



Radiation Protection Authority of Zimbabwe

"...protecting people & the environment against radiation effects..."



Annual Report 2019

CORPORATE INFORMATION



Radiation Protection Authority of Zimbabwe is a regulatory body established by the Radiation Protection Act [Chapter 15:15] with a mandate to protect the people and the environment from the harmful effects of ionising radiation.

The Act was promulgated in 2004 and RPAZ became fully operational in 2010.

The administration of RPAZ falls under the Office of the President and Cabinet.

In regulating the use of ionising radiation in the country, the authority carries out the following functions: -

Licensing

Inspections

Environmental monitoring

Monitoring for occupational exposure of workers.

Our key stakeholders include:-

IAEA - International Atomic Energy Agency

FNRBA - Forum of Nuclear Regulatory Bodies in Africa

SADC NRN – Southern Africa Development Community Nuclear Regulatory Network

WHO – World Health Organisation

OPC - Office of the President and Cabinet

EMA – Environmental Management Agency

ZIMRA – Zimbabwe Revenue Authority

ZRP – Zimbabwe Republic Police

ZDF – Zimbabwe Defence Forces

Radiation users/public

(This will be presented in graphical format)

RPAZ is situated at;
1 McCaw Drive/King George Road,
Avondale; Harare

Zimbabwe International Exhibition Centre, Hillside
Road, Fairspire Circle, FS2; Bulawayo

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BOARD OF DIRECTORS



Dr. Anna Mary Nyakabau*
Chairperson



Mr. Washington Zhakata*
Vice Chairperson



Mr. Aaron Chigona
Member



Prof. Rangarirai Masanganise
Member



Mrs. Lizzie Mazvita Chikerema
Member



Mr. Nelson Charumbira
Member



Dr. Xolani Ndlovu
Member



Mrs. Vimbai Chinyadza
Expert member of the
Finance Committee



Mrs. Shingirayi Gundu
Expert member of the Legal, Human
Resources and Risk Management
Committee



Engineer Benson Munyaradzi
Member



Mr. Zvikomborero Manyangadze
Member

Mr. Nathan Nkomo
Member

MANAGEMENT



Mr Justice Chipuru
Acting Chief Executive Officer



Ms Vongai Mavurayi
Legal and Corporate Affairs



Mr Lovemore Mazuru
Finance



Mr Brian Mutangandebvu
Human Resources and
Administration



Mr Company Jembere
Internal Audit



Mr Innocent Mayida
Technical Services

OUR VISION, MISSION STATEMENT AND VALUES

(This part will be in a graphical design)

OUR VISION

An internationally acclaimed regulator in the field of radiation protection by 2025

OUR MISSION

To protect people and the environment from the harmful effects of radiation

OUR VALUES

Professionalism

We value proficiency by all employees, we develop our staff to perform their work with expertise, dedication and care.

Effectiveness

We perform in a proactive, collaborative, responsive and proficient manner to achieve expected and measurable outcomes.

Accountability

We accept our individual and team responsibilities and we meet our commitments. We take responsibility for our performance in all of our decisions and actions.

Integrity

We employ the highest ethical standards, demonstrating honesty, transparency and fairness in every action that we take.

Introduction

The Radiation Protection Board is responsible

CHAIRMAN'S STATEMENT



Dr. Anna Mary Nyakabau*
Chairperson

The Radiation Protection Board is appointed in terms of section 5 of the Radiation Protection Act [Chapter 15:15]. Its role is to ensure that RPAZ carries out its mandate as set out in the Act. The Board fully appreciates the demand for accountability, honesty and transparency in fulfilling its fiduciary duties towards the organisation. The

Board strives to ensure that RPAZ complies with all statutory obligations.

The current Board is composed of 10 non – executive directors who were appointed by the Minister. In the year under review there was transition from the Second Radiation Protection Board which was

chaired by Dr Ntokozo Ndlovu. Three new members, Dr Anna Mary Nyakabau, Mr Washington Zhakata and Dr Xolani Ndlovu were appointed to replace those whose terms had expired.

The Board also appointed experts in the areas of Finance and Human Resources to assist the Board in the execution of its mandate.

The former CEO Mr Reward Severa resigned in February and was replaced by Mr Justice Chipuru in an acting capacity.

Taking over from the previous Board which ensured that the Authority found its feet in this unique but important area of the economy, the new Board aims to consolidate the achievements of the previous Board by enhancing the operations of the organisation through, among other things, improving financial generation mechanisms.

It is a huge task which I can however assure you that the Board is ready to tackle.

I am glad to report that in 2019, our major business highlights include the following: -

*Compliance rate rose from 68.1% in 2018 to 72.3% mainly as a result of increased stakeholder engagements by the Authority.

*Four international conventions and one protocol related to nuclear safety and security were tabled in Parliament for ratification.

*Construction of the Waste Management Facility in Hatcliffe, is at 75% completion with assistance from staff deployed from the Zimbabwe Defence Forces.

It is our desire to consolidate on these achievements going forward.

In conclusion, I would like to appreciate the support and guidance from the Shareholder and thank all Board members, Management and Staff of RPAZ for their continued dedication to protecting the people and the environment against the harmful effects of radiation.

ACTING CHIEF EXECUTIVE OFFICER'S STATEMENT



Justice Chipuru
Acting CEO

Introduction

The 2019 annual report of the Radiation Protection Authority of Zimbabwe (RPAZ) outlines the operations and provides a summary of the performance of the

organization in 2019 in furtherance of the mandate to protect people and environment against harmful effects of radiation in the country.

Operating Environment

The economic reform programme under the Transitional Stabilisation Programme (TSP) resulted in valuable economic gains. The allocation of more resources towards the productive sectors of the economy had a positive impact as industries stepped up production, and the subsequent improved tax remittances saw the fiscal authorities reporting a budget surplus in successive years (2018 and 2019).

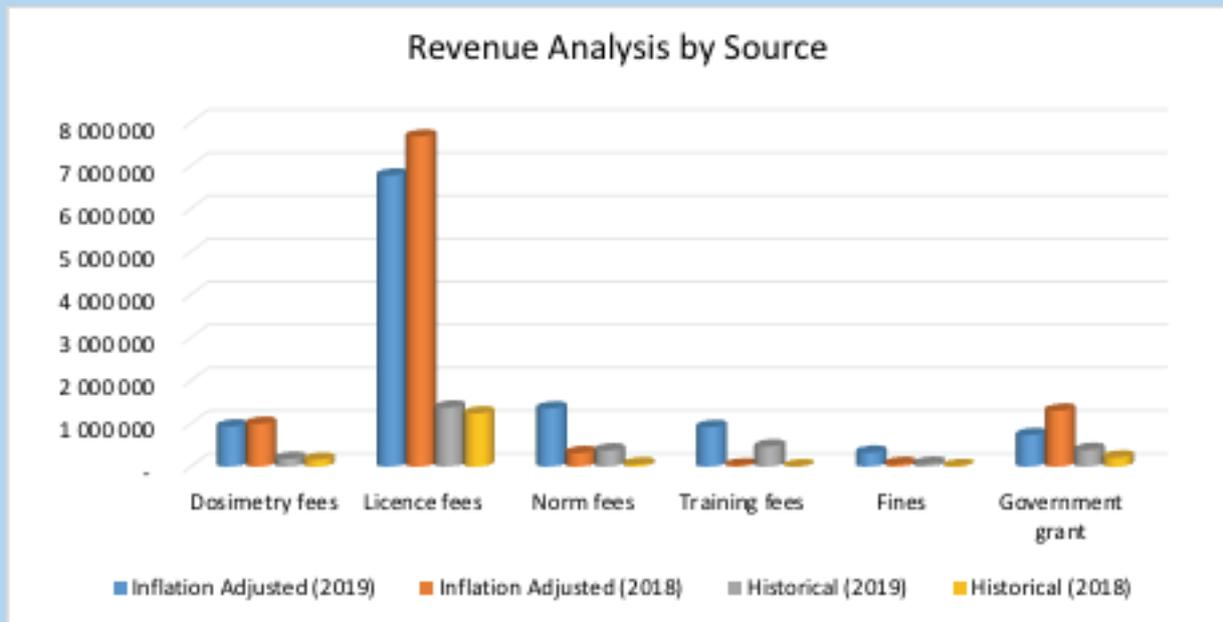
The reintroduction of the local currency through Statutory Instrument 33 of 2019 and the conversion of USD obligations to ZW\$ at a rate of 1:1 eroded the value of statutory fees levied by RPAZ which remained unchanged for the rest of the year. The emergence of hyperinflation negatively affected the organization and its ability to meet its operational and contractual obligations in the fourth quarter of the year. The limited availability of foreign

currency also set back the organization's plans for the calibration and maintenance of detection and monitoring equipment as well as the replacement of dosimeters.

Business Performance Report

The Authority realised a total of ZW\$2 405 221 in revenue from its core activities during the reporting period. The global figure was constituted by ZW\$182 997 from dosimetry services, ZW\$1 374 686 from license fees, ZW\$378 771 from Naturally Occurring Radiation Materials (NORM) assessment fees and ZW\$469 468 from training fees. Fines levied on non-compliant facilities contributed ZW\$68 405 to the total revenue.

Government provides financial support to the



Authority, funding projects of national significance. The Authority received ZW\$387 771 against ZW\$209 482 in 2018 towards recurrent expenditure funding, and ZW\$500 000 against \$951 100 in 2018 towards the disused radiation sources repository construction works.

The Authority's balance sheet grew by 817% on historical basis, and 2% on inflation-adjusted basis in 2019/2018. The significant increase in total assets was attributed to the revaluation of assets which took place in 2019 resulting in a revaluation gain of ZW\$17 251 649. Additional Assets worth ZW\$731 727 were procured in the audited period.

The difficult economic environment contributed to the decline in debtors' recovery ratio by 2% in 2019 to 92% compared to 94% recorded in 2018.

Licencees, a majority being government health services providers failed to honour their obligations by the close of the financial year.

