa was interviewed live on television to clarify the position as a counter to the misinformation.

The coverage was primarily concerning the ongoing Kariba Dam Rehabilitation (KDRP) works; water levels at the Kariba Dam and the planned Batoka Gorge Hydro-Electric Scheme (BGHES).

#### 3.3.2 Owned Media

A total of 3,217,826 (about 3.2 million) people were reached as shown in Table 1, with 6,615,458 (about 6,6 million) impressions recorded from 1<sup>st</sup> January to 31<sup>st</sup> December 2023. During the period under review, the Authority hyped interactions around KDRP in view of the novelty of the project.

The Authority shared 203 posts in 2023 and the content reached an audience of 5,544,654 (5,5 million) from the two Contracting States and beyond. The posts engagement increased from 97% in December 2022 to 190% in December 2023, presenting an increase of 94%.

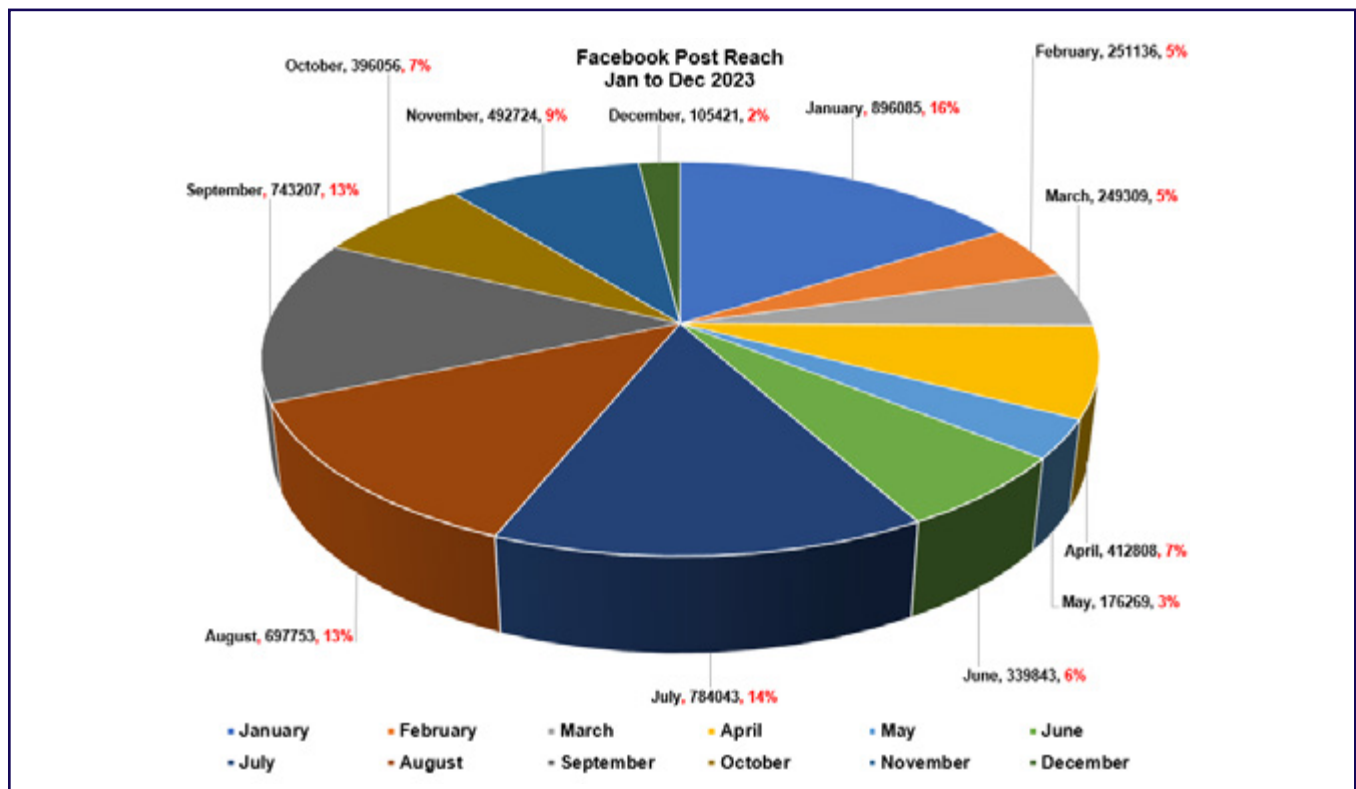


Figure 25: Facebook Post Reach (Jan to Dec 2023)

Generally, the Authority’s reputation remained in good standing during the year under review. It is envisaged that the outcome of the Partner and Client Satisfaction Survey will further inform the Authority’s engagement with its stakeholders.

## KRA 4: FINANCIAL RESOURCES, MOBILISATION AND ACCOUNTABILITY



*Attendees of the budget review meeting held at David Livingstone Resort in Livingstone*

### 4.1 Budget Performance

The Authority's operating income was **US\$20.71 million** compared with the budget of **US\$20.76 million**, resulting in an adverse variance of **US\$0.05 million** or **0.25%**. With regard to water utilisation, ZESCO Limited over utilised the water allocated by 0.35BCM. However, no penalty was incurred as the amount of water over-utilised was below **5%** which was within the allowable variance. The combined amount of water utilised by both Power Utilities was **29.87 Billion Cubic Metres (BCM)** against the revised allocation of **30 BCM**, representing a balance of **0.13 BCM** or **0.4%** from the allocated amount.

The Authority's operating expenditure was **US\$15.71 million** against a budget of **US\$27.58 million**, resulting in a variance of **US\$11.87 million** or **43% of the budget**. The low budget execution was on account of low expenditure on Project Management costs due to non-undertaking of activities under the Batoka Gorge Hydro - Electric Scheme (BGHES); non-expenditure on Consultancy Services and Consulting Engineering expenses. The low expenditure on the BGHES was due to delayed disengagement from the Developer.

Further, the total project capital expenditure related to amounts funded by the donors/financiers as well as that funded by the Authority (Counterpart Funding) was **US\$22,252,976** against the annual total project capital budget of **US\$38,813,998**. This represented **57%** budget absorption rate for the year.



Whilst the quantum of the money owed by the Power Utilities remained high during the period under review, the cash inflows were determined by the approved payment plans between the Authority and the Power Utilities. The said inflows supported the liquidity needs of the Authority during the period. The medium to long term profile of the Power Utilities' obligations, however, still remained high and critical as evidenced by the high indebtedness that continued to prevail. The Power Utilities' Trade Receivables increased from US\$85.39 million the previous year to US\$90.13 million, representing an increase of 6%

Further, the unliquidated balance on the restricted cash in Zimbabwe was US\$5.3 million, representing 43% decrease over the previous year's balance which stood at US\$10.20 million. This resulted in the total inaccessible funds (i.e. amounts owed by the Power Utilities and restricted cash) amounting to US\$95.93 million. The increasing trade receivables continued to negatively impact the financial health of the Authority to the extent that it was unable to execute its budgetary requirements timeously and fully, thus adversely affecting the achievement of the 2023 workplan component of the Corporate Strategy.

The Authority's capacity to cover its obtaining liabilities ( the Current or Liquid Ratio) continued to indicate a very good outlook of 4.02 times of current assets which could cover current liabilities. However, when the inaccessible funds mentioned above were removed; the resultant Acid Test Ratio, showed a paltry 0.46 times or only about 46% of the current liabilities that could be covered by the current assets. The Authority continued to engage the Power Utilities with a view to ensuring that they settled the outstanding obligations. Consequently, the Authority's Liquidity and Credit Risks remained key risks (and were internally ranked as VERY CRITICAL) and required urgent action.

## 4.2 Enterprise Risk Management

The Board of Directors, through the Audit, Risk Management and Corporate Governance Board Committee provides oversight over the Enterprise Risk Management (ERM) processes in the Authority. It is committed to managing risk in accordance with Internationally Accepted Risk Management Principles, Standards and Practices. In this regard, ERM has been benchmarked against international principles such as those set out in the International Organisation for Standardisation (ISO 31000:2018), the Committee of Sponsoring Organisations (COSO) Enterprise Risk Management (ERM) framework of 2017 and is supplemented by the Kariba Dam Standing Operating Procedures (SOP), the Emergency Preparedness Plan (EPP) and other risk management procedures of the Authority.

The Board considers risk management as an integral part of its operations and implementation of strategies to minimise threats to the achievement of the organisation's strategic goals and objectives. In demonstrating this commitment, the Authority has a budget provision each year to finance the implementation of initiatives relating to ERM and capacity building of those charged with the day-to-day management of risk.

The period under review was characterised by the events that affected the Authority's ERM. The events included the following:

- a. The growth of the Power Utilities' trade receivables and continued inability of the Authority to implement enforceable mechanisms which adversely affected the achievement of strategic objectives.
- b. The continued impact of the El Nino conditions on the rainfall cycle negatively affected the 2023/2024 rainfall season, resulting in reduced inflow of water into the reservoir. This situation, in turn, resulted in the reduction of water allocated to the Power Utilities from 40 BCM to 30 BCM, directly affecting the Authority's water sales revenue (its primary source of income ).





- c. Issues relating to delays in project implementation due to the financing window for the Kariba Dam Rehabilitation Project (KDRP) closing earlier than the projected completion of the project and the delayed close out in respect of the disengagement with the BGHES Developer.
- d. Increased Occupational Health and Safety (OHS) awareness activities due to the ongoing works in respect of the KDRP.

The Board of Directors, however, proposed mitigation measures to ensure that all risks were managed or reduced. These measures included the following:

- a. Signing payment plans between the Authority and the Power Utilities and the holding of regular meetings with the Power Utilities so as to ensure that they endeavored to become current on their outstanding debt.
- b. Adoption of a more cautious approach in water allocation for power generation at Kariba, where only 16 Billion Cubic Meters (BCM) was allocated for the year 2024.

Further, the Authority held sustained engagements through the Joint Technical Committee (JTC) meetings that aided and guided the Power Utilities to generate power within the approved generation plans meant to ensure sustainable utilisation of water.

- c. Commencement of engagements with the cooperating partners with the aim of seeking an extension of the financing window.
- d. Reviewing of the Contractors' work schedules and work method statements in order to contain project delays.
- e. Upholding Occupational Health and Safety standards through random inspections of work areas, regular safety awareness meetings before undertaking activities and the increased involvement of the Occupational Health and Safety Representatives in enforcing and monitoring compliance in the dissemination of information relating to safe workplace practices.

### 4.3 Business Development Environment

In this highly volatile and uncertain business environment, the Authority is cognisant of the fact that only agile organisations will continue to thrive. In this vein, the Authority's strategic thrust recognises the need to identify additional revenue streams besides the main source of revenue, namely water sales to the Power Utilities - ZESCO Limited in Zambia and Kariba Hydro- Power Company in Zimbabwe.

During the year, the Authority established the Resource Mobilisation Committee tasked with the development of a resource mobilisation strategy; determination of non-traditional revenue sources and establishment of a clear overview of current and potential funding opportunities for the Authority to increase the long-term sustainability of the organisation. It is noteworthy that during the period under review, the Committee identified revenue streams which are undergoing further analyses and was working on strategies to mobilise resources to finance project related capital expenditure.



# **FINANCIAL REPORT**

**FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2023**



The Directors submit their report together with the audited annual financial statements for the year ended 31 December 2023, which disclose the state of affairs and financial performance of Zambezi River Authority (“the Authority”).

### Establishment and Functions

The Zambezi River Authority (“the Authority”) was established as a corporate body on 1 October 1987 by parallel legislation in the Parliaments of Zambia and Zimbabwe under the Zambezi River Authority Acts Chapters 467 and 20:23 of the Laws of Zambia and Zimbabwe respectively. It was tasked with the management of the Zambezi River, which flows between the two countries’ common border. The Authority is also mandated to maintain the Kariba Complex and to construct and maintain other dams or infrastructure on the river which constitute a common border between the two countries.

### Principal Functions

The functions of the Authority are set out in the schedule to the Zambezi River Authority Acts Chapters 467 and 20:23 of the Laws of Zambia and Zimbabwe as follows:

- (a) Operate monitor and maintain the Kariba Complex. Kariba complex means:
  - (i) the Kariba Dam and reservoir
  - (ii) all telemetering stations relating to the Kariba Dam
  - (iii) any other installations owned by the Authority
- (b) In consultation with the National Electricity undertakings, investigate the desirability of constructing new dams on the Zambezi River and make recommendations thereon to the Council of Ministers (the “Council”);
- (c) Subject to the approval of the Council, construct, operate, monitor, and maintain any other dams on the Zambezi River;
- (d) Collect, accumulate and process hydrological and environmental data of the Zambezi River for the better performance of its functions and for any other purpose beneficial to the Contracting States;
- (e) In consultation with the National Electricity undertakings, regulate the water level in the Kariba reservoir and in any other reservoir owned by the Authority;
- (f) Make such recommendations to the Council as will ensure the effective and efficient use of the waters and other resources of the Zambezi river;
- (g) Liaise with the National Electricity Undertakings in the performance of its functions that may affect the generation and transmission of electricity to the Contracting States;
- (h) Subject to provisions of the Acts, recruit employ and provide for the training of staff as may be necessary for the performance of its functions under the Agreement;
- (i) From time to time and subject to the approval of the Council, make such revision of salaries, wages, and other remuneration to its employees as it considers appropriate;
- (j) Submit development plans and programmes to the Council approval;
- (k) Give effect to such directions, as may from time to time, be given by the Council; and
- (l) Carry out such other functions as are provided for in the Agreement or are incidental or conducive to the better performance of its functions.





## Place of Business

- (a) Head Office: House, 32 Cha Cha Cha Road, P.O. Box 30233, Lusaka, Zambia  
 (b) Harare Office: Club Chambers, Nelson Mandela Avenue, P.O. Box 630, Harare, Zimbabwe  
 (c) Kariba Office: Administration Block, 21 Lake Drive, Pvt. Bag 2001, Kariba, Zimbabwe

## Results

|                                   | Year ended 31 December |           |          |            |         |          |
|-----------------------------------|------------------------|-----------|----------|------------|---------|----------|
|                                   | 2023                   |           |          | 2022       |         |          |
|                                   | ZWL'000                | ZMW'000   | US\$'000 | ZWL'000    | ZMW'000 | US\$'000 |
| Revenue                           | 79,931,552             | 421,660   | 20,706   | 10,976,792 | 496,534 | 29,101   |
| (Deficit) surplus<br>for the year | (22,246,999)           | (117,359) | (5,765)  | 2,700,522  | 122,185 | 7,161    |

The surplus for the year has been added to the revenue reserve.

## Property, plant, and equipment

The Authority purchased property, plant and equipment amounting to US\$ 30.47 million, ZMW 783.86 million, ZWL 117,634.41 million (2022 US\$ 27.58 million, ZMW 470.62 million, ZWL 10,403.83 million) during the year. In the opinion of the Directors, the carrying value of property, plant and equipment is not more than their recoverable value.

## Average number of employees

The total remuneration of employees during the year amounted to US\$ 8.35 million, ZMW 170.10 million, ZWL 32,245.43 million (2022: US\$ 7.71 million, ZMW 131.55 million, ZWL 2,908.24 million). The average number of employees was as follows:

| Month    | Number of Employees | Month     | Number of Employees |
|----------|---------------------|-----------|---------------------|
| January  | 158                 | July      | 157                 |
| February | 158                 | August    | 156                 |
| March    | 158                 | September | 156                 |
| April    | 158                 | October   | 155                 |
| May      | 158                 | November  | 155                 |
| June     | 157                 | December  | 156                 |

The Authority has policies and procedures to safeguard the occupational health, safety, and welfare of its employees.

## Related party transactions

The Authority has a common enterprise relationship with Governments of the Republic of Zambia and Zimbabwe. Other related party relationships and material balances that the Authority has with its related parties are listed in Note 24 to the annual financial statements.

**Gifts and donations**

The Authority made the following donations to charitable organisations and events during the year.

|                            | ZWL'000 | ZMW'000 | US\$'000 | ZWL'000 | ZMW'000 | US\$'000 |
|----------------------------|---------|---------|----------|---------|---------|----------|
| Donations and sponsorships | 799,518 | 4,218   | 207      | 109,768 | 4,965   | 291      |

**Restructured loan terms of agreement**

On 20 August 2015, the Authority signed a 30-year subsidiary loan agreement with the Government of the Republic of Zambia (GRZ) for a principal loan amount of US\$ 114 million to finance the Kariba Dam rehabilitation Project. The GRZ as the primary borrower contracted loans of US\$ 75 million from the World Bank ("IDA") and US\$ 39 million from the African Development Bank ("AFDB"). According to schedule 1 of this subsidiary loan agreement, the Authority is required to make repayments biannually on 1 March and 1 September. Due to liquidity challenges faced post the contraction of the loans, the Authority held discussions with the Ministry of Finance and National Planning (MoFNP) to restructure the terms of the loan agreement. The GRZ in consultation with the primary lenders i.e. the World Bank (IDA) and the African Development Bank (AfDB) agreed to restructure the terms of the on-lending agreement between the GRZ and the Authority. Key among the changes effected in the Credit Agreements were; reduction of interest rate from 2% to 1.25%, basing the bi annual principal and interest payments on the actual amounts drawn on the facility as opposed to the allotted amount of US\$ 114 million and granting of a two year grace period on the payment of principal thus deferring the first principal repayment due date to 1 March 2024. The Authority and the MoFNP successfully signed the Restructured Credit Agreements on 1 April 2022 under the aforementioned terms. In the period under review, a total of US\$ 291,617 (2022: US\$ 521,689) was paid in loan interest to the MoFNP.

At 31 December 2023, the balance of the loans drawn and outstanding under IDA facility was US\$ 21,391,628, whereas the balance on the AFDB loan was US\$ 14,661,537.

**Risk management and control**

The Board of Directors of Zambezi River Authority, through the Audit, Corporate Governance and Risk Management Committee, exercises oversight over Enterprise Risk Management (ERM) processes in the Authority. The Authority is committed to managing risk in accordance with Internationally Accepted Risk Management Principles, Standards and Practices. In this regard, this Policy has been benchmarked against international principles such as those set out in the International Organisation for Standardisation, ISO 31000:2018 and Committee of Sponsoring Organisations (COSO) Enterprise Risk Management (ERM) framework: 2017 and supplemented by the Kariba Dam Standing Operating Procedures (SOP), the Emergency Preparedness Plan (EPP) and other procedures of the Authority. Using these frameworks, the Authority systematically identifies, analyses and responds to risks, including the mapping of inter - relationships between risks. The Board accomplishes its oversight role through:

- (i) Developing policies and procedures on risk management;
- (ii) Following up executive management's implementation of policies and procedures on risk management;
- (iii) Following up on assurance that risk management policies and procedures are working as intended; and
- (iv) Taking steps to foster a risk aware culture

The Authority manages risks under five (5) categories namely:

- 1) Operational,
- 2) Financial,
- 3) Project Management,



### **Risk management and control (continued)**

- 4) Strategic
- 5) Reputational risk.

The significant risks dealt with by the Authority across the five (5) categories in the period under review included Credit, Liquidity, Dam safety, Hydrological, Protracted stakeholder approval and Funding withdrawal risks. In the period under review the Audit, Corporate Governance and Risk Management Committee held four (4) meetings as scheduled.

#### **(a) Operational risk**

Operational risk in this instance is the risk of dam failure due to operational deficiencies. The following are the significant risks noted under this category:

- (i) Dam Safety risk – This is the risk of compromise to the safety of the Kariba Dam complex. To manage this risk the Authority has adopted International Standards for Dam Maintenance and Safety Monitoring. Furthermore, the Authority is currently undertaking the Kariba Dam Rehabilitation Project aimed at securing the long-term safety and reliable operation of Kariba Dam Complex.
- (ii) Hydrological risk – Threat to the sustainable operation of the Kariba Dam due to natural and human factors. The Authority is adapting to the effect of climate change in its operation of Kariba Dam and continues to strictly regulate the usage of water for power generation by the two (2) Power Utility companies in order to manage Hydrological risk.

#### **(b) Financial risk**

This is the risk that the Authority will experience financial loss due to change in market conditions. The following are the significant risks noted under this classification:

- (i) Credit risk – This is the risk that the Authority may be unable to collect what it is owed. This ranges from sales receipts to deposits and investments placed with financial institutions. The Authority is currently facing a deterioration of the receivable collection days owing to partial settlement of water sales dues by the two Power Utility companies.
- (ii) Liquidity risk - This is the risk that the Authority may fail to settle its obligations as and when they fall due on account of cashflow variability. Liquidity risk is strongly correlated with credit risk and the consequence of it materialising can give rise to an exposure to reputational risk. The Authority continues to explore ways of tightening its credit control mechanisms, including lobbying the principal shareholders for preferred consideration by trade debtors, to ensure sufficient liquidity for its operations.

The Authority's financial risk exposures are discussed in Note 20 to the annual financial statements.

#### **(c) Project Management Risk**

This is the risk that a project may not be properly implemented or may be delayed. The Authority considered the risk of protracted stakeholder approval during the period under review. The risk emanates from the need to seek prior approval ("no objection) from financiers before proceeding to the next stage of any project related procurement since most activities are under Prior Review Procurement arrangement. The Authority continues to interact with project financiers for quick turnaround time on all prior approvals. Any delay in obtaining prior approval affects subsequent processes relating to the project.

#### **(d) Strategic Risk**

This is the risk that the strategy may not be properly implemented, and objectives not achieved. To





**Risk management and control (continued)**

**(e) Reputational Risk**

This is the risk that adverse publicity arising from omissions and/or commissions by the Authority will negatively impact the Authority’s reputation. To manage this risk, the Authority has a policy framework in place to manage all communication on its operations with existing and potential stakeholders.

