INTEGRATED ANNUAL REPORT 2023

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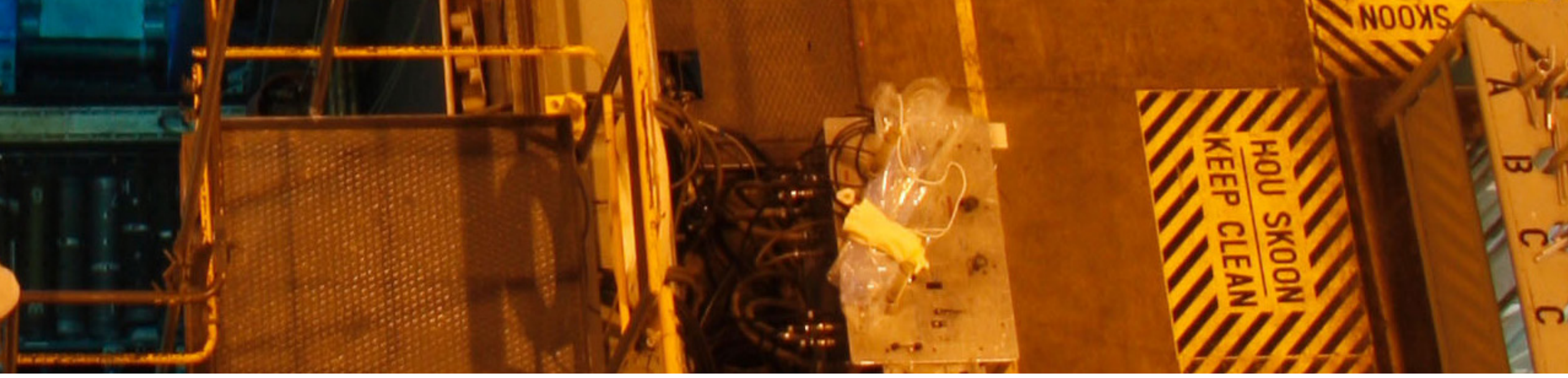
We're in your world

South African Nuclear Energy Corporation Ltd

CONTENTS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01

ABOUT THIS REPORT

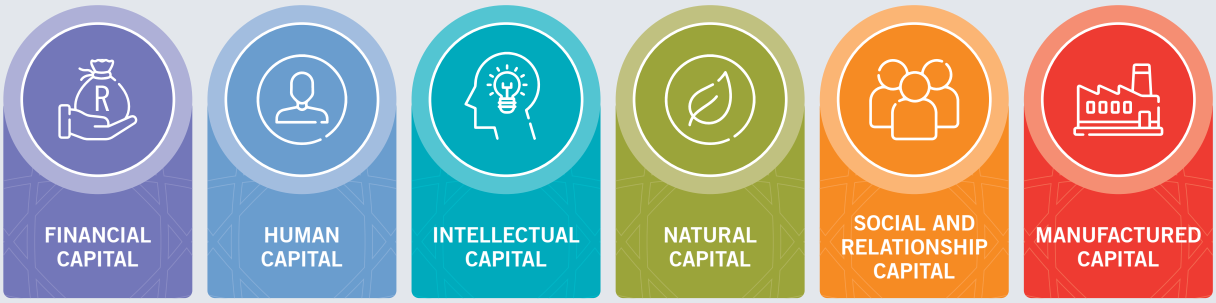
This Integrated Annual Report reflects on the overall performance of the South African Nuclear Energy Corporation (Necsa) Group in terms of finances, operations, governance, environmental and social value created by the company for the 2022/23 financial year. Reporting on how Necsa creates or fails to create value for itself and its stakeholders is a legislative requirement. The report, therefore, acts as an accounting and governance mechanism for Necsa as a Schedule 2 public entity to transparently display its value creation processes and achievements against strategic focus areas in line with its founding mandates. The Necsa governance structures deliberated on a course to move from an annual report focusing merely on finances, operations and governance to an integrated report that would align with the King IV Report on Corporate Governance for South Africa (King IV). A decision was taken to adopt a framework that will assist with the transition. This move was timeous for Necsa as it began implementing an integrated strategy for the Necsa Group, removing silo mentality.

To this end, this report is compiled in compliance to Necsa's founding Act, the Nuclear Energy Act 46 of 1999, Section 23(2)(c) of National Treasury Guidelines, the Public Finance Management Act (PFMA), the Companies Act and International Financial Reporting Standards (IFRS). Reporting the overall value creation process is guided by the International Integrated Reporting Council (IIRC) Reporting Framework <IR> in terms of the six capitals, the Global Reporting Initiative (GRI) 2021 in terms of its stakeholder universe and King IV. The executive team and the Board were satisfied that the framework will enable the Necsa Group to present its story in a manner that is accessible to all its stakeholders, thus building confidence.

The Necsa Group Board has a fiduciary duty to ensure that the integrated annual report provides an accurate, complete and holistic representation of the organisation, including financial performance, corporate governance, risk management and sustainability. It oversees an entity that is driven ethically, with integrity and commitment to competence conducted in a transparent and fair manner. This is fulfilled through the governing body (the Board) reporting to its stakeholders in an honest and transparent manner, sharing both the positive and negative aspects of the business.

In transitioning to integrated reporting, the Necsa Executive Committee adopted a framework that allows for reporting on its financial, social and environmental performance

INTEGRATED REPORTING FRAMEWORK



- **Improve** the quality of information available to providers of financial capital to enable a more efficient and productive allocation of capital
- **Promote** a more cohesive and efficient approach to corporate reporting that draws on different reporting strands and communicates the full range of factors that materially affect the ability of an organisation to create value over time
- **Enhance** accountability and stewardship for the broad base of capitals (financial, manufactured, intellectual, human, social and relationship and natural) and promote understanding of their independences
- **Support** integrated thinking, decision-making and actions that focus on the creation of value over the short-, medium- and long term

Public Finance Management Act (PFMA)
- Section 66(3)(a) of the PFMA
- Compliance with requirements for Necsa as a Schedule 2 entity

Companies Act
- Compliance with principles of the Companies Act

Principles of King IV

Good governance is beneficial for stakeholders. A well-governed organisation inspires the confidence of its stakeholders and lowers the cost of its capitals. Inclusive and integrated governance that aspires to sustainability is good for society, the economy and South Africa.

Global Reporting Initiative
- Sustainability Reporting Guidelines (G4)
- Enables the company to provide meaningful in-depth information ONLY on issues that are critical for that company to achieve its sustainability goals and manage its impact on the economy, environment and society, resulting in a focused, strategic report

International Financial Reporting Standards (IFRS)

Credible and compliant Financial Statements

Integrated reporting approach

02

NECSA GROUP PROFILE

HISTORY

The South African Nuclear Energy Corporation, trading as Necsa, is a Schedule 2 state-owned company (SOC) according to the PFMA.

1948 to 1959

ATOMIC ENERGY BOARD ERA

- South Africa's Atomic Energy Board was established primarily to regulate and control uranium production and sales in 1948.
- An intergovernmental bilateral agreement between South Africa and the United States of America (USA) on the civilian uses of atomic energy was signed in Washington, providing for the procurement of a research reactor from the USA.
- Government approved the creation of a nuclear research and development mandate.
- South Africa became a member state of the International Atomic Energy Agency (IAEA) in 1957.

1960s to mid-1970s

RESEARCH AND DEVELOPMENT ERA

- Pelindaba site was established in 1961.
- South African Fundamental Atomic Research Installation (SAFARI-1) Materials Testing Reactor constructed and went critical on 18 March 1965.
- Uranium Enrichment Corporation was established in 1970.

1970s

STRATEGIC ERA

- South Africa embarked on an extensive nuclear fuel programme (pressurised water reactor).
- Nuclear weapons programme.

Necsa boasts a solid background and history of 75 years since its predecessor Atomic Energy Board was formed in 1948.

1980s

ATOMIC ENERGY CORPORATION (AEC) ERA

- The Nuclear Energy Act (Act 46 of 1999) made the AEC, formerly the Atomic Energy Board, responsible for all nuclear matters.
- Pelchem SOC Ltd was established
- A wholly owned subsidiary of Necsa SOC Ltd and the sole producer and supplier of fluorochemicals in the southern hemisphere.
- The Uranium Enrichment Corporation and the Nuclear Development Corporation were incorporated into AEC.

1990s

TRANSITIONING ERA

- South Africa signed the nuclear Non-Proliferation of Nuclear Weapons Treaty (NPT)
- Mo-99 programme commenced.
- Commercialisation of fluorine and related products.
- The Nuclear Energy Act (1999) transitioned AEC to the South African Nuclear Energy Corporation (Necsa).

2000s

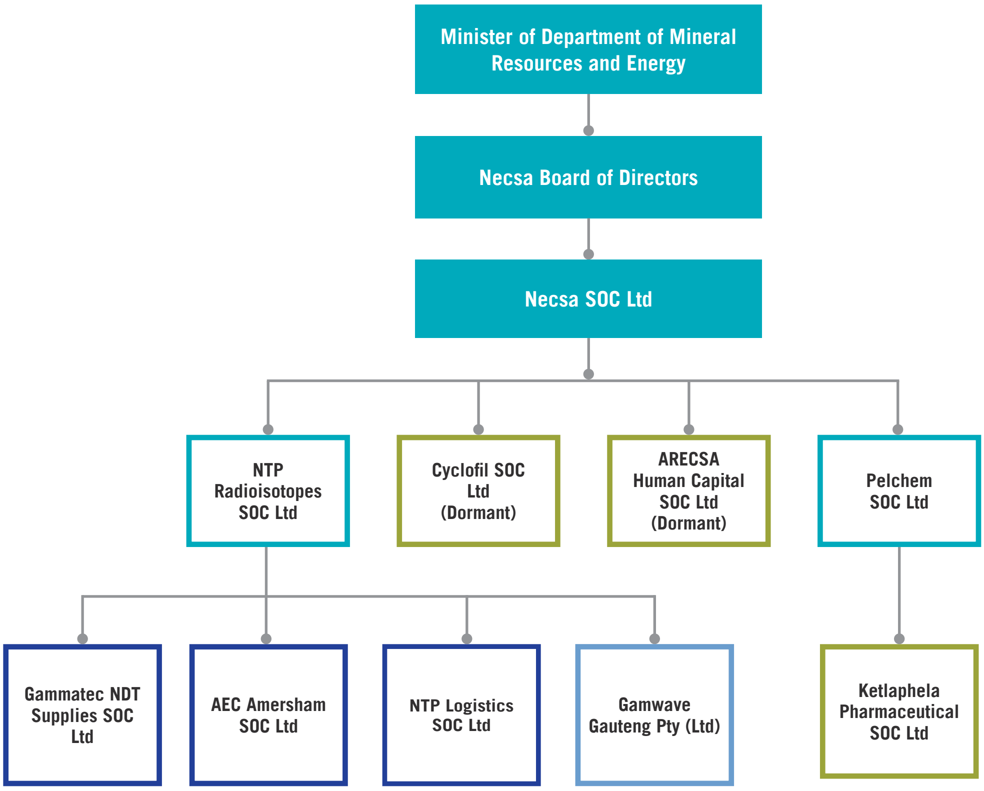
GROWTH ERA

- NTP Radioisotopes SOC Ltd formally incorporated as a wholly owned subsidiary of Necsa.
- Pelchem SOC Ltd was corporatised as a wholly owned subsidiary of Necsa.
- Nuclear Skills Development SOC Ltd was formed, now known as Necsa Learning Academy.

2010s to date

CONSOLIDATION ERA

- Necsa Group operates as a holding company with two main 100% owned subsidiaries, NTP Radioisotopes SOC Ltd and Pelchem SOC Ltd.
- Necsa consolidates its business operations on the back of its nuclear research mandate and production of radioisotopes for industrial and medical applications and beneficiation of flourine and other chemical products.
- The Necsa Visitor Centre launched to conduct guided tours, run workshops on nuclear topics and present school holiday programmes.
- The approval of the multipurpose reactor (MPR) by Cabinet in 2021 paves way for Necsa sustainability into the future.



Necsa structure

Through its radioisotopes subsidiary NTP, Necsa is among the top global four medical isotope producers based on research innovation, servicing over 50 countries (as depicted on the map below). Pelchem is the sole producer and supplier of fluorochemicals in the southern hemisphere. It manufactures 14 products, which are distributed in over 25 countries globally. The main mandate is to manufacture and supply Fluorochemicals for local and global markets, and retain and maintain critical technology, intellectual property and strategic capabilities and skills relating to production of hydrofluoric acid and fluorine gas required for development of the Nuclear Fuel Cycle.

Geographic footprint

Necsa is a global player through:
NTP presence in over 50 countries
Pelchem presence in over 25 countries
Advanced Manufacturing sales

NECSA GROUP EMPLOYS

1 687 PEOPLE

with a high concentration of scientists, especially in nuclear, engineering and waste management, and specialised workforce in line with its mandate and key operations.

NUCLEAR SCIENTISTS

ENGINEERING

WASTE MANAGEMENT

SPECIALISED WORKFORCE

Specialist skills

03

MANDATE

Mandate

Necsa's strategy is guided by its mandate rooted in the Nuclear Energy Act and related policies (Nuclear Energy Policy 2008, Integrated Resource Plan 2009, National Infrastructure Plan 2050), the National Development Plan (NDP), DMRE's strategy plans, Sustainable Development Goals (SDGs) and other policies that seek to enable industrialisation of the economy, including the Economic Reconstruction and Recovery Plan (ERRP).

Nuclear Energy Act (NEA, Act No 46 of 1999)

- To undertake and promote research and development in the field of nuclear energy and radiation science and technology and to make these generally available
- To process source material, special nuclear material and restricted material and to process and enrich source material and nuclear material
- To cooperate with any person or institution in matters falling within these functions
- Execute institutional responsibilities on behalf of government e.g. operation and utilisation of SAFARI-I decommissioning and waste management, international obligations

Nuclear Energy Policy of 2008

Anchor for nuclear research, development and innovation in South Africa

- Participation in the uranium value chain
- Development of uranium conversion capabilities
- Explore viable means to establish uranium enrichment capabilities
- A strategy to develop nuclear fuel fabrication capabilities

Key priorities

Further to this, Necsa's strategy is aligned to the seven governmental priorities as defined below.