2019 Highlights

- Construction works at the country's historic disused radioactive sources repository in Hatcliffe continued well reaching 75% by end of year. Personnel from the Zimbabwe Defence Forces (ZDF) continue to provide unparalleled professional expertise in the construction of this unique facility under the management of Ministry of Local Government, Public works and National Housing. On completion, the state-of-the-art facility will be used to condition and safely store disused radioactive sources located in different facilities across the country and region until final disposal

arrangements are made.

- Licensing compliance rose to 72.3% from 68.1% recorded in 2018. This was mainly as a result of increased stakeholder engagements and enforcement by the Authority. Overall, 92% of the scheduled inspections were conducted and no safety incidents were reported
- RPAZ with support from the International Atomic Energy Agency (IAEA) successfully conditioned disused radioactive sources belonging to the Ministry of Transport and Infrastructural Development and other Government departments. The exercise also enhanced the technical capacity of RPAZ personnel to carry out future conditioning exercises for the safe transportation and storage of disused radioactive sources.
- As part of quality assurance RPAZ participated in the AFRA Technical Co-operation Inter-comparison project for individual monitoring systems (dosimetry). The exercises are meant to benchmark and harmonize the use of internationally agreed quantities and recommended assessment methods. The results of the Inter-comparison exercise revealed that the RPAZ dosimetry lab was operating within the acceptable range.
- Zimbabwe's Integrated Nuclear Security Support Plan for 2019-2021 was approved by Government for implementation and a number of

activities on threat assessment, and the detection architecture were held. A national nuclear security workshop for policy makers and legislators was held in November 2019.

- RPAZ contributed to global nuclear safety through capacity building of personnel from fellow African regulators by hosting staff from Rwanda and Sierra Leone. Additionally, RPAZ staff were involved in expert and advisory missions to Zambia, Mauritania, Uganda, Malawi and Sierra Leone.

Outlook

The Authority looks forward to extending regulation to cover Naturally Occurring Radioactive Materials (NORM). This will provide a framework for protecting people and the environment from any harmful radiation that may emanate from the practices with the potential to generate NORM. Stakeholder engagements and capacity building through training will be enhanced in order to aid in raising awareness and promote higher levels of compliance.

Conclusion

Management and staff of RPAZ is grateful for the support from the Board, the shareholder, various stakeholders including regulated parties and reiterate our commitment to ensure the protection of people and the environment against the harmful effects of radiation.



CORPORATE GOVERNANCE

for providing oversight for the Authority through policies delegated to the Chief Executive Officer.

The Board reviews the systems and processes of the Authority timeously and can assure stakeholders that the Authority was managed and operated within the principles incorporated in the Public Enterprises and Corporate Governance Act [Chapter 10:31].

The Board of Directors embraces the principles of good corporate governance and considers these as the underlying philosophy in achieving the Authority's mandate. The directors collectively and individually acknowledge their responsibilities and duties in terms of the Board Charter and other governance, regulatory and legislative requirements.

Second Radiation Protection Board

The 2nd Radiation Protection Board was appointed by the Minister in terms of Section 5 of the Radiation Protection Act [Chapter 15:15]. It comprised 10 non-executive directors who held office for a maximum of 4 years renewable once. The Board was comprised of the following:

1. Dr. Ntokoza Ndlovu* : Chairperson
2. Prof. Zacharia Alfred Rabson Gomo* : Member
3. Mr. Josphat Banhwa* : Member

4. Engineer Benson Munyaradzi : Member
5. Mr. Aaron Chigona : Member
6. Mr. Nathan Nkomo : Member
7. Mr. Nelson Charumbira : Member
8. Mr. Zvikomborero Manyangadze : Member
9. Prof. Rangarirai Masanganise : Member
10. Mrs. Lizzie Mazvita Chikerema : Member
11. Mrs Vimbai Chinyadza : Expert member (Finance Committee)
12. Mrs Shingirayi Gundu : Expert member (Human Resources and Administration Committee)

* The terms of office for the 3 members expired on the 31st of July 2019, bringing the 2nd Radiation Protection Board to an end.

Committees of the 2nd Radiation Protection Board

The following Board Committees assisted the

SECOND RADIATION PROTETION BOARD PROFILES



Dr Ntokoza Ndlovu

Dr Ndlovu is a Radiation Oncologist/Clinical Epidemiologist, a Senior Lecturer and Chairperson at the University of Zimbabwe College Of Health Sciences and a Consultant and Chairperson at Parirenyatwa Group of Hospitals' Division of Radiotherapy and Oncology. She holds the Bachelor of Medicine and a Bachelor of Surgery Degrees with Honours in Biochemistry; a Master of Medicine Degree in Radiotherapy and Oncology and a Master of Medical Science Degree in Clinical Epidemiology.

She has over 20years clinical and teaching experience. She has served on the Board of the Cancer Strategy Development Committee (Ministry of Health and Child Care) and is a member of the African Regional Cooperative Agreement for Research (AFROG). She is also the National Project Coordinator of the WHO/IAEA/PACT project RAF/6/043-Supporting Comprehensive Cancer Control.

Prof Zvenyika Alfred Rabson Gomo

Prof Gomo is the Chairman of the Chemical Pathology Department, College of Health Sciences at the University of Zimbabwe. He holds a Bachelor of Science Honours Degree in Special Biochemistry, a Master of Science and PhD in Clinical Biochemistry. He has more than 25 years' experience in research and teaching of Health Sciences.



Mr Josphat Banhwa

Mr Banhwa is a lecturer at the College of Health Sciences, University of Zimbabwe where he is also the Bachelor of Science Radiography Diagnostic programme coordinator. He holds a Higher Diploma of the College of Radiographers, Radiation Protection Supervisors Certificate, Teachers Diploma of the College of Radiographers and a Master of Science Degree in Inter-professional Health and Community Care Studies (Radiography). He has more than 25 years' experience in Diagnostic Radiography.

Eng. Benson Munyaradzi

Eng. Munyaradzi is the Director for Power in the Ministry of Energy and Power Development. He holds an MSc Mechanical Engineering (Energy Technology) from Dresden University of Technology in Germany and an MSc in Manufacturing Systems and Operations Management from the University of Zimbabwe. He is a member of the Zimbabwe Institute of Engineers.



Mr Aaron Chigona

Mr Chigona is the Director General of Environmental Management Agency. He holds a Diploma in Education Specialization in Agriculture, a BSc Agricultural Management and a MSc. Tropical Resources Ecology. He has over 20 years' experience as an environmentalist.

He also has experience as a lecturer, having lectured Zimbabwe Open University Agriculture students on a part-time basis from 2006 to 2009.

He is currently a Climate Change Country Negotiation Team Member and the Focal Point for African Ministerial Conference on the Environment National Focal Point since 2010.



Mr Zvikomborero Manyangadze

Mr Manyangadze is the Chief Hydrologist at the Ministry of Environment, Water and Climate Change. He holds a BSc in Hydraulic (Water) Engineering obtained from the City University Jose Antonio Echeverria (CUJAE), Havana, Cuba. He is also the chairperson of the Zimbabwe Water Partnership, National Coordinator of the Water Climate and Development Programme (WACDEP) and chairperson of the UNESCO International Hydrological Programme (UNESCO-IHP) National Committee for Zimbabwe and a board member of the Global Water Partnership Southern Africa (GWPSA) among other duties.

Mrs Lizzie Mazvita Chikerema

Mrs Chikerema is the Internal Audit Manager for the Scientific Industrial Research and Development Centre (SIRDC), a position she has held since 2007. She has over 20 years auditing experience having worked as an auditor at the Zimbabwe National Army from 1998 to 2004 as well as an external auditor in government at the Auditor General's Office where she rose through the ranks from 2004 to 2007 to become the Acting Deputy Director of Audit. She holds a MCom Strategic Management and Corporate Governance degree, BCom Accounting (honours) degree, HND Business Studies, CIS Intermediary Certificate and is currently pursuing an MSc Accounting and Finance Degree.

Mrs Chikerema is also a Trustee in the Board of Trustees for the Harare Diocese Anglican Church (CPCA).



Mr Nelson Charumbira

Mr Charumbira is the Legal Advisor to the Office of the President and Cabinet, a position he attained in 2016 after having been the Deputy Legal Advisor to the Office of the President and Cabinet from 2012. Prior to this, Mr. Charumbira was employed by the Zimbabwe Republic Police where he rose up the ranks from Sergeant in 2004 to the professional level of Senior Law Officer and promoted to the rank of Chief Superintendent in 2012.

He holds a Bachelor of Laws Honours degree from the University of Zimbabwe and is currently pursuing a Master of Science Degree in Trade Policy and Trade Law.

He was appointed OPC representative on the Inter-Ministerial Taskforce on the Alignment of Laws to the Constitution in 2014.



Mr Nathan Nkomo

Mr Nkomo is the Director of the Department of Civil Protection in the Ministry of Local Government, Public Works and National Housing. He holds a Bachelor of Honours Degree in Politics and Administration and MSc Degree in Strategic Management. He has been within the Public Service since 1991.

Mrs Vimbayi Chinyadza

Mrs. Chinyadza is a Certified Internal Auditor and is currently the Head of Department Internal Audit, Steward Bank, a position she has held since 2012. She has over 17 years of experience, having held various posts including Senior Auditor at Deloitte from 2004 to 2006, started up and running a consulting business, and further setting up the Internal Audit Department for TN Holdings in her capacity as Group Internal Audit Manager from 2009 to 2011.

She holds a BA (Honours) Accounting and Finance and completed Articles with Deloitte, Harare.



Mrs Shingirayi Gundu

Mrs Gundu is a Human Resources expert with over 30 years multi-sectoral experience covering private companies, parastatals, non-governmental organisations and small to medium sized enterprises, inter-alia. Her expertise is in the areas of Human Resources and Business Strategy, Talent Management, Performance Management among others. She runs a Human Resources Consultancy and Recruitment Agency which was launched in 1990.

She is a holder of an ILO Certificate in Human Resources Management and Strategic Management, IPMZ Diploma, MComm Strategic Management and Corporate Governance and a Masters in Business Administration.