**Governance Structure**

The Council of Ministers and Directors who held office during the year and to the date of this report were as below:

**(a) Council of Ministers**

| <b>Name</b>                    | <b>Title</b>   | <b>Resigned/Appointed</b>    |
|--------------------------------|----------------|------------------------------|
| Hon. Peter C Kapala, MP        | Chairperson    |                              |
| Hon. Edgar Moyo, MP            | Co-Chairperson | Appointed: 11 September 2023 |
| Hon. Soda Zhemu                | Co-Chairperson | Retired : 11 September 2023  |
| Hon. Prof. Mthuli Ncube MP     | Member         |                              |
| Hon. Situmbeko Musokotwane, MP | Member         |                              |

**(b) Board of Directors**

| <b>Name</b>              | <b>Title</b>     | <b>Resigned/Appointed</b> |
|--------------------------|------------------|---------------------------|
| Mr. Peter Mumba          | Chairperson      | Appointed: 6 October 2023 |
| Eng. Himba Cheelo        | Chairperson      | Appointed: 31 August 2023 |
| Eng. Himba Cheelo        | Chairperson      | Retired: 6 October 2023   |
| Dr. Francesca C. Ziyambo | Chairperson      | Retired: 31 August 2023   |
| Dr. Gloria S. Magombo    | Co - Chairperson |                           |
| Mr George T Guvamatanga  | Member           |                           |
| Mr. Danies Chisenda      | Member           |                           |
| Eng. Israel Rwodzi       | Member           |                           |
| Eng. Benard Chiwala      | Member           |                           |

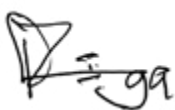
**(c) Executive management**

| <b>Name</b>                    | <b>Title</b>  |
|--------------------------------|---|
| Eng. Munyaradzi C. Munodawafa  | Chief Executive   |
| Mr. Peter Kapinga              | Board Secretary/Corporate Services Director             |
| Mr. Edward M. Kabwe            | Director – Finance                                      |
| Eng. Sithembinkhosi Z. Mhlanga | Director – Projects and Dam Management Services         |
| Eng. Christopher Chisense      | Director – Water Resources and Environmental Management |

**Auditor**

The new Auditor, Deloitte & Touche Zambia has been appointed by the Board to undertake the audit for 2023. The appointment was approved and ratified by the Council of Ministers Meeting held On 15 December 2023.

**On behalf of the Board:**

  
\_\_\_\_\_  
**Board Secretary**

21<sup>st</sup> June 2024  
**Date**



The Zambezi River Authority Acts Chapters 467 and 20:23 of the Laws of Zambia and Zimbabwe require the Directors to prepare annual financial statements for each financial year that give a true and fair view of the state of affairs of the Authority as at the end of the financial year and of its financial performance. It also requires the Directors to ensure that the Authority keeps proper accounting records that disclose, with reasonable accuracy, the financial position of the Authority. The Directors are also responsible for safeguarding the assets of the Authority.

The Directors accept responsibility for the annual financial statements, which have been prepared using appropriate accounting policies supported by reasonable estimates, in conformity with IFRS Accounting Standards as issued by the International Accounting Standards Board (IASB) and with the requirements of the Zambezi River Authority Acts Chapters 467 and 20:23 of the Laws of Zambia and Zimbabwe. The Directors are of the opinion that the annual financial statements give a true and fair view of the state of the financial affairs of the Authority and of its financial performance in accordance with IFRS Accounting Standards as issued by the International Accounting Standards Board (IASB). The Directors are also responsible for such internal control, as the Directors determine necessary to enable the preparation of annual financial statements that are free from material misstatements, whether due to fraud or error.

Nothing has come to the attention of the Directors to indicate that the Authority will not remain a going concern for at least twelve months from the date of these annual financial statements.

A handwritten signature in black ink, appearing to be 'A. M. M.', written over a horizontal line.

**Chairperson**

A handwritten signature in black ink, appearing to be 'J. M. M.', written over a horizontal line.

**Co-Chairperson**

21<sup>st</sup> June 2024

**Date**

21<sup>st</sup> June 2024

**Date**



INDEPENDENT AUDITOR'S REPORT

To the shareholders of  
**Zambezi River Authority**

**Report on the Audit of the Financial Statements**

**Opinion**

We have audited the financial statements of Zambezi River Authority (the "Authority"), set out on pages 69 to 114 which comprise the statement of financial position as at 31 December 2023, and the statement of income and expenditure and other comprehensive income, the statement of changes in reserves and the statement of cash flows for the year then ended, and the notes to the financial statements, including a summary of material accounting policy information.

In our opinion, the financial statements give a true and fair view of the financial position of Zambezi River Authority, as at 31 December 2023, and of its financial performance and cash flows for the year then ended in accordance with IFRS Accounting Standards as issued by the International Accounting Standards Board and in the manner required by the Zambezi River Authority Acts Chapters 467 and 20:23 of the Laws of Zambia and Zimbabwe.

**Basis of opinion**

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Company in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code) together with the ethical requirements that are relevant to our audit of financial statements in Zambia. We have fulfilled our ethical responsibilities in accordance with these requirements and the IESBA code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

**Key audit matters**

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have determined the matters described below to be the key audit matter to be communicated in our report.

| Key audit matters   | How our audit addressed the key audit matter  |
|---|---|
| <b>Impairment of trade receivables</b>  |   |
| Trade receivables balance at year end was: <ul style="list-style-type: none"> <li>• ZWL589,535,692,000</li> <li>• ZMW2,318,403,000 and</li> <li>• US\$90,128,000,</li> </ul> The provision for doubtful debts at the close of the year was: <ul style="list-style-type: none"> <li>• ZWL237,014,326,000</li> <li>• ZMW932,080,000</li> <li>• US\$36,235,000</li> </ul> as shown in note 14 to the financial statements. | We performed the following audit procedures: <ul style="list-style-type: none"> <li>• Testing of inputs into the calculation of the doubtful debts, including the ageing, validity and completeness of the amounts included in the calculation for doubtful debts;</li> <li>• Assessing the recoverability of the debtors ZESCO Limited and Kariba Hydro Power Company Limited (KHPC).</li> </ul> |





INDEPENDENT AUDITOR'S REPORT (CONTINUED)

| Key audit matters (continued)  | How our audit addressed the key audit matter   |
|--|--|
| <p><b>Impairment of trade receivables (continued)</b></p> <p>Management raises provisions based on judgements as to whether there is any observable data indicating that there is a measurable decrease in the estimated future cash flows.</p> <p>Accordingly, an allowance for impairment is made where there is an identified loss event or condition which, based on previous experience, is evidence of a reduction in the recoverability of the cash flows. Typically, management provides for:</p> <ul style="list-style-type: none"> <li>- amounts over the credit period;</li> <li>- disputed amounts; and</li> <li>- any other observable data indicating possible non-recovery.</li> </ul> <p>We considered impairment against trade receivables as a key audit matter because of the following:</p> <ul style="list-style-type: none"> <li>• The determination of impairment uses significant judgements coupled with the fact that compliance with International Financial Reporting Standard 9 <i>Financial Instruments</i>; and</li> <li>• Economic fundamentals in Zambia and Zimbabwe together with other factors may impact on the ability of customers to pay.</li> </ul> | <ul style="list-style-type: none"> <li>• Performing a retrospective review of the provision previously raised against the subsequent write-offs.</li> <li>• Testing the collection of subsequent receipts received after year-end.</li> <li>• Performing an independent assessment of the provision taking into account the factors above.</li> </ul> <p>We found the determined provision for doubtful debts to be acceptable.</p> <p>Based on the testing undertaken, the presentation and disclosures in respect of the trade receivables balance are consistent with the requirements of IFRS.</p> |

**Other information**

The Directors are responsible for the other information. The other information comprises the Directors' Report, Appendix I - Statement of Capital Expenditure Compared to Budget, Appendix II – Country Statement of income and expenditure, Appendix III - SIDA Grant and IDA Loan–Designated Account Replenishments Applications and Appendix IV - Kariba Dam Rehabilitation Project (KDRP) Funding Source and Application Analysis, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express an audit opinion or any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If based on the work we have performed, we conclude that there is a material misstatement of this other information. we are required to report the fact, We have nothing to report in this regard.



## INDEPENDENT AUDITOR'S REPORT (CONTINUED)

### **Responsibilities of Directors for the Financial Statements**

The Directors are responsible for the preparation and fair presentation of the financial statements in accordance with IFRS Accounting Standards as issued by the International Accounting Standards Board and the requirements of the Zambezi River Authority Acts Chapters 467 and 20:23 of the Laws of Zambia and Zimbabwe, and for such internal control as the Directors determine is necessary to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing the Authority's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the Authority or to cease operations, or have no realistic alternative but to do so.

The Directors are responsible for overseeing the Authority's reporting process.

### **Auditor's responsibilities for the Audit of the Financial Statements**

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Directors.
- Conclude on the appropriateness of the Directors' use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Authority's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Authority to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.



## INDEPENDENT AUDITOR'S REPORT (CONTINUED)

We communicate with the Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Directors, we determine those matters that were of most significance in the audit of the annual financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

### **Report on other legal and regulatory requirements**

The Zambezi River Authority Acts Chapters 467 and 20:23 of the Laws of Zambia and Zimbabwe, requires that in carrying out our audit we consider whether the Authority has kept proper accounting records and other records and other registers required by this Act.

In respect of the foregoing requirements, we have no matters to report.

*Deloitte & Touche*

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**Deloitte & Touche**  
**Chartered Accountants**

A handwritten signature in black ink, appearing to read 'Alice Jere Tembo'.

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**Alice Jere Tembo**  
**Partner**  
**PC No.: AUD/F000433**





## Statement of Income and Expenditure and other Comprehensive Income

|   | Notes | 2023                 |                  |                | 2022               |                 |                |
|---|-------|----------------------|------------------|----------------|--------------------|-----------------|----------------|
|   |       | ZWL'000              | ZMW'000          | US\$'000       | ZWL'000            | ZMW'000         | US\$'000       |
| Revenue   | 4     | 79,931,552           | 421,660          | 20,706         | 10,976,792         | 496,534         | 29,101         |
| Other income  | 5     | 1,597,477            | 8,427            | 413            | 717,805            | 32,470          | 1,903          |
| Fair value gain on financial assets through profit or loss      | 13    | 82,485               | 435              | 21             | 51,013             | 2,308           | 135            |
| Impairment of financial assets                                  | 20    | (40,990,877)         | (216,238)        | (10,619)       | (1,747,645)        | (79,055)        | (4,633)        |
| Depreciation property, plant, and equipment                     | 8     | (14,956,399)         | (78,899)         | (3,875)        | (1,465,193)        | (66,278)        | (3,885)        |
| Depreciation investment property                                | 9     | (152,066)            | (802)            | (39)           | (14,859)           | (672)           | (39)           |
| Amortisation of intangible assets                               | 10    | (797,847)            | (4,209)          | (207)          | (89,411)           | (4,045)         | (237)          |
| Employee benefit expense  | 7     | (32,245,428)         | (170,103)        | (8,353)        | (2,908,243)        | (131,553)       | (7,710)        |
| Governance costs  |       | (3,006,522)          | (15,860)         | (779)          | (280,807)          | (12,702)        | (744)          |
| Administration and travel costs                                 |       | (20,345,529)         | (107,328)        | (5,270)        | (1,606,105)        | (72,652)        | (4,258)        |
| Other operating expenses  |       | (4,244,019)          | (22,388)         | (1,099)        | (331,554)          | (14,973)        | (877)          |
| <b>Results from operating activities</b>                        |       | <b>(35,127,173)</b>  | <b>(185,305)</b> | <b>(9,101)</b> | <b>3,301,793</b>   | <b>149,382</b>  | <b>8,756</b>   |
| Finance income  | 6     | 18,388,190           | 97,002           | 4,763          | 1,386,693          | 62,727          | 3,675          |
| Finance costs   | 6     | (5,508,016)          | (29,056)         | (1,427)        | (1,987,934)        | (89,924)        | (5,270)        |
|   |       | <b>12,880,174</b>    | <b>67,946</b>    | <b>3,336</b>   | <b>(601,241)</b>   | <b>(27,197)</b> | <b>(1,595)</b> |
| <b>(Deficit) surplus for the year</b>                           |       | <b>(22,246,999)</b>  | <b>(117,359)</b> | <b>(5,765)</b> | <b>2,700,552</b>   | <b>122,185</b>  | <b>7,161</b>   |
| <b>Other comprehensive income (loss) for the year</b>           |       |                      |                  |                |                    |                 |                |
| Items that will be subsequently reclassified to profit or loss: |       |                      |                  |                |                    |                 |                |
| Exchange differences on translation                             |       | 1,084,899,331        | 1,400,405        | -              | 102,780,917        | 247,969         | -              |
| <b>Total comprehensive income (loss) for the year</b>           |       | <b>1,062,652,332</b> | <b>1,283,046</b> | <b>(5,765)</b> | <b>105,481,469</b> | <b>370,154</b>  | <b>7,161</b>   |

The notes on pages 76 to 114 are an integral part of these annual financial statements.



Statement of Financial Position

|   | As at 31 December |                      |                  |                |
|---|-------------------|----------------------|------------------|----------------|
|   | 2023              |                      | 2022             |                |
|   | Notes             | ZWL'000              | ZMW'000          | US\$'000       |
| <b>Non - current Assets</b>                           |                   |                      |                  |                |
| Property, plant and equipment                         | 8                 | 1,611,747,130        | 6,338,341        | 246,402        |
| Investment property                                   | 9                 | 8,062,485            | 31,706           | 1,233          |
| Intangible assets                                     | 10                | 3,553,311            | 13,974           | 543            |
| Long term investments                                 | 11                | 19,519,902           | 76,763           | 2,984          |
| Other receivables                                     | 14                | 243,962,777          | 959,406          | 37,297         |
| <b>Total non current assets</b>                       |                   | <b>1,886,845,605</b> | <b>7,420,190</b> | <b>288,459</b> |
| <b>Current assets</b>                                 |                   |                      |                  |                |
| Inventory   | 12                | 1,212,375            | 4,768            | 185            |
| Financial assets at fair value through profit or loss | 13                | 4,972,656            | 19,555           | 760            |
| Trade and other receivables                           | 14                | 173,398,059          | 681,906          | 26,510         |
| Cash and cash equivalents                             | 15                | 82,476,362           | 324,346          | 12,609         |
| <b>Total current assets</b>                           |                   | <b>262,059,452</b>   | <b>1,030,575</b> | <b>40,064</b>  |
| <b>Total assets</b>                                   |                   | <b>2,148,905,057</b> | <b>8,450,765</b> | <b>328,523</b> |
| <b>Funds and Liabilities</b>                          |                   |                      |                  |                |
| Revaluation reserve                                   |                   | 470,764,767          | 1,851,326        | 71,970         |
| Translation reserve                                   |                   | 715,608,779          | 1,508,967        | -              |
| Revenue reserve                                       |                   | 5,670,143            | 1,327,528        | 110,270        |
| <b>Total reserves</b>                                 |                   | <b>1,192,043,689</b> | <b>4,687,821</b> | <b>182,240</b> |
| <b>Non - current liabilities and grants</b>           |                   |                      |                  |                |
| Borrowings  | 16                | 184,907,390          | 727,165          | 28,269         |
| Capital grants  | 18                | 693,180,087          | 2,725,994        | 105,973        |
| <b>Total non current liabilities and grants</b>       |                   | <b>878,087,477</b>   | <b>3,453,159</b> | <b>134,242</b> |
| <b>ZWL'000</b>  |                   | <b>151,287,808</b>   | <b>3,980,953</b> | <b>219,821</b> |
| <b>ZMW'000</b>  |                   | <b>875,421</b>       | <b>23,036</b>    | <b>1,272</b>   |
| <b>US\$'000</b>                                       |                   | <b>507,452</b>       | <b>13,353</b>    | <b>737</b>     |
|   |                   | <b>2,053,687</b>     | <b>54,040</b>    | <b>2,984</b>   |
|   |                   | <b>26,495,389</b>    | <b>697,194</b>   | <b>38,499</b>  |
| <b>Total</b>  |                   | <b>181,219,757</b>   | <b>4,768,576</b> | <b>263,313</b> |
|   |                   | <b>79,852</b>        | <b>2,101</b>     | <b>116</b>     |
|   |                   | <b>548,673</b>       | <b>14,438</b>    | <b>797</b>     |
|   |                   | <b>23,185,185</b>    | <b>610,089</b>   | <b>33,687</b>  |
|   |                   | <b>5,465,445</b>     | <b>143,817</b>   | <b>7,941</b>   |
| <b>Total</b>  |                   | <b>29,279,155</b>    | <b>770,445</b>   | <b>42,541</b>  |
| <b>Total</b>  |                   | <b>210,498,912</b>   | <b>5,539,021</b> | <b>305,854</b> |
|   |                   | <b>51,239,267</b>    | <b>1,348,299</b> | <b>74,450</b>  |
|   |                   | <b>66,456,828</b>    | <b>675,391</b>   | <b>-</b>       |
|   |                   | <b>11,695,262</b>    | <b>1,381,085</b> | <b>113,555</b> |
| <b>Total</b>  |                   | <b>129,391,357</b>   | <b>3,404,775</b> | <b>188,005</b> |
|   |                   | <b>15,183,282</b>    | <b>399,529</b>   | <b>22,061</b>  |
|   |                   | <b>61,692,716</b>    | <b>1,623,368</b> | <b>89,639</b>  |
| <b>Total</b>  |                   | <b>76,875,998</b>    | <b>2,022,897</b> | <b>111,700</b> |



Statement of Financial Position (continued)

As at 31 December

Table with columns for Notes, 2023 (ZWL'000, ZMW'000, US\$'000), and 2022 (ZWL'000, ZMW'000, US\$'000). Rows include Current liabilities (Trade and other payables, Total current liabilities) and Total funds and liabilities.

The annual financial statements on pages 69 to 114 were approved for issue by the Board of Directors on 21st June 2024 and signed on its behalf by:

[Handwritten signature]

Chairperson

[Handwritten signature]

Co – Chairperson

The notes on pages 76 to 114 are an integral part of these annual financial statements.





**Statement of Changes in Reserves (ZWL)**

|  | Revaluation Reserve | Translation Reserve | Revenue Reserves | Total Reserves |
|--|---------------------|---------------------|------------------|----------------|
|  | ZWL'000             | ZWL'000             | ZWL'000          | ZWL'000        |
| <b>Balance at 1 January 2022</b>               | 8,568,602           | 8,053,601           | 2,745,459        | 19,367,662     |
| Surplus for the year                           | -                   | -                   | 2,700,552        | 2,700,552      |
| <u>Other comprehensive income for the year</u> |                     |                     |                  |                |
| *Prior year adjustment                         | -                   | -                   | 4,542,225        | 4,542,225      |
| Exchange differences on translation            | 44,377,691          | 58,403,227          | -                | 102,780,918    |
| Total comprehensive income for the year        | 44,377,691          | 58,403,227          | 7,242,777        | 110,023,695    |
| Amortisation of revaluation reserve            | (1,707,026)         | -                   | 1,707,026        | -              |
|  | 42,670,665          | 58,403,227          | 8,949,803        | 110,023,695    |
| <b>Balance at 1 January 2023</b>               | 51,239,267          | 66,456,828          | 11,695,262       | 129,391,357    |
| Deficit for the year                           | -                   | -                   | (22,246,999)     | (22,246,999)   |
| <u>Other comprehensive income for the year</u> |                     |                     |                  |                |
| Exchange differences on translation            | 435,747,380         | 649,151,951         | -                | 1,084,899,331  |
| Total comprehensive income for the year        | 435,747,380         | 649,151,951         | (22,246,999)     | 1,062,652,332  |
| Amortisation of revaluation reserve            | (16,221,880)        | -                   | 16,221,880       | -              |
|  | 419,525,500         | 649,151,951         | (6,025,119)      | 1,062,652,332  |
| <b>Balance at 31 December 2023</b>             | 470,764,767         | 715,608,779         | 5,670,143        | 1,192,043,689  |

**Statement of changes in reserves (ZMW)**

|  | Revaluation reserve | Translation reserve | Revenue reserves | Total reserves |
|--|---------------------|---------------------|------------------|----------------|
|  | ZMW'000             | ZMW'000             | ZMW'000          | ZMW'000        |
| <b>Balance at 1 January 2022</b>               | 1,287,028           | 533,611             | 1,094,459        | 2,915,098      |
| Surplus for the year                           | -                   | -                   | 122,185          | 122,185        |
| <u>Other comprehensive income for the year</u> |                     |                     |                  |                |
| *Prior year adjustment                         | -                   | -                   | 119,523          | 119,523        |
| Exchange differences on translation            | 106,189             | 141,780             | -                | 247,969        |
| Total comprehensive income for the year        | 106,189             | 141,780             | 241,708          | 489,677        |
| Amortisation of revaluation reserve            | (44,918)            | -                   | 44,918           | -              |
|  | 61,271              | 141,780             | 286,626          | 489,677        |
| <b>Balance at 1 January 2023</b>               | 1,348,299           | 675,391             | 1,381,085        | 3,404,775      |
| Deficit for the year                           | -                   | -                   | (117,359)        | (117,359)      |
| <u>Other comprehensive income for the year</u> |                     |                     |                  |                |
| Exchange differences on translation            | 566,829             | 833,576             | -                | 1,400,405      |
| Total comprehensive income for the year        | 566,829             | 833,576             | (117,359)        | 1,283,046      |
| Amortisation of revaluation reserve            | (63,802)            | -                   | 63,802           | -              |
|  | 503,027             | 833,576             | (53,557)         | 1,283,046      |
| <b>Balance at 31 December 2023</b>             | 1,851,326           | 1,508,967           | 1,327,528        | 4,687,821      |



## Statement of changes in reserves (US\$)

|  | Revaluation<br>reserves<br>US\$'000 | Revenue<br>reserve<br>US\$'000 | Total<br>Reserves<br>US\$'000 |
|--|-------------------------------------|--------------------------------|-------------------------------|
| <b>Balance at 1 January 2022</b>               | 76,930                              | 97,314                         | 174,244                       |
| Deficit for the year                           |                                     | 7,161                          | 7,161                         |
| <u>Other comprehensive income for the year</u> |                                     |                                |                               |
| *Prior year adjustment                         | -                                   | 6,600                          | 6,600                         |
| Amortisation of revaluation reserve            | (2,480)                             | 2,480                          |                               |
| Total comprehensive income for the year        | (2,480)                             | 16,241                         | 13,761                        |
| <b>Balance at 1 January 2023</b>               | 74,450                              | 113,555                        | 188,005                       |
| Deficit for the year                           | -                                   | (5,765)                        | (5,765)                       |
| <u>Other comprehensive income for the year</u> |                                     |                                |                               |
| Total comprehensive income for the year        | -                                   | (5,765)                        | (5,765)                       |
| Amortisation of revaluation reserve            | (2,480)                             | 2,480                          | -                             |
| Total comprehensive income for the year        | (2,480)                             | (3,285)                        | (5,765)                       |
| <b>Balance at 31 December 2023</b>             | 71,970                              | 110,270                        | 182,240                       |

\*Prior year adjustment recognised to report the reversal of loan obligations accrued prior restructuring of the loan on lent from the government of the republic of Zambia.