PRIORITY 1:
Building a capable, ethical and developmental state

Necsa aims to improve profitability to reduce over-reliance on the fiscus and improve governance to attain an unqualified audit outcome. Necsa also aims to ensure security supply of revenue generating technology and innovation through research conducted at SAFARI-1 research reactor. We also aim to improve employment equity and strengthen governance.

PRIORITY 2:
Economic transformation and job creation

We aim to improve our financial position to secure jobs and implement transformation plans, expand and increase our international footprint and improve the gross domestic product of South Africa.

PRIORITY 3:
Education, skills and health

Necsa actively drives research publications and innovation disclosures to increase its contribution to the national socio-economic and skills needs. We support skills development in nuclear and conventional medicine, ensure security of supply of needed diagnostic and therapeutic products and services in support of the health industry, thereby alleviating national socio-economic needs. We also support and collaborate with DMRE on outreach programmes; for example the delivery on the 3rd AFRA Regional Strategic Cooperative Framework for 2019-2023.

PRIORITY 4:
Consolidating the Social Wage through Reliable and Quality Basic Services

All Necsa employees earn above legislated social wage.

PRIORITY 6:
Social Cohesion and Safe Communities

Necsa account quarterly through Public Safety and Information Forums to local communities on safety matters in accordance with its nuclear license conditions. This is a platform that is utilised to strengthen the relationship with adjacent community.

PRIORITY 7:
A Better Africa and World

Necsa develops world-class products for distribution in Africa and the rest of the world. We produce and distribute health-enhancing products and services to over 50 countries. In the future, We aim to participate in the programme for healthcare that ensures accessibility to life-saving products and services.

04

BOARD COMPOSITION

As per section 16 of the Nuclear Energy Act, the Board consists of the Chairperson, the Group Chief Executive Officer, between five and seven non-executive directors, a representative from the Department of International Relations and Cooperation (DIRCO) and a representative from DMRE.

The Board composition reflects the wide range of skills and knowledge necessary to meet Necsa's strategic objectives. During the appointment process, consideration is also given to expected time commitment to ensure that the effectiveness of the Board is compromised.

Appointment of the Board

The Necsa Group Board accounts to the Ministry of Mineral Resources and Energy, which appoints it. The Board in turn appoints the Group Chief Executive Officer, in concurrence with the Ministry of Mineral Resources and Energy. The Necsa Board comprises 12 non-executive directors independently appointed by the Minister of Mineral Resources and Energy, consistent with the provision of the Nuclear Energy Act of 1999. Four of these directors are representatives of the DMRE and DIRCO. The term of the Board of Directors appointed in 2020 ended in January 2023. Subsequent to that, the Minister appointed a new Board to lead the organisation from January 2023.

"Consistent full composition and highly skilled strengthened governance"

The Board has ultimate responsibility for the long-term success of the organisation and for delivering sustainable shareholder value as well as contributing to wider society. It is responsible for setting the company's purpose, values and strategy and ensures the alignment with its culture, which includes ensuring that workforce policies and practices are consistent with the company's values and supports its long-term sustainable vision. This is achieved by approving the corporate strategy, monitoring performance toward strategic objectives, overseeing implementation of the strategy by the executive leadership team and approving matters reserved by the articles of association for decision by the Board.

The Board operates with full functional committees with members deployed according to their skills and experience. The Board is accountable for the overall formulation, monitoring and review of Necsa's corporate strategy and related affairs, while delegating to management the responsibility for business performance and achievement of the organisation's objectives.

Board Members visiting NTP

Board of Directors

Board of Directors: Term of office: 2020 - 2023


David Nicholls
Chairperson of the Board


Loyiso Tyabashe
Group CEO


Amb Ndumiso Ntshinga
DIRCO representative


Dr Namane Magau
Chairperson of Social and Ethics Committee


Joseph Shayi
Chairperson of Nuclear Oversight and Regulatory Compliance Committee


James Maboa
Chairperson of Investment and Finance Committee


Adila Chowan
Chairperson of Audit and Risk Committee


Letlhogonolo Noge Tungamirai
Non-executive director


Elsie Monale
DMRE representative


Senamile Masango
Chairperson of Technology Research and Development Committee


Prof Gregory Davids
Chairperson of Research and Development Committee


Bessie Makgopa
DMRE alternative representative


Marthinus Van Schalkwyk
DIRCO alternate representative

Board of Directors: Term of Office: 2023 - 2026


David Nicholls
Chairperson of the Board


Loyiso Tyabashe
Group CEO


Dr Mosidi Makgae
Board Member


Suren Maharaj
Chairperson of Audit and Risk Committee


Leonard Mavuso
Chairperson of Human Resources, Social and Ethics Committee


Hilton Lazarus
Chairperson of Investments and Finance Committee


Amb Ndumiso Ntshinga
DIRCO representative


Joseph Shayi
Chairperson of Nuclear Oversight and Regulatory Compliance Committee

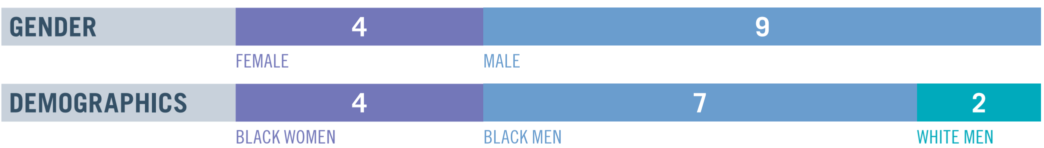

Elsie Monale
DMRE representative


Senamile Masango
Chairperson of Technology Research and Development Committee


Ashley Latchu
Board Member


Bessie Makgopa
DMRE alternative representative


Marthinus Van Schalkwyk
DIRCO alternate representative



Board composition

05

CHAIRPERSON'S OVERVIEW

"Strengthened oversight lays firm foundation for strong governance."

David Nicholls
Board Chairperson

The Necsa Group has posted an excellent set of results for the financial year 2022/23 showing marked improvement in the operations and finances. A total comprehensive income of R145.3m in the year under review tells a story of financial recovery, which is a far cry from the financial position the company posted when the new Board was appointed in the financial year 2020/21 (total comprehensive loss of R318.7m). Governance has improved with a marked reduction in material issues from the audit of the year under review by the Auditor General South Africa (AGSA). The Board appointed by the Minister of Mineral Resources and Energy in 2020 to serve at Necsa for three years (2020-2023) has successfully overseen a turnaround strategy that the Group CEO and his executive team have implemented with dedication, and with excellent results. At the heart of these results is renewed stability stemming from improved governance, financial discipline and the agility in leveraging the opening of markets post the challenges of the Covid-19 shutdown.

It is a good set of results looking back where the company comes from, beating the targets for Necsa's recovery as well as the caveat brought by Covid-19. However, the most positive part about these results is that they lay a good foundation for planned recovery and growth in the years ahead. NTP Radioisotopes has done remarkably well in the financial year under review while Pelchem requires a special focus. Governance at both Pelchem and NTP remains tight, as both companies ended the year with unqualified audit opinions. A sustainable Necsa Group that delivers on its mandate does not exist for itself only but the good of the country by contributing to developmental goals.

The Strategy Review led by the Board reconfirmed the strategy that it had approved in 2021 during the annual review in June 2022. The early results of financial recovery evident then propelled the vision forward. Similarly, governance and compliance to statutory requirements like the Public Finance Management Act was improving as evidenced by a dramatic reduction in material findings over the period. The reviewed strategy built on this confidence of a working strategy by stretching from stability and recovery to growth. The strategy of growing the Necsa business beyond just recovery introduced strategic projects that cut across the Group's capabilities in the nuclear technology values chain as well as beneficiation of Fluorochemicals. The Strategic Projects Framework defined governance for these projects in the executive space as well as oversight by the Board sub-committees. This would ensure that the path to commercialisation is well defined and assisted with appropriate support. These projects should sustain the Necsa business for many years to come.

The task placed by the Shareholder before the Board of the Necsa Group in 2020 was to stabilise the company and ensure that it is sustainable into the future. The first year of the Board's tenure focused on stabilising the company while doing a situational analysis to inform the turnaround strategy. The strategy is yielding positive results that support the vision for growth of the Necsa Group to expand its footprint utilising its primary mandate in nuclear and related technologies research, commercial interests held in its subsidiaries NTP Radioisotopes and Pelchem as well as its nuclear operations and advanced manufacturing function. I believe that the Board has succeeded in this respect with the right support from the Shareholder, leading the organisation towards the achievement of the strategy and its key performance areas as stated in the Shareholder compact.

The appointment of the Group Chief Executive Officer who in turn prioritised stabilising the leadership team has ensured accountability for the organisational strategy. The importance of building and maintaining mutually beneficial relationships is evident in the stable working environment that exists at Necsa. The Group implemented rationalisation from the top level of the organisation to lower levels effectively with support of key internal stakeholders

Parliamentary Portfolio Committee on Mineral Resources and Energy visiting Necsa

(employees and labour representatives). The inclusion of key internal stakeholders throughout the process and the meeting of their legitimate expectations from the process has borne positive results without disturbing security of jobs. In line with our commitment to follow an open and transparent approach to stakeholder engagement, it is encouraging to see effective stakeholder relationship management by the Group CEO and executives.

The Board has maintained tight oversight by ensuring statutory compliance. The Necsa Group has been reporting on key targets to the Shareholder on a quarterly basis and upon requests and accounting to Parliament through the Minister of Mineral Resources and Energy. In the year under review, the Necsa Group appeared before Parliament's Portfolio Committee on Mineral Resources accounting on its performance against the Shareholder Compact. The Board was humbled to host the Committee on its oversight visit at Pelindaba in April 2022. The transparency has kept the Board and executive mindful of their primary mandate to contribute towards building confidence in state owned companies once again. I want to thank the outgoing Board that finished its term on 17 January 2023 and believe each one is proud of the results they see today. It is sad that Dr Namane Magau passed away in May 2022. We are grateful for her invaluable contribution to oversight especially as chairperson of the Human Resources, Social and Ethics sub-committee. I welcome the continuity of having a new Board at Necsa that will be in place until 2026.

The Shareholder Ministry has played a critical role in ensuring that the Necsa Group thrives by exercising the right amount of oversight. The Board and the executive have the space to develop and grow with the support from the Shareholder when necessary. To this end, the Necsa Group is advancing to re-establish itself within a greater role that nuclear technology should play as our country battles an energy deficit. An additional focus therefore seeks to respond to the needs of the country by engaging our Shareholder and other key stakeholders to get a mandate that will enable Necsa to play a role in ensuring security of power supply. Given the need to get to Net-Zero Carbon by 2050, given the lack of energy storage and any scope for large-scale hydro power in South Africa, a large portion of the long-term solution of power generation to ensure security of supply rests in nuclear power. Necsa is ready to contribute towards a solution with clean, dispatchable, baseload power that will support South Africa's developmental and climate change goals.

I want to thank all the previous members of the Board for their diligence. To the Group CEO, Mr Loyiso Tyabashe, ably assisted by the Group Exco in carrying the day-to-day responsibilities of making EXCO function efficiently and profitably, we wish to appreciate their steadfastness as the Board. A reality of the Necsa Group turning into a sustainable business would not have been possible without the support and encouragement received from Minister Mantashe who spelt his vision for a prosperous Necsa and allowed the Board to figure out how it embarked on achieving this. This was augmented by ongoing assistance and support from the Department of Mineral Resources and Energy.

David Nicholls
Board chairperson

06

GROUP CHIEF EXECUTIVE OFFICER'S OVERVIEW

"Positive performance is based on a strong business strategy adopted in 2021."

Loyiso Tyabashe (Pr Eng)
Group Chief Executive Officer

The performance we see in the financial year under review, FY2022/23, is testament to the maxim "*Hard work pays off*". We present a total comprehensive income of R145.3m, a positive turn after five years of making losses. These results come at the back of a robust strategy for growth that we created in 2021 supported by a new organisational structure that we implemented under the rationalisation process. In the reporting year, we achieved 73% of targets in our Shareholder Compact versus 63% in the previous year. A stable working environment with support of employees and labour partners, leadership stability, oversight support and guidance from the Board and our Shareholder Ministry were huge enablers for these positive results. The Necsa Group of companies shows improvements in the year under review with Necsa SOC Ltd moving from a disclaimer, which has been the case for several years, to a qualified opinion. The tide is turning for the better!

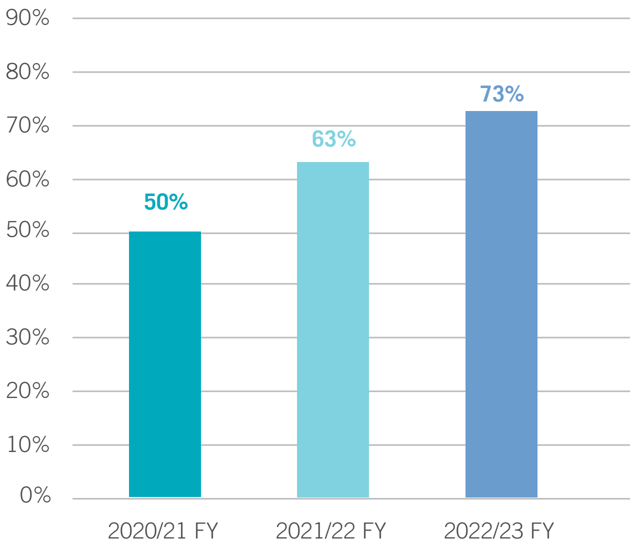
We began the year with high energy fuelled by positive advances in our strategy journey. This was not blind optimism. We were very much aware of the fact that a long road lay ahead as we were moving from a total comprehensive loss of -R30.7m and against initial projections for FY 2021/22 being a loss of R155.5m. In addition, we needed to recover from negative perceptions associated with our historical results. We took a decision to take the challenge head on and aim for at least a break-even at the end of the year, as an internal, stretch target. What drove us was a realistic analysis of what we had achieved the previous year wherein we improved by R124.8m from a projected loss of R155.5m. Audit items had also reduced from 63 to 14 issues. It is therefore with pride and great humility to share an excellent set of results for the Necsa Group for the year under review FY2022/23 at a total comprehensive income of R145.3m, a positive swing of R176m from the previous financial year.