Board in discharging its mandate over the period under review;

Operations Committee

Finance Committee

Human Resources Committee

Audit Committee

Legal and Risk Management Committee

Board Committees met at least once per quarter and provided feedback to the Board. Board Committees each have formal terms of reference which have been adopted by the Board and are reviewed regularly to ensure continued relevance.

Operations Committee

The Committee is responsible for assisting the Board in relation to the Authority's core regulatory functions. It reviews policies and practices on the authorisation of facilities, licensing and inspection processes, compliance assurance and enforcement procedures. It advises the Board on all technical matters regards the discharge of the Authority's mandate.

The members of the Committee were,

| | |
|---------------------|-------------|
| Prof R. Masanganise | Chairperson |
| Mr J. Banhwa | Member |
| Mr A. Chigona | Member |

Finance committee

The Committee oversees the organization's resource mobilization and utilization in order to finance regulatory activities including the accounting and financial management systems.

The Committee members were;

| | |
|---------------------|---------------|
| Eng B. Munyaradzi | Chairperson |
| Prof Z. A. R Gomo | Member |
| Prof R. Masanganise | Member |
| Ms V. Chinyadza | Expert Member |

Human Resources Committee

The Committee oversees the implementation of

the organization's human capital strategy, policies and processes including recruitment, conditions of service and employee welfare.

The Committee members were;

| | |
|--------------------|---------------|
| Mr N. Nkomo | Chairperson |
| Prof Z. A. R. Gomo | Member |
| Mr J. Banhwa | Member |
| Mrs L. Chikerema | Member |
| Mrs S. Gundu | Expert Member |

Audit Committee

The Committee oversees the adequacy of internal controls and the integrity of the risk management system. The Committee also assisted the Board in overseeing the scope and effectiveness of the Internal Audit function and effectiveness of the Authority's system of internal control. A non-executive director who is not the Chairperson of the Board chaired the Committee.

The Committee members were;

| | |
|-------------------|-------------|
| Mrs L M Chikerema | Chairperson |
| Mr A Chigona | Member |
| Mr N Charumbira | Member |

Legal and Risk Management Committee

The Committee oversees the legal and compliance issues as well as guiding the Authority's corporate strategy and direction. The Committee also manages the risk management policy of the Authority.

The Committee members were;

| | |
|------------------|-------------|
| Mr N Charumbira | Chairperson |
| Mr Z Manyangadze | Member |
| Eng B Munyaradzi | Member |
| Mr N Nkomo | Member |

Third Radiation Protection Board

The 3rd Radiation Protection Board was appointed

by the Minister in terms of Section 5 of the Radiation Protection Act [Chapter 15:15] and comprised of the following:

1. Dr. Anna Mary Nyakabau* Chairperson
2. Mr. Washington Zhakata* Vice Chairperson
3. Eng. Benson Munyaradzi Member
4. Mr. Aaron Chigona Member
5. Mr. Nathan Nkomo Member
6. Mr. Nelson Charumbira Member
7. Mr. Zvikomborero Manyangadze Member
8. Prof. Rangarirai Masanganise Member
9. Mrs. Lizzie Mazvita Chikerema Member
10. Dr. Xolani Ndlovu* Member
11. Mrs Vimbai Chinyadza Expert member of the Finance Committee
12. Mrs Shingirayi Gundu :

*The 3 members were appointed on the 1st of August 2019, ushering in the 3rd Radiation Protection Board.

Board member profiles

Dr. Anna Mary Nyakabau



Dr A.M Nyakabau is a Ministry of Health and Child Care consultant Radiotherapist and Radiation Oncologist based at Parirenyatwa Group of Hospitals.

She is also a part-time Radiotherapy and Oncology lecturer at the University of Zimbabwe She has also worked as an Oncologist in the neighbouring countries of Botswana and Malawi from 1998 to 2010 She has been a member of various local and regional boards including Vice-President Southern Africa Chapter of African Organization for Research and Training in Cancer (AORTIC).

She holds a Bachelor of Medicine and Bachelor of Surgery Degree, a Masters in Public Health and a Master of Medicine in Radiotherapy and Oncology. She also holds a Diploma in Palliative Medicine from the University of Cape Town. Dr Nyakabau has vast experience in giving presentations on cancer at various workshops locally and internationally. She also delivers public lectures on cancer to organisations and educational programmes on national radio and television. She has over 22 peer reviewed publications under her name.

She is currently the Zimbabwe Cancer Control Coordinator and is founder and chairperson of Cancerserve, a Private Voluntary Organisation that complements Government efforts on improving cancer services in Zimbabwe.

Mr. Washington Zhakata



Mr. W. Zhakata is the Director of the Climate Change Management Department in the Ministry of Environment, Climate, Tourism and Hospitality Industry. Prior to this position, he worked for the Meteorological Services Department before joining the academia as a lecturer at the University of Zimbabwe in the Geography and Environmental Science Department. He then joined the UNDP as National Programme Coordinator for Climate Change. He is a seasoned Africa Group lead climate change negotiator and also has experience in the following areas: Atmospheric Physics, Greenhouse

gas inventorying, environmental management, early warning systems for food security, environmental policy, Clean Development Mechanism (CDM) and carbon markets, and sectorial impact assessments, inclusive of agriculture, biodiversity, health, and others. He served as a member of the Clean Development Mechanism (CDM) Executive Board of the United Nations on carbon trading from 2012 to 2017, and now sits on the Emission Factors Editorial Board of the Intergovernmental Panel on Climate Change (IPCC). He is also a Zimbabwe Agricultural Society Council Member.

He holds an MSc in Engineering (Specialization – Atmospheric Physics (Meteorology) Odessa Hydro meteorological Institute.

Dr. Xolani Ndlovu



Dr X. Ndlovu is a medical practitioner specialising in diagnostic and therapeutic nuclear medicine. He is currently employed as a Nuclear Medicine Physician Consultant and Head of Department at Mpilo Central Hospital Department of Nuclear Medicine. Prior to this, he held the position of Hospital Medical Officer for both the Radiotherapy Department from 2005 to 2006 and of the Nuclear Medicine and Radiotherapy Departments from 2005 to 2013.

He holds a Bachelor of Medicine and Bachelor of Surgery degree, MSc in Medical Sciences and a Master of Medicine (MMed Nuclear Medicine). He is involved in teaching of medical physics and radiography students attached to the Nuclear Medicine department.

Committees of the 3rd Radiation Protection Board

The 3rd Radiation Protection Board combined two previously stand-alone committees, the Legal and Risk Management Committee and the Human

Resources Committee into one Committee. Thus the 3rd Radiation Protection Board has 4 Committees, namely Operations Committee, Finance Committee, Audit Committee and the Legal, Risk Management and Human Resources Committee.

Operations Committee

| | |
|---------------------|-------------|
| Prof R. Masanganise | Chairperson |
| Mr A. Chigona | Member |
| Eng. B. Munyaradzi | Member |
| Dr X. Ndlovu | Member |

Finance Committee

| | |
|---------------------|---------------|
| Mr W. Zhakata | Chairperson |
| Mr A. Chigona | Member |
| Prof R. Masanganise | Member |
| Eng. B. Munyaradzi | Member |
| Mrs V. Chinyadza | Expert Member |

Audit Committee

| | |
|--------------------|-------------|
| Mrs L.M. Chikerema | Chairperson |
| Mr N. Nkomo | Member |
| Mr N. Charumbira | Member |

Legal, Human Resources and Risk Management Committee

| | |
|--------------------|---------------|
| Mr N. Charumbira | Chairperson |
| Mrs L.M. Chikerema | Member |
| Mr N. Nkomo | Member |
| Dr X. Ndlovu | Member |
| Mrs S. Gundu | Expert Member |

BOARD ATTENDANCES

Members of the board are expected to demonstrate their commitment by attending all meetings. The following ordinary Board meetings were held during the reporting period:-

✓ member present at the meeting
 - member not present but tendered apology
 # not yet or no longer a member

| Names | 28 May | 30 July | 17 Dec | 06 Feb(2020) |
|--------------------------|--------|---------|--------|--------------|
| Dr N Ndlovu(Chairperson) | ✓ | ✓ | # | # |
| Prof Z.A.R Gomo | ✓ | ✓ | # | # |
| Mr J.Banhwa | ✓ | ✓ | # | # |
| Eng B. Munyaradzi | - | ✓ | ✓ | ✓ |
| Mr A. Chigona | ✓ | ✓ | - | ✓ |
| Mr Z. Manyangadze | ✓ | - | ✓ | # |
| Mr N. Charumbira | ✓ | - | ✓ | ✓ |
| Mr N. Nkomo | - | ✓ | - | - |
| Prof R. Masanganise | ✓ | ✓ | ✓ | - |
| Mrs L.M Chikerema | ✓ | ✓ | ✓ | ✓ |
| Dr A.M Nyakabau | # | # | ✓ | ✓ |
| Mr W.Zhakata | # | # | ✓ | ✓ |
| Dr X. Ndlovu | # | # | ✓ | ✓ |

REGULATORY BUSINESS



READER #24

Standard Measure
Ready
Ejecting
Reading
Error
Stand By

InLight Systems
by LANDAU LTD.

National inventory of Radiation Sources and Practices

The Authority maintains the national inventory of radiation sources, facilities and compliance records in line with international safety standards. The

Regulatory Authority Information System (RAIS), which contains the national database for the inventory of facilities and activities, has a total of five hundred and eighty-three (583) facilities. The distribution of facilities in the inventory is shown in Tables 1.0, 1.1 and 1.2, and Figure 1 below.