The notes on pages 76 to 114 are an integral part of these annual financial statements.



| Statement of cash flows  | As at 31 December    |                  |               |                     |               |              |
|--|----------------------|------------------|---------------|---------------------|---------------|--------------|
|  | 2023                 |                  |               | 2022                |               |              |
|  | ZWL '000             | ZMW '000         | US\$ '000     | ZWL '000            | ZMW '000      | US\$ '000    |
| <b>Cash inflow from operating activities</b>                     |                      |                  |               |                     |               |              |
| Operating result   | (22,246,999)         | (117,359)        | (5,765)       | 2,700,552           | 122,185       | 7,161        |
| Depreciation on property, plant and equipment                    | 14,956,399           | 78,899           | 3,875         | 1,465,193           | 66,278        | 3,885        |
| Depreciation on investment property                              | 152,066              | 802              | 39            | 14,859              | 672           | 39           |
| Amortisation of intangible assets                                | 797,847              | 4,209            | 207           | 89,411              | 4,045         | 237          |
| Impairment loss on trade and other receivables                   | 40,990,877           | 216,238          | 10,619        | 1,747,645           | 79,055        | 4,633        |
| Loss (gain) on disposal of assets                                | 16,492               | 87               | 4             | (4,767)             | (216)         | (13)         |
| Interest received  | (13,259,323)         | (69,946)         | (3,434)       | (868,844)           | (39,302)      | (2,303)      |
| Fair value gain on financial assets through profit and loss      | (82,485)             | (435)            | (21)          | (51,013)            | (2,308)       | (135)        |
| Fair value write-down on financial assets through profit or loss | 190,481              | 1,005            | 49            | -                   | -             | -            |
| Increase in trade and other receivables                          | (586,935,430)        | (798,800)        | (2,052)       | (41,408,942)        | (64,860)      | (2,077)      |
| (Increase) decrease in inventories                               | (1,132,523)          | (2,667)          | (69)          | (64,788)            | 161           | 19           |
| Net unrealised exchange losses (gains)                           | 1,777,154            | 9,375            | 460           | (517,850)           | (23,425)      | (1,373)      |
| Increase(decrease) in accounts payables                          | 74,542,334           | 198,436          | 5,892         | 3,248,250           | (36,349)      | (2,679)      |
| <b>Cash (used in) generated from operations</b>                  | <b>(490,233,110)</b> | <b>(480,156)</b> | <b>9,804</b>  | <b>(35,359,939)</b> | <b>26,881</b> | <b>6,915</b> |
| Interest received  | 13,259,323           | 69,946           | 3,434         | 868,844             | 39,302        | 2,303        |
| <b>Net cash (outflow) inflow from operating activities</b>       | <b>(476,973,787)</b> | <b>(410,210)</b> | <b>13,238</b> | <b>(34,259,095)</b> | <b>66,183</b> | <b>9,218</b> |
| <b>Investing activities</b>                                      |                      |                  |               |                     |               |              |
| Purchase of property plant and equipment                         | (117,585,838)        | (620,297)        | (30,460)      | (10,403,833)        | (470,618)     | (27,581)     |





|   | 2023                 |                  | 2022            |                     |                  |                 |
|---|----------------------|------------------|-----------------|---------------------|------------------|-----------------|
|   | ZWL'000              | ZMW'000          | US\$'000        | ZWL'000             | ZMW'000          | US\$'000        |
| <b>Cash inflow from operating activities</b>                            |                      |                  |                 |                     |                  |                 |
| Purchase of intangible assets   | (48,572)             | (256)            | (13)            | -                   | -                | -               |
| Proceeds from disposal of property plant and equipment                  | 844                  | 4                | -               | 5,281               | 239              | 14              |
| Proceeds from financial assets at fair value through profit and loss    | 1,206,111            | 6,363            | 312             | 203,687             | 9,214            | 540             |
| Payments to purchase assets at fair value through profit and loss       | (1,175,134)          | (6,199)          | (304)           | (156,514)           | (7,080)          | (415)           |
| Proceeds from redemption of long term investments                       | -                    | -                | -               | 272                 | 61               | 3               |
| <b>Net cash outflow to investing activities</b>                         | <b>(117,602,589)</b> | <b>(620,385)</b> | <b>(30,465)</b> | <b>(10,351,107)</b> | <b>(468,184)</b> | <b>(27,439)</b> |
| <b>Financing activities</b>   |                      |                  |                 |                     |                  |                 |
| Revenue grants Received   | 63,053,948           | 332,626          | 16,334          | 13,089,475          | 344,433          | 19,019          |
| Proceeds from long-term loans   | 2,327,251            | 125,643          | 6,170           | 2,966,980           | 134,211          | 7,866           |
| Loan repayment  | (109,998)            | (5,939)          | (292)           | (196,781)           | (8,901)          | (522)           |
| <b>Net cash outflow on financing</b>                                    | <b>65,271,201</b>    | <b>452,330</b>   | <b>22,212</b>   | <b>15,859,674</b>   | <b>469,743</b>   | <b>26,363</b>   |
| Changes in cash and cash equivalent                                     | (529,305,175)        | (578,265)        | 4,985           | (29,020,528)        | 67,742           | 8,142           |
| Effects of changes in exchange rates on cash held in foreign currencies | 606,316,092          | 758,794          | (317)           | 34,367,384          | 58,263           | (1,266)         |
| Cash and cash equivalents at start of year                              | 5,465,445            | 143,817          | 7,941           | 118,589             | 17,812           | 1,065           |
| <b>Cash and cash equivalents at end of year</b>                         | <b>82,476,362</b>    | <b>324,346</b>   | <b>12,609</b>   | <b>5,465,445</b>    | <b>143,817</b>   | <b>7,941</b>    |

The notes on pages 76 to 114 are an integral part of these annual financial statements.



## Notes to the Annual Financial Statements

### 1 General information

The Zambezi River Authority (“the Authority”) is mandated to manage the Zambezi River, which flows between Zambia and Zimbabwe, the two contracting states’ common borders. The Authority is also charged with the responsibility to maintain the Kariba Dam Complex (Kariba Complex) and construct and maintain other dams or infrastructure on the river forming the border between the two states. Its registered Head Office is:

Kariba House  
32 Cha Cha Cha Road  
P O Box 30233  
Lusaka, Zambia.

### 2 Summary of material accounting policy information

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all years presented, unless otherwise stated.

#### (a) Basis of preparation

The annual financial statements of Zambezi River Authority have been prepared in accordance with IFRS Accounting Standards as issued by the International Accounting Standards Board (IASB) and the requirements of the Zambezi River Authority Acts Chapters 467 and 20:23 of the Laws of Zambia and Zimbabwe.

The measurement basis applied is the historical cost basis, as modified by the revaluation of buildings and financial assets at fair value through profit or loss. The annual financial statements are presented in United States Dollars (US\$), Zambia Kwacha (“ZMW” or “K”) and in Zimbabwean Dollars (“ZWL”) rounded to the nearest US; Zimbabwean dollar or Kwacha.

In accordance with the Zambezi River Authority Acts Chapters 467 and 20:23 of the Laws of Zambia and Zimbabwe, the annual financial statements for the period ended 31 December 2023 have been approved for issue by the Directors.

The preparation of annual financial statements in conformity with IFRS Accounting Standards as issued by the International Accounting Standards Board (IASB) requires the use of certain critical accounting estimates. It also requires the Directors to exercise judgement in the process of applying the Authority’s accounting policies. The areas involving a higher degree of judgement or complexity, or where assumptions and estimates are significant to the annual financial statements, are disclosed in Note 3.

#### (b) Changes in accounting policy and disclosures

##### (i) *New and amended standards adopted by the Authority*

In the current year, the Authority has applied a number of amendments to IFRS Accounting Standards issued by the International Accounting Standards Board (IASB) that are mandatorily effective for an accounting period that begins on or after 1 January 2023. Their adoption has not had any material impact on the disclosures or on the amounts reported in these financial statements.

The amendments listed below did not have any material impact on the amounts recognised in prior periods and are not expected to significantly affect the current or future period:

- (i) Amendments to IAS 1 Presentation of Financial Statements and IFRS Practice Statement 2 Making Materiality Judgements—Disclosure of Accounting Policies
- (ii) Amendments to IAS 12 Income Taxes—Deferred Tax related to Assets and Liabilities arising from a Single Transaction
- (iii) Amendments to IAS 12 Income Taxes— International Tax Reform—Pillar Two Model Rules
- (iv) Amendments to IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors—Definition of Accounting Estimates



## Notes to the annual financial statements (continued)

### 2 Summary of material accounting policy information (continued)

#### (b) Changes in accounting policy and disclosures (continued)

##### (i) *New and amended standards adopted by the Authority (continued)*

#### **Amendments to IAS 1 Presentation of Financial Statements and IFRS Practice Statement 2 Making Materiality Judgements—Disclosure of Accounting Policies**

The Authority has adopted the amendments to IAS 1 for the first time in the current year. The amendments change the requirements in IAS 1 with regard to disclosure of accounting policies. The amendments replace all instances of the term 'significant accounting policies' with 'material accounting policy information'. Accounting policy information is material if, when considered together with other information included in an entity's financial statements, it can reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements.

The supporting paragraphs in IAS 1 are also amended to clarify that accounting policy information that relates to immaterial transactions, other events or conditions is immaterial and need not be disclosed. Accounting policy information may be material because of the nature of the related transactions, other events or conditions, even if the amounts are immaterial. However, not all accounting policy information relating to material transactions, other events or conditions is itself material.

The IASB has also developed guidance and examples to explain and demonstrate the application of the 'four-step materiality process' described in IFRS Practice Statement 2.

#### **Amendments to IAS 12 Income Taxes—Deferred Tax related to Assets and Liabilities arising from a Single Transaction**

The Authority has adopted the amendments to IAS 12 for the first time in the current year. The amendments introduce a further exception from the initial recognition exemption. Under the amendments, an entity does not apply the initial recognition exemption for transactions that give rise to equal taxable and deductible temporary differences. Depending on the applicable tax law, equal taxable and deductible temporary differences may arise on initial recognition of an asset and liability in a transaction that is not a business combination and affects neither accounting profit nor taxable profit.

#### **Amendments to IAS 12 Income Taxes— International Tax Reform—Pillar Two Model Rules**

The Authority has adopted the amendments to IAS 12 for the first time in the current year. The IASB amends the scope of IAS 12 to clarify that the Standard applies to income taxes arising from tax law enacted or substantively enacted to implement the Pillar Two model rules published by the OECD, including tax law that implements qualified domestic minimum topup taxes described in those rules.

The amendments introduce a temporary exception to the accounting requirements for deferred taxes in IAS 12, so that an entity would neither recognise nor disclose information about deferred tax assets and liabilities related to Pillar Two income taxes.

Following the amendments, the Authority is required to disclose that it has applied the exception and to disclose separately its current tax expense (income) related to Pillar Two income taxes.

#### **Amendments to IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors—Definition of Accounting Estimates**

The Company has adopted the amendments to IAS 8 for the first time in the current year. The amendments replace the definition of a change in accounting estimates with a definition of accounting estimates. Under the new definition, accounting estimates are "monetary amounts in financial statements that are subject to measurement uncertainty". The definition of a change in accounting estimates was deleted.





## Notes to the annual financial statements (continued)

### 2 Summary of material accounting policy information (continued)

#### (b) Changes in accounting policy and disclosures (continued)

##### (ii) *New and amended standards not early adopted by the Authority*

At the date of authorisation of these financial statements, the Authority had not applied the following new and revised IFRS Accounting standards that have been issued but are not yet effective.

|                                   |   |
|-----------------------------------|---|
| Amendments to IAS 1               | Classification of Liabilities as Current or Non-current                             |
| Amendments to IAS 1               | Non-current Liabilities with Covenants  |
| Amendments to IAS 7<br>and IFRS 7 | Supplier Finance Arrangements   |
| Amendments to IFRS<br>16          | Lease Liability in a Sale and Leaseback   |
| Amendments to IAS<br>21           | The Effects of Changes in Foreign Exchange Rates                                    |
| IFRS S1                           | General Requirements for Disclosure of Sustainability-related Financial Information |
| IFRS S2                           | Climate-related Disclosures   |

#### **Amendment to IAS 1 'Presentation of Financial Statements' on Classification of Liabilities as Current or Non-current.**

The amendments to IAS 1 published in January 2020 affect only the presentation of liabilities as current or non-current in the statement of financial position and not the amount or timing of recognition of any asset, liability, income or expenses, or the information disclosed about those items.

The amendments clarify that the classification of liabilities as current or non-current is based on rights that are in existence at the end of the reporting period, specify that classification is unaffected by expectations about whether an entity will exercise its right to defer settlement of a liability, explain that rights are in existence if covenants are complied with at the end of the reporting period, and introduce a definition of 'settlement' to make clear that settlement refers to the transfer to the counterparty of cash, equity instruments, other assets or services.

The amendments are applied retrospectively for annual periods beginning on or after 1 January 2024, with early application permitted. The IASB has aligned the effective date with the 2022 amendments to IAS 1. If an entity applies the 2020 amendments for an earlier period, it is also required to apply the 2022 amendments early.

The Directors anticipate that the application of these amendments may have an impact on the financial statements in future periods.

#### **Amendments to IAS 1 Presentation of Financial Statements—Non-current Liabilities with Covenants**

The amendments specify that only covenants that an entity is required to comply with on or before the end of the reporting period affect the entity's right to defer settlement of a liability for at least twelve months after the reporting date (and therefore must be considered in assessing the classification of the liability as current or non-current). Such covenants affect whether the right exists at the end of the reporting period, even if compliance with the covenant is assessed only after the reporting date (e.g. a covenant based on the entity's financial position at the reporting date that is assessed for compliance only after the reporting date).



## Notes to the annual financial statements (continued)

### 2 Summary of material accounting policy information (continued)

#### (b) Changes in accounting policy and disclosures (continued)

(ii) New and amended standards not early adopted by the Authority

#### **Amendments to IAS 1 Presentation of Financial Statements—Non-current Liabilities with Covenants (continued)**

The IASB also specifies that the right to defer settlement of a liability for at least twelve months after the reporting date is not affected if an entity only has to comply with a covenant after the reporting period. However, if the entity's right to defer settlement of a liability is subject to the entity complying with covenants within twelve months after the reporting period, an entity discloses information that enables users of financial statements to understand the risk of the liabilities becoming repayable within twelve months after the reporting period. This would include information about the covenants (including the nature of the covenants and when the entity is required to comply with them), the carrying amount of related liabilities and facts and circumstances, if any, that indicate that the entity may have difficulties complying with the covenants.

The amendments are applied retrospectively for annual reporting periods beginning on or after 1 January 2024. Earlier application of the amendments is permitted. If an entity applies the amendments for an earlier period, it is also required to apply the 2020 amendments early.

The Directors anticipate that the application of these amendments may have an impact on the Authority's financial statements in future periods.

#### **Amendments to IAS 7 Statement of Cash Flows and IFRS 7 Financial Instruments: Disclosures—Supplier Finance Arrangements**

The amendments add a disclosure objective to IAS 7 stating that an entity is required to disclose information about its supplier finance arrangements that enables users of financial statements to assess the effects of those arrangements on the entity's liabilities and cash flows. In addition, IFRS 7 was amended to add supplier finance arrangements as an example within the requirements to disclose information about an entity's exposure to concentration of liquidity risk.

The term 'supplier finance arrangements' is not defined. Instead, the amendments describe the characteristics of an arrangement for which an entity would be required to provide the information. To meet the disclosure objective, an entity will be required to disclose in aggregate for its supplier finance arrangements:

- The terms and conditions of the arrangements
- The carrying amount, and associated line items presented in the entity's statement of financial position, of the liabilities that are part of the arrangements
- The carrying amount, and associated line items for which the suppliers have already received payment from the finance providers
- Ranges of payment due dates for both those financial liabilities that are part of a supplier finance arrangement and comparable trade payables that are not part of a supplier finance arrangement
- Liquidity risk information

The amendments, which contain specific transition reliefs for the first annual reporting period in which an entity applies the amendments, are applicable for annual reporting periods beginning on or after 1 January 2024. Earlier application is permitted. This amendment has no material impact on the financial statements of the Authority.

#### **Amendment to IFRS 16 Leases—Lease Liability in a Sale and Leaseback**

The amendments to IFRS 16 add subsequent measurement requirements for sale and leaseback transactions that satisfy the requirements in IFRS 15 to be accounted for as a sale. The amendments require the seller-lessee to determine 'lease payments' or 'revised lease payments' such that the seller-lessee does not recognise a gain or loss that relates to the right of use retained by the seller-lessee, after the commencement date.



## Notes to the annual financial statements (continued)

### (b) Changes in accounting policy and disclosures (continued)

(ii) New and amended standards not early adopted by the Authority

## 2 Summary of material accounting policy information (continued)

### Amendment to IFRS 16 Leases—Lease Liability in a Sale and Leaseback (Continued)

The amendments do not affect the gain or loss recognised by the seller-lessee relating to the partial or full termination of a lease. Without these new requirements, a seller-lessee may have recognised a gain on the right of use it retains solely because of a remeasurement of the lease liability (for example, following a lease modification or change in the lease term) applying the general requirements in IFRS 16. This could have been particularly the case in a leaseback that includes variable lease payments that do not depend on an index or rate.

As part of the amendments, the IASB amended an Illustrative Example in IFRS 16 and added a new example to illustrate the subsequent measurement of a right-of-use asset and lease liability in a sale and leaseback transaction with variable lease payments that do not depend on an index or rate. The illustrative examples also clarify that the liability, that arises from a sale and leaseback transaction that qualifies as a sale applying IFRS 15, is a lease liability.

The amendments are effective for annual reporting periods beginning on or after 1 January 2024. Earlier application is permitted. If a seller-lessee applies the amendments for an earlier period, it is required to disclose that fact.

A seller-lessee applies the amendments retrospectively in accordance with IAS 8 to sale and leaseback transactions entered into after the date of initial application, which is defined as the beginning of the annual reporting period in which the entity first applied IFRS 16.

This amendment has no material impact on the financial statements of the Authority.

### Amendments to IAS 21 - The Effects of Changes in Foreign Exchange Rates

The amendments require entities to use a spot exchange rate when translating foreign currency transactions. However, there are instances where an appropriate exchange rate cannot be determined due to the currency not being exchangeable. Prior to the amendment the standard was not clear on when the currency is not exchangeable and did not provide a definition of exchangeability but instead defined the closing rate as the spot exchange rate at the end of the reporting period and the spot exchange rate is defined as the exchange rate for immediate delivery.

The amendments require entities to apply a consistent two-step approach in assessing whether a currency can be exchanged into another currency and when it cannot. The first step in the approach is to assess whether the foreign currency meets the definition of exchangeability. A currency is exchangeable into another currency when an entity is able to obtain the other currency within a time frame that allows for a normal administrative delay and through a market or exchange mechanism in which an exchange transaction would create an enforceable rights and obligation.

If the currency does not meet the definition of exchangeability mentioned above, then the next step in the approach is to estimate the spot exchange rate using either an observable exchange rate without adjustment or another estimation technique. Comparative financial statements shall not be restated. The amendments require an entity to provide additional disclosures when the foreign currency or the functional currency is not exchangeable.

This amendment has no material impact on the financial statements of the Authority.

### IFRS S1 - General Requirements for Disclosure of Sustainability-related Financial Information

An entity's ability to generate cash flows over the short, medium and long term is inextricably linked to its interactions with its stakeholders, society, the economy and the natural environment throughout its value chain. As a result, sustainability-related risks and opportunities rise due to an entity's dependencies and impacts on resources and relationships in the value chain.

Therefore, the purpose of IFRS S1 is to prescribe disclosure requirements for sustainability-related risks and opportunities disclosures that is useful to existing and potential investors, lenders and other creditors in making



**Notes to the annual financial statements (continued)****Summary of material accounting policy information (continued)****(b) Changes in accounting policy and disclosures (continued)**

(ii) New and amended standards not early adopted by the Authority

**IFRS S2 - Climate-related Disclosures (continued)**

decisions relating to providing resources to the company. Entities are required to identify sustainability-related risk and opportunities that could reasonably be expected to affect its prospects, including across the value chain.

The Directors are still assessing the impact this standard will have on the financial statements of the Authority.

As part of generating cashflows over the short, medium term and long term, an entity would interact with the natural environment. Its interaction with the natural environment creates sustainability-related risks and opportunities.

As result, IFRS S2 require entities to disclose information about its climate-related risks and opportunities that is useful to primary users of general-purpose financial reports. The standard incorporates and builds on the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations and should be applied alongside IFRS S1.

This standard is likely to affect the Authority's financial statement disclosures given significant exposure the Authority's revenues have to hydrological risk which in turn is affected by climate change.