Our people thus began the year with a clear understanding that we have to elevate our performance in order to change our fortunes. The inclusive and collaborative working relationship forged during the strategy formulation process ensured buy-in of key stakeholders. My role was to guide and keep the vision of a sustainable organisation alive to our employees. Performance against our strategy was therefore a standing agenda item in all my engagements. We then invented our internal language that FY2022/23 is a year of leveraging strides reached in the previous year by focussing on Performance, Profitability and Audit Opinion (PPA). At any given point, we needed to be aligned on weak spots and areas of improvement. Close performance management, internal assurance and continuous reporting to the oversight bodies kept us on a tight rope. It is therefore quite commendable that we have achieved on our PPA.

Operational Performance

We continue to drive a values-based culture premised on our five values EASII – Excellence, Accountability, Safety-first, Integrity and Innovation. It also makes us mindful of the ways our operations create, preserve and erode value. We work towards making a profit to ensure sustainability and value creation for our employees, Shareholder and stakeholders in a responsible manner. The organisation has a bigger role in developing people by contributing to job security, skills development, body of knowledge in the nuclear technology space, innovative solutions for industry and the country while also taking great care of the planet to keep our license to operate well into the future. This report delves deeper into operational performance measures in the triple bottom line while I provide an overview of overall performance.

Our Strategy Review session with the Board in June 2022 reconfirmed our strategy with its five pillars, viz. Financial Recovery and Sustainability, Research and Innovation, Profitable Commercial Enterprises, Business Continuity and Efficiency, and Talent Excellence and High Performance Culture. Our key performance areas in our Shareholder Compact were thus formulated against delivery on these imperatives. We achieved 11 out of 15 targets in the Shareholder Compact, which is 73% versus 63% in the previous year.



Performance chart FY2021 – FY2023

We note and applaud a strong performance in our nuclear radioisotope subsidiary, NTP with the year-ending net profit of R113m compared to R52m in FY2021/22. This was made possible through disciplined implementation of the strategy, which aims at expanding the customer base, products and markets. An area where we struggled in the year under review was in our fluorochemical subsidiary, Pelchem, which ended with a total comprehensive loss of -R62.8m. While the business occupies a strategic place in the industry, unreliable plant performance made it made it impossible to meet customer needs. A new focused strategy and plan to turn this business around is underway. Plans are afoot to capitalise the subsidiaries and make them profitable.

As a nuclear technology facility, Necsa operates in a highly-regulated environment. This context has modelled our operations to consider sustainability areas equally. Safety-first is one of our values and remains a top priority at Necsa firstly as a nuclear installation and secondly as a National Key Point (KNP). Our safety record remained excellent in the year under review with a Disabling Injury Incident Rate (DIIR) of 0.46 against a target of less than 1.8. Our environmental performance in terms of solid, gaseous, liquid waste streams and public dose have all remained well below the regulated targets.

The values that all Necsa employees embrace are an important foundation in terms of entrenching a high-performance culture in order to fully realise the positive results of rationalisation. The results we present in this financial year is therefore the first green shoots of the rationalisation process. We recognise that people are a heartbeat of our business and are deliberate in efforts to strengthen the skills pipeline to ensure sustainability. Necsa is a learning organisation and contributes extensively to research and the body of knowledge and skills in nuclear-related and other technologies through our scientists and instructors at the Necsa Learning Academy (NLA). We are proud that seven (7) of our scientists were recognised by the National Research Foundation (NRF) and currently hold NRF ratings of Y2 (2) C2 (1) C1 (3) B2 (1). These scientists are measured against the best researchers in the world as they have an ability to work with the National System of Innovation with work that has an international impact.

In this financial year, we made it a priority to engage our stakeholders on our value creation process, to understand issues that are material to them and respond accordingly. We prioritised key stakeholders according to our stakeholder map in a quest to also understand better ways of engaging with them and where we create value for them and where we erode it. We are mindful that there are stakeholders we did not get to interact with as much as we wished as we were balancing internal needs of turning our organisation around. In addition, it has been particularly empowering to witness the support from all internal and external stakeholders. I want to acknowledge the support and look forward to more fruitful and positive engagements aimed at the sustainability of Necsa.

The words of our late President Mr Nelson Mandela: "After climbing a great hill, one finds that there are many more hills to climb" ring true in this regard. Our aim is to position the company for future years leveraging its current mandate and other emerging opportunities. The Multi Purpose Reactor (MPR) project is one of the key projects that will keep Necsa in a strategic global space and we see nuclear power generation as another area to explore in terms of new mandates.

I would like to express my sincerest gratitude to the Executive Committee for their commitment towards implementing our turnaround strategy and leading their respective teams, the Board Chairperson and the Board of Directors for their support and guidance and all Necsa employees for keeping their eye on the ball under circumstances that were not always easy with excellent results. In addition, I would like to take this opportunity to thank the AGSA team for work done at Necsa in the year under review. The areas of improvement are clear and a focus for the year ahead to ensure that all companies remain in the unqualified space. Our shareholder ministry has been particularly supportive on our turnaround journey and we thank them for continued support.

Loyiso Tyabashe
Group Chief Executive Officer

Necsa Group CEO moderating a panel discussion at the IAEA International Ministerial conference

07

EXCO COMPOSITION

Executive Committee

Taking into account the envisaged growth, the Group structure has been reorganised emanating from the approved strategy to support the operation of the growing number of subsidiary companies and ensure the exploitation of synergies and optimal utilisation of support functions. The focus was then to ensure complete capacitation of EXCO roles as per below.

Loyiso Tyabasha

Necsa Group Chief Executive Officer

Precious Hawadi

Group Executive: Financial Capital

Thabo Tselane

Group Managing Director: NTP

Umesh Natha

Managing Director: Pelchem

Qhamkile Boyede

Group Executive: Strategy and Business Enablement

Ayanda Myoli

Group Executive: Nuclear Operations and Advanced Manufacturing

Monde Mondi

Group Executive: Human Capital Management

Dr Pradish Rampersadh

Group Executive: Research and Innovation

Mxolisi Makhathini

Group Executive: Power and Industry

Resigned January 2023

Fakazile Nyembe

Group Company Secretary

Laura Mabunda

Head of Integrated Assurance

Nto Rikhotso

Executive: Office of the GCEO

Dr Nikelwa Tengimfene

Senior Manager: Corporate Communication Branding and Stakeholder Relations

EXCO members

GENDER	6 (FEMALE)	7 (MALE)
DEMOGRAPHICS	6 (BLACK WOMEN)	7 (BLACK MEN)

EXCO demographics

08

STRATEGIC OVERVIEW AND GROUP PERFORMANCE

Necsa Strategy

The current turnaround strategy was derived through a consultative process during the organisation's rationalisation in which key stakeholders were actively involved from conceptualisation. The Necsa executive reviewed and designed inputs at different stages of the process. The new group strategy was developed to address key challenges identified in Necsa's strategic overview.

The immediate short-term focus was realising a breakeven position through stringent and well-managed cost containment with a medium- to longer-term focus on growing revenues and profitability through a combination of continued efficiencies and new growth from all market-facing activities. Its goals included implementing the new business model and Group organisational structure to ensure that coherent strategy alignment is achieved across the organisation to maximise value creation. This is being anchored through ensuring that a strong new corporate culture is entrenched in support of all core operations and to ensure good governance.

The current approved strategy emanates from the above rationalisation process, which was overseen by the Board and approved by the Minister of Mineral Resources and Energy. The key strategy features are based on the Research and Innovation function, enabling the group to achieve the research and innovation impacts through delivery of its strategy, through the combined impacts of Nuclear Medicine and Industrial Isotopes; Chemicals; and R&I both the Commercial Enterprises and Financial Recovery and Sustainability strategic pillars would be supported; and the combined efforts of all Support Services; the Financial Recovery and Sustainability; Business Continuity and Efficiency; and Talent Excellence and High Performance Culture strategic pillars would be supported.

VALUES: Excellence, accountability, safety first, integrity and innovation (EASII)

MISSION: To develop and safely utilise nuclear, radiation and related technologies to make socio-economic impact in diverse global markets through commercial and non-commercial technologies, in an environmentally responsible manner

VISION: To be a global nuclear and related technology leader, positively touching people's lives socio-economically

MANDATE: To develop, utilise and manage nuclear technology for national and regional socio-economic development through: Applied R&D; commercial application of nuclear and associated technology; contributing to the development of skills in science and technology

Business Model

Necsa's business model leverages on the group's knowledge base, legacy infrastructure investment and ongoing research and innovation in the fulfilment of the state's nuclear obligations and pursuit of commercial ventures. Necsa is significantly repurposing its strategic legacy investment to the benefit of South Africa and the global market. This includes use of its core facilities such as the SAFARI-1 research reactor for research, nuclear technology innovations such as radioisotope production. Necsa receives financial resources through a government grant and commercial revenue to sustain the company's activities. These activities aim to fulfil the country's nuclear obligations on safeguards, proliferations, waste management, and education and training.

Necsa also generates income through dividends and recouping costs of services rendered to its subsidiaries, NTP Radioisotopes SOC Ltd and Pelchem SOC Ltd. These subsidiaries respectively produce a range of radiation-based products and services for healthcare, life sciences and industry and supply fluorine-based products into various industries. Necsa's Advanced Manufacturing division provides commercial nuclear engineering and manufacturing services.

Necsa is the only South African entity legally allowed to process nuclear materials and process waste management, with NTP overseeing an integrated radioisotope supply chain from source material.

Prospects for Necsa include product expansion by the subsidiaries, the design and construction of the MPR project, a neutron source generation MPR for SAFARI-1 (innovation and technology development from its research and innovation capabilities), opportunities arising from the SA 2500MW nuclear new build programme, and the growing international market for nuclear decontamination and waste management services. The risks affecting Necsa's business model include the ageing of facilities such as the SAFARI-1 research reactor and production plants, a declining government grant, a poor performing economy, loss of critical skills and competitive dynamics in its commercial markets.

Business Model

KEY INPUTS

Manufactured Capital
- SAFARI-1 nuclear reactor
- Pelindaba site with key plants and machinery

Human Capital
- Competent and highly experienced resources

Intellectual Capital
- Brand and reputation
- Intellectual property

Key Partnerships and Relationships
- Customer relationships
- Business partnerships
- Supplier relationships

VALUE CREATION

NECSA VALUE CHAIN

KEY OPERATIONS	KEY OPERATIONS	PRODUCTS AND SERVICES	GLOBAL MARKETS
Nuclear operations	Research and innovation	Nuclear radiosotopes	
		Chemicals	
		Power and industry through advanced manufacturing	

OUR PROFIT FORMULA

Revenues
- Nuclear radioisotopes
- Fluorochemicals
- Advanced manufacturing
- Research and innovation
- Grants

Costs
- Human resources
- Capital expenditure and maintenance
- Regulatory and compliance
- Operations
- Cost of financial capital

OUR IMPACT

VALUE PROPOSITION
- Quality products and services
- Reliability
- Relevant licensing and accreditation

IMPACT
- Sustainable value creation
- Sustainable customer relations
- High social impact through job creation and societal contribution
- Advancing nuclear research, contributing to various sectors

Business model

Strategic Objectives and Key Performance Areas

The strategic framework, which contains the five strategic pillars, has been outlined with the strategic objectives and has been translated into key performance areas to ensure that Necsa reaches its strategic goals as indicated in the table below.

STRATEGIC PILLAR	EXPLANATION	KEY PERFORMANCE AREA
Financial Recovery and Sustainability	To resolve the short-term breakeven and cash flow challenges faced by the Group while achieving medium- to longer-term growth, profitability and sustainability for the Group	Financial performance Audit outcome
Research and Innovation	To increasingly deliver new technologies that will enable growth in existing commercial areas while creating new technologies that lead to future commercial enterprises through which the Necsa Group will directly affect people's lives.	Increased revenue Research publications Innovation disclosures
Profitable Commercial Enterprises	Group commercial operations to achieve at least a breakeven position in the short-term; demonstrate sound understanding of the markets they operate in (including competitiveness, market growth potential etc) and in the medium- to longer-term make strategic choices and succeed at implementing chosen growth and profitability strategies.	Profitability
Business Continuity and Efficiency	A strong integrated management system (IMS) with excellence, effectiveness and efficiency of operations as central pillars. In addition, a strong safety culture with good adherence to the safety, health, environment and quality (SHEQ) system, strong conformance to all nuclear facility licensing conditions, a well-entrenched governance system and good strategic support for core commercial areas by all support services.	Operational safety Operational compliance SAFARI-1 operational availability Multipurpose research reactor development Decommissioning and decontamination (D&D)
Talent Excellence and High-Performance Culture	A strong organisational culture with a fully entrenched set of organisational values, best skilled and experienced resources deployed throughout the organisation with a strong performance system and continuous improvement well entrenched. All staff will be continuously trained and developed to achieve the highest competence in their respective job roles, which will also enable upward mobility.	Performance management Talent management and culture Transformation

Key performance areas

There is alignment of the performance indicators across the shareholder's compact with the DMRE, the corporate plan and performance reports. Performance information is collated and reported monthly to EXCO and quarterly to the Board, DMRE and National Treasury. This is in accordance with the requirements for public institutions to publish performance information to account to Parliament in accordance with section 92 of the Constitution and to be transparent to the public in accordance with section 195 of the same. Prior to publishing actual achievements against targets, this performance is internally assured by Integrated Assurance and externally assured by AGSA (annually). In the year under review, the methodology of assessing whether key performance indicators are achieved was enhanced and approved at Board level.

Strategic Projects

Strategic projects have been categorised into seven themes and prioritised to achieve the set strategic objectives.