Table 1.0 Distribution of Facilities

| Sector | Number of facilities |
|---------------|----------------------|
| Medical | 300 |
| Industrial | 118 |
| Veterinary | 12 |
| Research | 9 |
| Dental | 92 |
| Accreditation | 52 |
| Total | 583 |

Fig. 1

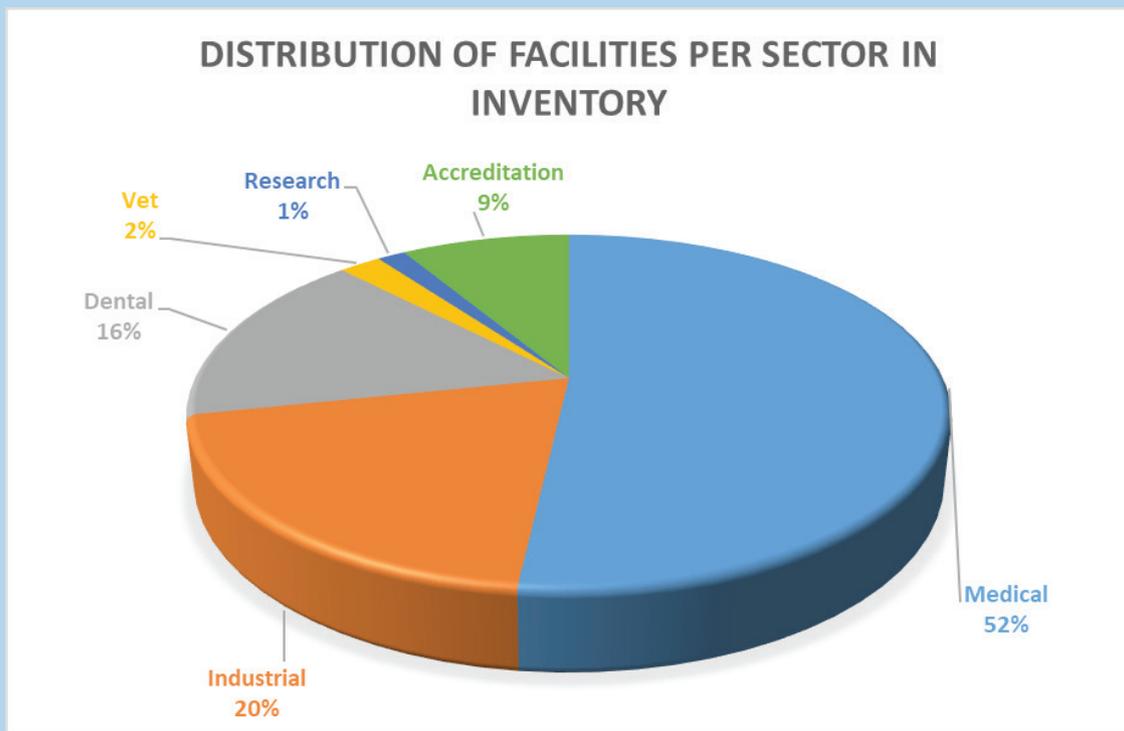


Table 1.1 National Inventory by Province

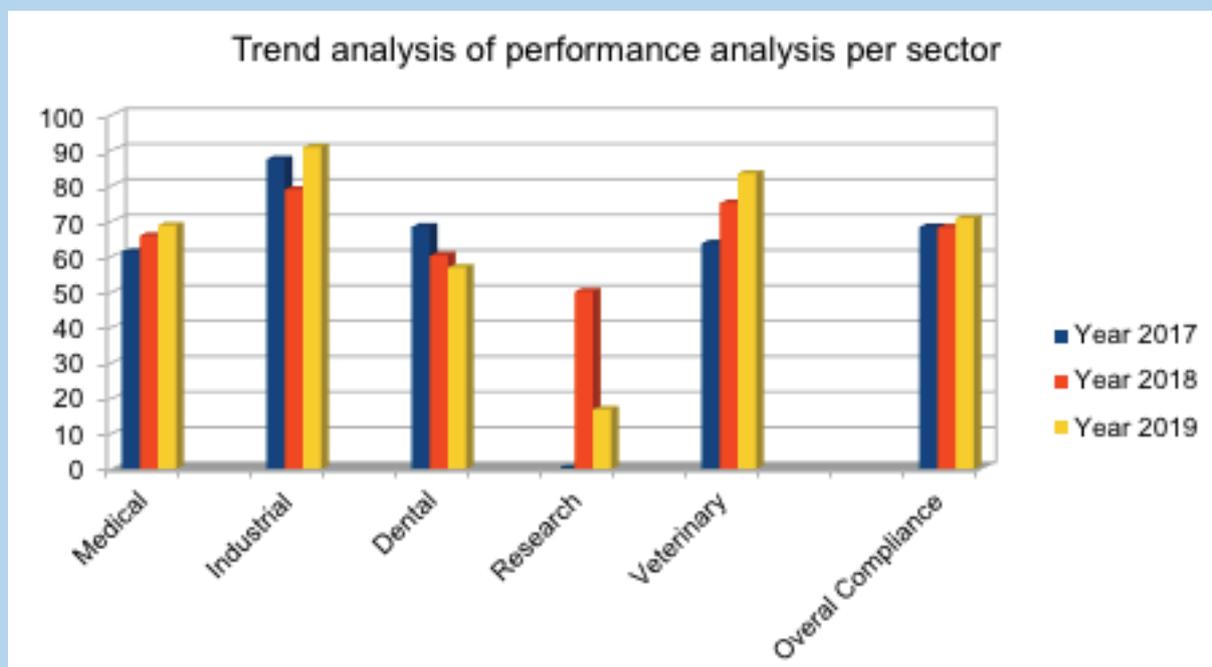
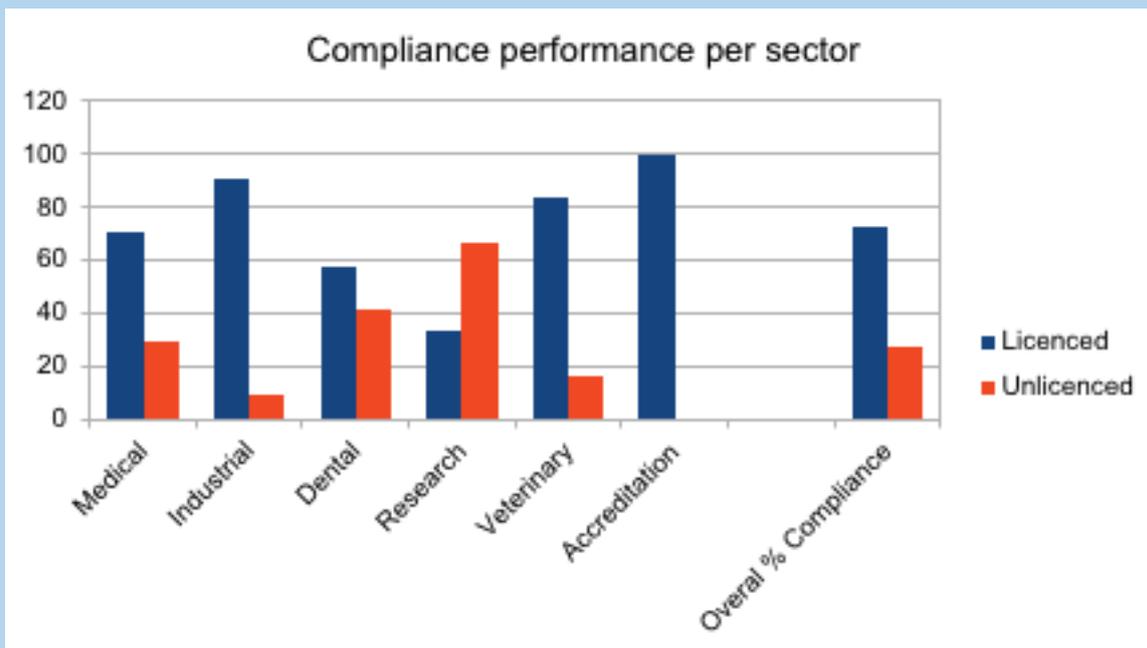
| | Medical | Industrial | Vet | Research | Dental | Accreditation | TOTAL |
|---------------------|------------|------------|-----------|----------|-----------|---------------|------------|
| Manicaland | 26 | 13 | | | 3 | | 42 |
| Bulawayo | 32 | 14 | 1 | 3 | 22 | 1 | 72 |
| Harare | 127 | 60 | 11 | 6 | 50 | 50 | 301 |
| Mashonaland Central | 18 | 4 | | | 1 | | 23 |
| Matabeleland North | 9 | 8 | | | 2 | | 19 |
| Midlands | 28 | 9 | | | 8 | | 45 |
| Mashonaland West | 34 | 7 | | | | 1 | 42 |
| Mashonaland East | 12 | 1 | | | 3 | | 16 |
| Masvingo | 14 | 2 | | | 3 | | 19 |
| TOTAL | 300 | 118 | 12 | 9 | 92 | 52 | 583 |

Licensing Compliance

The 2019 licencing compliance rose from 68.1% in 2018 to 72.3% as at 31 December 2019 as a result of increased stakeholder engagements by the Authority. The bar graph below shows the licencing compliance as at 31 December 2019.

Table 1.2 Compliance Statistics

| SECTOR | LICENCED | UNLICENCED | NOT OPERATIONAL | % COMPLIANCE PER SECTOR |
|---------------|------------|------------|-----------------|-------------------------|
| Medical | 161 | 67 | 72 | 70.6 |
| Industrial | 68 | 7 | 43 | 90.7 |
| Dental | 51 | 37 | 4 | 58.0 |
| Accreditation | 13 | 0 | 39 | 100 |
| Veterinary | 10 | 2 | 0 | 83.3 |
| Research | 2 | 4 | 3 | 33.3 |
| TOTAL | 305 | 117 | 161 | 72.3 |



Compliance rate per sector as at December 2019

Table 1.3: Analysis of yearly compliance performance

| Year | 2016 | 2017 | 2018 | 2019 |
|-------------------------|-------|-------|-------|-------|
| Overall compliance rate | 65.0% | 68.2% | 68.1% | 72.3% |

Major non-compliance cases were as result of the following;

- Non-payment of regulatory fees, albeit adequate radiation safety within facilities.
- Failure to provide adequate documentation as part of the review assessment

Compliance Assurance

Compliance activities are RPAZ measures of promotion, verification and enforcement aimed at securing compliance by authorised part with the applicable legally binding requirements. For the licensing period 2019, the Authority conducted 92% of the scheduled inspections.