**(c) Foreign currency translation***(i) Functional and presentation currency*

The Authority as a bi national institution has operations in both Zambia and Zimbabwe and the presentation currency is the respective currencies of the two Contracting States which are, the Zimbabwe Dollar ("ZWL") and, the Zambian Kwacha. The functional and reporting currency of the Authority is the United States Dollar.

Income statement items have been translated into the presentation currencies using the average exchange rate for the year as an approximation to the actual exchange rate. Assets and liabilities have been translated using the closing exchange rate. Any differences arising from this process have been recognised in other comprehensive income and accumulated in the foreign exchange reserve in equity.

Equity items have been translated at the closing exchange rate. Exchange differences arising on retranslating equity items and opening net assets have been transferred to the foreign exchange reserve within equity.

*(ii) Transactions and balances*

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or valuations where items are re-measured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the income statement.

Foreign exchange gains and losses that relate to borrowings and cash and cash equivalents are presented in income and expenditure within 'finance income or cost'. All other foreign exchange gains and losses are presented in income or expenditure within 'other income or expenses'.



## **Notes to the annual financial statements (continued)**

### **2 Summary of material accounting policy information (continued)**

#### **(d) Revenue recognition**

Revenue comprises the fair value of the consideration received or receivable for the sale of goods and services in the ordinary course of the Authority's activities.

The Authority identifies contracts with customers, the performance obligations within it, the transaction price, and its allocation to the performance obligations. Revenue is recognised when control of the product passes to the customer and is measured based on expected consideration. It is the Authority's policy to recognise revenue from a contract when it has been approved by both parties, rights have been clearly identified, payment terms have been defined, the contract has commercial substance, and collectability has been ascertained as probable.

Collectability of customer's payments is ascertained based on the customer's historical records, guarantees provided, the customer's industry and advance payments made if any.

Water sales revenue is a product of the following:

- Water used as measured using flow meter equipment
- The agreed annual fixed charge
- The variable charge

#### **Disaggregation of revenue from contract with customers**

The Authority derives revenue from one source i.e. sale of water to Kariba Hydro Power Company (KHPC) and ZESCO Limited.

The Authority has determined that the disaggregation of revenue based on the criteria of type of products meets the revenue disaggregation disclosure requirement of IFRS 15 as it depicts how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors. See further details in note 4.

#### **(e) Other income**

Other income is recognised on an accruals basis in accordance with the substance of the relevant agreements.

#### **(f) Interest income**

Interest income is recognised using the effective interest method.

#### **(g) Rental income**

Rental income from properties is recognised in the income and expenditure on a straight-line basis over the term of the relevant lease agreement.

#### **(h) Property, plant, and equipment**

Land and buildings are recognised at fair value based on periodic, but at least triennial, valuations by external independent valuers, less subsequent depreciation for buildings. A revaluation surplus is credited to revaluation reserve. All other property, plant and equipment is stated at historical cost less accumulated depreciation. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Construction work in progress is carried at cost and is not depreciated until the asset is brought into use.

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Authority and the cost of the item can be measured reliably. The carrying amount of any component accounted for as a separate asset is derecognised when replaced. All other repairs and maintenance are charged to income and expenditure during the reporting period in which they are incurred.

**Notes to the annual financial statements (continued)****2 Summary of material accounting policy information (continued)****h) Property, plant, and equipment (continued)**

Increases in the carrying amounts arising on revaluation of buildings are recognised in other comprehensive income and accumulated in the revaluation reserve. To the extent that the increase reverses a decrease previously recognised in income and expenditure, the increase is first recognised in income and expenditure. Decreases that reverse previous increases of the same asset are first recognised in other comprehensive income to the extent of the remaining surplus attributable to the asset; all other decreases are charged to income and expenditure. Each year, the difference between depreciation based on the revalued carrying amount of the asset charged to income and expenditure and depreciation based on the asset's original cost is reclassified from the property, plant, and equipment revaluation surplus to revenue reserve.

Land is not depreciated. Depreciation on other assets is calculated using the straight-line method to allocate their cost or revalued amounts to their residual values over their estimated useful lives, as follows:

|                         |          |
|-------------------------|----------|
| Buildings               | 2.5%     |
| Kariba Dam Complex      | 2.5%     |
| Motor Vehicles          | 25%      |
| Equipment and Machinery | 10 - 20% |
| Furniture and Fittings  | 20%      |
| Computers               | 25%      |
| Intangible Assets       | 25%      |

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period. An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount. Property, plant, and equipment are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units).

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are included in income and expenditure. When revalued assets are sold, the amounts included in the revaluation reserve relating to that asset are transferred to retained earnings.

**(i) Investment property**

Property that is held for long-term rental yields or for capital appreciation or both, and that is not occupied by the Authority is classified as investment property. Investment property also includes property that is being constructed or developed for future use as investment property.

All investment property is stated at historical cost less accumulated depreciation. Historical cost includes expenditure that is directly attributable to the acquisition of the items. Subsequent expenditure is capitalised to the asset's carrying amount only when it is probable that future economic benefits associated with the expenditure will flow to the Authority and the cost of the item can be measured reliably. All other repairs and maintenance costs are expensed when incurred. When part of an investment property is replaced, the carrying amount of the replaced part is derecognised.

Depreciation on investment property is calculated using the straight-line method to allocate their cost to their residual values over their estimated useful lives over 40 years.

Investment properties are derecognised when they have been disposed. If an investment property becomes owner-occupied, it is reclassified as property, plant, and equipment. Its fair value at the date of reclassification becomes its cost for subsequent accounting purposes.





## **Notes to annual financial statements (continued)**

### **2 Summary of material accounting policies (continued)**

#### **(i) investment property (continued)**

If an item of owner-occupied property becomes an investment property because its use has changed, any difference resulting between the carrying amount and the fair value of this item at the date of transfer is treated in the same way as a revaluation under IAS 16. Any resulting increase in the carrying amount of the property is recognised in income statement to the extent that it reverses a previous impairment loss, with any remaining increase recognised in other comprehensive income and increase directly to equity in revaluation surplus within equity. Any resulting decrease in the carrying amount of the property is initially charged in other comprehensive income against any previously recognised revaluation surplus, with any remaining decrease charged to income and expenditure.

#### **(j) Intangible assets**

Intangible assets are separately identifiable non monetary assets without physical substance such as computer software. The Authority initially recognises intangible assets at cost and subsequently measures them at cost less accumulated amortisation and impairment losses save for instances where the asset has an indefinite life.

Intangible assets with an indefinite life are not amortised, however their useful life should be reviewed at each reporting period to determine whether events and circumstances continue to support an indefinite useful life assessment for the assets. If they do not, the change in the useful life assessment from indefinite to finite is accounted for as a change in an accounting estimate.

Intangible assets with a finite useful life are amortised on a straight line basis and in the case of software, the estimated useful life is four (4) years. Subsequent expenditure relating to intangible assets such as annual license fees is expensed to the profit and loss.

#### **(k) Inventories**

Inventories are stated at the lower of cost and net realisable value. Cost is determined using the average cost method. Net realisable value is the estimated selling price in the ordinary course of business, less applicable variable selling expenses.

#### **(l) Financial instruments**

Financial instruments comprise trade and other receivables (excluding prepayments), long term investments, financial assets at fair value through profit or loss, cash and cash equivalents, borrowings, other non-current liabilities (excluding provisions) and trade and other payables.

Financial assets and liabilities are recognised in the Authority's statement of financial position when the Authority becomes a party to the contractual provisions of the instruments.

All financial assets and liabilities are initially measured at fair value, including transaction costs except for those classified as at fair value through profit or loss which are initially measured at fair value, excluding transaction costs. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognised immediately in income and expenditure. Financial assets are recognised (derecognised) on the date the Authority commits to purchase (sell) the instruments (trade date accounting).

Financial assets and liabilities are classified as current if expected to be realised or settled within 12 months; if not, they are classified as non-current.

**Notes to the annual financial statements (continued)****2 Summary of material accounting policy information (continued)****(l) Financial instruments (continued)****(i). Offsetting financial instruments**

Offsetting of financial assets and liabilities is applied when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously. The net amount is reported in the statement of financial position.

**(ii). Financial instrument classification**

The Authority classifies financial assets on initial recognition as measured at amortised cost, or fair value through profit or loss on the basis of the Authority's business model for managing the financial asset and the cash flow characteristics of the financial asset. The Authority classifies its financial instruments into the following categories:

**(iii) Amortised cost**

The asset is held within a business model with the objective to collect the contractual cash flows; and the contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal outstanding.

Financial assets are not reclassified unless the Authority changes its business model. In rare circumstances where the Authority does change its business model, reclassifications are done prospectively from the date that the Authority changes its business model.

Financial liabilities are classified as measured at amortised cost.

**(iv). Subsequent measurement**

Subsequent to initial recognition, financial instruments are measured as described below.

Financial assets at fair value through profit and loss: These financial assets are subsequently measured at fair value and changes therein (including any interest or dividend income) are recognised in income and expenditure.

Financial assets at amortised cost: These financial assets are subsequently measured at amortised cost using the effective interest method, less any impairment losses. Interest income, foreign exchange gains and losses and impairments are recognised in income and expenditure. Any gain or loss on derecognition is recognised in income and expenditure.

Financial liabilities comprise trade and other payables, grants, borrowings, and other non-current liabilities (excluding provisions). All financial liabilities are subsequently measured at amortised cost using the effective interest method.

**(v). De-recognition**

Financial assets are derecognised when the rights to receive cash flows from the assets have expired or have been transferred and the Authority has transferred substantially all risks and rewards of ownership. Financial liabilities are derecognised when the obligations specified in the contracts are discharged, cancelled, or expires.



## Notes to the annual financial statements (continued)

### 2 Summary of material accounting policies (continued)

#### (l) Financial Instruments (Continued)

##### (iv). Substantial modification

A substantial modification of the terms of an existing debt instrument or part of it is accounted for as an extinguishment of the original debt instrument and the recognition of a new debt instrument. Substantial modification (continued). Gains or losses arising from the modification of the terms of a debt instrument are recognised immediately in income and expenditure where the modification does not result in the derecognition of the existing instrument.

##### (v). Impairment

Under IFRS 9 the Authority calculates allowance for credit losses as expected credit losses (ECL's) for financial assets measured at amortised cost and contract assets. ECL's are a probability weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Authority expects to receive). ECLs are discounted at the original effective interest rate of the financial asset

The Authority applies the simplified approach to determine the ECL for trade receivables and contract assets. This results in calculating lifetime expected credit losses for trade receivables and contract assets. ECL for trade receivables is calculated using a provision matrix. Refer to note 20 for more detail about ECL and how this is calculated.

#### (m) Trade receivables

Trade receivables are amounts due from customers for services rendered in the ordinary course of business. If collection is expected in one year or less (or in the normal operating cycle of the business if longer), they are classified as current asset. If not, they are presented as non-current assets.

Trade receivables are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method less provision for impairment.

#### (n) Cash and cash equivalents

Cash and cash equivalents include cash in hand, deposits held at call with banks, other short term highly liquid investments with original maturities of three months or less.

#### (o) Borrowings

Borrowings are initially recognised at fair value, net of transaction costs incurred. Borrowings are subsequently measured at amortised cost. Any difference between the proceeds (net of transaction costs) and the redemption amount is recognised in income and expenditure over the period of the borrowings using the effective interest method. Fees paid on the establishment of loan facilities are recognised as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the draw down occurs. To the extent there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalised as a prepayment for liquidity services and amortised over the period of the facility to which it relates.

Borrowings are removed from the statement of financial position when the obligation specified in the contract is discharged, cancelled or expired. The difference between the carrying amount of a financial liability that has been extinguished or transferred to another party and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognised in income and expenditure as other income or finance costs.



**Notes to the annual financial statements (continued)****2 Summary of material accounting policy information (continued)****(l) Financial Instruments (Continued)**

Borrowings are classified as current liabilities unless the Authority has an unconditional right to defer settlement of the liability for at least 12 months after the reporting period. General and specific borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalised during the period of time that is required to complete and prepare the asset for its intended use or sale. Qualifying assets are assets that necessarily take a substantial period of time to get ready for their intended use or sale. Other borrowing costs are expensed in the period in which they are incurred.

**(p) Trade payables**

These amounts represent liabilities for goods and services provided to the Authority prior to the end of financial year which are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition. Trade and other payables are presented as current liabilities unless payment is not due within 12 months after the reporting period. They are recognised initially at their fair value and subsequently measured at amortised cost using the effective interest method.

**(q) Employee benefits****(i) Retirement benefit obligations**

The Authority subscribes to defined contribution schemes for the benefit of its permanent and pensionable staff. The funds are managed by Prudential Life Assurance for the Zambian employees and Zimnat Life Assurance for the Zimbabwean employees. Both funds are overseen by a Board of Trustees composed of management and employee representative Trustees.

A defined contribution plan is a pension plan under which the Authority pays fixed contributions into a separate entity. The Authority has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods.

The Authority's contributions to the defined contribution schemes are charged to income and expenditure in the period to which they relate. The Authority has no further obligation once contributions have been paid.

The Authority and all its employees contribute to the appropriate National Social Security Funds in the two Contracting States, which are defined contribution schemes.

**(ii) Termination benefits**

Termination benefits are payable when employment is terminated by the Authority before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. The Authority recognises termination benefits at the earlier of the following dates: (a) when the Authority can no longer withdraw the offer of those benefits; and (b) when the entity recognises costs for a restructuring that is within the scope of IAS 37 and involves the payment of termination benefits.

In the case of an offer made to encourage voluntary redundancy, the termination benefits are measured based on the number of employees expected to accept the offer.



## Notes to the annual financial statements (continued)

### 2 Summary of material accounting policy information (continued)

#### (r) Grants

Grants are not recognised until there is reasonable assurance that the Authority will comply with the conditions attaching to them and that the grants will be received. Grants whose primary condition is that the Authority should purchase, or otherwise acquire non-current assets are recognised as capital grants in the statement of financial position and transferred to income and expenditure on a systematic and rational basis over the useful lives of the related assets. Other grants are recognised as deferred revenue over the periods necessary to match them with the costs for which they are intended to compensate, on a systematic basis.

Compensations for expenses or losses already incurred or for the purpose of giving immediate financial support to the Authority with no future related costs are recognised in income and expenditure in the period in which they become receivable.

#### (s) Income tax

The Authority is exempted from paying taxes on capital, income, or profit under the Zambezi River Authority Acts Chapters 467 and 20:23 of the Laws of Zambia and Zimbabwe respectively. As such no allowance is made for current or deferred taxes

### 3. Critical accounting estimates and judgements

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Critical estimates made include the following:

#### *Buildings*

The Authority owns land and buildings classified either as residential or commercial properties. The said properties are carried at valuation with the valuation exercise performed triannually. The valuation is conducted by professional external valuers, who apply various techniques that consider among other things:

- Location
- Value of surrounding properties
- Impact of planned investments in the area

The land and buildings were revalued in 2021 using the sales comparison approach based on recent sales of comparable properties in the area. At the end of the current financial year ended 31 December 2023, the Directors considered view is that the previously determined fair value remain appropriate and does not significantly vary with the carrying values.



## Notes to the annual financial statements (continued)

## 4 Revenue from contracts with customers

|                             | 2023              |                |               | 2022              |                |               |
|-----------------------------|-------------------|----------------|---------------|-------------------|----------------|---------------|
|                             | ZWL'000           | ZMW'000        | US\$'000      | ZWL'000           | ZMW'000        | US\$'000      |
| Water sales variable charge | 54,648,039        | 288,283        | 14,156        | 8,506,286         | 384,781        | 22,551        |
| Water sales fixed charge    | 25,283,513        | 133,377        | 6,550         | 2,470,506         | 111,753        | 6,550         |
|                             | <u>79,931,552</u> | <u>421,660</u> | <u>20,706</u> | <u>10,976,792</u> | <u>496,534</u> | <u>29,101</u> |

All the revenues of the Authority are recognised at a point in time.

## a) Water sales

The Authority uses a formula for the sale of water to ZESCO Limited ("ZESCO") and Kariba Hydro Power Company (Pvt) Limited ("KHPC") which was adopted in 1998. The formula was derived to ensure the costs associated with the operations of the Authority were covered by the fees charged to ZESCO Limited and KHPC (Pvt) Limited.

The fees chargeable are contained in a tripartite Water Purchase Agreement (WPA) signed between the Authority and the Power utility companies and are split between a fixed charge and a variable charge which is dependent on the cubic meters of water dispensed through the generators. In the addendum to Water Purchase Agreement signed in 2022, The Authority and the two Power Utility companies agreed to maintain both the variable charge and fixed charge at the 2021 rate for the three years period commencing in 2022, to 2024.

## b) Water allocation

During the year ended 31 December 2023, the Authority allocated a total of 30  $\text{bm}^3$  of water to be shared equally between the KHPC (Pvt) Limited and ZESCO Limited (The Power Utilities) for purposes of power generation. The Power Utilities' combined usage in the year was 29.88  $\text{bm}^3$  representing a utilisation rate of 99.59%. KHPC (Pvt) Limited utilised 14.88  $\text{bm}^3$  whereas, ZESCO Limited utilised 14.99  $\text{bm}^3$ . Accordingly, neither Utility was charged overutilisation penalty as they both operated within the respective allocations.

## c) Over utilisation

When there is over utilisation of water above annual base allocation, the following penalties apply;

- i. Over utilisation by up to 5% of annual allocation, no penalty shall be chargeable.
- ii. Over utilisation of up to 20% of annual allocation, extra volume shall be charged at a water tariff in US\$/ $\text{m}^3$  x 1.5.
- iii. Over utilization by over 20% of annual allocation, extra volume shall be charged at a water tariff in US\$/ $\text{m}^3$  x 2.

## 5 Other income

|  | 2023             |              |            | 2022           |               |              |
|--|------------------|--------------|------------|----------------|---------------|--------------|
|  | ZWL'000          | ZMW'000      | US\$'000   | ZWL'000        | ZMW'000       | US\$'000     |
| Rent received from investment properties             | 345,797          | 1,824        | 90         | 32,253         | 1,459         | 86           |
| Profit on disposal of property, plant, and equipment | 844              | 4            | -          | 4,767          | 216           | 13           |
| Miscellaneous income                                 | 1,159,897        | 6,119        | 300        | 564            | 25            | 1            |
| Sale of data   | 580              | 3            | -          | 113            | 5             | -            |
| Toll fees  | 90,359           | 477          | 23         | 9,202          | 416           | 24           |
| Overutilisation penalty                              | -                | -            | -          | 670,906        | 30,348        | 1,779        |
|  | <u>1,597,477</u> | <u>8,427</u> | <u>413</u> | <u>717,805</u> | <u>32,470</u> | <u>1,903</u> |





Notes to the annual financial statements (continued)

6 Finance income

|  | ZWL'000           | ZMW'000       | US\$'000     | ZWL'000          | ZMW'000         | US\$'000       |
|--|-------------------|---------------|--------------|------------------|-----------------|----------------|
| <b>Finance income</b>                      |                   |               |              |                  |                 |                |
| Interest on overdue accounts               | 11,276,902        | 59,489        | 2,921        | 821,561          | 37,163          | 2,178          |
| Interest on term deposits                  | 1,224,483         | 6,459         | 317          | 24,692           | 1,117           | 65             |
| Interest on staff housing loans            | 18                | -             | -            | 18               | 1               | -              |
| Interest on staff car loans                | 690,721           | 3,644         | 179          | 22,402           | 1,013           | 59             |
| Interest on furniture loans                | 67,199            | 354           | 17           | 171              | 8               | -              |
| Unrealised gain exchange rate              | 5,128,867         | 27,056        | 1,329        | 517,849          | 23,425          | 1,373          |
|  | <u>18,388,190</u> | <u>97,002</u> | <u>4,763</u> | <u>1,386,693</u> | <u>62,727</u>   | <u>3,675</u>   |
| <b>Finance cost</b>                        |                   |               |              |                  |                 |                |
| Exchange loss on cash and cash equivalents | (5,508,016)       | (29,056)      | (1,427)      | (1,987,934)      | (89,924)        | (5,270)        |
| <b>Net finance income</b>                  | <u>12,880,174</u> | <u>67,946</u> | <u>3,336</u> | <u>(601,241)</u> | <u>(27,197)</u> | <u>(1,595)</u> |

**Note:**

Interest on overdue accounts relates to interest charged on amounts owed by the two Power Utility companies at a rate of 6% per annum on the amount owed for more than 45 days. However due to the concessions offered to the two Power Utility companies as part of the terms of the payment plans, interest is only levied on the Power Utility company that fails to abide by the said payment plan. Interest on term deposits relates to interest earned on funds placed with various financial institutions. The funds are placed in investments while awaiting completion of procurement processes and also as a sinking fund to meet project related payments including servicing of the Kariba dam rehabilitation loans. The interest earned on the deposits in the period under review ranged from 4% to 7.5%. Interest on employee related loans i.e. car loans and furniture loans is earned at a rate of 6% on amounts loaned out to employees.