THEMES	DEFINITIONS
I Neutron source generation projects	Necsa is managing the 58-year-old SAFARI-1 reactor closely to ensure that it continues being productive even as the new MPR comes on stream, thus ensuring that Necsa exists for the next 100 years. The nuclear reactor is the heart of Necsa's business from research to production of radioisotopes. The MPR will enable Necsa (and South Africa) to defend its position as a top-four global supplier of medical radioisotopes and will sustain its growth as a diversified radioisotopes business.
II Advanced manufacturing, nuclear-related technology applications	Allows Necsa to optimally uses its facilities, including American Society for Mechanical Engineers-accredited facilities to supply broader industry, including mines and power stations.
III Radioisotope and pharmaceutical business sustainability	Supports increased capacity of radiopharmaceutical facilities and unlocks new markets in the pharmaceutical industry to address the burden of diseases. Improvement to infrastructure supports sustainability of supply and compliance requirements.
IV Fluorochemical business sustainability	Includes projects that seek to improve the reliability of current plant and increase the production capacity of Necsa's fluorine and hydrofluoric acid plants, which will enable the pursuit of new market opportunities in the fluorochemical industry.
V Waste projects	These are all aimed at ensuring that Necsa and the country reduces and manages waste and also assists the broader nuclear fraternity in addressing the topical issue of nuclear and related waste.
VI Energy projects	Increases Necsa's contribution to the broader nuclear energy sphere with power solutions that address the energy trilemma of balancing the economics, climate and energy security. This includes waste-to-energy projects to produce much-needed energy and the manufacturing of ubiquitous lithium-ion batteries to support the uptake of renewable energy in the grid with reliable energy storage solutions.
VII Sustainable site utilisation and infrastructure management	Modernisation of Necsa site to ensure efficient utilisation of Necsa assets and the economic growth and development of the North West region

Strategic projects

09

KEY PERFORMANCE INFORMATION

Statement of Responsibility for Performance Information

The Board, as the Accounting Authority, is responsible for implementing a system of internal controls to provide reasonable assurance in relation to the integrity of the performance information, human resources information and the annual financial statements. The Group Chief Executive Officer (Accounting Officer) is responsible for the preparation of Necsa's performance information and for its veracity. This integrated annual report was prepared in accordance with the guidelines issued by National Treasury and annual financial statements (AFS) in accordance with International Financial Reporting Standards (IFRS).

AGSA examined the company's AFS and selected performance targets for the year 31 March 2023 and its report is on pages 139 - 145.

In our opinion, the integrated annual report fairly reflects the operations, performance information, human resources information and the financial affairs of Necsa for the financial year ended 31 March 2023.

Auditor-General's Report: Key Performance Indicators

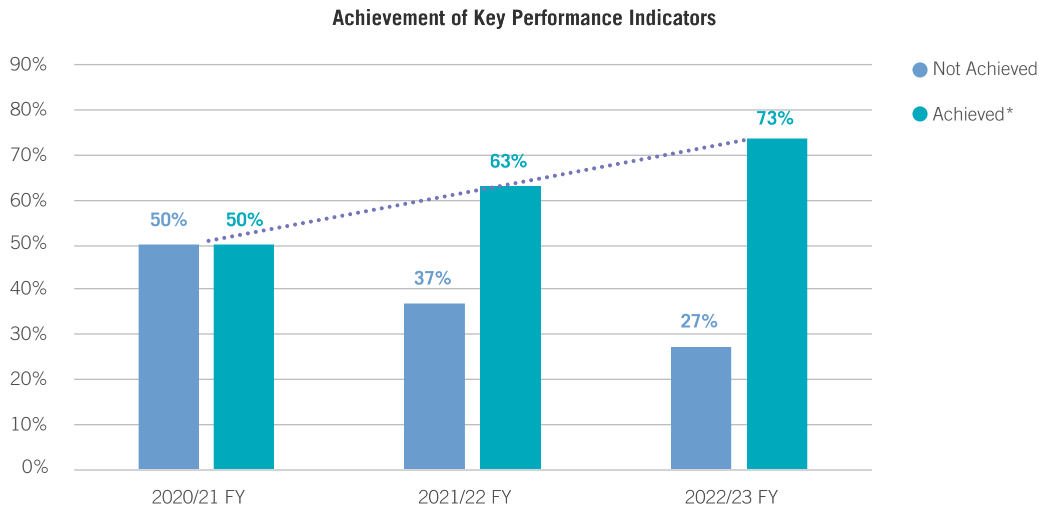
The AGSA audits the usefulness and reliability of the reported performance against predetermined objectives for selected strategic focus areas presented in the annual performance report. These procedures are performed for the purpose of reporting material findings only; and not to express an assurance opinion.

Performance against planned indicators and targets, as contracted in the Shareholder's Compact – 2022/23 between Necsa and the Minister of Mineral Resources and Energy, is presented in the prescribed tabular format below. This is preceded by a graph comparing performance over the past three financial years.

Changes were made between the Shareholder's Compact for 2021/22 and the Compact for the 2022/23 financial year in respect of both the pillars/programmes and the Key Performance Indicators (KPIs) for which targets were set. Note that KPI refers here to the measurable target set within a Predetermined Objective (PDO).

Of the 24 KPIs utilised in the 2021/22 financial year, 10 KPIs were retained, 4 new KPIs were added and the transformation KPI was reformulated. Consequently, the number of KPIs reduces to 15.

Operational performance at a glance



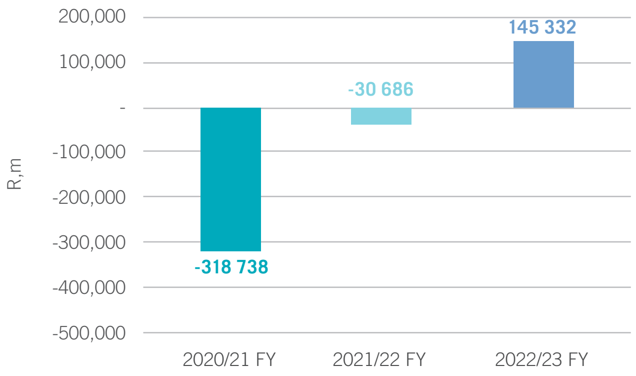
** In the 2021/22 FY negative tolerance of 10% was allowed. For 2022/23 FY no tolerances were used as agreed with the AGSA.*

As part of process improvement in the year under review, the methodology of measuring Key Performance Indicators as being achieved or not was made more stringent by allowing no negative tolerance in alignment with recommendations from the AGSA Monitoring Framework.

The above graph clearly indicates a positive trend in terms of the achievement of performance targets.

Financial performance at a glance

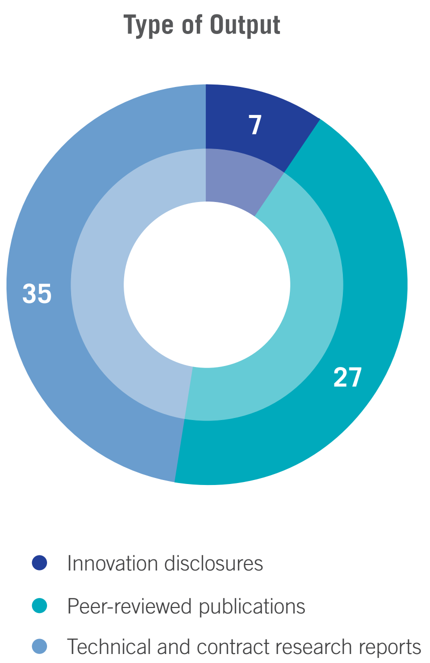
Total Comprehensive Income for Necsa Group Consolidated



Necsa Group Highlights

Necsa's researchers who hold National Research Foundation ratings

Name	Title	Rating
TM Masikhwa	Dr	Y2
D Marais	Dr	Y2
JJ van der Walt	Dr	C2
AM Venter	Dr/Extraordinary Prof	C1
R Prinsloo	Dr/Extraordinary Prof	C1
P Bokov	Dr/Extraordinary Prof	C1
JR Zeevaart	Dr/Extraordinary Prof	B2



Necsa Group main research outputs

0.46

DIIR of 0.46 was achieved, which is well below the Group target of < 1.8.

TRL-9

Necsa secured co-funding from the Technology Innovation Agency (TIA) and NTP toward the full cost required for TRL-9 development of the mining shroud project. Funding agreements have been signed. In addition, the full value of the DMRE virement funding awarded for the prostate-specific membrane antigen (PSMA-II) kit project was successfully claimed for project deliverables that were achieved in the year.

43 STUDENTS

Radiation imaging facilities, equipped with a microfocus X-ray Computerised Tomography (CT), CT analytical lab and Neutron radiography (under upgrade) offers unique capabilities to researchers, students and industries in non-destructive investigation. 43 students/researchers and two commercial customers benefitted from its use during this reporting period. The studies conducted have application in geology, zoology, anatomy, biomedical, dentistry, chemistry, palaeoanthropology, anthropology, archaeology and engineering. The radiography and tomography section concluded the Bakeng se Afrika, a European Union co-funded project with the goal of creating a digital repository of micro-XCT scanned skeletal elements of South African individuals.

OSCAR

The Overall System for the Calculation of Reactors (OSCAR) nuclear reactor calculational system, developed in-house by Necsa, continued to expand its international usage among both research reactors and small modular reactor (SMR) users during the past year.

BSL-3

The containerised Biosafety Level 3 (BSL-3) laboratory received governmental (Department of Agriculture, Land Reform and Rural Development) approval for operation of the relevant Interim Preclinical Imaging Facility (iPCIF) project portfolio to extend into research focusing on infectious diseases and other accreditations.

STEAM GENERATORS

Necsa is contracted by Eskom to support in the life extension project for the Koeberg nuclear power plant. In this financial year, Necsa assisted in the successful planning, licensing and storage of the original steam generators on the Koeberg site, as the end of a multi-year project to replace both of the original steam generators with new ones.

4 PATENTS AND TRADE-MARKS

The following patents were granted during 2022/23:

1. The patent Plasma Torch was filed provisionally in the UK (inventor: Izak Jacobus van der Walt).
2. The NdF3 Production Process patent was granted in Japan and by the African Regional Intellectual Property Organisation (inventors: Daniel Moolman, Ryno Pretorius, Le Roux Johannes Petrus, Niemand Hendrik Faurie).
3. Tagged Excavation Element patent was granted in Botswana, Malawi, Mozambique, Namibia, Zimbabwe, Argentina, Australia, China, Japan, Russia, South Africa, USA Zambia and by the African Regional Intellectual Property Organisation.
4. Plasma Reactor was filed provisionally in the UK (inventor: Izak Jacobus van der Walt).

The following Trademarks were registered:

- PlasGas was registered in class 40 on 19 September 2022.
- PlasWen was registered in classes 4 and 40 on 19 September 2022.

Financial Recovery and Sustainability Pillar

This strategic pillar revolves around the Necsa Group's financial recovery, i.e breakeven in the short-term and the resolution of cash flow challenges while achieving medium- to longer-term growth, the main contributor being NTP Radioisotopes SOC Ltd.

Two new key performance indicators were introduced in this financial year to reflect performance in this area.

Key performance area	Key performance indicator	Actual achievement 2021/22	Target 2022/23	Actual achievement 2022/23	Comment on deviation
Financial Performance	Necsa Group net profit after tax (R'm)	(78.8)	(23.1)	125.5	NTP's outstanding financial performance enabled the group achievement
Audit Outcome	Audit opinion	Disclaimer audit opinion	Unqualified audit opinion for 2022/23 audit	Qualified audit opinion	Qualification on the Decontamination & Decommissioning Stage 1 provision.

Research and Innovation Pillar

This pillar mandates the Research and Innovation division to increasingly deliver new technologies that will enable growth in existing commercial areas while creating new technologies that lead to future commercial enterprises.

Three key performance indicators from the previous financial year were retained – Contract R&D income, peer-reviewed publications and innovation disclosures. Revenue from impact area projects is no longer reported.

Key performance area	Key performance indicator	Actual achievement 2021/22	Target 2022/23	Actual achievement 2022/23	Comment on deviation
Increased Revenue	Contract R&D income generation (R'm)	47.7	40	58	Additional income from virement funding and MPR work
Research Publications	Number of peer reviewed publications	36	23	27	High number of research concluded and increased peer review publications opportunities
Innovation Disclosures	Number of innovation disclosures	7	6	7	High turnaround in Intellectual property approval and registration process

Profitable Commercial Enterprises Pillar

The Nuclear Energy Act (1999), in sections 14(1)(a) and 14(2), provides for Necsa's commercial mandate through exploitation of technology and utilisation of business opportunities. This pillar combines the two commercial subsidiaries, NTP SOC Ltd that produces nuclear medicine and industrial isotopes and Pelchem SOC Ltd, a provider of fluorochemicals.

To achieve a focus on profitability, only the net profit after tax for each subsidiary is retained as a key performance indicator rather than the larger number of mainly operational measures used in the previous year.

Key performance area	Key performance indicator	Actual achievement 2021/22	Target 2022/23	Actual Achievement 2022/23	Comment on deviation
Profitability	NTP Group net profit after tax (R'm)	61.5	19.7	138.2	High production levels in response to global shortage of radioisotopes caused by Belgian reactor outage
	Pelchem net profit after tax (R'm)	(63.5)	19.7	(61.7)	Aged infrastructure and HF plant breakdowns continue to derail target achievement.

Business Continuity and Efficiency Pillar

Central to this pillar is the cultivation of a strong safety culture with adherence to compliance requirements and a focus on operational efficiency and sustainability. The Strategy and Business Enablement, as well as Nuclear Operations and Advanced Manufacturing divisions drive this.

Key performance indicators retained to measure compliance are public dose impact and DIIR. Operational availability of the research reactor SAFARI-1 and D&D programme execution are retained as indicators of operational efficiency. Also remaining from 2021/22 is the development of the MPR intended to replace SAFARI-1.