Table 1.4 Summary of Scheduled Inspections 2019

| | Planned Inspections | Actual Inspections | Other Inspections | Percentage |
|-------------------|---------------------|--------------------|-------------------|------------|
| Northern Region | 59 | 53 | 60 | 89 |
| Southern Region | 39 | 37 | 75 | 95 |
| Total Inspections | 225 | | | |

Further the Authority undertakes pre-licensing inspections, enforcements, investigative inspections and safety assessments as shown in Table 1.4 above

Enforcement

The Authority conducted various enforcement actions for the non-compliant facilities reported during the period under review. The majority of facilities that failed to meet regulatory requirements were prohibited from operating. The punitive enforcement actions were taken to ensure appropriate remedial measures to prevent the recurrence of these identified non-compliance issues.

Public Exposure Control

The annual effective dose prescribed by the regulatory body for members of the public from authorised actions is 1mSv. No actions can be authorised that might result in any member of the public getting above the annual limit in a year. There were no safety concerns for the public living and working in such facilities for the period under review. This includes the public dose from the National Radioactive Waste Management Facility and Naturally Occurring Radioactive Materials.

Personal Monitoring

The Authority has two dosimetry systems (Harshaw 6600 plus TLD Reader and Semi Manual In-Light OSL Reader) which are capable of monitoring over five thousand (5 000) people. The Authority maintains the National Dose Register for all monitored workers in line with the requirements of the Act. Currently there are two thousand three hundred (2 300) workers under monitoring.



From Table 2.0 below, the average annual personal dose equivalent in respective industries was within the acceptable range. The values indicate safe operational conditions within our dose limits.

Table 2.0 Average Annual Personal Dose Equivalent for 2019

| Sector | Average Annual Personal Dose Equivalent Hp(10) deep dose (mSv) |
|-------------------|--|
| Medical | 0.44 |
| Industrial gauges | 0.60 |
| Industrial X-rays | 0.40 |

Quality Assurance

The Authority maintains an integrated management system (IMS) to ensure regulatory improvement programs, stakeholder competence building, emergency preparedness and response; and the risk management framework of the organisation.

In addition development of policies and procedures as well as review of regulations are also priorities.

Training programs undertaken by the Authority include;

- Radiation Safety Officers training on basic radiation safety. Fifty five (55) people were trained.
- Facility based training on basic radiation safety. Twelve (12) facilities were capacitated.
- Training on Naturally Occurring Radioactive Materials (NORM). Forty seven (47) people underwent training.
- Training on Dosimetry. Fifteen (15) people were trained.



Nuclear Security and Safeguards

The Authority supports and implements Zimbabwe's international agreements on the areas of nuclear and non-proliferation and security. The major elements are safety, safeguards, security and nuclear non-proliferation. The Authority has managed to strengthen import and export of nuclear material through collaboration with key agencies including the Zimbabwe Revenue Authority (ZIMRA).

Nuclear safeguards are systems used by the International Atomic Energy Agency (IAEA) to make sure that nuclear substances intended for peaceful sources are not used for non-peaceful purposes including production of nuclear weapons. In 2019 there were no major concerns regarding safeguards and there is utmost assurance that all nuclear materials are being used for peaceful activities in the country.

Zimbabwe has an Integrated Nuclear Security Support Plan (INSSP). This framework aims to strengthen the country's nuclear security infrastructure and preparedness and response to nuclear security events

Attach pics labelled NUCLEAR TRAINING PARTICIPANTS.



Technical Services

3.4.1 NORM and Gamma Spectrometry Laboratories

The Authority carried out sampling and assessments for Naturally Occurring Radioactive Materials (NORM) within NORM industries. This helps in the characterisation and confirmation of the presence of elevated levels of radiation for protection of workers and the public. A gamma spectrometry laboratory has been set up at the Environmental Management Agency (EMA) laboratory for analysis of samples from mines to quantify the radiation levels. The Authority offers radiation measurement for water, food, and mineral ore samples for both industry and the public.

Table 2.1: NORM statistics as at 31 December 2019

| | |
|------------------------------|------|
| Number of samples collected | 2089 |
| Number of samples analysed | 2089 |
| Number of facilities sampled | 45 |

RADIOACTIVE WASTE MANAGEMENT

The Government supports the construction of the National Radioactive Waste Management Facility for disused sealed sources and other radioactive waste. The construction is at 75% completion with assistance from staff deployed from the Zimbabwe Defence Forces under the management of the Ministry of Local Government, Public Works and National Housing.



Control of Radioactive Sources

The regulatory body ensures that all authorised and disused sources are managed in a safe and secure manner, the safety and security of sealed radioactive sources is included in the compliance assurance program. For the period under review no anomalies were reported or detected during our normal compliance assurance routine. No safety concerns were raised with regard to safety of sealed radioactive sources.

During 2019 the Authority in partnership with IAEA, Ministry of Transport and Infrastructural Development and other Government departments carried out conditioning of radioactive sources at the National Radioactive Waste Management Facility in Hatcliffe. The programme helped in equipping personnel with the technical expertise to carry out conditioning exercises. The exercise involved removal of actual radioactive source from the devices and transferring them into storage capsules easier for handling, storage and transportation. The packages were certified for international transport by IAEA experts. A total of 31 sources were conditioned. The Authority personnel were equipped with technical expertise to carry out the exercise by themselves in future.



International Cooperation

In International cooperation, the Authority enjoyed cordial and mutually beneficial relations with the International Atomic Energy Agency highlighted by the following: -

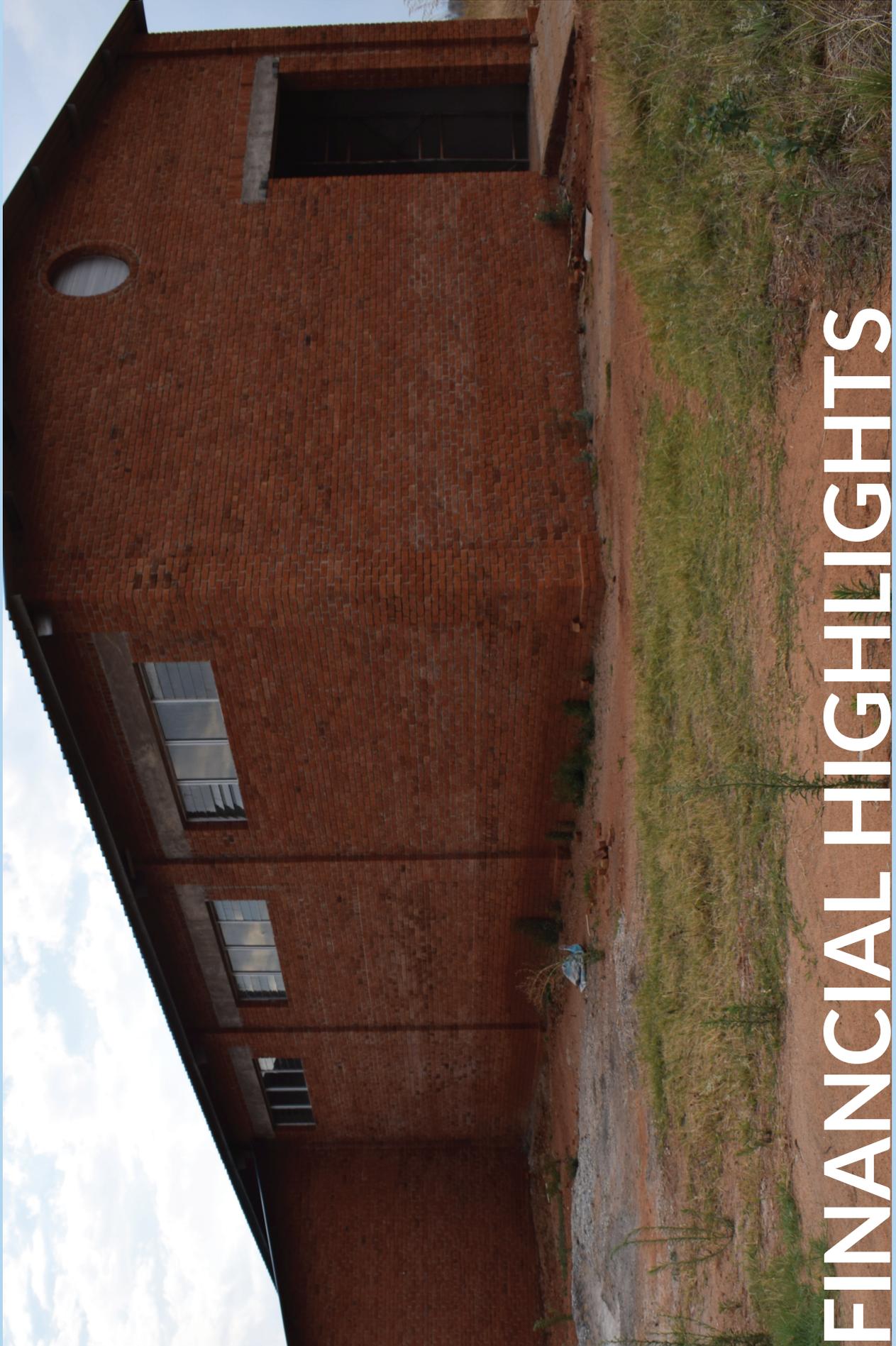
- Competence building for the Authority staff in the form of trainings, fellowships, scientific visits and technical meetings. In addition, the IAEA has provided technical support in specialized fields and provision of equipment.