7 Employee benefits expense

|                        |                   |                |              |                  |                |              |
|------------------------|-------------------|----------------|--------------|------------------|----------------|--------------|
| Salaries and wages     | 24,957,630        | 131,658        | 6465         | 2,189,249        | 99,030         | 5804         |
| Pension                | 1,830,287         | 9,655          | 474          | 169,636          | 7,673          | 450          |
| Gratuity               | 1,685,195         | 8,890          | 437          | 155,510          | 7,034          | 412          |
| Other employment costs | 3,772,316         | 19,900         | 977          | 393,849          | 17,816         | 1,044        |
|                        | <u>32,245,428</u> | <u>170,103</u> | <u>8,353</u> | <u>2,908,243</u> | <u>131,553</u> | <u>7,710</u> |



## Notes to the annual financial statements (continued)

## 8 Property, plant, and equipment

|   | Kariba dam<br>Complex | Land and<br>buildings | Motor<br>vehicles,<br>furniture and<br>fittings | Capital work in<br>progress | Total                |
|---|-----------------------|-----------------------|---|-----------------------------|----------------------|
|   | ZWL'000               | ZWL\$'000             | ZWL\$'000                                       | ZWL\$'000                   | ZWL\$'000            |
| <b>At 31 December 2022</b>              |                       |                       |   |                             |                      |
| Cost or valuation                       | 1,317,079             | 242,301               | 90,160  | 4,565,594                   | 6,215,134            |
| Accumulated depreciation                | (389,751)             | 27,025                | (94,818)  | -                           | (457,544)            |
| Effects of foreign exchange difference  | 6,968,563             | 703,737               | 175,433   | 8,239,389                   | 16,087,122           |
| <b>Net book amount</b>                  | <b>7,895,891</b>      | <b>973,063</b>        | <b>170,775</b>                                  | <b>12,804,983</b>           | <b>21,844,712</b>    |
| <b>Year ended 31 December 2022</b>      |                       |                       |   |                             |                      |
| Opening net book amount                 | 7,895,891             | 973,063               | 170,775   | 12,804,983                  | 21,844,712           |
| Additions                               | -                     | -                     | 346,828   | 10,057,005                  | 10,403,833           |
| Scrapping/disposal                      | -                     | -                     | (1,158)   | -                           | (1,158)              |
| Depreciation charge                     | (1,114,141)           | (98,723)              | (252,329)                                       | -                           | (1,465,193)          |
| Effects of Foreign Exchange Differences | 39,974,055            | 4,957,484             | 962,294   | 74,611,781                  | 120,505,614          |
| <b>Closing net book amount</b>          | <b>46,755,805</b>     | <b>5,831,824</b>      | <b>1,226,410</b>                                | <b>97,473,769</b>           | <b>151,287,808</b>   |
| <b>Year ended 31 December 2023</b>      |                       |                       |   |                             |                      |
| Opening net book amount                 | 46,755,805            | 5,831,824             | 1,226,410                                       | 97,473,769                  | 151,287,808          |
| Additions                               | -                     | -                     | 4,898,314                                       | 112,687,524                 | 117,585,838          |
| Scrapping/disposal                      | -                     | -                     | (17,341)  | -                           | (17,341)             |
| Depreciation charge                     | (11,402,282)          | (1,010,349)           | (2,543,768)                                     | -                           | (14,956,399)         |
| Effects of foreign exchange differences | 389,707,104           | 48,893,185            | 12,059,192                                      | 907,187,743                 | 1,357,847,224        |
| <b>Closing net book amount</b>          | <b>425,060,627</b>    | <b>53,714,660</b>     | <b>15,622,807</b>                               | <b>1,117,349,036</b>        | <b>1,611,747,130</b> |
| <b>At 31 December 2023</b>              |                       |                       |   |                             |                      |
| Cost or valuation                       | 7,895,891             | 973,064               | 5,397,418                                       | 135,549,512                 | 149,815,885          |
| Accumulated depreciation                | (12,516,423)          | (1,109,072)           | (2,796,097)                                     | -                           | (16,421,592)         |
| Effects of foreign Exchange differences | 429,681,159           | 53,850,668            | 13,021,486                                      | 981,799,524                 | 1,478,352,837        |
| <b>Net book amount</b>                  | <b>425,060,627</b>    | <b>53,714,660</b>     | <b>15,622,807</b>                               | <b>1,117,349,036</b>        | <b>1,611,747,130</b> |



Notes to the annual financial statements (continued)

8 Property, plant, and equipment (continued)

|  | Kariba dam<br>Complex | Land and<br>buildings | Motor vehicles,<br>furniture and<br>fittings | Capital work<br>in progress | Total            |
|--|-----------------------|-----------------------|--|-----------------------------|------------------|
|  | ZMW'000               | ZMW'000               | ZMW'000                                      | ZMW'000                     | ZMW'000          |
| <b>At 1 January 2022</b>                   |                       |                       |  |                             |                  |
| Cost or valuation                          | 1,120,763             | 103,217               | 122,742                                      | 1,641,159                   | 2,987,881        |
| Accumulated depreciation                   | (381,493)             | (243)                 | (110,749)                                    | -                           | (492,485)        |
| Effects of foreign exchange<br>difference  | 446,715               | 43,183                | 13,658                                       | 282,235                     | 785,791          |
| <b>Net book amount</b>                     | <b>1,185,985</b>      | <b>146,157</b>        | <b>25,651</b>                                | <b>1,923,394</b>            | <b>3,281,187</b> |
| Opening net book amount                    | 1,185,985             | 146,157               | 25,651                                       | 1,923,394                   | 3,281,187        |
| Additions                                  | -                     | -                     | 15,689                                       | 454,929                     | 470,618          |
| Scrapping/disposal                         | -                     | -                     | (14)   | -                           | (14)             |
| Depreciation charge                        | (50,398)              | (4,466)               | (11,414)                                     | -                           | (66,278)         |
| Effects of foreign exchange<br>difference  | 94,734                | 11,766                | 2,360  | 186,580                     | 295,440          |
|  | <b>1,230,321</b>      | <b>153,457</b>        | <b>32,272</b>                                | <b>2,564,903</b>            | <b>3,980,953</b> |
| <b>At 31 December 2022</b>                 |                       |                       |  |                             |                  |
| Closing net book amount                    | 1,120,763             | 103,219               | 138,416                                      | 2,096,088                   | 3,458,486        |
| Accumulated depreciation                   | (431,891)             | (4,709)               | (122,163)                                    | -                           | (558,763)        |
| Effects of foreign exchange<br>difference  | 541,449               | 54,947                | 16,019                                       | 468,815                     | 1,081,230        |
| <b>Net book amount</b>                     | <b>1,230,321</b>      | <b>153,457</b>        | <b>32,272</b>                                | <b>2,564,903</b>            | <b>3,980,953</b> |
| <b>Year ended 31 December 2023</b>         |                       |                       |  |                             |                  |
| Opening net book amount                    | 1,230,321             | 153,457               | 32,272                                       | 2,564,903                   | 3,980,953        |
| Additions                                  | -                     | -                     | 25,840                                       | 594,457                     | 620,297          |
| Scrapping/disposal                         | -                     | -                     | (91)   | -                           | (91)             |
| Depreciation charge                        | (60,150)              | (5,330)               | (13,419)                                     | -                           | (78,899)         |
| Effects of foreign exchange<br>differences | 501,417               | 63,110                | 16,836                                       | 1,234,718                   | 1,816,081        |
| <b>Closing net book amount</b>             | <b>1,671,588</b>      | <b>211,237</b>        | <b>61,438</b>                                | <b>4,394,078</b>            | <b>6,338,341</b> |
| <b>At 31 December 2023</b>                 |                       |                       |  |                             |                  |
| Cost or valuation                          | 1,120,763             | 103,219               | 164,165                                      | 2,690,545                   | 4,078,692        |
| Accumulated depreciation                   | (492,041)             | (10,039)              | (135,582)                                    | -                           | (637,662)        |
| Effects of foreign Exchange<br>differences | 1,042,866             | 118,057               | 32,855                                       | 1,703,533                   | 2,897,311        |
| <b>Net book amount</b>                     | <b>1,671,588</b>      | <b>211,237</b>        | <b>61,438</b>                                | <b>4,394,078</b>            | <b>6,338,341</b> |



## Notes to the annual financial statements (continued)

## 8 Property, plant, and equipment (continued)

|                                    | Kariba dam<br>Complex | Land and<br>buildings | Motor vehicles,<br>furniture and<br>fittings | Capital work<br>in progress | Total    |
|------------------------------------|-----------------------|-----------------------|--|-----------------------------|----------|
| As at 1 January 2022               | US\$'000              | US\$'000              | US\$'000                                     | US\$'000                    | US\$'000 |
| Cost or valuation                  | 101,152               | 8,736                 | 10,542                                       | 114,967                     | 235,397  |
| Accumulated depreciation           | (30,262)              | (000)                 | (9,009)                                      | -                           | (39,271) |
| Net book amount                    | 70,890                | 8,736                 | 1,533  | 114,967                     | 196,126  |
| <b>Year ended 31 December 2022</b> |                       |                       |  |                             |          |
| Opening net book amount            | 70,890                | 8,736                 | 1,533  | 114,967                     | 196,126  |
| Additions                          | -                     | -                     | 919  | 26,662                      | 27,581   |
| Scrapping/disposal                 | -                     | -                     | (1)  | -                           | (1)      |
| Depreciation charge                | (2,954)               | (262)                 | (669)  | -                           | (3,885)  |
| Closing net book amount            | 67,936                | 8,474                 | 1,782  | 141,629                     | 219,821  |
| <b>At 31 December 2022</b>         |                       |                       |  |                             |          |
| Cost or valuation                  | 101,152               | 8,736                 | 11,460                                       | 141,629                     | 262,977  |
| Accumulated depreciation           | (33,216)              | (262)                 | (9,678)                                      | -                           | (43,156) |
| Net book amount                    | 67,936                | 8,474                 | 1,782  | 141,629                     | 219,821  |
| <b>Year ended 31 December 2023</b> |                       |                       |  |                             |          |
| Opening net book amount            | 67,936                | 8,474                 | 1,782  | 141,629                     | 219,821  |
| Additions                          | -                     | -                     | 1,269  | 29,191                      | 30,460   |
| Scrapping/disposal – cost          | -                     | -                     | (4)  | -                           | (4)      |
| Depreciation charge                | (2,954)               | (262)                 | (659)  | -                           | (3,875)  |
| Closing net book amount            | 64,982                | 8,212                 | 2,388  | 170,820                     | 246,402  |
| <b>At 31 December 2023</b>         |                       |                       |  |                             |          |
| Cost or valuation                  | 101,152               | 8,736                 | 12,725                                       | 170,820                     | 293,433  |
| Accumulated depreciation           | (36,170)              | (524)                 | (10,337)                                     | -                           | (47,031) |
| Net book amount                    | 64,982                | 8,212                 | 2,388  | 170,820                     | 246,402  |

The Authorities' head office building and residential properties were revalued as at 31 December 2021 by respective Government Valuation Department independent professionally qualified valuers, who hold recognised relevant professional qualifications and have recent experience in the locations and segments of the properties valued. Valuations were based on Open Market Value approach based on current prices of similar properties. The key inputs under this approach are the price per square metre from current year sales of comparable lots of property in the area (location and size). It is the Authority's accounting policy to revalue properties after every three years.

If head office building and other residential properties were stated on the historical cost basis, the amounts would be as follows:





Notes to the annual financial statements (continued)

8 Property, plant, and equipment (continued)

|                          | 2023              |                |              | 2022           |               |              |
|--------------------------|-------------------|----------------|--------------|----------------|---------------|--------------|
|                          | ZWL'000           | ZMW'000        | US\$'000     | ZWL'000        | ZMW'000       | US\$'000     |
| Cost                     | 34,831,255        | 136,977        | 5,325        | 593,113        | 89,087        | 5,325        |
| Accumulated Depreciation | (6,521,458)       | (25,646)       | (997)        | (96,346)       | (14,471)      | (865)        |
| <b>Net book value</b>    | <b>28,309,797</b> | <b>111,331</b> | <b>4,328</b> | <b>496,767</b> | <b>74,616</b> | <b>4,460</b> |

9 Investment property

|  | ZWL'000          | ZMW'000       | US\$'000     |
|--|------------------|---------------|--------------|
| <b>At 1 January 2022</b>               |                  |               |              |
| Cost                                   | 1,581            | 15,727        | 1,581        |
| Accumulated depreciation               | (6003)           | (3,634)       | (270)        |
| Effects of foreign exchange difference | 150,487          | 9,846         | -            |
| <b>Net book amount</b>                 | <b>146,065</b>   | <b>21,939</b> | <b>1,311</b> |
| <b>Year ended 31 December 2022</b>     |                  |               |              |
| Opening net book amount                | 146,065          | 21,939        | 1,311        |
| Depreciation charge                    | (14,859)         | (672)         | (39)         |
| Effects of foreign exchange difference | 744,215          | 1,769         | -            |
| <b>Net book amount</b>                 | <b>875,421</b>   | <b>23,036</b> | <b>1,272</b> |
| <b>Year ended 31 December 2022</b>     |                  |               |              |
| Cost                                   | 1,581            | 15,727        | 1,581        |
| Accumulated depreciation               | (20,862)         | (4,306)       | (309)        |
| Effects of foreign exchange difference | 894,702          | 11,615        | -            |
| <b>Net book amount</b>                 | <b>875,421</b>   | <b>23,036</b> | <b>1,272</b> |
| <b>At 1 January 2023</b>               |                  |               |              |
| Opening net book amount                | 875,421          | 23,036        | 1,273        |
| Depreciation charge                    | (152,066)        | (802)         | (39)         |
| Effects of foreign exchange difference | 7,339,130        | 9,472         | -            |
| <b>Closing net book amount</b>         | <b>8,062,485</b> | <b>31,706</b> | <b>1,233</b> |
| <b>At 31 December 2023</b>             |                  |               |              |
| Cost                                   | 1,581            | 15,727        | 1,581        |
| Accumulated depreciation               | (172,928)        | (5,108)       | (348)        |
| Effects of foreign exchange difference | 8,233,832        | 21,087        | -            |
| <b>Net book amount</b>                 | <b>8,062,485</b> | <b>31,706</b> | <b>1,233</b> |

The investment property is carried at cost because their fair values cannot be reliably determined on a continuing basis. Comparable market transactions are infrequent and alternative reliable estimates of fair value are unreliable. This is due to the location of the investment properties.



## Notes to the annual financial statements (continued)

## 10 Intangible assets

|  | ZWL'000          | ZMW'000       | US\$'000   |
|--|------------------|---------------|------------|
| <b>At 1 January 2022</b>               |                  |               |            |
| Opening balances                       | -                | -             | -          |
| Cost                                   | 115,707          | 17,380        | 1,039      |
| Depreciation charge                    | (5,921)          | (1,326)       | (65)       |
| Effects of foreign exchange difference | (1,259)          | 247           | -          |
| Closing net book amount                | 108,527          | 16,301        | 974        |
| <b>At 31 December 2022</b>             |                  |               |            |
| At 31 December 2022                    | 108,527          | 16,301        | 974        |
| Amortisation Charge                    | (89,411)         | (4,045)       | (237)      |
| Effects of foreign exchange difference | 488,336          | 1,097         | -          |
| Closing net book amount                | 507,452          | 13,353        | 737        |
| <b>At 1 January 2023</b>               |                  |               |            |
| Net book amount                        | 507,452          | 13,353        | 737        |
| Additions                              | 48,572           | 256           | 13         |
| Amortisation Charge                    | (797,847)        | (4,209)       | (207)      |
| Effects of foreign exchange difference | 3,795,134        | 4,574         | -          |
| Net book amount                        | 3,553,311        | 13,974        | 543        |
| <b>At 31 December 2023</b>             |                  |               |            |
| Cost                                   | 164,279          | 17,636        | 1,051      |
| Accumulated Amortisation               | (893,179)        | (9,580)       | (509)      |
| Effects of foreign exchange difference | 4,282,211        | 5,918         | -          |
| <b>Net book amount</b>                 | <b>3,553,311</b> | <b>13,974</b> | <b>543</b> |

## 11 Long term investments

|                                 | 2023       |         |          | 2022      |         |          |
|---------------------------------|------------|---------|----------|-----------|---------|----------|
|                                 | ZWL'000    | ZMW'000 | US\$'000 | ZWL'000   | ZMW'000 | US\$'000 |
| At start of year                | 2,053,687  | 54,040  | 2,984    | 357       | 54      | 3        |
| Additions                       | -          | -       | -        | 2,053,549 | 54,037  | 2,984    |
| Interest earned                 | -          | -       | -        | 2         | 1       | 0        |
| Interest redeemed               | -          | -       | -        | (272)     | (61)    | (3)      |
| Effects of exchange differences | 17,466,215 | 22,719  | -        | 2,115     | 64      | -        |
| Gross carrying amount           | 19,519,902 | 76,763  | 2,984    | 2,053,687 | 54,040  | 2,984    |
| At end of year                  | 19,519,902 | 76,763  | 2,984    | 2,053,687 | 54,040  | 2,984    |

Long term investments represent funds held with the Commercial Bank of Zimbabwe (CBZ) and Treasury Bills issued by the Government of the Republic of Zimbabwe. The investments held with CBZ are set to mature in 2025 and 2027 respectively and are yielding a return of 5% per annum. In 2023 the Authority received interest of ZWL\$ 13,902.79 (US\$ 10.47). The Zero-Coupon Treasury Bills were issued to the Authority in exchange for funds deposited (Blocked Funds) with the Reserve Bank of Zimbabwe totalling US\$ 2,983,800. The treasury bills have tenures ranging between 3 – 5 years with the earliest maturing in July 2025 and the latest maturing in August 2027.



**Notes to the annual financial statements (continued)**

| 12 Inventory      | 2023      |         |          | 2022    |         |          |
|-------------------|-----------|---------|----------|---------|---------|----------|
|                   | ZWL'000   | ZMW'000 | US\$'000 | ZWL'000 | ZMW'000 | US\$'000 |
| Consumable stores | 1,212,375 | 4,768   | 185      | 79,852  | 2,101   | 116      |

Inventory comprises stock of consumables and other items held for use in the business.

**13 Financial assets at fair value through profit or loss**

|                                     | 2023             |               |            | 2022           |               |            |
|-------------------------------------|------------------|---------------|------------|----------------|---------------|------------|
|                                     | ZWL'000          | ZMW'000       | US\$'000   | ZWL'000        | ZMW'000       | US\$'000   |
| At start of the year                | 548,673          | 14,438        | 797        | 47,893         | 13,166        | 787        |
| Additions                           | 1,175,134        | 6,199         | 304        | 156,514        | 7,080         | 415        |
| Fair value gain                     | 82,485           | 435           | 21         | 51,013         | 2,308         | 135        |
| Write off                           | (190,481)        | (1,005)       | (49)       | -              | -             | -          |
| Withdrawals                         | (1,206,111)      | (6363)        | (312)      | (203,687)      | (9,214)       | (540)      |
| Effect of exchange rate differences | 4,562,956        | 5,851         | -          | 496,940        | 1,098         | -          |
|                                     | <u>4,972,656</u> | <u>19,555</u> | <u>760</u> | <u>548,673</u> | <u>14,438</u> | <u>797</u> |

Financial assets held at fair value through profit or loss represent funds invested with African Life Financial Services Zambia Limited (AFLIFE) and Zimnat Asset Management Company (ZIMNAT). The funds are held as sinking funds set up to meet gratuity obligations for employees on fixed term contracts. The schemes recorded fair value gains of US\$ 14,188.39 (2022: US\$ 12,465.45) and US\$ 7,178.98 (2022: US\$ 122,776.11) respectively. In the year under review, a sum of US\$ 278,286.25 (2022: US\$ 386,407) was withdrawn from AFLIFE to settle a gratuity obligation that fell due, while under the ZIMNAT fund, the Authority drew a total of US\$ 32,152.00 (2022: US\$ 153,592).

In the period under review, the ZIMNAT managed fund suffered exchange losses worth US\$49,343 and was eventually converted from Zimbabwe Dollars to United States Dollar in order to match with the liability driven by US\$ denominated salaries.



## Notes to the annual financial statements (continued)

## 14 Trade and other receivables

|  | 2023          |           |          | 2022         |           |          |
|--|---------------|-----------|----------|--------------|-----------|----------|
|  | ZWL'000       | ZMW'000   | US\$'000 | ZWL'000      | ZMW'000   | US\$'000 |
| ZESCO Limited  | 307,870,709   | 1,210,730 | 47,067   | 33,739,046   | 887,802   | 49,023   |
| Kariba Hydro<br>Power Company<br>(KHPC)                                      | 281,664,983   | 1,107,673 | 43,061   | 25,032,040   | 658,687   | 36,371   |
| Trade receivables  | 589,535,692   | 2,318,403 | 90,128   | 58,771,086   | 1,546,489 | 85,394   |
| Less: Provision for<br>impairment losses                                     | (237,014,326) | (932,080) | (36,235) | (17,790,069) | (468,124) | (25,848) |
|  | 352,521,366   | 1,386,323 | 53,893   | 40,981,017   | 1,078,365 | 59,546   |
| Prepayments  | 8,775,291     | 34,510    | 1,342    | 653,866      | 17,206    | 950      |
| Ring fenced funds<br>– Ministry of<br>Finance and<br>Economic<br>Development | 37,943,850    | 149,218   | 5,801    | 7,020,560    | 184,737   | 10,201   |
| Rental debtors   | 512,311       | 2,015     | 78       | 18,961       | 499       | 28       |
| Sundry receivables   | 550,767       | 2,167     | 85       | 651,014      | 17,131    | 945      |
| Staff debtors  | 17,057,251    | 67,079    | 2,608    | 355,155      | 9,345     | 516      |
|  | 64,839,470    | 254,989   | 9,914    | 8,699,557    | 228,918   | 12,640   |
|  | 417,360,836   | 1,641,312 | 63,807   | 49,680,584   | 1,307,283 | 72,186   |
| Less: Long-term<br>receivables   |               |           |          |              |           |          |
| Trade Receivables  | (237,945,178) | (935,741) | (36,377) | (26,249,137) | (690,714) | (38,141) |
| House hold<br>furnishing loans   | (344,058)     | (1,353)   | (53)     | (6,318)      | (166)     | (9)      |
| Staff car loans  | (5,673,541)   | (22,312)  | (867)    | (239,934)    | (6,314)   | (349)    |
|  | (243,962,777) | (959,406) | (37,297) | (26,495,389) | (697,194) | (38,499) |
|  | 173,398,059   | 681,906   | 26,510   | 23,185,185   | 610,089   | 33,687   |

Ringfenced refers to Authority funds held in Zimbabwe Dollars against which the Government of the Republic of Zimbabwe made a commitment to release United States Dollar equivalents on a one-to-one basis following the redenomination of funds previously held as United States to Zimbabwe Dollars. In the year 2023, the Authority received US\$ 4,399,997 against the said funds bringing the amount outstanding to US\$ 5,800,853 (2022: US\$ 10,200,850).