Key performance area	Key performance indicator	Actual achievement 2021/22	Target 2022/23	Actual Achievement 2022/23	Comment on deviation
Operational Safety	Disabling Injury Incidence Rate (DIIR)	0.67	<1.8	0.46	Good safety culture within the Necsa Group
Operational Compliance	Public dose impact limit (mSv per annum)	0.004276	<0.25	0.00399	Strict emission controls maintained
SAFARI-1 Operational Availability	Number of days available per year	293.76	287	288.3	Target exceeded by 1.3 days
Multipurpose Research Reactor Development	Replacement of SAFARI-1 Reactor	N/A	Expressed in 3 sub-targets below	Only 1 of the 3 sub-targets was met	Overall target not met
	Framework for Infrastructure Delivery and Procurement Management (FIDPM) feasibility	Feasibility study in progress	FIDPM feasibility study completed		FIDPM approved internally and ready for gateway review • Completed
	Environmental impact assessment (EIA) application	EIA in progress	EIA application submitted		EIA application cannot be submitted before approval by the Minister in terms of Section 14 of NEA • EIA application not submitted

Key performance area	Key performance indicator	Actual achievement 2021/22	Target 2022/23	Actual Achievement 2022/23	Comment on deviation
	Overarching licensing strategy	N/A	Overarching licensing strategy approved by National Nuclear Regulator (NNR)		NNR committed to respond in the FY2023/24 Not approved
D&D programme execution (Stage 1)	Percentage execution of annual plan of action as approved by Necsa Board and submitted to DMRE	81.08%	90%	59.6%	D&D performance was corrected in line with original APA Shortage of specialised staff and equipment negatively impacted performance

Talent Excellence and High-Performance Culture Pillar

Performance and talent management as well as transformation at professional level are the essential themes of this pillar. Human Capital division, with management support, takes responsibility for implementation.

Staff productivity percentage, measured as the ratio of basic salary cost to revenue, has been introduced as a measure of performance. Leadership development of the executive team serves as an indicator of talent management and improvement of core skills. The demographic transformation key performance indicator has changed from a focus on black female professionals only to all black professionals.

Key performance area	Key performance indicator	Actual achievement 2021/22	Target 2022/23	Actual Achievement 2022/23	Comment on deviation
Performance Management	Staff productivity percentage (group human resources basic salary cost as percentage of group revenue)	53.6%	48%	43.5%	Lower staff cost to revenue ratio implies better performance
Talent Management and Culture	Improvement of performance culture and maintaining core skills	N/A	100% EXCO enrolled and completed Necsa leadership development programme	100% EXCO enrolled and completed – all results received	Target achieved by end January 2023
Transformation	Percentage of black professionals in middle management and higher	N/A	67%	67.7%	Target narrowly exceeded. Necsa Group prioritising employment equity targets.

OVERVIEW OF PUBLIC ENTITY'S PERFORMANCE

External environment

Given Necsa's mandates relating to research and development and national nuclear obligations, the company is not directly involved in service delivery to the public. Salient issues relevant to performance from the external environment include:

- The Pelchem subsidiary's turnaround strategy is supported by an increase in demand for XeF_2.
- Global shortage of Mo-99 and I-131 radioisotopes due to a Belgian reactor outage during the year allowed for higher production levels at the NTP subsidiary.
- Funding of R24m was received from DMRE to start implementation of the site ageing management plan.

Organisational environment

Several internal factors are notable in Necsa's performance in the past financial year:

- 13 and 14 June 2022: Necsa Group Board strategy session included a review of the Group strategy, corporate planning and performance.
- Ministerial appointment and inauguration of new Necsa Board members took place on 23 and 24 January 2023.
- 10 requests for information submissions were received for the MPR project, four from local and six from international vendors.

Necsa Laboratory Services

10

RISK MANAGEMENT

Risk management

Sections 38(1)(a)(i) and 51(1)(a)(i) of the PFMA require accounting officers to ensure that their institutions have and maintain effective, efficient and transparent systems of risk management. The extension of the general responsibilities, in terms of section 57 of the PFMA, to all other officials is a cornerstone in the institutionalisation of risk management in Necsa. It establishes responsibility for risk management at all levels of management, extending it beyond the roles of the Accounting Officer, the Integrated Assurance function and/or the Audit and Risk Committee.

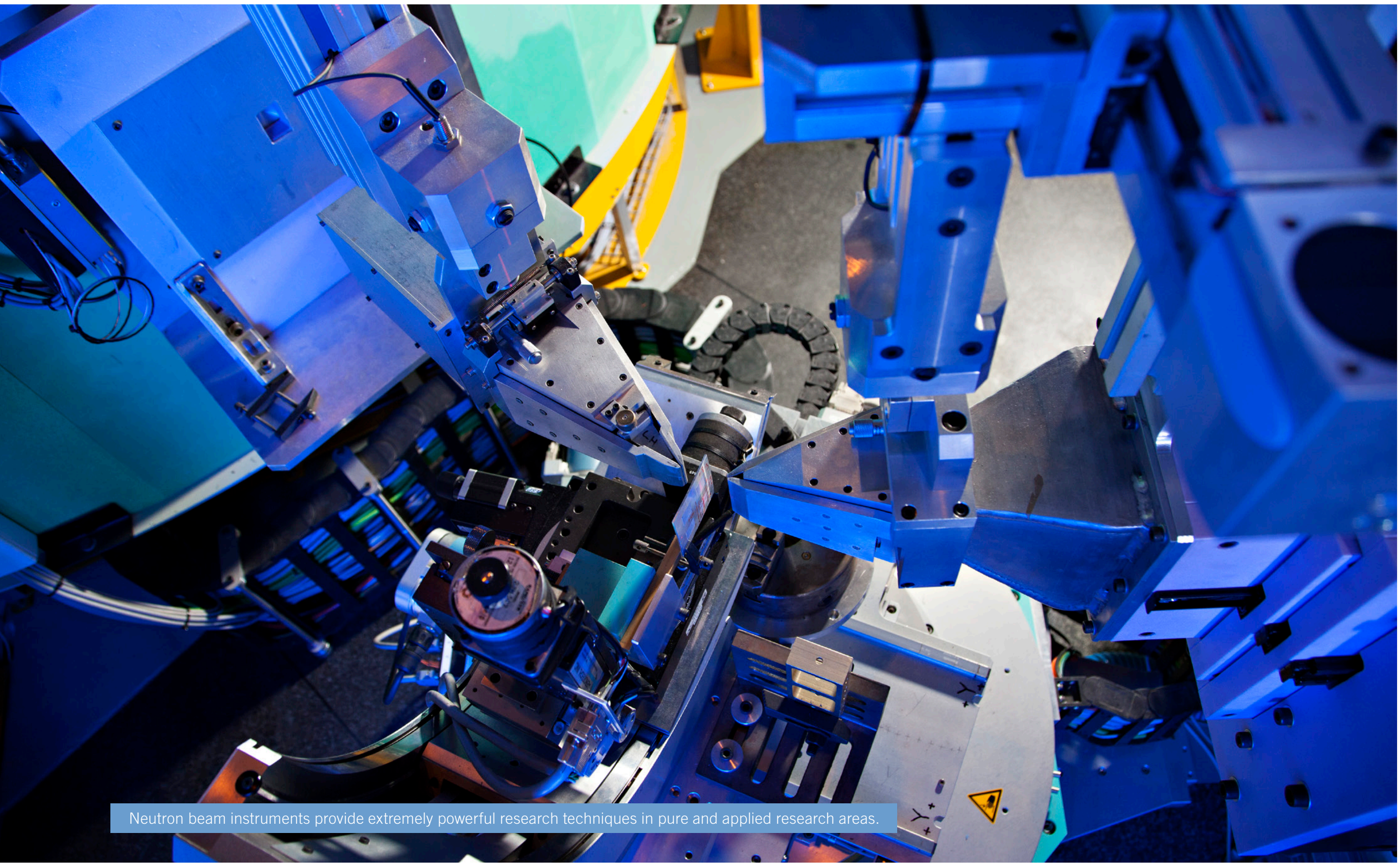
Enterprise risk management (ERM) forms a critical part of Necsa Group strategic management. It is the process whereby an entity both methodically and naturally addresses the risk attached to its activities to achieve sustained benefit within each activity and across a portfolio of activities. ERM is therefore recognised as an integral part of sound organisational management and is being promoted internationally and in South Africa as good business practice applicable in all spheres.

The following factors require consideration when integrating ERM into organisational decision-making structures:

- Aligning risk management with objectives at all levels of organisation;
- Introducing risk management components into existing strategic planning and operational practices
- Including risk management as part of employees' performance appraisals; and
- Continuously improving control and accountability systems and processes to take into account risk management and its results.

The ERM strategy specifically addresses the structures, process and standards implemented to manage risks on an enterprise-wide approach in a consistent manner. The strategy further addresses the specific responsibilities and accountabilities for the ERM process and the reporting of risks and incidences at various levels within the Necsa Group and its subsidiaries.

An overview of progress made in implementation of mitigations to manage the top strategic enterprise-wide risks of the Necsa Group. This overview covers the period of 01 April 2022 to 31 March 2023.



Neutron beam instruments provide extremely powerful research techniques in pure and applied research areas.

Necsa Group has made notable improvement in terms of Risk improvement in the year under review. All the identified top strategic enterprise-wide risks moved from inherent risk of very high risk level in the previous financial year to cautionary where Moderate level of control intervention is required.

Top strategic enterprise-wide risks of the Necsa Group

RISK		Achievement	Risk Improvement/ Movement
1.	Necsa Group failing to achieve net profit after tax	▲	25 to 15
2.	Necsa Group failure to generate revenue and achieve commercial financial targets	▲	25 to 16
3.	Negative audit opinion	▲	25 to 16
4.	Non-compliance with regulatory requirements	▲	25 to 12
5.	Ageing of infrastructure	▲	25 to 15
6.	Inadequate organisational resilience towards disaster or crisis	▲	25 to 12
7.	Inadequate management of waste	▲	25 to 15
8.	Cybersecurity threats	▲	20 to 16
9.	Unharmonised policy's and processes	▲	20 to 16
10.	Unavailability of Irradiation capabilities and source of neutron	▲	25 to 15
11.	Slow commercialisation of innovation	▲	20 to 12
12.	Loss of personnel and critical skills (loss of institutional knowledge)	▲	25 to 12
13.	Employment equity target not achieved	▲	20 to 12
14.	Organisational culture not conforming to the new desired high-performance culture	▲	20 to 12

Top strategic enterprise-wide risks of the Necsa Group

Risk level and Colour code	Total risk factor	Risk evaluation	Explanation
Very high	21-25	Unacceptable	Very high level of control intervention is required to achieve an acceptable level of residual risk
High	16-20	Extreme caution	Except under unique circumstances or conditions – high level of control intervention required to achieve an acceptable level of residual risk
Medium	11-15	Cautionary	Moderate level of control intervention is required
Low	6-10	Acceptable	Implies that the controls are adequate or effective
Very low	1-5	Desirable	Implies that the controls are adequate or effective and reliable

The Necsa Group Audit and Risk Management Committee, which provides oversight on risk management, undertook the following:

- Reviewed the risk management policy and strategy and recommended it for approval by the group Board;
- Reviewed the group's risk identification and assessment methodologies to obtain reasonable assurance of the completeness and accuracy of the risk register;
- Evaluated the effectiveness of mitigating strategies to address the material risks of the group;
- Reviewed the fraud prevention policy and recommended it for approval by the Group CEO;
- Evaluate the effectiveness of the implementation of the fraud prevention policy;
- Reviewed any material findings and recommendations by assurance providers on the system of risk management and monitored that appropriate action was instituted to address the identified weaknesses;
- Concluded fraud risk assessment and monitored the actions thereof.

11

STAKEHOLDER LANDSCAPE

Stakeholder Landscape

"Necsa requires good stakeholder relationships to deliver on its strategy. There's a greater focus to maintain and build mutually beneficial relationships with internal and external stakeholders while managing myriad issues that are of importance to these stakeholders"

In line with its stakeholder management map, Necsa has been actively engaging various stakeholders on several issues that are important for the sustainability of its business and the stakeholders themselves. Both internal and external stakeholders, local and international, form an integral part of Necsa's value chain and enable the organisation to deliver on its mandate. Necsa therefore strives to build and nurture these relationships continuously through various engagement platforms and channels, including meetings, workshops, written and oral communication and strategic events.

Necsa stakeholder landscape

Stakeholder Engagements

Stakeholder engagement and collaborations are the key drivers in pursuit of the Necsa Group mandate and turnaround business strategy. These interactions strengthen relationships, identify mutually beneficial business growth opportunities for expansion and pool resources. EXCO drives and accounts regularly on achievements that generate high quality and impactful outcomes for the organisation.

Shareholder/Government/Parliament

There is marked improvement in relationships with the DMRE, as the shareholder that consistently oversees governance, and progress on predetermined objectives, strategic matters and accountability on finances. These engagements occur at least quarterly and as issues arise during the financial year. They also are in preparation for annual submission of the annual performance plans, budgets, quarterly reviews and tabling of annual reports to National Treasury and Parliament. The Portfolio Committee on Mineral Resources and Energy conducted an oversight visit to gain a deeper understanding of business and entities. Members of Parliament appreciated the wealth of resources and skills in the operations and engagements. They noted improvements in governance and labour relations environment compared to their observations during a visit in 2019.

AGSA conducts annual audits and give an opinion on how the entity oversees its finance, evaluate performance against set predetermined objectives. The audit opinion is on the positive trend with decrease material matters of emphasis due partly to consistent engagement in how to address issues from previous financial years and as issues emanate. There are concerted efforts to improve AGSA's understanding of Necsa's business framework and how it functions. These included site visits to Pelindaba, detailed closed sessions on strategy and deliberations on how to tackle matters of emphasis that were raised in the previous audit period.

Investors/Funders

Advancing revenue growth through partnerships underpins Necsa's turnaround strategy. This was realised through courting funders such as bankers, the Public Investment Corporation, Industrial Development Corporation, Brics Development Bank and Technology Innovation Agency (TIA). Sourcing of additional funding will ensure that revenue-creating projects receive injection for their development. These engagements are starting to bear meaningful results on many fronts in the organisation. SOCs such as Eskom, PetroSA, the Council for Scientific and Industrial Research, Mintek and independent power producer office offer business available for tendering and outsourcing for Necsa. These engagements not only strengthen relationships but identify areas for collaboration. This is true for international nuclear counterparts, embassies, high commissioners and the International Atomic Energy Agency (IAEA).