- The Authority contributed to regional capacity development and experience sharing through the hosting of three (3) fellows from Rwanda and one from Sierra Leone in the field of radiation safety infrastructure development.
- RPAZ staff took part in Expert and Advisory Missions to Zambia, Mauritania, Malawi, Uganda and Sierra Leone

Four conventions and one protocol related to Nuclear Safety, Security and Safeguards were submitted to Parliament for accession to. These are:

- Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management
- Convention on the Physical Protection of Nuclear Material (CPPNM)
- Convention on Early Notification of a Nuclear Accident
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency
- Additional Protocol to the Comprehensive Safeguards Agreement



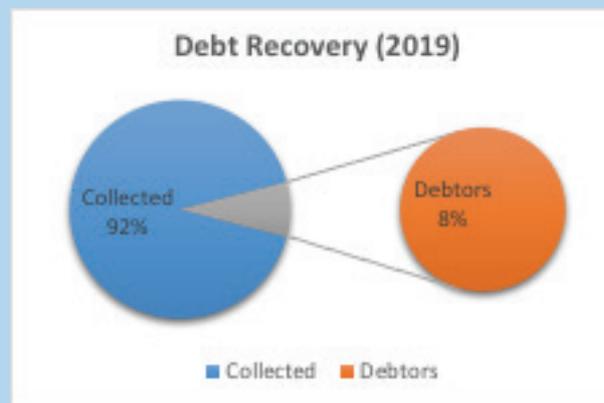
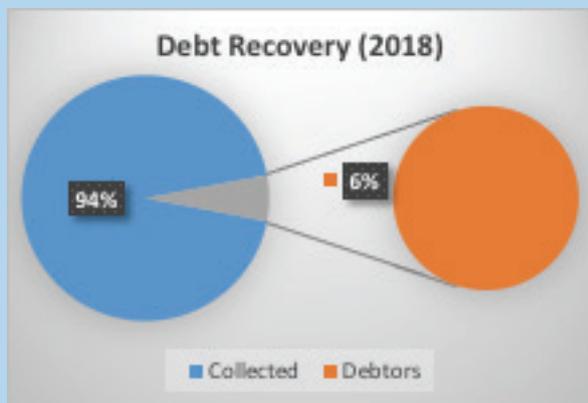
Financial Highlights

For the year ended 31 December 2019

| | Historical Year Ended 31 December | |
|------------------------------|-----------------------------------|-------------|
| | 2019 (ZW\$) | 2018 (ZW\$) |
| Revenue | 2,861,346 | 1,696,331 |
| Expenditure | (3,726,876) | (1,499,827) |
| Surplus/Deficit for the year | (865,530) | 196,504 |
| Cost to Income Ratio | 130% | 88% |
| Revenue Growth (%) | 69% | 26% |
| Total Licence Fees | 2,473,626 | 1,461,784 |
| Government Grant | 896,851 | 1,108,000 |
| Current Assets | 485,426 | 733,329 |
| Current Liabilities | 1,426,798 | 638,732 |
| Current Ratio | 0.34 | 1.15 |

| | Inflation Adjusted Year Ended 31 December | |
|------------------------------|---|-------------|
| | 2019 | 2018 |
| Revenue | 25,630,438 | 10,536,761 |
| Expenditure | (8,395,054) | (9,316,174) |
| Surplus/Deficit for the year | 17,235,384 | 1,220,587 |
| Cost to Income Ratio | 33% | 88% |
| Revenue Growth (%) | 143% | 26% |
| Total Licence Fees | 10,300,562 | 9,079,872 |
| Government Grant | 1,233,188 | 7,208,952 |
| Current Assets | 485,426 | 4,555,072 |
| Current Liabilities | 1,974,060 | 3,967,484 |
| Current Ratio | 0.25 | 1.15 |

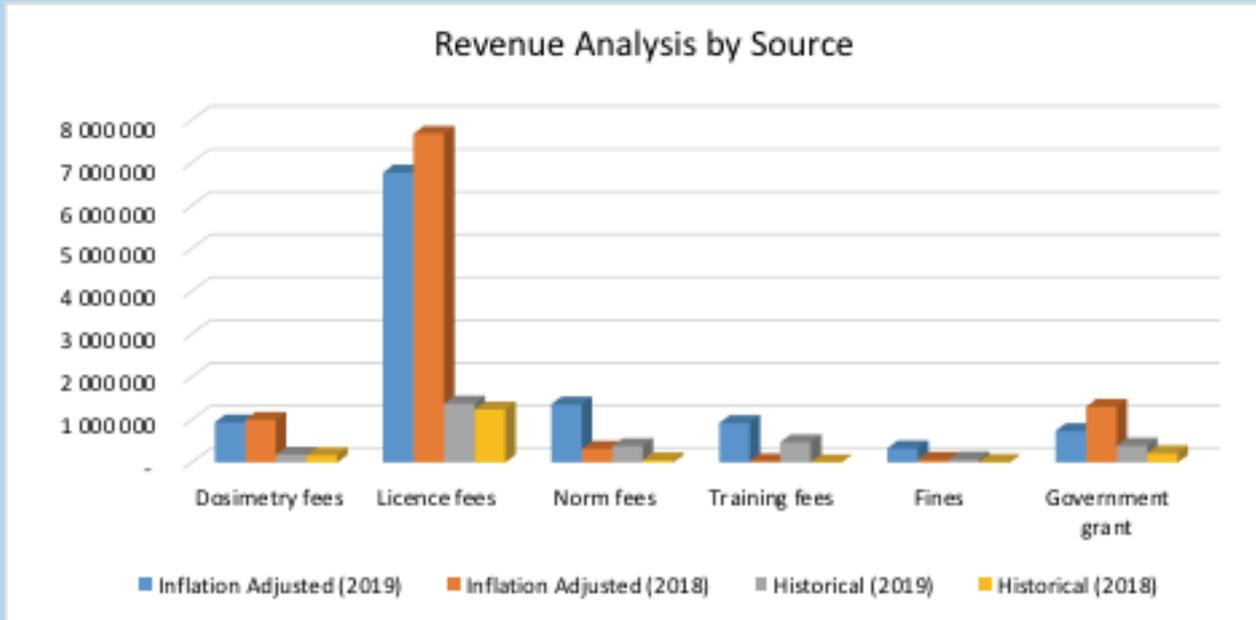
The difficult economic environment contributed to the decline in debtors' recovery ratio by 2% in 2019 (92%) from 94% recorded in 2018. Licensees, a majority being government health services providers failed to honour their obligations by the close of the financial year.



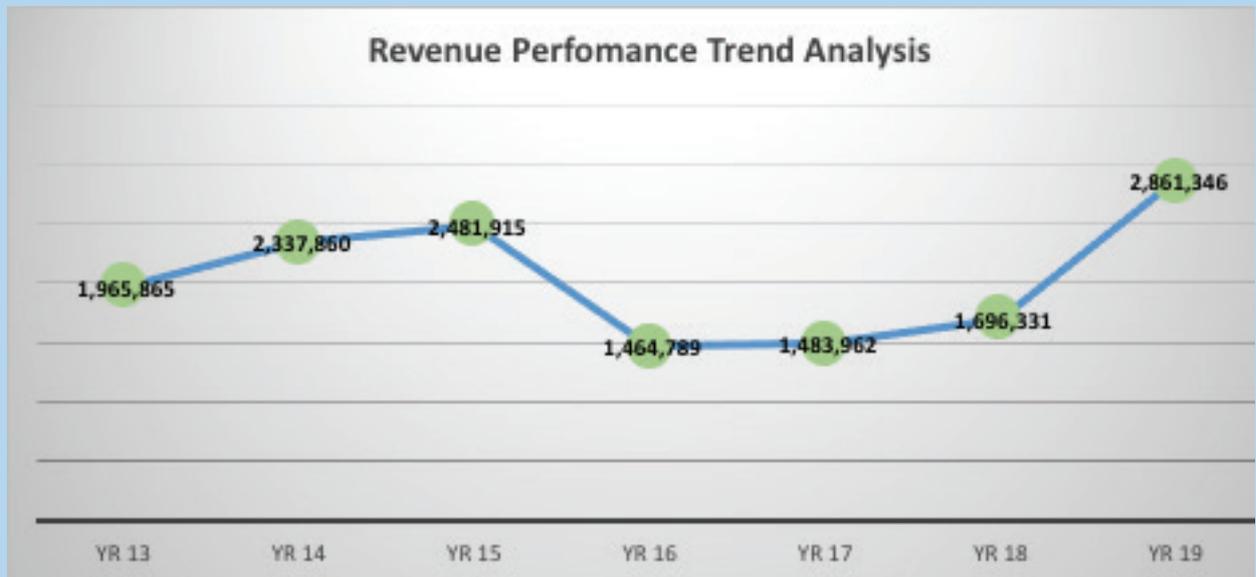
The organisation's current asset ratio suffered a sharp decline in both historical and inflation adjusted terms as it moved from 1.15 and 1.15 in 2018 to 0.34 and 0.24 in 2019 respectively. Cash flow challenges experienced in the fourth quarter of the year meant some current liabilities spilled over into the post audit period.