## (i) Classification as trade and other receivables

Trade receivables are amounts due from Utilities for water sales arising in the ordinary course of business. Trade and other receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. If collection of the amounts is expected in one year or less, they are classified as current assets. If not, they are presented as non-current assets. Trade receivables are generally due for settlement within 45 days and therefore are all classified as current. The Authority's other accounting policies for trade and other receivables are outlined below:





Notes to the annual financial statements (continued)

14 Trade and other receivables (continued)

(ii) Other receivables

These amounts generally arise from transactions outside the usual operating activities of the Authority. Interest is not charged on these amounts and neither is collateral normally obtained.

(iii) Staff debtors

These relates to car, household furnishing and housing loans which carry interest rates of 6%, 6% and 10% per annum respectively. As at year end, these have been fair valued using the market related interest rates for similar loans.

(iv) Fair values of trade and other receivables

Due to the short-term nature of the current receivables, their carrying amount is considered to be the same as their fair value.

| 15 Cash and cash equivalents | 2023              |                |               | 2022             |                |              |
|------------------------------|-------------------|----------------|---------------|------------------|----------------|--------------|
|                              | ZWL'000           | ZMW'000        | US\$'000      | ZWL'000          | ZMW'000        | US\$'000     |
| Cash at bank and in hand     | 26,352,801        | 103,635        | 4,029         | 1,635,270        | 43,031         | 2,376        |
| Short term investments       | 56,123,562        | 220,711        | 8,580         | 3,830,175        | 100,786        | 5,565        |
|                              | <u>82,476,362</u> | <u>324,346</u> | <u>12,609</u> | <u>5,465,445</u> | <u>143,817</u> | <u>7,941</u> |

In the statement of cash flows, cash and cash equivalents include cash in hand, deposits held at call with banks, other short-term highly liquid investments with original maturities of three months or less.

Cash flow information: Net debt reconciliation

Below is the tabular presentation of the movements in the Authority's net debt movement reconciliation. In the year under review, US\$3,720,718 (2022 : US\$4,481,976) was drawn from the International Development Association ("IDA"), World Bank US\$ 75 million loan facility while US\$ 2,449,091 (2022:US\$ 3,383,827) was drawn from the ("ADF") US\$ 39 million loan facility.

|  |       | 2023                |                  |                 | 2022               |                  |                 |
|--|-------|---------------------|------------------|-----------------|--------------------|------------------|-----------------|
|  |       | ZWL'000             | ZMW'000          | US\$'000        | ZWL'000            | ZMW'000          | US\$'000        |
| Cash and cash equivalents                  | 15    | 82,476,362          | 324,346          | 12,609          | 5,465,445          | 143,817          | 7,941           |
| Liquid Investments                         | 13    | 4,972,656           | 19,555           | 760             | 548,673            | 14,438           | 797             |
| Borrowings repayable in more than one year | 16    | (184,907,390)       | (727,165)        | (28,269)        | (15,183,282)       | (399,529)        | (22,061)        |
| <b>Net debt</b>                            |       | <u>(97,458,372)</u> | <u>(383,264)</u> | <u>(14,900)</u> | <u>(9,169,164)</u> | <u>(241,274)</u> | <u>(13,323)</u> |
| Cash and liquid investments                | 15,13 | 87,449,018          | 343,901          | 13,369          | 6,014,118          | 158,255          | 8,738           |
| Gross debt – fixed interest rates          | 16    | (184,907,390)       | (727,165)        | (28,269)        | (15,183,282)       | (399,529)        | (22,061)        |
| <b>Net debt</b>                            |       | <u>(97,458,372)</u> | <u>(383,264)</u> | <u>(14,900)</u> | <u>(9,169,164)</u> | <u>(241,274)</u> | <u>(13,323)</u> |



## Notes to the annual financial statements (continued)

## 15 Cash and cash equivalents (continued)

| ZWL\$'000                              | Cash and cash equivalent | Liquid investments | Borrowings within 1 year |
|--|--------------------------|--------------------|--------------------------|
| Net debt as at 1 January 2022          | 118,589                  | 47,893             | (2,419,390)              |
| Cash flows                             | 2,593,626                | 156,514            | (2,966,980)              |
| Redemptions                            | -                        | (203,687)          | 196,781                  |
| Other non-cash movements               | -                        | 64,214             | 152,552                  |
| Foreign exchange adjustments           | 2,753,230                | 483,739            | (19,527,251)             |
| <b>Net debt as at 31 December 2022</b> | <b>5,465,445</b>         | <b>548,673</b>     | <b>(19,725,508)</b>      |
| Cash flows                             | 18,170,520               | 1,175,134          | (23,817,428)             |
| Redemptions                            | -                        | (1,206,111)        | 1,125,735                |
| Other non-cash movements               | -                        | (107,996)          | (1,274,594)              |
| Foreign exchange adjustments           | 59,091,269               | 4,562,956          | (184,392,213)            |
| <b>Net debt as at 31 December 2023</b> | <b>82,727,234</b>        | <b>4,972,656</b>   | <b>(228,084,008)</b>     |

| ZMW'000                                | Cash and cash equivalent | Liquid investments | Borrowings within 1 year |
|--|--------------------------|--------------------|--------------------------|
| Net debt as at 1 January 2022          | 17,812                   | 13,166             | (363,399)                |
| Cash flows                             | 117,322                  | 7,080              | (134,211)                |
| (Repayments) redemptions               | -                        | (9,214)            | 8,901                    |
| Foreign exchange adjustments           | -                        | 2,905              | 6,901                    |
| Other non cash movements               | 8,683                    | 501                | 82,279                   |
| <b>Net debt as at 31 December 2022</b> | <b>143,817</b>           | <b>14,438</b>      | <b>(399,529)</b>         |
| Cash flows                             | 80,314                   | 6,199              | (125,643)                |
| Redemptions                            | -                        | (6,363)            | 5,939                    |
| Other noncash movements                | -                        | (570)              | (6,724)                  |
| Foreign exchange adjustments           | 101,201                  | 5,851              | (201,208)                |
| <b>Net debt as at 31 December 2023</b> | <b>325,332</b>           | <b>19,555</b>      | <b>(727,165)</b>         |

| US\$'000                               | Cash and cash equivalent | Liquid investments | Borrowings within 1 year |
|--|--------------------------|--------------------|--------------------------|
| <b>Net debt as at 1 January 2022</b>   | <b>1,065</b>             | <b>787</b>         | <b>(21,721)</b>          |
| Cash flows                             | 6,876                    | 415                | (7,866)                  |
| Redemptions (repayments)               | -                        | (540)              | 522                      |
| Other non cash movements               | -                        | 135                | 7,004                    |
| <b>Net debt as at 31 December 2022</b> | <b>7,941</b>             | <b>797</b>         | <b>(22,061)</b>          |
| Cash flows                             | 4,707                    | 304                | (6,170)                  |
| (Repayments) redemptions               | -                        | (312)              | 292                      |
| Other non cash movements               | -                        | (28)               | (330)                    |
| <b>Net debt as at 31 December 2023</b> | <b>12,648</b>            | <b>760</b>         | <b>(28,269)</b>          |

Liquid investments comprise current investments that are held at fair value through profit or loss.



Notes to the annual financial statements (continued)

16 Borrowings

Government of the  
Republic of Zambia

|  | 2023        |         |          | 2022        |           |          |
|--|-------------|---------|----------|-------------|-----------|----------|
|  | ZWL'000     | ZMW'000 | US\$'000 | ZWL'000     | ZMW'000   | US\$'000 |
| At start of year                             | 15,183,282  | 399,529 | 22,061   | 2,419,390   | 363,399   | 21,721   |
| Draw downs                                   |             |         |          |             |           |          |
| -World Bank IDA                              | 1,403,454   | 75,769  | 3,721    | 1,690,601   | 76,474    | 4,482    |
| -AFDB loan                                   | 923,797     | 49,874  | 2,449    | 1,276,379   | 57,737    | 3,384    |
| Interest charged                             | 124,543     | 6,724   | 330      | 97,585      | 4,414     | 259      |
| Loan repayment                               | (109,998)   | (5,939) | (292)    | (196,781)   | (8,901)   | (522)    |
| Reclassified to grants                       | -           | -       | -        | (250,138)   | (11,315)  | (663)    |
| Reversal of loan obligation at restructuring | -           | -       | -        | (4,542,225) | (119,523) | (6,600)  |
| Effects of exchange differences              | 167,382,312 | 201,208 | -        | 14,688,471  | 37,244    | -        |
| At end of year                               | 184,907,390 | 727,165 | 28,269   | 15,183,282  | 399,529   | 22,061   |

The Authority has two (2) on-lent loan facilities from the Government of Republic of Zambia for the Kariba Dam Rehabilitation Project (KDRP). The loans are from The African Development Bank's (ADF) Loan and The World Bank's International Development Agency (IDA) Loan. These are briefly explained below:

- (i) **The African Development Bank (AfDB)** – On 20 February 2015, the AfDB availed a loan facility, ADF Loan, number 2100150032548 through the Government of Republic of Zambia to finance specified components of the of the project. Disbursements from this instrument are all through DIRECT payments only.

The amount availed under facility was UAC 25.20 million (equivalent to US\$39,000,000 at the time of agreement signature).

In 2023, a total of US\$2,449,151.09 (UAC 1,836,220) was disbursed towards the following activities:

- Spillway Works – US\$1,131,653;
- Technical Services & Supervision Consultancy – US\$865,876;
- Panel of Experts – US\$366,167;
- Zambezi Valley Development Fund Assessment – US\$61,722;
- Gender Based Violence (GBV) – US\$16,135;
- Additional Instruments – US\$7,538.

The Cumulative disbursement from the Instrument as at 31<sup>st</sup> December 2023 stood at US\$14,661,537 (UAC 10,658,138).

- (ii) **The World Bank (International Development Agency)** – On 20 February 2015, the World Bank through International Development Agency (IDA) availed a loan facility through the Government of Republic of Zambia to finance specified components of the of the project. The instrument IDA Loan - Instrument number 55630 Loan facility was to maximum of US\$75,000,000 (XDR 50,600,000) towards specified components of the project.

The Loan is accessed through direct payment and designated account (DA), where disbursements of amounts above US\$50,000 are done using the former method while those lower than this threshold disbursed through the latter. The Designated Account was opened in 2022 with Standard Chartered Bank Zambia with a float of US\$200,000 for the IDA loan.

**Notes to the annual financial statements (continued)****16 Borrowings (Continued)**

In the 2023 Financial Year, a total of US\$2,021,080.24 (XDR 1,604,641.03) was disbursed directly from the IDA Loan towards the payments of Spillway refurbishment works towards the following activities:

- Spillway Works – US\$575,260;
- Technical Services & Supervision Consultancy – US\$1,379,877;
- Project Equipment – US\$65,943;

At the same time, a total of US\$1,699,657 (XDR 1,184,328) was disbursed to replenish the designated account (DA). Therefore, total disbursed for 2023 for direct payments and designated dccount replenishments from IDA Loan was US\$3,720,738 (XDR 2,788,969).

The summary activity of the Designated Account for SIDA Grant is as below:

| Detail                         | Amounts (US\$) |
|--------------------------------|----------------|
| Opening bank balance           | (69,808)       |
| Replenishments for the year    | 1,699,657      |
| Payments from the bank account | ( 1,474,601)   |
| Closing bank balance           | 155,248        |

The list of DA replenishments is shown in the Appendix III to the financial statements.

The cumulative disbursed total from the IDA loan as at 31<sup>st</sup> December 2023, stood at US\$21,391,628 (XDR 15,565,969).

**Accruals**

At the close of the year, the following obligations were not settled but incurred in the 2023 financial year;

|   | Activity                                       | Cost (US\$)      |
|---|--|------------------|
| 1 | Technical services and supervision consultancy | 593,942          |
| 2 | Individual consultants                         | 18,042           |
| 3 | Plunge pool reshaping works                    | 2,788,369        |
| 4 | Project equipment - Drone                      | 10,215           |
|   | <b>Total</b>                                   | <b>3,410,568</b> |

**17 Trade and other payables**

|                       | 2023              |                |               | 2022             |                |              |
|-----------------------|-------------------|----------------|---------------|------------------|----------------|--------------|
|                       | ZWL'000           | ZMW'000        | US\$'000      | ZWL'000          | ZMW'000        | US\$'000     |
| Trade creditors       | 11,337,447        | 44,586         | 1,733         | 2,640,776        | 69,489         | 3,837        |
| Accruals              | 44,650,780        | 175,593        | 6,826         | 297,633          | 7,832          | 433          |
| Sundry creditors      | 80,058            | 315            | 12            | 10,362           | 273            | 15           |
| Statutory liabilities | 3,395,123         | 13,351         | 519           | 62,462           | 1,644          | 91           |
| Employee benefits     | 19,310,483        | 75,940         | 2,951         | 1,220,324        | 32,111         | 1,773        |
| <b>Total</b>          | <b>78,773,891</b> | <b>309,785</b> | <b>12,041</b> | <b>4,231,557</b> | <b>111,349</b> | <b>6,149</b> |

The carrying amounts of trade and other payables are considered to be the same as their fair values, due to their short-term nature.





Notes to the annual financial statements (continued)

18 Capital Grants

(a) Availed capital grants

The Authority has four (4) grant facilities from the Governments of Republic of Zambia and Zimbabwe for the Kariba Dam Rehabilitation Project (KDRP). The grants are from The European Development Fund, the AfDB's African Development Fund (ADF) Grant, the AfDB's Transition Support Facility (TSF) Grant and the Swedish International Development Agency (SIDA). These are briefly explained below:

- i. **Swedish International Development Agency (SIDA)** – The SIDA provided a grant facility number TF19029 to a maximum of US\$20,000,000 being administered by The World Bank towards specified components of the project. The grant is accessed through two (2) methods i.e. direct payment and Designated Account (DA). Where disbursements are of amounts above US\$50,000, the former method is used while those lower than this threshold are disbursed through the latter method. The Designated Account was opened in 2022 with Standard Chartered Bank Zambia with a float of US\$200,000 for the SIDA Grant.

In the 2023 financial year, a total of US\$634,117 was disbursed through direct payments from the SIDA grant, all towards the payments of Spillway Refurbishment Works. At the same time, a total of US\$381,597 was disbursed to replenish the Designated Account. Therefore, the total disbursed for 2023 for Direct Payments and Designated Account Replenishments from the SIDA grant was **US\$1,015,714**.

The summary activity of the Designated Account for SIDA Grant is as below:

|                                | Amounts (US\$) |
|--------------------------------|----------------|
| Opening bank balance           | 188,174        |
| Replenishments for the year    | 381,597        |
| Payments from the bank account | (369,781)      |
| Closing bank balance           | 199,990        |

The list of DA replenishments is shown in Appendix III to the financial statements .

The Cumulative disbursed total from the SIDA Grant as at 31<sup>st</sup> December 2023, stood at US\$16,745,093.

**The African Development Bank (AfDB)** – On 20 February 2015, the AfDB availed two grant facilities through the Government of the Republic of Zimbabwe to finance specified components of the project. The instruments are the African Development Fund (ADF) Grant - Instrument number 2100155029116, and the Transitional Support Facility (TSF) Grant – Instrument number 5900155008001.

- ii. **ADF Grant (Grant Number 2100155029116)** – The amount availed under the facility was UAC 15.51 million (equivalent to US\$24,000,000 at the time of agreement signature). Disbursements from this instrument are all through direct payments only.

In 2023, a total of US\$895,244 (UAC 670,931) was disbursed towards Spillway Refurbishment Works only. The Cumulative disbursement from the Instrument as at 31<sup>st</sup> December 2023 stood at US\$7,574,323 (UAC 5,493,178). Disbursements from this instrument are all through DIRECT payments only.

- iii. **TSF Grant (Grant Number 5900155008001)** - The amount availed under facility was UAC 7.75 million (equivalent to US\$12,000,000 at the time of agreement signature). Disbursements from this instrument are all through direct payments only.

In 2023, a total of US\$725,728 (UAC 549,394) was disbursed towards Technical Services & Supervision Consultants only. The Cumulative disbursement from the Instrument as at 31<sup>st</sup> December 2023 stood at US\$ 6,379,609 (UAC 4,643,233).



## Notes to the annual financial statements (continued)

## 18 Capital Grants (Continued)

## (a) Availed capital grants

- iv. **European Union (EU) (FED/031-570)** – In 2015, The EU provided a grant facility of EUR 74,000,000 being administered by the National Authorisation Office (NAO) towards the Plunge Pool Reshaping Works. Disbursements from this instrument are all through direct payments only.

In 2023, a total of US\$13,697,186 (EUR 12,755,945) was disbursed towards Plunge Pool Reshaping only. The Cumulative disbursement from the Instrument as at 31st December 2023 stood at US\$69,463,737 (EUR 62,996,901).

## (b) Movements in grants

|   | 2023        |           |          | 2022       |           |          |
|---|-------------|-----------|----------|------------|-----------|----------|
|   | ZWL'000     | ZMW'000   | US\$'000 | ZWL'000    | ZMW'000   | US\$'000 |
| <b>Movements in capital grants</b>                |             |           |          |            |           |          |
| At start of year                                  | 61,692,716  | 1,623,368 | 89,639   | 7,865,885  | 1,181,478 | 70,620   |
| Received during the year:                         |             |           |          |            |           |          |
| • African Development Bank                        | 6,257,467   | 33,010    | 1,621    | 2,867,808  | 75,463    | 4,167    |
| • European Union                                  | 52,875,501  | 278,932   | 13,697   | 7,616,802  | 200,427   | 11,067   |
| • Swedish International Development Agency (Sida) | 3,920,980   | 20,684    | 1,016    | 2,604,865  | 68,544    | 3,122    |
| Reclassified from loans                           | -           | -         | -        | 456,298    | 12,007    | 663      |
| Effect of exchange losses                         | 568,433,423 | 770,000   | -        | 40,281,058 | 85,449    | -        |
| At end of year                                    | 693,180,087 | 2,725,994 | 105,973  | 61,692,716 | 1,623,368 | 89,639   |

## (c) Amortisation of grants

All the projects currently being funded by grants are yet to be completed and are still being carried in work in progress and as such not being amortised to the statement of income and expenditure yet.



Notes to the annual financial statements (continued)

19 Financial instruments by category

|  | 2023               |                  |               | 2022              |                  |               |
|--|--------------------|------------------|---------------|-------------------|------------------|---------------|
|  | ZWL'000            | ZMW'000          | US\$'000      | ZWL'000           | ZMW'000          | US\$'000      |
| <b>Financial assets at amortised cost</b>                    |                    |                  |               |                   |                  |               |
| Trade and other receivables (excluding pre-payments)         | 408,585,545        | 1,606,802        | 62,466        | 49,022,788        | 1,289,973        | 71,230        |
| Cash and cash equivalents                                    | 82,476,362         | 324,346          | 12,609        | 5,465,445         | 143,817          | 7,941         |
| Long term investments  | 19,519,902         | 76,763           | 2,984         | 2,053,687         | 54,040           | 2,984         |
|  | <u>510,581,809</u> | <u>2,007,911</u> | <u>78,059</u> | <u>56,541,920</u> | <u>1,487,830</u> | <u>82,155</u> |
| <b>Financial assets at fair value through profit or loss</b> | <u>4,972,656</u>   | <u>19,555</u>    | <u>760</u>    | <u>548,673</u>    | <u>14,438</u>    | <u>797</u>    |
| <b>Other Financial liabilities at amortised cost</b>         |                    |                  |               |                   |                  |               |
| <b>Financial liabilities</b>                                 |                    |                  |               |                   |                  |               |
| Borrowings   | 184,907,390        | 727,165          | 28,269        | 15,183,282        | 399,529          | 22,061        |
| Trade and other payables (excluding statutory liabilities)   | 75,378,768         | 296,435          | 11,522        | 4,169,095         | 109,705          | 6,058         |
|  | <u>260,286,158</u> | <u>1,023,600</u> | <u>39,791</u> | <u>19,352,377</u> | <u>509,234</u>   | <u>28,119</u> |

20 Financial risk management objectives and policies

The Authority's activities expose it to a variety of financial risks: market risk (including foreign exchange risk and interest rate risk), credit risk and liquidity risk. The Authority's overall risk management programme focuses on the assessment of the liquidity positions of key customers and the unpredictability of financial markets and seeks to minimise potential adverse effects on its financial performance and position.

Financial risk management is carried out by the finance department under policies approved by the Board of Directors. The policies are embedded in the overall enterprise risk management policy of the Authority.

**Market risk**

(i) Foreign exchange risk

The Authority primarily generates its revenue in United States Dollar but does from time to time meet some of its obligations in Zambian Kwacha, the Zimbabwe Dollar and, other major convertible currencies through payments for goods and services needed for the day to day operations. Foreign exchange risk arises when future recognised assets or liabilities are denominated in a currency that is not the entity's functional currency. Management's policy to manage foreign exchange risk is to hold foreign currency bank accounts which act as a natural hedge for meeting foreign currency denominated expenses.

**Notes to the annual financial statements (continued)****20 Financial risk management objectives and policies (continued)****(i) Foreign exchange risk (continued)**

At 31 December 2023, if the either the Zambian Kwacha or the Zimbabwe Dollar had weakened/strengthened by 4% against the United States Dollar with all other variables held constant, operating surplus and accumulated reserves for the Authority would have been ZMW 0.00465 million (2022: ZMW 0.00489 million ) and, ZWL 0.00882 million and (2022 : ZWL 0.01086) higher or lower than the 2022 result.

**ii) Interest rate risk**

The Authority's interest rate risk arises from long-term borrowings contracted for the Kariba dam rehabilitation project. Borrowings issued at concessional fixed interest rates, but with a clause for default penalties expose the Authority's to cash flow interest rate risk. Management manages this risk by ensuring sufficient liquidity to meet loan obligations when they fall due. As at 31 December 2023, an increase/decrease of 200 (2022: 200) basis points on US\$ did not have a material impact on the operating surplus and accumulated reserves.