SAFARI-1 and other nuclear facilities operates under Nuclear Installation Licenses issued by the NNR with specific license conditions. NNR continuously monitors compliance to these conditions through inspections and reviews of submissions. The regulator plays a crucial role in assuring nuclear safety compliance. This is a shared vision with Necsa therefore Necsa keeps NNR informed of critical developments around the reactor and the site. The same is true for regulators such as the South African Health Products Regulatory Authority.

Learners visiting the Necsa visitor centre to gain more knowledge about energy, nuclear science, radiation, reactors, waste and work opportunities available in the nuclear field.

"Strong stakeholder engagements facilitate collaboration such as with key nuclear industry players, government and regulators"

Local Communities

The nuclear licence stipulates as part of its conditions that Necsa should engage and report quarterly with communities on safety matters. There were four quarterly Public Safety Information Forum meetings held at Pelindaba. The Vaalputs Public Safety Information Forum meeting was derailed due to Covid and lack of telecommunication infrastructure to hold it virtually. Additionally, direct outreach targeted high school pupils, creating awareness of science, technology, engineering and maths subjects nationally. This was in the form of expos, exhibitions, career days and youth summits reaching over 7 000 learners and youth.

Employees/Board

Employees are the cornerstone that oil the Necsa machinery and make it function properly. It was important that they were consulted and given a voice on the rationalisation and restructuring process. This was achieved through workshops, staff engagement by the GCEO and monthly communiques. This resulted in a process embraced and generally supported by employees. Also, the monthly bargaining forum meeting with labour and management is a platform for consultation and feedback on key policy and critical organisational matters.

Lastly, there was a constructive and mature relationship between the Board appointed in January 2020 and the executives. The restructuring and rationalisation gained traction under its leadership. It also approved the turnaround strategy and the organisational structure. Its term ended in January 2023 and a new Board was appointed by the Ministry. Necsa is looking forward to strengthening relationships and creating a conducive working environment with the current Board.

Labour

To ensure stability, the Necsa Group has created structures and processes through which it is able to engage with organised labour on a structured basis. These include a relationship agreement, which sets out the rules of engagement as well as the mechanism to be followed in disputes. A crucial structure put in place to maintain labour peace was the Group Bargaining Forum comprising union and management representatives. It meets monthly or more frequently to discuss matters of mutual interest. The body is governed by the Group Bargaining Forum at group level and the Consultative Forum and company level plus the collective agreement, which defines organisational rights enjoyed by the two recognised unions, namely the National Education, Health and Allied Workers' Union (Nehawu) and Pelindaba Workers Union.

The monthly meetings monitor implementation of this and attend to emanating issues in the work environment. Labour played a crucial role during rationalisation and restructuring process. They consolidated their inputs as labour and infused discussions. The nature of engagements was a mixture of closed sessions whilst also during broad staff engagement sessions. This process ran relatively smoothly based on buy-in, cooperation and support received from labour.

To strengthen the ability of organised labour to participate meaningfully in the process, we also have the office of a full-time shop steward allowing organised labour to have two employees fulfilling union work and servicing employees full time.

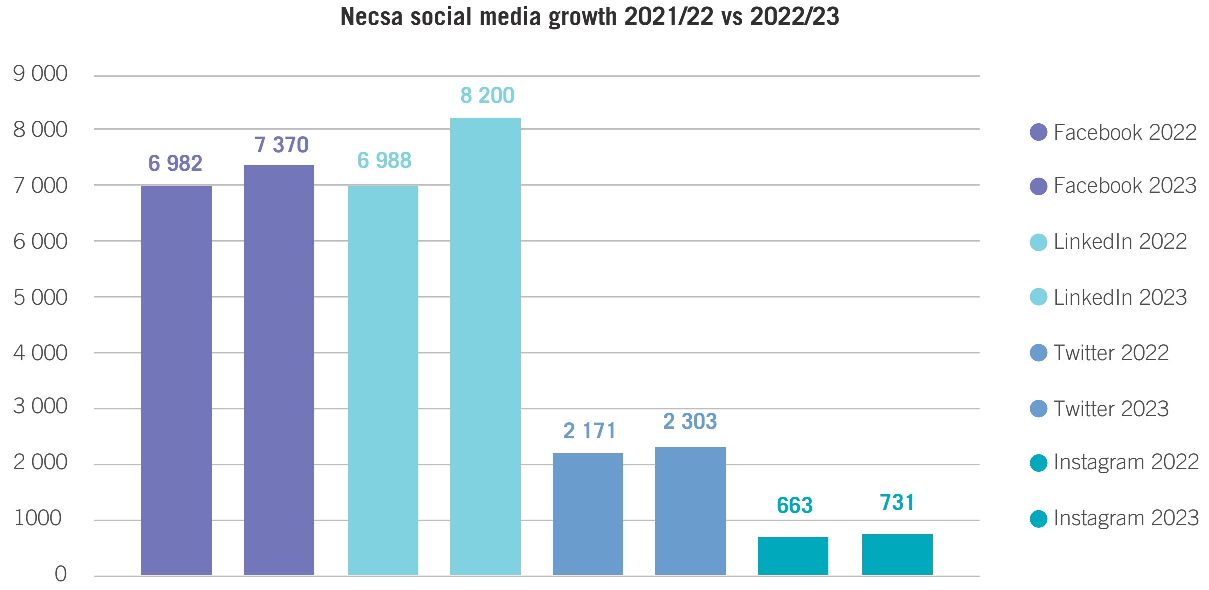
The Necsa Group concluded an agreement on terms and conditions of employment with the representatives' unions. During the financial year, management and organised labour once again successfully concluded an agreement on terms and conditions of employment applicable for the final year of the 2021/2024 multi-year agreement, which resulted in the signing of an addendum to the main collective agreement entered into in the 2021 financial year.

Business and Industry/Customers/Suppliers

Necsa collaborates with key stakeholders within the nuclear business and industry in creating job opportunities and sharing resources for mutual beneficial programmes. These also includes areas of human capital development in extending avenues with local and international universities for formal training, education of staff and by providing mentoring and supervision to students outside of Necsa. In support of social and relationship capital, scientists attended and contributed to numerous conferences and workshops, locally and internationally. Necsa maintains strong relationships and closely engage with customers and suppliers. This ensures understanding and anticipating expectations, addressing emanating issues immediately.

Media

Necsa uses various communication platforms to share information with the public, especially social media as depicted below.

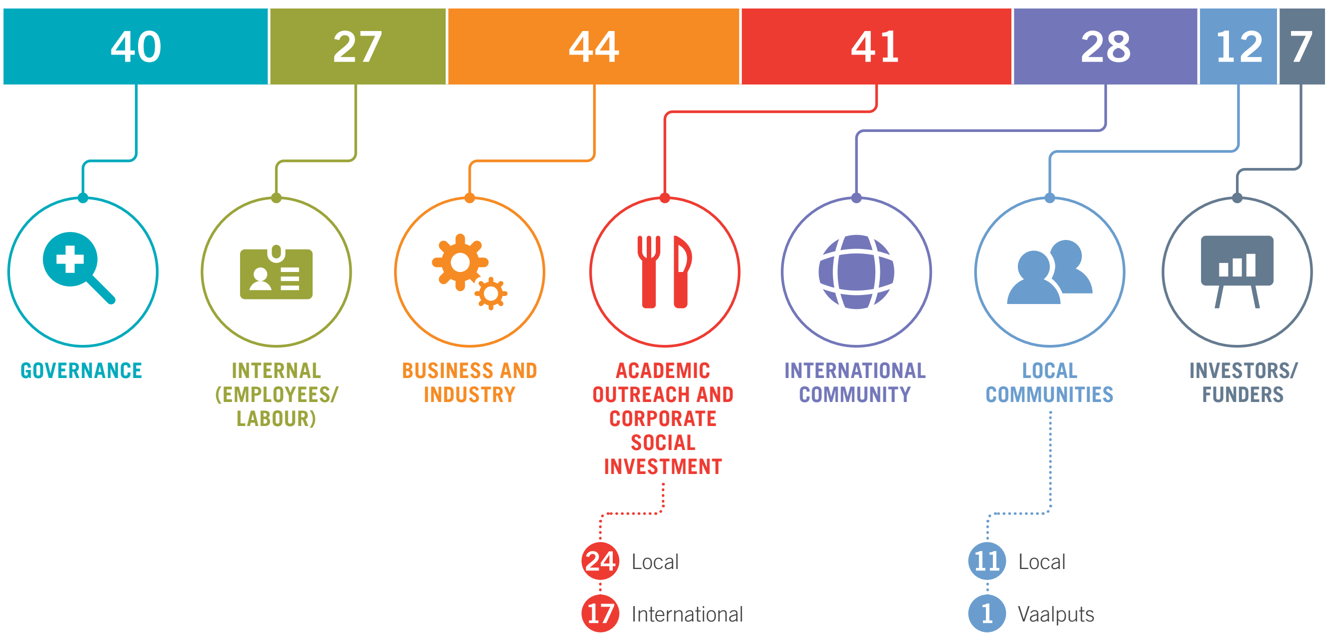


Social media channels

- On average, Facebook, Twitter and Instagram gained about about 400 more followers during the 2022/23.
- LinkedIn remains the preferred social media platform for Necsa, as followers are more interactive and their numbers grow at a higher rate monthly. We saw 1 212 additional followers in 2022/23.

Stakeholder Categories

The following illustration outlines the number of stakeholder engagements per category during the year under review.



Stakeholder engagements

12

DIVISIONAL REPORTS

"The finance departments drive all capitals that contribute to Necsa's financial sustainability, integrity and value for all stakeholders as per the Integrated Reporting Framework"

FINANCIAL CAPITAL

Precious Hawadi
Group Executive: Financial Capital

Financial Capital Overview

The Necsa Group Financial Capital division takes care of the group's finance and funding strategy to achieve growth while ensuring compliance with legislation and regulations. The capitals that Necsa employs require a sensitive balance as the business follows a group approach where the centre leads on strategy and policy implementation for alignment while respecting the independence of subsidiaries. The group is, therefore, served by several departments, including Supply Chain Management, Financial Control (cost and profit centres), Corporate Finance and Treasury. Subsets of these departments include the Business Unit department, which looks after the business units of the holding company, Financial Systems and Financial Compliance and Reporting department. The group executive and Group Chief Financial Officer lead all stakeholder engagements with financial capital stakeholders and support the Board and the Group Chief Executive Officer in accounting to the shareholder and other statutory bodies.

Financial Capital spearheads the critical strategic pillars of financial recovery and sustainability, which is a major pillar of any organisation and an essential ingredient to a successful business. This has been crucial for Necsa as it implemented a turnaround strategy to stop the bleeding and redirect the organisation towards financial sustainability. The collaboration between the Financial Capital division and the rest of the organisation was very important in entrenching the culture of change. The Necsa Group derives its funding from the government grant as a primarily research organisation and from revenue collected by its market-facing divisions and subsidiaries. The efforts of this division are evident and starting to bear fruit in the financial turn-around of the Necsa Group, which has begun to show profits for the first time in five years.

The organisation derives value from the division and improved audit outcomes of the group as an essential task of the Finance department is managing daily financial decisions and balancing them with long-term company objectives within a sound and good corporate governance environment. Instilling a culture of fiscal discipline was also important to ensure that rationalisation achieves the desired outcomes. The long-term, medium-term and short-term goals are synchronised through the company's financial predictions that are provided by the Finance department in collaboration with Business units. The Financial Capital division is responsible for the stewardship and control of physical and financial resources within the Necsa Group. The intention is to balance the four key priorities, namely cost reduction, compliance, operational efficiency and growth. Finance plays a significant role in the decision-making process, the vision, mission and strategy of the Necsa Group and provides the guiding principles, which are essential to maintaining good corporate financial governance.

Supply Chain Management

Supply Chain

Supply Chain Management has a statutory obligation under section 217 of the Constitution of the Republic of South Africa to ensure that procurement activity is compliant with legislation. Necsa Group's strategic plan is clear in articulating that Supply Chain Management plays a critical role in achieving efficiency and savings and ensuring that the organisation is fully prepared to embrace the ongoing changes in the supply market. The group has, therefore, effectively managed its procurement budget, aligning the needs of the business, available suppliers and continues its endeavour to fully comply to legislation. In the year under review, it spent 91% of its budget on local suppliers. As its financial position improves, the opportunity will present itself to improve spend with black-owned businesses and thereby gain a better rating.

Purchases

Purchases for the Necsa Group in 2022/23 amounted to R1.471bn an 8.86% increase compared to the previous reporting period. This resulted from statutory price increases for products, materials and equipment, as well as non-routine purchases.

The R1 470 672 215.68 comprised R1.335bn (90.74%), which is spent with local suppliers, R136 105 045.25 (9.26%), which is spent with foreign suppliers.

The top suppliers and the products and/or services they supply to the Necsa Group, are tabled below, with the amounts spent expressed as a percentage of the Necsa Group's total purchases for the reporting period.

Top suppliers to the Necsa Group

Supplier	Value	%
ESKOM	R106.8m	7.26%
CERAM RESEARCH LTD	R80.8m	5.49%
NATIONAL NUCLEAR REGULATOR	R60.4m	4.10%
MOMENTUM	R33.9m	2.30%
SASOL OIL (PTY) LTD	R25.4m	1.72%
M AND M TRAINING AND RIGGING CC	R23.2m	1.57%
RAND WATER	R21.4m	1.45%
Total	**R957.6m**	**65.07%**

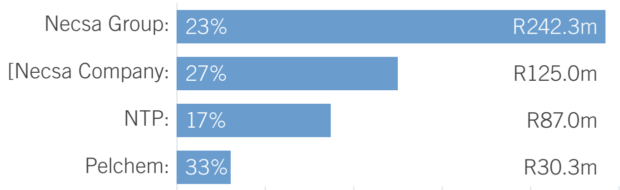
Broad-based Black Economic Empowerment

Necsa Group recognises that the implementation of a broad-based black economic empowerment (B-BBEE) strategy is an essential mechanism in its efforts to meet the objectives of the B-BBEE Act to achieve sustainable and inclusive economic development, social stability and labour-absorbing economic growth. This will be an area of focus in the years ahead as the business turns around. A plan of action to move from non-compliance to compliance in the next five years will be finalised in the 2023/24 financial year. Areas needing attention are skills development, enterprise and supplier development and socio-economic development. Annual B-BBEE verification processes were undertaken by independent agencies accredited by the South African National Accreditation System and all entities within the Necsa Group were verified. The Necsa Group and its subsidiaries are currently categorised as empowering suppliers at level 7.