Revenue

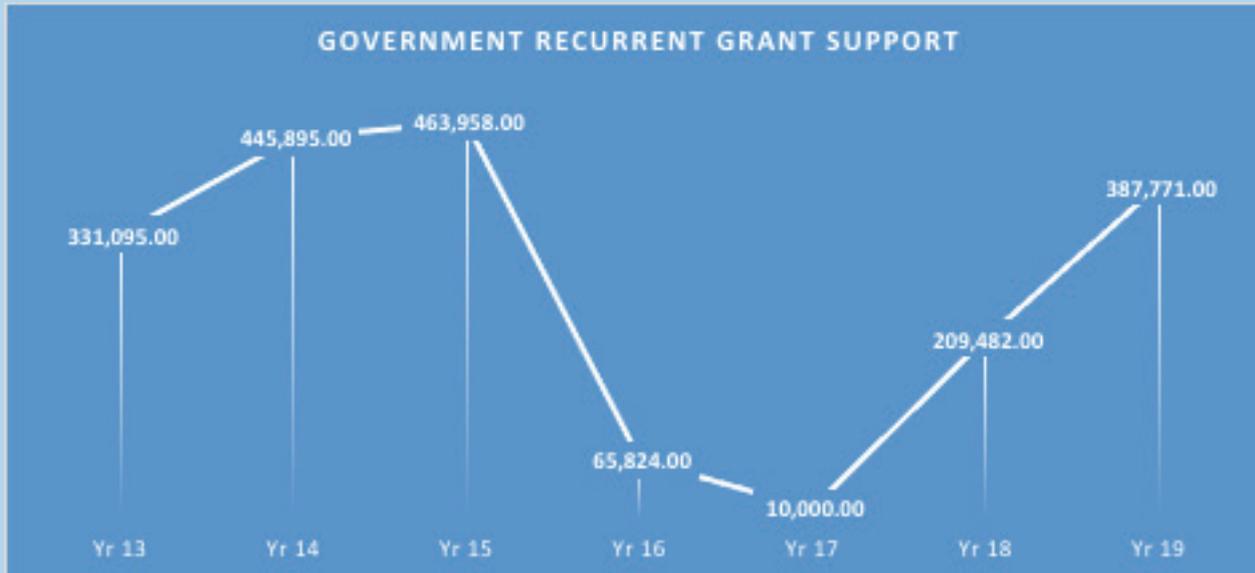
The Authority realised a total of ZW\$2 405 221 in revenue from its core activities in the audited period. The revenue figure was constituted by ZW\$182 997 from dosimetry services, ZW\$1 374 686 from license fees, ZW\$378 771 from Naturally Occurring Radiation Materials (NORM) fees and ZW\$469 468 from training fees. Other incomes also contributed ZW\$456 125, made up of ZW\$68 405 fines from non-compliant facilities, and a government grant of ZW\$387,781 towards recurrent expenditure.



The regulatory fees were last reviewed in 2011, and this is reflected by a near flat curve in the revenue trend analysis graph below from 2016 to 2018 immediately after the withdrawal of government support on employment emoluments. A sharp revenue increase recorded in 2019 is attributed to the aforementioned non regulatory business.

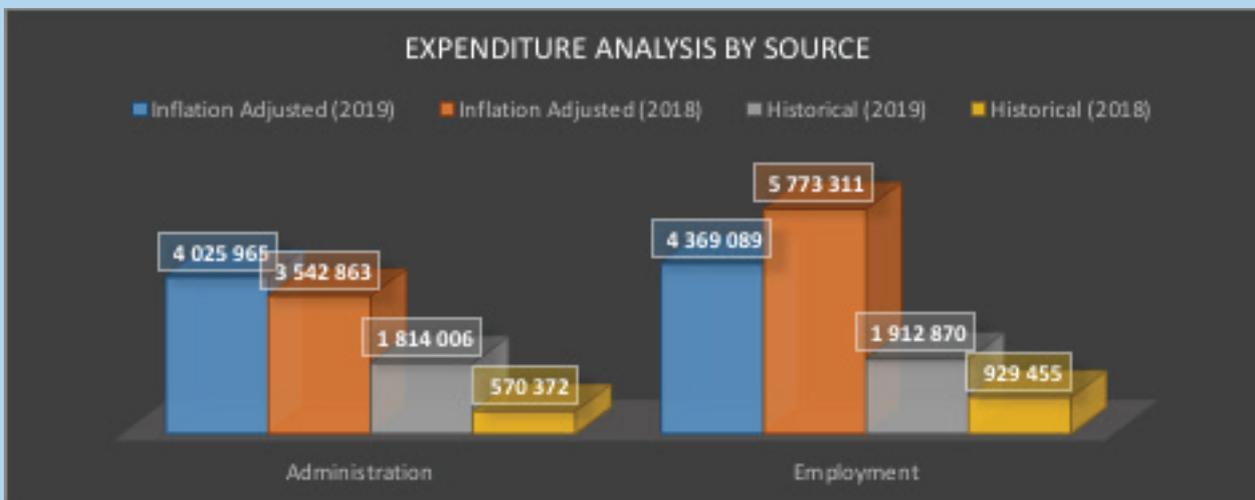


The Authority is principally funded from government grants and licence fees. In 2019 grants increased by ZW\$178 289 to ZW\$387 771. The rate of increase could however not tally with the inflation rate by 43%.

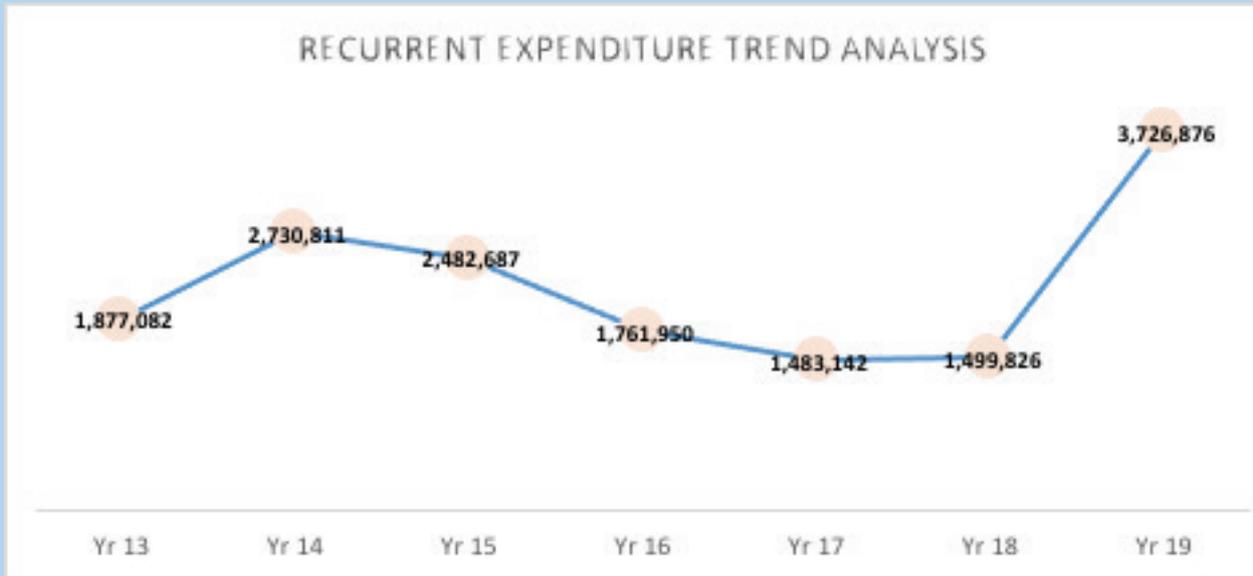


Expenditure

Total expenditure for the audited period tallied ZW\$3 726 876. Administrative costs snapped 49% of the expenses while other costs accounted for the 51%. Other expenses comprised of employment costs at \$1 768 497 and staff welfare at ZW\$144 000.

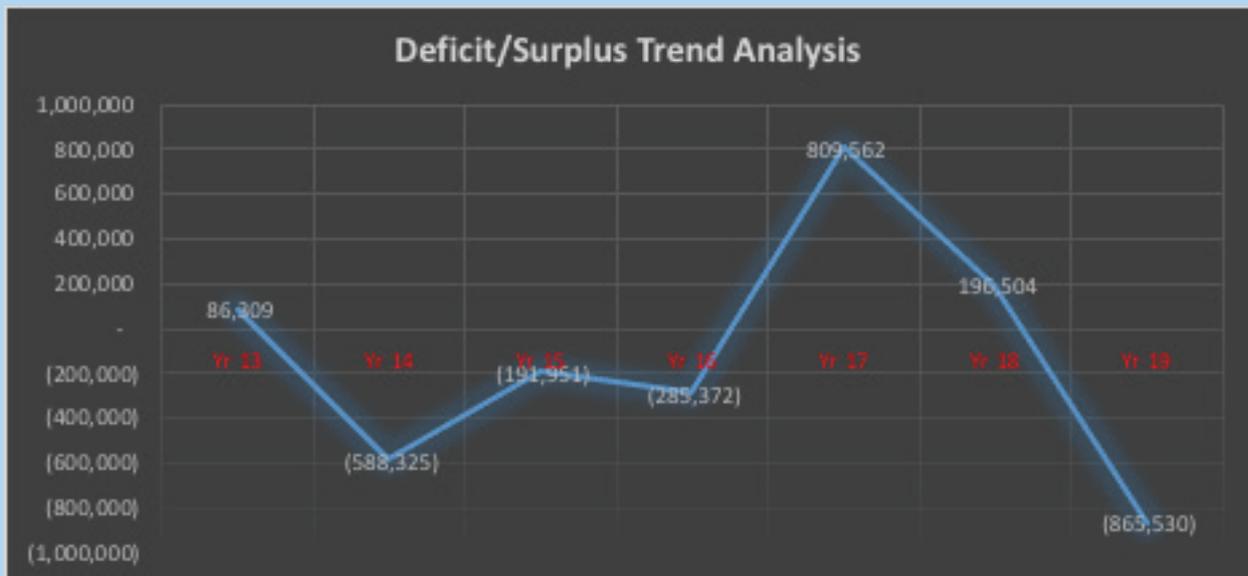


Expenditure trends and volumes remained near the same in 2019 from 2018 with movements in monetary terms being hyperinflation induced.