**Credit risk**

Credit risk arises from cash and cash equivalents and deposits with banks and financial institutions, as well as credit exposure to customers, including outstanding receivables.

*Risk management*

The Authority assesses the credit quality of each customer, taking into account its financial position, past experience, and other factors. Individual risk limits are set based on internal or external ratings in accordance with limits set by the Board. The utilisation of credit limits is regularly monitored. The compliance with credit limits by customers is regularly monitored by line management.

For cash and cash equivalent balances, the Authority's exposure and credit ratings of counterparties are regularly monitored, and the aggregate value of transactions spread amongst approved financial institutions. The Authority actively seeks to limit the amount of credit exposure to any one financial institution and credit exposure is controlled by counterparty limits that are reviewed and approved by the Treasury. For banks and financial institutions, only independently rated parties with a minimum rating of 'A' for International and regional banks with a local presence are accepted.

The Authority has significant concentrations of credit risk as it has two main customers which are ZESCO Limited and KHPC. The continued increase in the receivables balances with the Utilities is a clear indication that the credit risk is now at the fore of the financial risks that the Authority has struggled to bring under control. This has had spill over effects on the liquidity situation that has deteriorated as a consequence.

*Impairment of financial assets*

The Authority's financial assets that are subject to the expected credit loss model are trade and other receivables and Long term investments. Cash and cash equivalents is also subject to impairment requirements of IFRS 9 but the identified impairment loss was immaterial.

Due to the nature of the Authority's debtors, it has applied the IFRS 9 general approach in calculating its expected credit loss. The debtors are in default due to the Authority's debtors payment policy. There has been delays in receiving payments from the Authority's only two main debtors and historically the Authority has not suffered any losses on non payment of debt.

IFRS 9 requires that credit losses on financial assets be measured and recognised using the expected credit loss (ECL) approach. Credit loss is calculated as the difference between the carrying amount of the contractual cash flows and the present value (PV) of expected future cash flows over a period of 5 years for KHPC and 6 years for ZESCO Limited. The expected cash flows are based on the historical payment pattern of the debtors. The present values have been discounted at the opportunity cost market borrowing rate of 10%.





**Notes to the annual financial statements (continued)**

**20 Financial risk management objectives and policies (continued)**

**Credit risk (continued)**

**Impairment of financial assets (continued)**

On that basis, the loss allowance as at 31 December 2023 was determined as follows for trade receivables:

**KHPC Limited Impairment**

**Year ended 31 December 2023**

| <b>ZWL'000</b>       | <b>Year 1</b> | <b>Year 2</b> | <b>Year 3</b> | <b>Year 4</b> | <b>Year 5</b> | <b>Total</b> |
|----------------------|---------------|---------------|---------------|---------------|---------------|--------------|
| Outstanding balance  |               |               |               |               |               | 281,664,983  |
| Expected cashflows   | 17,463,229    | 21,969,869    | 13,519,919    | 32,109,808    | 196,602,158   | 281,664,983  |
| Loss rate            | 0.88          | 0.78          | 0.68          | 0.60          | 0.53          |              |
| Discounted cashflows | 15,386,105    | 17,054,372    | 9,246,695     | 19,348,810    | 104,384,540   | 165,420,522  |
| Impairment loss      | 2,077,124     | 4,915,497     | 4,273,224     | 12,760,998    | 92,217,618    | 116,244,461  |

| <b>ZMW'000</b>       | <b>Year 1</b> | <b>Year 2</b> | <b>Year 3</b> | <b>Year 4</b> | <b>Year 5</b> | <b>Total</b> |
|----------------------|---------------|---------------|---------------|---------------|---------------|--------------|
| Outstanding balance  |               |               |               |               |               | 1,107,673    |
| Expected cashflows   | 68,676        | 86,399        | 53,168        | 126,275       | 773,155       | 1,107,673    |
| Loss rate            | 0.88          | 0.78          | 0.68          | 0.60          | 0.53          |              |
| Discounted cashflows | 60,507        | 67,068        | 36,363        | 76,091        | 410,502       | 650,531      |
| Impairment loss      | 8,169         | 19,331        | 16,805        | 50,184        | 362,653       | 457,142      |

| <b>US\$'000</b>      | <b>Year 1</b> | <b>Year 2</b> | <b>Year 3</b> | <b>Year 4</b> | <b>Year 5</b> | <b>Total</b> |
|----------------------|---------------|---------------|---------------|---------------|---------------|--------------|
| Outstanding balance  |               |               |               |               |               | 43,061       |
| Expected cashflows   | 2,670         | 3,359         | 2,067         | 4,909         | 30,056        | 43,061       |
| Loss rate            | 0.88          | 0.78          | 0.68          | 0.60          | 0.53          |              |
| Discounted cashflows | 2,352         | 2,607         | 1,414         | 2,958         | 15,958        | 25,289       |
| Impairment loss      | 318           | 752           | 653           | 1,951         | 14,098        | 17,772       |



## Notes to the financial statements (continued)

## 20 Financial risk management objectives and policies (continued)

## Credit risk (continued)

## Impairment of financial assets (continued)

## KHPC Limited Impairment

Year ended 31 December 2022

| ZWL'000              | Year 1    | Year 2    | Year 3    | Year 4     | Total      |
|----------------------|-----------|-----------|-----------|------------|------------|
| Outstanding balance  |           |           |           |            | 25,032,040 |
| Expected cashflows   | 1,939,983 | 2,440,624 | 1,501,922 | 19,149,511 | 25,032,040 |
| Loss rate            | 0.91      | 0.83      | 0.75      | 0.68       |            |
| Discounted cashflows | 1,763,621 | 2,017,045 | 1,128,417 | 13,079,374 | 17,988,457 |
| Impairment loss      | 176,362   | 423,579   | 373,505   | 6,070,137  | 7,043,583  |

| ZMW'000              | Year 1 | Year 2 | Year 3 | Year 4  | Total   |
|----------------------|--------|--------|--------|---------|---------|
| Outstanding balance  |        |        |        |         | 658,687 |
| Expected cashflows   | 51,048 | 64,222 | 39,521 | 503,896 | 658,687 |
| Loss rate            | 0.91   | 0.83   | 0.75   | 0.68    |         |
| Discounted cashflows | 46,408 | 53,076 | 29,693 | 344,168 | 473,345 |
| Impairment loss      | 4,640  | 11,146 | 9,828  | 159,728 | 185,342 |

| US\$'000             | Year 1 | Year 2 | Year 3 | Year 4 | Total  |
|----------------------|--------|--------|--------|--------|--------|
| Outstanding balance  |        |        |        |        | 36,371 |
| Expected cashflows   | 2,819  | 3,546  | 2,182  | 27,824 | 36,371 |
| Loss rate            | 0.91   | 0.83   | 0.75   | 0.68   |        |
| Discounted cashflows | 2,563  | 2,931  | 1,640  | 19,004 | 26,138 |
| Impairment loss      | 256    | 615    | 542    | 8,820  | 10,233 |



Notes to the financial statements (continued)

20 Financial risk management objectives and policies (continued)

Credit risk (continued)

Impairment of financial assets (continued)

ZESCO Limited Impairment

Year ended 31 December 2023

| ZWL'000              | Year 1     | Year 2     | Year 3     | Year 4     | Year 5     | Year 6      | Total       |
|----------------------|------------|------------|------------|------------|------------|-------------|-------------|
| Outstanding balance  |            |            |            |            |            |             | 307,870,709 |
| Expected cashflows   | 48,110,932 | 27,159,401 | 30,482,293 | 40,759,905 | 43,615,017 | 117,743,161 | 307,870,709 |
| Loss rate            | 0.88       | 0.78       | 0.68       | 0.60       | 0.53       | 0.47        |             |
| Discounted cashflows | 42,388,486 | 21,082,809 | 20,847,791 | 24,561,208 | 23,155,637 | 55,069,222  | 187,105,153 |
| Impairment loss      | 5,722,446  | 6,076,592  | 9,634,502  | 16,198,697 | 20,459,380 | 62,673,939  | 120,765,556 |

| ZMW'000              | Year 1  | Year 2  | Year 3  | Year 4  | Year 5  | Year 6  | Total     |
|----------------------|---------|---------|---------|---------|---------|---------|-----------|
| Outstanding balance  |         |         |         |         |         |         | 1,210,730 |
| Expected cashflows   | 189,201 | 106,807 | 119,874 | 160,292 | 171,520 | 463,036 | 1,210,730 |
| Loss rate            | 0.88    | 0.78    | 0.68    | 0.60    | 0.53    | 0.47    |           |
| Discounted cashflows | 166,697 | 82,910  | 81,986  | 96,589  | 91,062  | 216,564 | 735,808   |
| Impairment loss      | 22,504  | 23,897  | 37,888  | 63,703  | 80,458  | 246,472 | 474,922   |

| US\$'000             | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Total  |
|----------------------|--------|--------|--------|--------|--------|--------|--------|
| Outstanding balance  |        |        |        |        |        |        | 47,067 |
| Expected cashflows   | 7,355  | 4,152  | 4,660  | 6,231  | 6,668  | 18,001 | 47,067 |
| Loss rate            | 0.88   | 0.78   | 0.68   | 0.60   | 0.53   | 0.47   |        |
| Discounted cashflows | 6,480  | 3,223  | 3,187  | 3,755  | 3,540  | 8,420  | 28,605 |
| Impairment loss      | 875    | 929    | 1,473  | 2,476  | 3,128  | 9,581  | 18,462 |



## Notes to the financial statements (continued)

## 20 Financial risk management objectives and policies (continued)

## Credit risk (continued)

## Impairment of financial assets (continued)

## ZESCO Limited Impairment

Year ended 31 December 2022

| ZWL'000                | Year 1         | Year 2         | Year 3         | Year 4           | Year 5           | Year 6           | Total             |
|------------------------|----------------|----------------|----------------|------------------|------------------|------------------|-------------------|
| Outstanding balance    |                |                |                |                  |                  |                  | 33,739,046        |
| Expected cash flows    | 3,953,080      | 5,272,398      | 2,976,354      | 3,340,505        | 4,466,811        | 13,729,898       | 33,739,046        |
| Discounted cash flows  | 3,593,709      | 4,357,354      | 2,236,179      | 2,281,610        | 2,773,538        | 7,750,170        | 22,992,560        |
| <b>Impairment loss</b> | <b>359,371</b> | <b>915,044</b> | <b>740,175</b> | <b>1,058,895</b> | <b>1,693,273</b> | <b>5,979,728</b> | <b>10,746,486</b> |

| ZMW'000                | Year 1       | Year 2        | Year 3        | Year 4        | Year 5        | Year 6         | Total          |
|------------------------|--------------|---------------|---------------|---------------|---------------|----------------|----------------|
| Outstanding balance    |              |               |               |               |               |                | 887,802        |
| Expected cash flows    | 104,020      | 138,737       | 78,319        | 87,901        | 117,539       | 361,286        | 887,802        |
| Discounted cash flows  | 94,564       | 114,658       | 58,842        | 60,038        | 72,982        | 203,936        | 605,020        |
| <b>Impairment loss</b> | <b>9,456</b> | <b>24,079</b> | <b>19,477</b> | <b>27,863</b> | <b>44,557</b> | <b>157,350</b> | <b>282,782</b> |

| US\$'000               | Year 1     | Year 2       | Year 3       | Year 4       | Year 5       | Year 6       | Total         |
|------------------------|------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Outstanding balance    |            |              |              |              |              |              | 49,023        |
| Expected cash flows    | 5,744      | 7,661        | 4,325        | 4,854        | 6,490        | 19,949       | 49,023        |
| Discounted cash flows  | 5,222      | 6,331        | 3,249        | 3,315        | 4,030        | 11,261       | 33,408        |
| <b>Impairment loss</b> | <b>522</b> | <b>1,330</b> | <b>1,076</b> | <b>1,539</b> | <b>2,460</b> | <b>8,688</b> | <b>15,615</b> |

The closing allowances for the trade and other receivables as at 31 December 2023 reconcile to the opening loss allowance as follows:

|  | 2023               |                |               | 2022               |                |               |
|--|--------------------|----------------|---------------|--------------------|----------------|---------------|
|  | ZWL'000            | ZMW'000        | US\$'000      | ZWL'000            | ZMW'000        | US\$'000      |
| At start of year   | 17,759,159         | 467,309        | 25,804        | 2,363,063          | 354,938        | 21,215        |
| Receivables write - off  | (727,269)          | (3,837)        | (188)         | -                  | -              | -             |
| Impairment loss allowance recognised in profit or loss during the year | 40,990,877         | 216,238        | 10,619        | 1,747,645          | 79,055         | 4,633         |
| Effect of exchange differences   | 178,991,559        | 252,370        | -             | 173,679,361        | 34,131         | -             |
| <b>Total</b>   | <b>237,014,326</b> | <b>932,080</b> | <b>36,235</b> | <b>17,7790,069</b> | <b>468,124</b> | <b>25,848</b> |





Notes to the annual financial statements (continued)

20 Financial risk management objectives and policies (continued)

Credit risk (continued)

Impairment of financial assets (continued)

Trade receivables are written off when there is no reasonable expectation of recovery. Indicators that there is no reasonable expectation of recovery include, amongst others, the failure of a debtor to engage in a repayment plan with the Authority, and a failure to make contractual payments for a period of greater than 120 days past due. Impairment losses on trade receivables are presented as net impairment losses within operating profit. Subsequent recoveries of amounts previously written off are credited against the same line item.

Staff debtors are ordinarily not expected to pose a significant recovery risk as they are usually recovered through the payroll. In the unlikely event of loss, the impairment provisioning will follow the same procedures applied to trade and other debtors.

Liquidity Risk

Liquidity risk is the risk that the Authority will not be able to meet its financial obligations as they fall due. Prudent liquidity management includes maintaining sufficient cash balances, and the availability of funding from an adequate amount of committed credit facilities.

The table below analyses the Authority's financial liabilities that will be settled on a net basis into the relevant maturity groupings based on the remaining period at the reporting date to the contractual maturity date. The amounts disclosed in the table below are the contractual undiscounted cashflows:

| ZWL'000                    | Less than 1 year  | Between 1 and 2 years | Between 2 and 5 years | Over 5 years       | Total              |
|----------------------------|-------------------|-----------------------|-----------------------|--------------------|--------------------|
| At 31 December 2023:       |                   |                       |                       |                    |                    |
| - Borrowings               | 9,117,274         | 19,400,421            | 28,428,562            | 127,961,133        | 184,907,390        |
| - trade and other payables | 47,395,820        | 27,968,980            | -                     | -                  | 75,364,800         |
|                            | <u>56,513,094</u> | <u>47,369,401</u>     | <u>28,428,562</u>     | <u>127,961,133</u> | <u>260,272,190</u> |
| At 31 December 2022:       |                   |                       |                       |                    |                    |
| - Borrowings               | 367,085           | 2,685,839             | 5,298,262             | 50,382,433         | 58,733,619         |
| - trade and other payables | 2,402,069         | 1,767,026             | -                     | -                  | 4,169,095          |
|                            | <u>2,769,154</u>  | <u>4,452,865</u>      | <u>5,298,262</u>      | <u>50,382,433</u>  | <u>62,902,714</u>  |
|                            |                   |                       |                       |                    |                    |
| ZMW'000                    | Less than 1 year  | Between 1 and 2 years | Between 2 and 5 years | Over 5 years       | Total              |
| At 31 December 2023:       |                   |                       |                       |                    |                    |
| - Borrowings               | 35,855            | 76,294                | 111,798               | 503,218            | 727,165            |
| - trade and other payables | 186,388           | 109,991               | -                     | -                  | 296,379            |
|                            | <u>222,243</u>    | <u>186,285</u>        | <u>111,798</u>        | <u>503,218</u>     | <u>1,023,544</u>   |
| At 31 December 2022:       |                   |                       |                       |                    |                    |
| - Borrowings               | 9,659             | 70,675                | 139,417               | 1,325,752          | 1,545,503          |
| - trade and other payables | 63,213            | 46,492                | -                     | -                  | 109,705            |
|                            | <u>72,872</u>     | <u>117,167</u>        | <u>139,417</u>        | <u>1,325,752</u>   | <u>1,655,208</u>   |



## Notes to the annual financial statements (continued)

## 20 Financial risk management objectives and policies (continued)

*Liquidity risk (continued)*

| US\$'000                   | Less than 1 year | Between 1 and 2 years | Between 2 and 5 years | Over 5 years  | Total         |
|----------------------------|------------------|-----------------------|-----------------------|---------------|---------------|
| At 31 December 2023:       |                  |                       |                       |               |               |
| - Borrowings               | 1,394            | 2,966                 | 4,346                 | 19,563        | 28,269        |
| - trade and other payables | 7,246            | 4,276                 | -                     | -             | 11,522        |
|                            | <u>8,640</u>     | <u>7,242</u>          | <u>4,346</u>          | <u>19,563</u> | <u>39,791</u> |
| At 31 December 2022        |                  |                       |                       |               |               |
| - Borrowings               | 533              | 3,903                 | 7,698                 | 73,206        | 85,340        |
| - trade and other payables | 3,491            | 2,567                 | -                     | -             | 6,058         |
|                            | <u>4,025</u>     | <u>6,470</u>          | <u>7,698</u>          | <u>73,206</u> | <u>91,398</u> |

Note : Trade and other payables exclude statutory payables

## 21 Fair value estimation

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value of financial assets and liabilities traded in active markets (such as publicly traded equity) are based on quoted market prices at the close of trading on the reporting date.

The carrying amounts of all financial assets and liabilities at the reporting date approximate their fair values. The following table presents the Authority's assets that are measured at fair value:



Notes to the annual financial statements (continued)

21 Fair value estimation (continued)

|   | Level 1 | Level 2   | Level 3    | Total      |
|---|---------|-----------|------------|------------|
|   | ZWL'000 | ZWL'000   | ZWL'000    | ZWL'000    |
| <b>Year ended 31 December 2023</b>                    |         |           |            |            |
| <b>Assets</b>   |         |           |            |            |
| <i>Financial assets</i>                               |         |           |            |            |
| Financial assets at fair value through profit or loss | -       | 4,972,656 | -          | 4,972,656  |
| <i>Non-financial assets</i>                           |         |           |            |            |
| Buildings   | -       | -         | 53,714,660 | 53,714,660 |
|   | -       | 4,972,656 | 53,714,660 | 58,687,316 |
| <b>Year ended 31 December 2022</b>                    |         |           |            |            |
| <b>Assets</b>   |         |           |            |            |
| <i>Financial assets</i>                               |         |           |            |            |
| Financial assets at fair value through profit or loss | -       | 548,673   | -          | 548,673    |
| <i>Non-financial assets</i>                           |         |           |            |            |
| Buildings   | -       | -         | 5,831,824  | 5,831,824  |
|   | -       | 548,673   | 5,831,824  | 6,380,497  |
| <b>Year ended 31 December 2023</b>                    |         |           |            |            |
| <b>Assets</b>   |         |           |            |            |
| <i>Financial assets</i>                               |         |           |            |            |
| Financial assets at fair value through profit or loss | -       | 19,555    | -          | 19,555     |
| <i>Non-financial assets</i>                           |         |           |            |            |
| Buildings   | -       | -         | 211,237    | 211,237    |
|   | -       | 19,555    | 211,237    | 230,792    |
| <b>Year ended 31 December 2022</b>                    |         |           |            |            |
| <b>Assets</b>   |         |           |            |            |
| <i>Financial assets</i>                               |         |           |            |            |
| Financial assets at fair value through profit or loss | -       | 14,438    | -          | 14,438     |
| <i>Non-financial assets</i>                           |         |           |            |            |
| Buildings   | -       | -         | 153,457    | 153,457    |
|   | -       | 14,438    | 153,457    | 167,895    |

The different level of fair value measurement hierarchy is described as follows:

- Quoted prices(unadjusted) in active markets for identical assets (level 1).
- Inputs other than quoted shares included in level 1 that are observable for the asset, either directly (that is, as prices) or indirectly (that is, derived from prices) (level 2).
- Inputs for the assets that are not based on observable market data (that is, unobservable data) (level 3) .



## Notes to the annual financial statements (continued)

## 21 Fair value estimation (Continued)

All fair value measurements disclosed are recurring fair value measurements, required for the purposes of measuring the Authority's assets at fair value. During the year no transfers were made amongst the different levels.

|   | Level 1<br>US'000 | Level 2<br>US'000 | Level 3<br>US'000 | Total<br>US'000 |
|---|-------------------|-------------------|-------------------|-----------------|
| <b>Year ended 31 December 2023</b>                    |                   |                   |                   |                 |
| <b>Assets</b>   |                   |                   |                   |                 |
| <i>Financial assets</i>                               |                   |                   |                   |                 |
| Financial assets at fair value through profit or loss | -                 | 760               | -                 | 760             |
| <i>Non-financial assets</i>                           |                   |                   |                   |                 |
| Buildings   | -                 | -                 | 8,212             | 8,212           |
|   | -                 | 760               | 8,212             | 8,972           |
| <b>Year ended 31 December 2022</b>                    |                   |                   |                   |                 |
| <b>Assets</b>   |                   |                   |                   |                 |
| <i>Financial assets</i>                               |                   |                   |                   |                 |
| Financial assets at fair value through profit or loss | -                 | 797               | -                 | 797             |
| <i>Non-financial assets</i>                           |                   |                   |                   |                 |
| Buildings   | -                 | -                 | 8,474             | 8,474           |
|   | -                 | 797               | 8,474             | 9,271           |

## 22 Capital management

The Authority's objectives when managing capital are to safeguard the Authority's ability to continue as a going concern. Adequacy of the capital of the Authority is maintained by the Authority on a regular basis. As and when required the Authority will through the respective Ministries responsible for Finance, source for funding in the form of loans and grants.