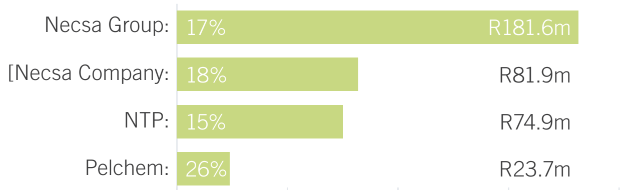
B-BBEE Spend

Necsa Group purchases from B-BBEE suppliers during the year under consideration are reflected below. These values exclude foreign purchases.

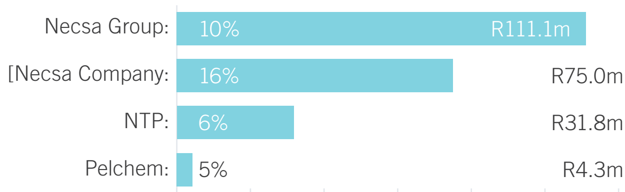
The total values for procurement on business done with enterprises that are at least 51% black-owned for 2022/23 are as follows:



The total values for procurement on business done with enterprises that are at least 30% black woman-owned for 2022/23 are as follows:



The total values for procurement with small, medium, and micro-enterprises for 2022/23 are as follows:



Financial Control (cost and profit centres)

The group derives a percentage of its funding from a grant that runs various elements of the business. The flow of this money into the financial capital (cost and profit centres) departments provides an effective and efficient financial accounting system to the Necsa Group through the development and institution of internal control policies and procedures, processes and financial control mechanisms in compliance with legislative, regulatory and business requirements.

Group Treasury

The Group Treasury department manages and ensures efficient and effective treasury services to the Necsa Group in line with its finance and funding strategies. It does so by implementing and monitoring internal controls in the treasury environment to ensure the achievement of the organisation's operational and strategic objectives. The department's role was effectively executed in the past year as the Necsa Group complied fully with PFMA regulations, evidenced by zero/reduced wasteful expenditure and no irregular expenditure.

Strategic Corporate Financing

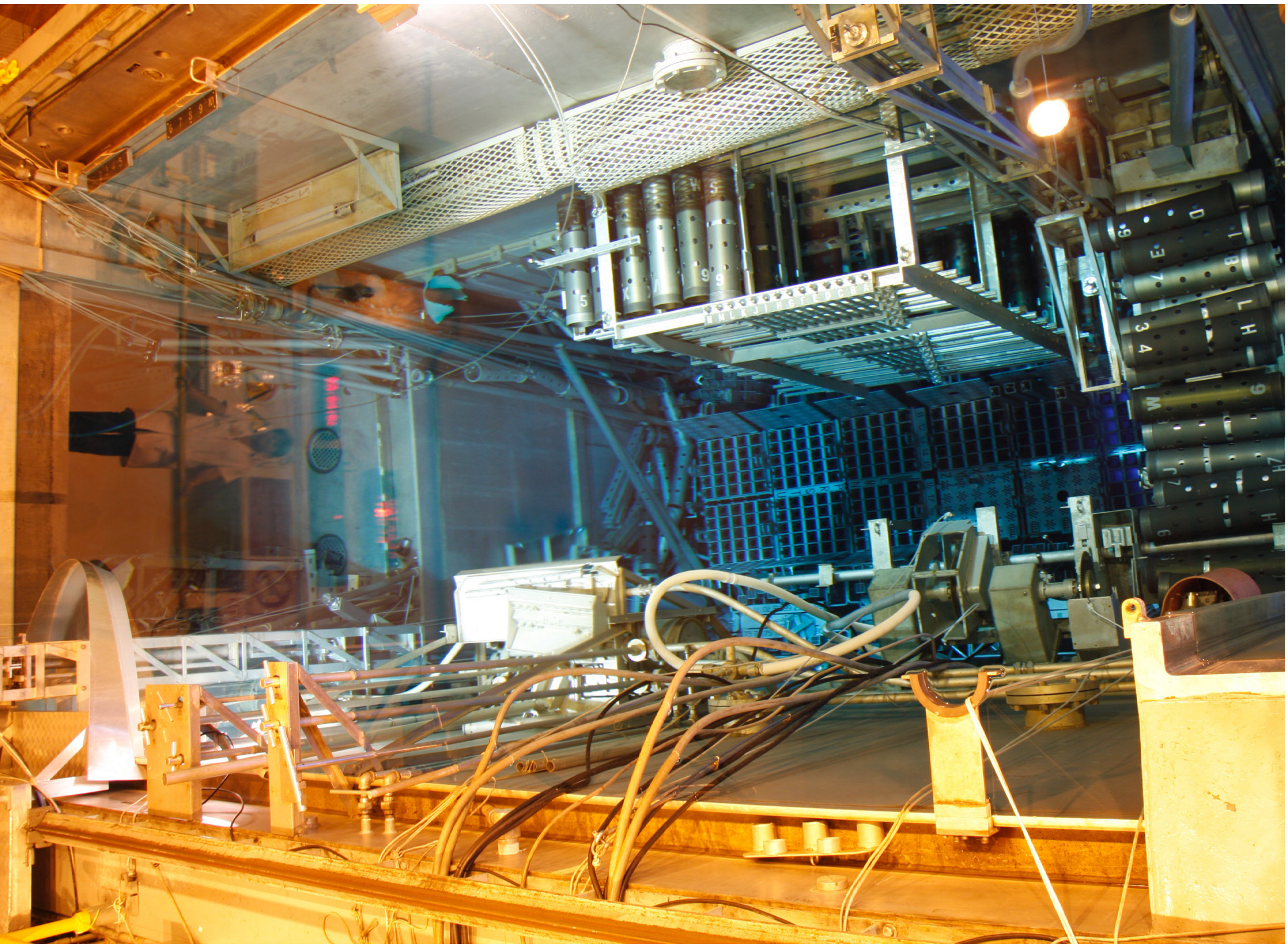
Strategic Corporate Financing department manages and ensures the provision of effective and efficient corporate financial accounting services to the group. It achieves this by developing, implementing and maintaining corporate financial processes, procedures and mechanisms for effective corporate financial control of Necsa business operations, while ensuring compliance with statutory and regulatory requirements.

Strategic project financing

This is a specialised area of financial capital that deals with strategic project financing requiring special attention, including stakeholder engagements that support strategic projects in the division.

The strategic projects include the MPR, National Radioactive Waste Disposal Institute and D&D support to business.

Likewise, the MPR is requires focused attention to its criticality in ensuring the continued and ongoing sustainability of Necsa.



"Necsa strives for a diverse workforce that brings great innovation and value creation for the organisation"

HUMAN CAPITAL

Monde Mondi
Group Executive: Human Capital

Introduction

The Human Capital division is a strategic support function comprising a combination of centre-led and centralised functions. The division has three departments, namely Human Resources, Necsa Learning Academy and Organisational Development, Behaviour, Safety Culture and Knowledge Management. Its primary mandate is to ensure that Necsa Group has the required human resources capacity and capabilities to deliver on its mandate and to take advantage of the opportunities in the external environment.

Human Resources for the Year under Review

Employment Equity and Gender Imbalance

Necsa Group is striving to ensure that it has a diverse workforce that will bring greater innovation and value creation for the organisation. The development and effective implementation of employment equity and transformation is therefore imperative and goes beyond the quest for just ensuring compliance.

To this end, it was crucial that the numerical goals and targets contained in the approved Employment Equity Plan were integrated into the division's operational plan to ensure that employment equity is treated as a strategic priority for the organisation instead of an afterthought activity, to be attended to as and when time permits.

The staff composition at the beginning of the financial year was used as baseline against which any employment equity progress would be measured. These numerical goals and targets were set based on the degree of representation of the economically active population of South Africa for members of the designated groups.

Harmonisation of Policies

Standardisation of human resources policies and procedures across the Necsa Group was also a priority. This process gained momentum after approval of the rationalisation exercise currently taking place in the organisation.

Through this exercise, the expectation is that the number of human resources policies within the group will be significantly reduced from 58 to about 20, thus contributing to improved efficiency, consistency in decision-making and compliance due to reduced complexities. While work is still underway to review the policies, several group policies have been developed and approved. Most notable are the Education, Training and Development Policy, Variable Pay Model, Talent Management Policy, Group Leave Procedure and Grievance Procedure.

Rationalisation Exercise

The restructuring exercise, part of the drive for organisational financial sustainability, gained momentum during the reporting period, with the Human Capital division playing an instrumental role. Key milestones during the year included the rollout of the new N-2 functional structure and the development, approval and implementation of the N-3 structure and the initiatives detailed below.

Employee Performance Management Framework

The achievement of Necsa's strategic objectives is dependent on individuals and groups achieving results that are linked to the organisation's strategic objectives. Performance management provides a framework for alignment of employees' performance to the organisation's strategic objectives, as well as managing the performance of all employees to instil a culture of high performance. To that end, the primacy of performance management was articulated in sessions held across the organisation.

Talent Management

Necsa focuses on creating a team-centred culture where leadership and teams are aligned, engaged and inspired to perform at their best and take personal accountability for the delivery of results and are rewarded and recognised accordingly. To achieve this, Necsa has prioritised the identification, development and retention of a diverse, mobile and motivated workforce. The Necsa Talent Management Framework integrates the identification, review and optimisation of talent to identify a Necsa talent pipeline, facilitate succession planning and ensure development of talented employees.

This integration has helped in attaining the following objectives:

- Building a sustainable organisation with the right skills and capabilities to execute the Necsa strategy and to respond to potential growth opportunities.
- Providing a common methodology across the Necsa Group to assess and review talent.
- Developing an understanding of the capabilities and potential of our talent at all organisational levels to enable systematic succession planning.
- An annual review of the health of talent pipelines against current and future business requirements. This is to ensure adequate succession availability for key roles and to inform any potential retention strategies of these roles.
- Proactively identifying gaps in the supply and development of critical talent, including action planning and execution to address major risks.
- Integrating with other people procedures such as the performance management process to build capability to ensure succession intelligence.

Remuneration

Necsa treats remuneration as a strategic tool through which it competes for talent while at the same time aligning its staff to the organisational culture of promoting and rewarding high performance, thereby ensuring sustainability of the business. Necsa pays all its employees a guaranteed package based on total cost-to-company principles. The remuneration practice of the organisation is in line with the guidelines of the Department of Public Services and Administration for state-owned enterprises.

Necsa therefore sees it as a business imperative to maintain fair and competitive remuneration consistent with sector practices and all necessary regulations and the collective bargaining agreement governing employees. Since the organisation is highly unionised, salary adjustment of employees falling within the bargaining unit is determined through collective bargaining while that of senior management and executives falls within the purview of the Human Resources, Social and Ethics Committee.

Adjustments to the remuneration of executive directors are recommended by the Human Resources, Social and Ethics Committee and are approved by the Board of Directors. Directors' emoluments are disclosed under Note 40 in the financial statements.

Employee Wellness Programmes

Necsa's employee wellness programme contributed to the physical, emotional and psychological wellbeing of employees and their immediate family members during the period under review. One hundred and fifty-two employees from Necsa Group participated in the programme through referrals initiated by employees themselves (self-referrals), line management, Human Resources division or Necsa medical services. The programme rendered 218 services and sessions. The two most prevalent psychosocial problems during 2022/23 were personal relationship issues and trauma. The programme concentrated on supporting employee wellbeing associated with the rationalisation process through counselling and participation in the change management implementation committee and as a change agent.