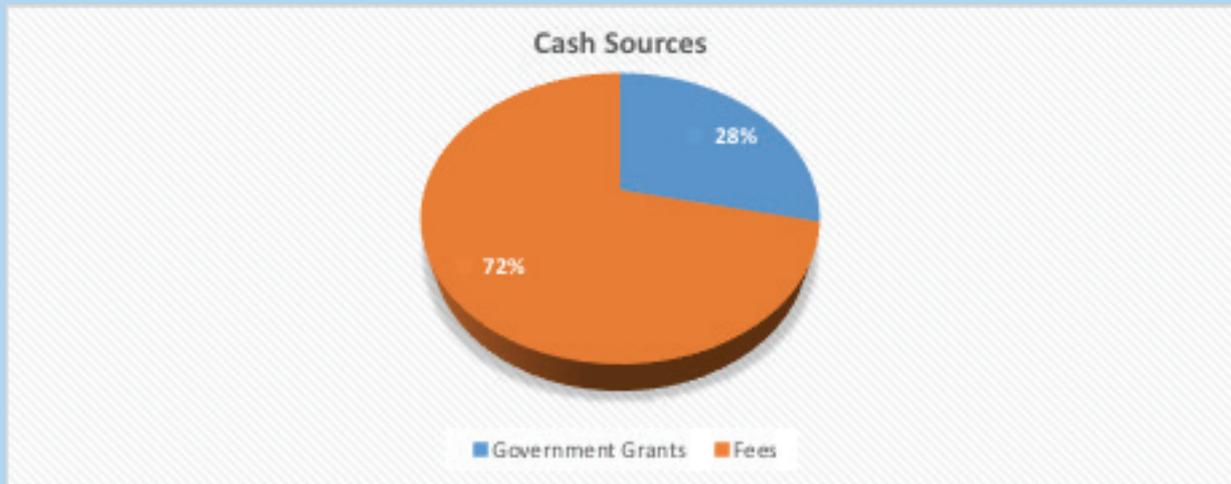
Net Operational Performance

Before adjusting for the revaluation gain of ZW\$17 251 649 realised from the revaluation of assets, income to expenditure declined in (historical terms) in 2019 to 0.88:1 from 1:1.3 in 2018 representing an operational deficit of ZW\$865 530 from a surplus realised in the mirror year of ZW\$196 504. However, the Government made an undertaking to fund the deficit, and the grant was only released in the post audit period. This will be reported in the 2020 financial year.

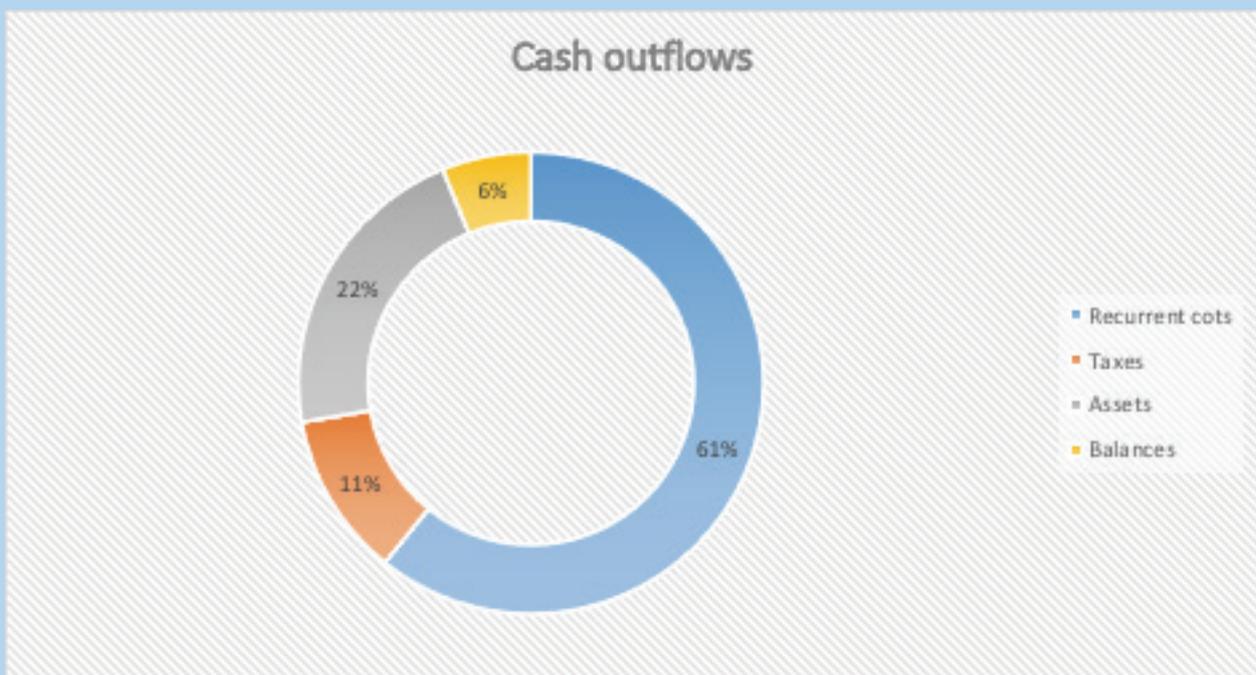


Cash Flows

At the close of the year 2019, the Authority had ZW\$210 873, i.e. ZW\$404 380 short of the opening balance. The Authority could not kick-off the 2019/2020 licencing cycle in October 2019 as per tradition as the application for new fees was still being considered by the shareholder. Besides cash flows generated from operating activities (constituting 72% of cash inflows), the organisation received ZW\$500 000 from government being a grant towards RPAZ Head Office construction works.



Cash Utilisation Chart



INDEPENDENT AUDITOR'S REPORT



To the Shareholder of Radiation Protection Authority of Zimbabwe.

Adverse Opinion

I have audited the financial statements of the Radiation Protection Authority of Zimbabwe, which comprise the statement of financial position as at December 31, 2019, and the statement of profit or loss and other comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In my opinion, because of the significance of the matter discussed in the Basis for Adverse Opinion paragraph of my report, the financial statements do not present fairly the financial position of the Radiation Protection Authority of Zimbabwe as at December 31, 2019, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs).

Basis for Adverse Opinion

The Authority translated its comparative financial statements and transactions for the period up to February 22, 2019 using an exchange rate of 1:1 for United States Dollar to RTGS Dollar as prescribed to entities through SI 33/2019. In order to comply with Statutory Instrument 33 of 2019, issued on February 22, 2019, the Authority changed its functional currency with effect from this date. Although the rate was legally pegged at 1:1, multiple pricing practices and other transactions observed and reported publicly indicated exchange rates other than 1:1 between RTGS and US\$ amounts. The exchange rates applied meet the legal requirements, but however did not meet the criteria for appropriate exchange rates in terms of IFRS as defined in IAS 21. The financial statements of the Authority include balances and transactions denominated in USD that were not converted to ZWL at an exchange rate that reflects the economic substance of its values required by International Financial Reporting

Standards (IFRS) IAS 21, which requires entities to use an appropriate exchange rate.

The official interbank exchange rate came into existence, through Exchange Control Directive RU 28 of 2019 issued by the RBZ in February 2019 and was initially pegged at a starting rate of 2.5. Transactions and balances from February 22, 2019 were now translated using the interbank rates.

No assessment was carried out to show appropriateness of the interbank rate to the existing economic environment. The interbank rate does not represent the price that can be received for foreign currency as many were unable to access foreign currency through the interbank market. As a result, the impact of the Authority's inability to comply with IAS 21 on the financial statements had been considered material and pervasive to the financial statements as a whole. Had the Authority applied the requirements of IAS 21, many elements of the accompanying inflation adjusted financial statements would have been materially adjusted. The financial effects on the inflation adjusted financial statements of this departure have not been determined.

I conducted my audit in accordance with International Standards on Auditing (ISAs) and International Standards of Supreme Audit Institutions (ISSAIs). My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I am independent of the Authority in accordance with the ethical requirements that are relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements.

Key Audit Matters

Key Audit Matters are those matters that, in my professional judgment, were of most significance in my audit of the financial statements of the Radiation Protection Authority of Zimbabwe for the year ended December 31, 2019. These matters were addressed in the context of my audit of the Radiation Protection Authority of Zimbabwe financial statements as a whole,

| Key Audit Matter | How my audit addressed the Key Audit Matter |
|--|--|
| <p>Valuation and impairment of property, plant and equipment. Refer to notes 2.7.1, 3.1 and 4 of the financial statements</p> <p>The Authority held property, plant and equipment with revalued carrying amount of ZW\$19 202 671 as at December 31, 2019. The assets were revalued in accordance with IAS 16.</p> <p>Property, plant and equipment was revalued by the Authority using management valuations. This method also takes into account unobservable inputs and therefore requires significant judgement in determining the fair value of the assets.</p> <p>The useful life and residual values are also reviewed annually by management with reference to current, forecast and relevant technical factors. This involves a significant degree of management judgement and assumptions. As a result, valuation of property, plant and equipment were considered to be a key audit matter.</p> | <p>The audit procedures that I performed to address the risk of material misstatement relating to the valuation of property, plant and equipment included:</p> <ul style="list-style-type: none"> • Analysed and tested management's assumptions used to determining the recoverable amounts in testing for impairment, • Evaluated management's estimates regarding useful lives and residual values of these assets in relation to the Authority's historical experience, industry practice and future operating plans. • Critically evaluated the methodology and assumptions used by the Authority when performing the valuation. • Inspected documentary evidence of the state of property, plant and equipment. <p>Based on evidence gathered, I found the management's assumptions in relation to useful lives and the revalued carrying amounts of property, plant and equipment reasonable.</p> |
| | |
| | |

Other Information in the Annual Report

The Directors are responsible for the 'other Information'. The 'other Information' comprises all the information in the Radiation Protection Authority of Zimbabwe's 2019 annual report other than the financial statements and my auditor's report thereon ("the other Information").

My opinion on the Authority's financial statements does not cover the 'other Information' and I do not express any form of assurance or conclusion thereon.

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

Responsibilities of Management and Those

Charged with Governance for the Financial Statements

The Authority's management and those charged with governance are responsible for the preparation and fair presentation of these financial statements in accordance with International Financial Reporting Standards (IFRS) and in the manner required by the Radiation Protection Act [Chapter 15:15] and for such internal controls as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatements, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but it 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, I exercise professional judgment and maintain professional scepticism throughout the planning and performance of the audit. I 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 my 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 entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- 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.
- 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 I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of the auditor's report. However, future events or conditions may cause the Authority to cease to continue as a going concern;

I communicate with 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 I identify during my audit.

I provide directors with a statement that I 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 my independence, and where applicable, related safeguards.

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

Other Report on Other Legal and Regulatory Requirements

In my opinion, the financial statements have, in all material respects, been properly prepared in compliance with the disclosure requirements of the Radiation Protection Act [Chapter 15:15], and other relevant Statutory Instruments.

_____, 2020.

M. CHIRI (MRS),

AUDITOR – GENERAL.