## 23 Contingent liabilities

The Authority has some cases in the courts of law, most of which have already been decided in the Authority's favour and are only back in the courts on appeal by the plaintiffs. No contingent liabilities have been provided for as management believe that these are remote.

## 24 Related party transactions

The Authority was constituted by the *Zambezi River Authority Acts 1987* of Zambia and Zimbabwe and, is a common enterprise between the Governments of the Republics of Zambia and Zimbabwe. Control of the entity is on a 50/50 basis with decisions being made by consensus.

Oversight of the Authority is vested in the Council of Ministers (CoM). Internal supervision of its management and control of the affairs of the Authority, however, is vested in the Board and the key executive officers.





Notes to the annual financial statements (continued)

24 Related party transactions (continued)

The Authority's key management is made up of the Executive Management which includes the Chief Executive and four Directors.

The following transactions were carried out with related parties:

| Directors compensation         | 2023             |               |            | 2022           |              |            |
|--------------------------------|------------------|---------------|------------|----------------|--------------|------------|
|                                | ZWL'000          | ZMW'000       | US\$'000   | ZWL'000        | ZMW'000      | US\$'000   |
| Director's fees and allowances | 986,596          | 3,072         | 151        | 64,380         | 2,912        | 171        |
| Other expenses                 | 2,689,956        | 8,375         | 411        | 75,262         | 3,404        | 200        |
|                                | <u>3,676,552</u> | <u>11,447</u> | <u>562</u> | <u>139,642</u> | <u>6,316</u> | <u>371</u> |

Key Management compensation

|                             |                  |               |            |                |               |              |
|-----------------------------|------------------|---------------|------------|----------------|---------------|--------------|
| Salaries and other benefits | 2,473,243        | 13,047        | 641        | 256,721        | 11,613        | 681          |
| Pension contribution        | 859,591          | 4,535         | 223        | 131,507        | 5,949         | 349          |
|                             | <u>3,332,834</u> | <u>17,582</u> | <u>864</u> | <u>388,228</u> | <u>17,562</u> | <u>1,030</u> |

Loans to Key Management

|                  |                  |              |            |               |              |            |
|------------------|------------------|--------------|------------|---------------|--------------|------------|
| At start of year | 20,483           | 5,162        | 278        | 16,357        | 4,976        | 267        |
| Additions        | 185,295          | 977          | 48         | 61,460        | 2,780        | 163        |
| Repayments       | (401,473)        | (2,118)      | (104)      | (57,334)      | (2,594)      | (152)      |
|                  | <u>1,645,645</u> | <u>1,681</u> | <u>-</u>   | <u>-</u>      | <u>-</u>     | <u>-</u>   |
| At end of year   | <u>1,449,950</u> | <u>5,702</u> | <u>222</u> | <u>20,483</u> | <u>5,162</u> | <u>278</u> |

Amounts Advanced and amounts owed to ZVDF

|                          |                 |             |            |              |            |           |
|--------------------------|-----------------|-------------|------------|--------------|------------|-----------|
| ZVDF Receivable          | 151,977         | 598         | 23         | 18,367       | 483        | 27        |
| ZVDF Payable             | (170,919)       | (672)       | (26)       | (10,362)     | (273)      | (15)      |
| Net position at year end | <u>(18,942)</u> | <u>(74)</u> | <u>(3)</u> | <u>8,005</u> | <u>210</u> | <u>12</u> |

| Water sales revenue | 2023              |                |               | 2022              |                |               |
|---------------------|-------------------|----------------|---------------|-------------------|----------------|---------------|
|                     | ZWL'000           | ZMW'000        | US\$'000      | ZWL'000           | ZMW'000        | US\$'000      |
| ZESCO               | 40,069,000        | 211,375        | 10,380        | 5,273,129         | 238,529        | 13,980        |
| KHPC                | 39,862,552        | 210,286        | 10,326        | 5,703,663         | 258,005        | 15,121        |
|                     | <u>79,931,552</u> | <u>421,661</u> | <u>20,706</u> | <u>10,976,792</u> | <u>496,534</u> | <u>29,101</u> |

Outstanding receivable balances from Water sales

|       |                    |                  |               |                   |                  |               |
|-------|--------------------|------------------|---------------|-------------------|------------------|---------------|
| ZESCO | 307,870,709        | 1,210,730        | 47,067        | 33,739,046        | 887,802          | 49,023        |
| KHPC  | 281,664,983        | 1,107,673        | 43,061        | 25,032,040        | 658,687          | 36,371        |
|       | <u>589,535,692</u> | <u>2,318,403</u> | <u>90,128</u> | <u>58,771,086</u> | <u>1,546,489</u> | <u>85,394</u> |

**Appendix I - Statement of Capital Expenditure Compared to Budget**

| <b>Year ended 31 December 2023</b>       | <b>Spent</b>       | <b>Budget</b>      | <b>Balance</b>     |
|--|--------------------|--------------------|--------------------|
|  | <b>ZWL'000</b>     | <b>ZWL'000</b>     | <b>ZWL'000</b>     |
| Kariba dam structure                     | -                  | 6,933,546          | 6,933,546          |
| CWIP- Kariba rehabilitation              | 111,860,207        | 202,150,205        | 90,289,998         |
| CWIP- Batoka HES                         | -                  | 25,568,640         | 25,568,640         |
| Devil's gorge                            | -                  | 20,931,459         | 20,931,459         |
| Land & buildings (CWIP)                  | 209,372            | 6,199,309          | 5,989,937          |
| Furniture, fittings, plant and equipment | 3,137,550          | 7,922,590          | 4,785,040          |
| Motor vehicles                           | 2,092,094          | 3,918,107          | 1,826,013          |
| ICT infrastructure                       | 335,187            | 21,694,803         | 21,359,616         |
| <b>Total</b>                             | <b>117,634,410</b> | <b>295,318,659</b> | <b>177,684,249</b> |

| <b>Year ended 31 December 2023</b>       | <b>Spent</b>   | <b>Budget</b>    | <b>Balance</b> |
|--|----------------|------------------|----------------|
|  | <b>ZMW'000</b> | <b>ZMW'000</b>   | <b>ZMW'000</b> |
| Kariba dam structure                     | -              | 27,267           | 27,267         |
| CWIP- Kariba rehabilitation              | 745,385        | 794,974          | 49,589         |
| CWIP- Batoka HES                         | -              | 100,551          | 100,551        |
| Devil's gorge                            | -              | 82,315           | 82,315         |
| Land and buildings (CWIP)                | 1,395          | 24,379           | 22,984         |
| Furniture, fittings, plant and equipment | 20,907         | 31,156           | 10,249         |
| Motor vehicles                           | 13,941         | 15,408           | 1,467          |
| ICT infrastructure                       | 2,234          | 85,317           | 83,083         |
| <b>Total</b>                             | <b>783,862</b> | <b>1,161,367</b> | <b>377,505</b> |



**Appendix I - Statement of Capital Expenditure Compared to Budget (Continued)**

| <b>Year ended 31 December 2023</b>       | <b>Spent</b>    | <b>Budget</b>   | <b>Balance</b>  |
|--|-----------------|-----------------|-----------------|
|  | <b>US\$'000</b> | <b>US\$'000</b> | <b>US\$'000</b> |
| Kariba dam structure                     | -               | 1,060           | 1,060           |
| CWIP- Kariba rehabilitation              | 28,977          | 30,905          | 1,928           |
| CWIP- Batoka HES                         | -               | 3,909           | 3,909           |
| Devil's gorge                            | -               | 3,200           | 3,200           |
| Land & buildings (CWIP)                  | 54              | 948             | 894             |
| Furniture, fittings, plant and equipment | 813             | 1,211           | 398             |
| Motor vehicles                           | 542             | 599             | 57              |
| ICT infrastructure                       | 87              | 3,317           | 3,230           |
| <b>Total</b>                             | <b>30,473</b>   | <b>45,149</b>   | <b>14,676</b>   |

The budget was approved by the Council of Ministers on 15 December 2022.

**Chairperson**

**Co-Chairperson**

**Deloitte & Touche**

**Alice Jere Tembo**  
Partner signing on behalf of firm  
AUD/F000433

**Auditors Certificate**

In accordance with Article 15(6)6 of the Zambezi River Authority Act 1987, we certify that the comparative statement shown above is correct.



## Appendix II – Country Statement of income and expenditure

| Amounts are Stated in<br>ZWL'000    | Year ended 31 December 2023 |                    |                     |
|-------------------------------------|-----------------------------|--------------------|---------------------|
|                                     | Zambia                      | Zimbabwe           | Consolidated        |
| Revenue                             | 40,069,000                  | 39,862,552         | 79,931,552          |
| Finance income                      | 4,344,932                   | 14,043,256         | 18,388,188          |
| Fair value gain on financial assets | 54,772                      | 27,713             | 82,485              |
| Gain on Disposal of PPE             | (9,423)                     | (7,914)            | (17,337)            |
| Other income                        | 1,104,156                   | 493,321            | 1,597,477           |
| <b>Segment income</b>               | <b>45,563,437</b>           | <b>54,418,928</b>  | <b>99,982,366</b>   |
| <b>Segment costs</b>                |                             |                    |                     |
| Board expenses                      | 1,893,080                   | 1,113,442          | 3,006,522           |
| Repairs and maintenance             | 6,526,694                   | 6,200,487          | 12,727,181          |
| Employee benefit expense            | 21,834,881                  | 10,410,547         | 32,245,428          |
| Finance Costs                       | 13,702,546                  | 33,560,962         | 47,263,508          |
| Other administration expenses       | 16,205,652                  | 10,781,074         | 26,986,726          |
|                                     | 60,162,853                  | 62,066,512         | 122,229,365         |
| <b>Net deficit</b>                  | <b>(14,599,417)</b>         | <b>(7,647,584)</b> | <b>(22,246,999)</b> |

| Amounts are Stated in<br>ZMW'000    | Year ended 31 December 2023 |                 |                  |
|-------------------------------------|-----------------------------|-----------------|------------------|
|                                     | Zambia                      | Zimbabwe        | Consolidated     |
| Revenue                             | 211,375                     | 210,286         | 421,661          |
| Finance income                      | 22,921                      | 74,082          | 97,003           |
| Fair value gain on financial assets | 289                         | 146             | 435              |
| Gain on Disposal of PPE             | (50)                        | (42)            | (92)             |
| Other income                        | 5,825                       | 2,602           | 8,427            |
| <b>Segment income</b>               | <b>240,360</b>              | <b>287,074</b>  | <b>527,434</b>   |
| <b>Segment costs</b>                |                             |                 |                  |
| Board expenses                      | 9,986                       | 5,874           | 15,860           |
| Repairs and maintenance             | 34,430                      | 32,709          | 67,139           |
| Employee benefit expense            | 115,185                     | 54,918          | 170,103          |
| Finance Costs                       | 72,285                      | 177,043         | 249,328          |
| Other administration expenses       | 85,489                      | 56,874          | 142,363          |
|                                     | 317,375                     | 327,418         | 644,793          |
| <b>Net deficit</b>                  | <b>(77,015)</b>             | <b>(40,344)</b> | <b>(117,359)</b> |





Appendix II – Country Statement of income and expenditure (continued)

| Amounts are Stated in US\$'000      | Year ended 31 December 2023 |                |                |
|-------------------------------------|-----------------------------|----------------|----------------|
|                                     | Zambia                      | Zimbabwe       | Consolidated   |
| Revenue                             | 10,380                      | 10,326         | 20,706         |
| Finance income                      | 1,126                       | 3,638          | 4,764          |
| Fair value gain on financial assets | 14                          | 7              | 21             |
| Gain on Disposal of PPE             | (2)                         | (2)            | (4)            |
| Other income                        | 286                         | 128            | 414            |
| <b>Segment income</b>               | <b>11,804</b>               | <b>14,097</b>  | <b>25,901</b>  |
| <b>Segment costs</b>                |                             |                |                |
| Board expenses                      | 490                         | 288            | 778            |
| Repairs and maintenance             | 1,691                       | 1606           | 3,297          |
| Employee benefit expense            | 5,656                       | 2,697          | 8,353          |
| Finance Costs                       | 3,550                       | 8,694          | 12,244         |
| Other administration expenses       | 4,200                       | 2,794          | 6,994          |
|                                     | 15,587                      | 16,079         | 31,666         |
| <b>Net deficit</b>                  | <b>(3,783)</b>              | <b>(1,982)</b> | <b>(5,765)</b> |

**Appendix III : SIDA Grant & IDA Loan – Designated Account Replenishments Applications**

| WB Ref. No.  | Date             | Amount (US\$)  |
|--------------|------------------|----------------|
| 91           | 06 March 2023    | 86,211         |
| 93           | 07 April 2023    | 46,318         |
| 95           | 07 June 2023     | 70,352         |
| 97           | 15 August 2023   | 75,682         |
| 101          | 03 October 2023  | 74,906         |
| 105          | 14 December 2023 | 28,128         |
| <b>Total</b> |                  | <b>381,597</b> |

**IDA Loan – Designated Account Replenishments Applications**

| WB Ref. No.  | Date              | Amount (US\$)    |
|--------------|-------------------|------------------|
| 210          | 23 January 2023   | 187,273          |
| 213          | 03 March 2023     | 82,535           |
| 215          | 30 March 2023     | 123,148          |
| 216          | 06 April 2023     | 138,746          |
| 218          | 06 June 2023      | 155,894          |
| 219          | 06 July 2023      | 173,830          |
| 224          | 14 August 2023    | 150,233          |
| 226          | 05 September 2023 | 118,075          |
| 230          | 29 September 2023 | 184,894          |
| 231          | 03 October 2023   | 44,887           |
| 233          | 15 November 2023  | 171,213          |
| 238          | 12 December 2023  | 168,929          |
| <b>Total</b> |                   | <b>1,699,657</b> |



Appendix IV Kariba Dam Rehabilitation Project (KDRP) Funding Source and Application Analysis

| Dec-23   | Institutional Support  |  |                     |                       |                        |              |                   |                   |                             |              | Project Equipment | Environmental & Social Impact Assessment | Dam Break & Other studies | Plunge Pool Reshaping Contract | Spillway Rehabilitation | KDRP Total |            |       |       |       |       |
|--|------------------------|--|---------------------|-----------------------|------------------------|--------------|-------------------|-------------------|-----------------------------|--------------|-------------------|--|---------------------------|--------------------------------|-------------------------|------------|------------|-------|-------|-------|-------|
|  | Panel of Experts (PoE) | Technical Services & Supervisory Consultancy | 5 Yearly Inspection | Gender Based Violence | Individual Consultants | PIU Salaries | Additional Intran | Capacity Building | ZVDF Performance Assessment | Bank Charges |                   |  |                           |                                |                         |            | EHSS Audit | US\$m | US\$m | US\$m | US\$m |
| Disbursements for the Year (2023)                                  |                        |  |                     |                       |                        |              |                   |                   |                             |              |                   |  |                           |                                |                         |            |            |       |       |       |       |
| International Development Association Loan (55630) - Loan          | -                      | 1,380  | -                   | -                     | -                      | -            | -                 | -                 | -                           | -            | -                 | -  | -                         | -                              | -                       | -          | -          | -     | -     | -     | 2,021 |
| International Development Association Loan (55630) - Loan (Designa | 221                    | 217  | -                   | -                     | 163                    | 320          | 8                 | 10                | 23                          | 5            | 17                | -  | -                         | -                              | -                       | -          | -          | -     | -     | -     | 1,475 |



| Dec-23<br>ted<br>Account)  | Institutional Support |     |    |   |   |   |   |    |   |   | Dam Break & Other<br>studies | Plunge Pool<br>Reshaping<br>Contract | Spillway<br>Rehabilit<br>ation | KDRP<br>Total |  |
|--|-----------------------|-----|----|---|---|---|---|----|---|---|------------------------------|--------------------------------------|--------------------------------|---------------|--|
|  |                       |     |    |   |   |   |   |    |   |   |                              |                                      |                                |               |  |
| Swedish<br>Internati<br>onal<br>Fund<br>Grant -<br>Grant<br>(TF1902<br>9)<br>(Designa<br>ted<br>Account) | -                     | -   | -  | - | - | - | - | -  | - | - | -                            | -                                    | 370                            | 370           |  |
| Swedish<br>Internati<br>onal<br>Fund<br>Grant -<br>Grant<br>(TF1902<br>9)                                | -                     | -   | -  | - | - | - | - | -  | - | - | -                            | -                                    | 634                            | 634           |  |
| The<br>Africa<br>Develop<br>ment<br>Fund<br>(ADF<br>Loan)  | 366                   | 866 | 16 | 8 | - | - | - | 62 | - | - | -                            | -                                    | 1,132                          | 2,449         |  |
| The<br>Africa<br>Develop<br>ment<br>Fund   | -                     | -   | -  | - | - | - | - | -  | - | - | -                            | -                                    | 895                            | 895           |  |

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| Dec-23   | Institutional Support |       |    |     |     |     |    |    |   |    | Dam Break & Other studies | Plunge Pool Reshaping Contract | Spillway Rehabilitation | KDRP Total |        |
|--|-----------------------|-------|----|-----|-----|-----|----|----|---|----|---------------------------|--------------------------------|-------------------------|------------|--------|
|  |                       |       |    |     |     |     |    |    |   |    |                           |                                |                         |            |        |
| (ADF Grant)                                    |                       |       |    |     |     |     |    |    |   |    |                           |                                |                         |            |        |
| The Africa Development Fund (TSF Grant)        |                       |       |    |     |     |     |    |    |   |    |                           |                                |                         |            | 726    |
| Europe Union Funding ( ZM/FED/031-570) - Grant |                       |       |    |     |     |     |    |    |   |    |                           |                                |                         |            | 13,697 |
| Accrued  |                       |       |    |     |     |     |    |    |   |    |                           |                                |                         |            | 3,411  |
| <b>Total Disbursements for the Year 2023</b>   | 587                   | 3,782 | 16 | 181 | 320 | 15  | 10 | 85 | 5 | 17 | 127                       | -                              | 16,486                  | 4,047      | 25,677 |
| Dec-23   |                       |       |    |     |     |     |    |    |   |    |                           |                                |                         |            |        |
| <b>Cumulative Disbursements</b>                |                       |       |    |     |     |     |    |    |   |    |                           |                                |                         |            |        |
| International Development                      | 2,031                 | 7,961 | -  | -   | -   | 135 | -  | -  | - | -  | 66                        | 377                            | -                       | 7,199      | 17,916 |



| Dec-23  | Institutional Support |       |     |    |     |     |     |    |    |    | Dam Break & Other studies | Plunge Pool Reshaping Contract | Spillway Rehabilitation | KDRP Total |        |        |
|---|-----------------------|-------|-----|----|-----|-----|-----|----|----|----|---------------------------|--------------------------------|-------------------------|------------|--------|--------|
|   |                       |       |     |    |     |     |     |    |    |    |                           |                                |                         |            |        |        |
| Associati on Loan (55630)) - Loan                       |                       |       |     |    |     |     |     |    |    |    |                           |                                |                         |            |        |        |
| Internati onal Develop ment                             |                       |       |     |    |     |     |     |    |    |    |                           |                                |                         |            |        |        |
| Associati on Loan (55630)) - Loan (Designa ted Account) | 824                   | 379   | 143 | 21 | 431 | 378 | 102 | 80 | 77 | 10 | 17                        | 51                             | -                       | -          | 807    | 3,320  |
| Swedish Internati onal Fund - Grant (TF1902 9)          | -                     | -     | -   | -  | -   | -   | -   | -  | -  | -  | -                         | -                              | -                       | -          | 499    | 499    |
| (Designa ted Account)                                   |                       |       |     |    |     |     |     |    |    |    |                           |                                |                         |            |        |        |
| Swedish Internati onal Fund - Grant (TF1902 9)          | -                     | -     | -   | -  | -   | -   | -   | -  | -  | 80 | -                         | -                              | -                       | -          | 11,749 | 16,046 |
| The Africa  | 366                   | 2,137 | 141 | 20 | -   | -   | 232 | -  | 77 | -  | -                         | -                              | -                       | 11,688     | 14,662 |        |



| Dec-23   | Institutional Support |               |            |           |            |            |            |           |            |           | Dam Break & Other studies | Plunge Pool Reshaping Contract | Spillway Rehabilitation | KDRP Total   |               |               |                |
|--|-----------------------|---------------|------------|-----------|------------|------------|------------|-----------|------------|-----------|---------------------------|--------------------------------|-------------------------|--------------|---------------|---------------|----------------|
|  |                       |               |            |           |            |            |            |           |            |           |                           |                                |                         |              |               |               |                |
| Development Fund (ADF Loan) 2100150 032548             |                       |               |            |           |            |            |            |           |            |           |                           |                                |                         |              |               |               |                |
| The Africa Development Fund (ADF Grant) 2100155 029116 | -                     | 561           | -          | -         | -          | -          | -          | -         | -          | -         | -                         | -                              | 7,013                   | 7,574        |               |               |                |
| The Africa Development Fund (TSF Grant)                | -                     | 6,380         | -          | -         | -          | -          | -          | -         | -          | -         | -                         | -                              | -                       | 6,380        |               |               |                |
| European Union Funding (ZM/FED/031-570) - Grant        | -                     | -             | -          | -         | -          | -          | -          | -         | -          | -         | -                         | -                              | 69,464                  | 69,464       |               |               |                |
| Accrued  | -                     | 594           | -          | -         | -          | 18         | -          | -         | -          | -         | 10                        | 2,788                          | -                       | 3,411        |               |               |                |
| <b>Cumulative Total Disbursements 2023</b>             | <b>3,221</b>          | <b>18,012</b> | <b>284</b> | <b>41</b> | <b>449</b> | <b>378</b> | <b>469</b> | <b>80</b> | <b>154</b> | <b>10</b> | <b>17</b>                 | <b>127</b>                     | <b>377</b>              | <b>2,778</b> | <b>72,252</b> | <b>38,956</b> | <b>139,271</b> |









***Water! Today, Tomorrow***



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