Employment Statistics

Personnel cost by programme

PROGRAMME	Personnel Expenditure	Number of Employees	Average Personnel Cost per Employee
Financial Capital and Corporate Items	R37 447 161	64	R585 112
Research and Innovation	R81 189 386	91	R892 191
Power and Industry, NTP, Pelchem, Ketlaphela	R270 392 711	509	R531 223
Strategy and Business Enablement, Nuclear Operations and Advanced Manufacturing, Office of the GCEO	R489 753 788	935	R523 801
Human Capital	R50 428 152	88	R573 047
TOTAL	**R929 211 198**	**1 687**	**R960 170**

Personnel cost by salary band

LEVEL	Personnel Expenditure	% of Personnel Expenditure to Total Personnel Cost	Number of Employees	Average Personnel Cost per Employee
Top management	R15 594 700	1.67%	8	R1 949 337
Senior management	R85 024 676	9.15%	50	R1 700 494
Professionally qualified	R272 871 227	29.37%	261	R1 045 484
Skilled	R384 433 964	41.38%	702	R547 627
Semi-skilled	R147 281 927	15.85%	507	R290 497
Unskilled	R24 004 704	2.58%	159	R150 973
TOTAL	**R929 211 197**	**100%**	**1 687**	**R5 684 412**

Training costs

PROGRAMME	Personnel Expenditure (R'000)	Training Expenditure (R'000)	Training Expenditure as a % of Personnel Cost	Number of Employees Trained	Average Training Cost per Employee
Financial Recovery and Sustainability	R39 683	R0 122	0.3%	15	R8 113
Research and Innovation	R91 327	R1 825	2.%	6	R304 167
Profitable Commercial Enterprises	R290 468	R2 518	0.9%	396	R6 559
Business Continuity and Efficiency	R554 244	R2 055	0.4%	93	R22 097
Talent Excellence and High-performance Culture	R55 218	R1 660	3%	7	R228 571

Employment and vacancies

PROGRAMME	2022/23 Number of Employees	2022/23 Approved Posts	2022/23 Vacancies	% of Vacancies
Financial Recovery and Sustainability	64	99	35	35.35%
Research and Innovation	91	100	9	9%
Profitable Commercial Enterprises	509	509	-	-
Business Continuity and Efficiency	935	1 032	97	9.40%
Talent Excellence and High-performance Culture	88	110	22	20%

Employment and vacancies per salary band

LEVEL	2022/23 Number of Employees	2022/23 Approved Posts	2022/23 Vacancies	% of Vacancies
Top management	8	8	-	-
Senior management	50	57	7	4.29%
Professionally qualified	261	315	54	33.13%
Skilled	702	763	61	37.42%
Semi-skilled	507	543	36	22.09%
Unskilled	159	164	5	3.07%
TOTAL	**1 687**	**1 850**	**163**	**100**

Employment changes

SALARY BAND	Employment at the Beginning of Period	Appointments	Terminations	Employment at End of the Period
Top management	8	1	1	8
Senior management	49	2	1	50
Professionally qualified	286	5	30	261
Skilled	719	10	27	702
Semi-skilled	527	4	24	507
Unskilled	170	-	11	159
TOTAL	**1 759**	**22**	**94**	**1 687**

Equity target and employment equity status

♂ MALE	AFRICAN		COLOURED		INDIAN		WHITE	
LEVELS	Current	Target	Current	Target	Current	Target	Current	Target
Top management	4	4	-	-	2	2	-	-
Senior management	17	17	1	1	2	2	14	5
Professionally qualified	102	105	4	5	12	7	54	28
Skilled	258	319	13	20	3	5	132	123
Semi-skilled	298	239	16	11	1	1	29	13
Unskilled	67	77	-	-	-	-	-	1
TOTAL	**746**	**761**	**34**	**37**	**20**	**17**	**229**	**170**

♀ FEMALE	AFRICAN		COLOURED		INDIAN		WHITE	
LEVELS	Current	Target	Current	Target	Current	Target	Current	Target
Top management	2	2	-	-	-	-	-	-
Senior management	13	14	-	1	-	1	3	1
Professionally qualified	48	96	2	12	7	12	32	34
Skilled	209	297	8	13	11	10	68	79
Semi-skilled	139	103	6	7	1	1	17	12
Unskilled	90	104	-	6	-	-	2	2
TOTAL	**501**	**616**	**16**	**39**	**19**	**24**	**122**	**128**

DISABLED	♂		♀	
LEVELS	Current	Target	Current	Target
Top management	-	-	-	-
Senior management	1	1	-	-
Professionally qualified	1	5	1	1
Skilled	4	7	2	5
Semi-skilled	7	7	2	2
Unskilled	-	-	-	-
TOTAL	**13**	**20**	**5**	**8**

Staff Development

Technical skills training

The NLA continues to fulfil its mandate in response to the national youth development imperative to ensure that skills imparted to unemployed youth ensure that they are employable. The apprenticeship programme trained 85 candidates and short courses/skills programmes were offered to nine youth in the reporting year. NLA entered into a strategic partnership for programmes to develop and qualify unemployed youth as artisans with the Tshwane University of Technology.

The artisan development programme with Gauteng Technical Manufacturing Initiative is ongoing with one learner still having to qualify. Forty-nine other candidates were trade tested and qualified.

Trade test centre

The trade test centre continued to offer trade testing and associated services. Preassessments for artisan recognition of prior learning were offered to 60 candidates, gap training to 52 candidates, trade test preparation to 165 candidates and trade testing to 254 candidates.

Human Capital Development

Programme in Leadership Development for Executive Managers

Leadership excellence is one of the main key drivers of business performance. As with any other intervention, leadership development must be aligned with the strategic imperatives of the organisation and human resources systems if benefit is to be derived from the initiative. To this end, the leadership development programme for executive managers was implemented during this financial year at a cost of R330 000.

Leadership development programme for executive managers

AFRICAN		COLOURED		INDIAN		WHITE	
♂	♀	♂	♀	♂	♀	♂	♀
5	6	-	-	2	-	-	-
11		**-**		**2**		**-**	

Adult Education and Training

Adult education and training started in February 2022 with level 2, 3 and 4. Eighteen Necsa Group employees attended the learnership as per the table below:

AET Training

DISCIPLINE	GENDER ♂	GENDER ♀	RACE A	RACE C	RACE I	RACE W	TOTAL	Total Amount
Adult education and training	7	11	18	-	-	-	18	R90 000
Total	**7**	**11**	**18**	**-**	**-**	**-**	**18**	**R90 000**

Learnership Programmes

	EMPLOYED/ UNEMPLOYED	GENDER ♂	GENDER ♀	RACE A	RACE C	RACE I	RACE W	TOTAL	Total Amount
1. Certificate in Generic Management NQF Level 4	Employed	0	20	18	0	1	1	20	R 295 000
2. NC in Generic Management Learnership – NQF Level 5	Employed	9	31	33	1	2	4	40	R 673 000
3. NC in Public Administration – NQF Level 5	Employed	4	6	10	0	0	0	10	R 180 000
4. ND in Public Administration – NQF Level 6	Employed	10	10	19	0	0	1	20	R 360 000
5. Security Learnership	Unemployed	4	4	8	0	0	0	8	R144 000
6. Certificate in Generic Management NQF Level 4	Unemployed	5	13	17	1	0	0	18	R432 000

Study Assistance Scheme

A total of R357 780.81 was spent on the Study Assistance Scheme in the reporting period to enable 19 Necsa Group employees to obtain qualifications at institutions of higher learning throughout South Africa.

Study Assistance Scheme

DISCIPLINE	AFRICAN		COLOURED		INDIAN		WHITE		Total Amount
	♂	♀	♂	♀	♂	♀	♂	♀	
BA	1	2	-	-	-	-	-	-	R102 898
BCom	2	1	-	-	-	-	-	-	R50 181
BTech	-	1	-	-	-	-	-	-	R4 784
BSc	-	1	-	-	-	-	-	-	R3 246
LLB	-	1	-	-	-	-	-	-	R14 599
National diploma	2	5	-	-	-	-	-	-	R96 038
PhD	1	1	-	-	-	-	-	1	R86 035
Total	**6**	**12**	**-**	**-**	**-**	**-**	**-**	**1**	**R357 780**

Training Interventions

From April 2022 to end-March 2023, R510 161 was spent on 110 training interventions.

Number of training interventions

AFRICAN		COLOURED		INDIAN		WHITE	
♂	♀	♂	♀	♂	♀	♂	♀
40	50	3	1	4	1	7	4
90		**4**		**5**		**11**	

Statutory Training

Statutory training interventions

COURSE	AFRICAN ♂	AFRICAN ♀	COLOURED ♂	COLOURED ♀	INDIAN ♂	INDIAN ♀	WHITE ♂	WHITE ♀	Total Amount
Chemical worker full course	37	49	1	-	0	0	2	2	R100 270
Chemical worker exam	123	64	3	2	2	1	50	17	R115 186
Confined spaces full course	5	4	-	-	-	-	1	-	R7 513
Confined spaces exam	13	1	5	1	-	-	3	-	R9 539
Decontamination worker full course	2	4	-	-	-	-	-	-	R4 508
Decontamination worker exam	22	11	1	-	-	-	4	3	R18 025
Noise worker Full course	26	38	1	-	-	-	-	-	R48 833
Noise worker Exam	209	61	22	4	2	-	99	13	R180 252
Orientation	230	120	19	8	6	1	55	8	R335 822
Radiation worker full course	42	54	1	-	-	-	2	2	R104 990
Radiation worker exam	127	70	15	2	2	1	63	18	R131 013
Work permit Full course	21	6	1	-	-	-	3	-	R23 290
Work permit Exam	8	2	1	-	-	-	11	1	R10 112
TOTAL	**865**	**484**	**70**	**17**	**12**	**3**	**293**	**64**	**R1 079 241**

Knowledge Management

A key process within the division is the undertaking of knowledge loss risk assessments throughout Necsa to assess the risks associated with the loss of knowledge of certain key and critical roles. Line managers are alerted to high risks of loss so that they can take action, which should include development and implementation of knowledge retention plans. These plans outline the knowledge at risk, identify successors and require timeliness for transfer of knowledge to successors.

Management is also required to complete an extensive tacit knowledge questionnaire in all instances of high risks of loss of knowledge. This codifies tacit knowledge not existing in procedures and work instructions.

Library Services

The function manages the Necsa Group library and all the associated processes. It also serves as a point of liaison for fraternal organisations such as the national library and university libraries and enters into inter-library loans with these bodies.

The Necsa Group library also serves as the central distribution hub for news articles such as nuclear, engineering and scientific articles. The chief librarian is the designated International Nuclear Information System liaison officer for South Africa at the IAEA with the responsibilities of updating the system with relevant nuclear information emanating from this country.

NLA continues to fulfil its mandate in response to the national youth development imperative to ensure that skills imparted to unemployed youth makes them employable.

The division is in great alignment with Business Continuity and Efficiency organisational value, driving delivery of a strong integrated management system with with excellence, efficiency of operations as strategic pillars."

STRATEGY AND BUSINESS ENABLEMENT

Qhamkile Boyede
Group Executive: Strategy and Business Enablement

Strategy and Business Enablement division's mandate is to formulate the strategy for the Group and ensure its implementation through evaluation and monitoring processes. In addition, there's a strong focus on enabling the environment for successful execution of goals through the Compliance (includes SHEQ, Licensing and Safeguards), Legal, Security, Information Technology (IT), Business Development, Corporate Communications, Branding and Stakeholder Relations and Strategy, Productivity and Performance (SPP).

Business Continuity and Efficiency

In alignment mainly with the strategic pillar of Business Continuity and Efficiency, SBE is expected to deliver on the strategic objectives of a strong Integrated Management System (IMS) with excellence, effectiveness and efficiency of operations as central pillars. In addition, a strong safety culture with good adherence to the Safety, Health, Environment and Quality (SHEQ) system, strong conformance to all nuclear facility licensing conditions, a well-entrenched governance system and good strategic support for core commercial areas by all support services.

SHEQ System Migrating towards Integrated Management System (IMS)

Internal Necsa performance criteria are documented in the SHEQ system. The Necsa SHEQ system forms the basis for process based licensing of Necsa by the NNR. The SHEQ system aligns to the requirements of ISO 9001, 14001 and 45001. It is a comprehensive, integrated set of procedures prescribing Necsa's SHEQ management processes, including safety, health, environment and quality.

Necsa senior management conducts an annual review of the SHEQ system. Management in their areas of responsibility review the implementation of the relevant parts of the SHEQ system. Projects are screened to ensure that those that have SHE consequences are formally approved. Project requirements for SHE approval are established at the initiating phase of any project. These requirements are met before project approval is granted.

Necsa is moving towards a strong integrated management system, which derived from the regulatory ambit relevant to our business, and this is cascaded to policies, SHEQ documentation, procedures, to the level of work instructions.

Necsa uses Suitable Qualified and Experienced Personnel (SQEP) to manage and oversee its environmental management responsibilities. The potential for environmental events is considered during process design, risk assessment and emergency planning. Failures (events) are reported, categorized and investigated according to Necsa SHEQ system. Corrective and preventive actions are implemented before events are closed out.

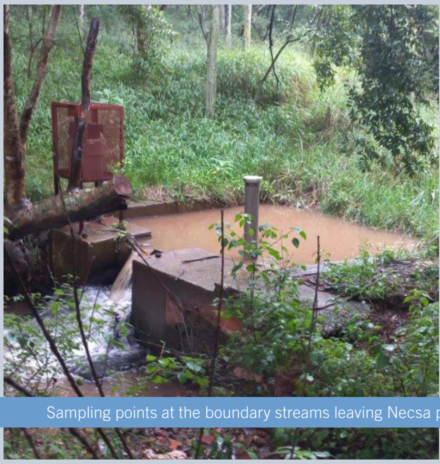
Environmental Management System (EMS)

Measurement indicators to evaluate the achievement of objectives and targets are reviewed annually to limit (minimize) and continually assess Necsa's sustainability and any impact on the workplace and the environment and to revise objectives where not achievable. An integrated approach is followed to environmental objectives and targets and the ALARA principle is always applied. The environmental management plans and management programmes of Necsa are implemented through the SHEQ Environmental Management System (EMS) processes.

Necsa has established a comprehensive system to monitor the workplace and extended environmental impact of radiological, chemical and other aspects of operations, to ensure that set objectives and targets are met and reported. Waste (solid, gaseous and liquid effluent) is monitored to ensure that releases are within

Environmental management system

Borehole sampling on Pelindaba site.



Sampling points at the boundary streams leaving Necsa property. Measuring water quality and volume leaving the site.

System and managers review implementation in their areas.

limits set by the relevant regulators (e.g. Department of Fisheries, Forestry and the Environment (DFFE), Department of Water and Sanitation (DWS) and National Nuclear Regulator (NNR). Radiological dose impact is determined to ensure that it remains ALARA and within limits. Streams, river water (both up and down stream), soil, air contamination, fish, invertebrates, etc. are monitored to obtain a comprehensive footprint of Necsa's impact on the environment. Results are reported to the relevant authorities in accordance with agreed schedules. Necsa reports and manages any non-compliance in accordance with the compliance assurance process.

Social Capital in relation to Environment Management

Necsa promotes open communication on SHE activities, as information is available on request to interested parties and the public:


Warthog with her piglets on Necsa site.

- Disclosing all related incidents and information at regular community forum meetings (PSIF);
- Quarterly PSIF meeting were held as required by the NNR act.
- Interacting timeously with authorities and the public regarding SHE matters; and
- Promoting awareness among staff, contractors, suppliers, lessees, clients and the community.

Environmental

Necsa's environmental policy is combined with its safety and health policy in an integrated safety, health and environment policy, which includes the principle of sustainability. The policy states that:

'Management and employees of Necsa are committed to providing a safe and healthy environment for employees, visitors and the public and to manage the environmental impacts of their nuclear, chemical and related activities, products and services. Management has a leadership role in the communication and implementation of, and ensuring compliance with, SHEQ policies and standards.'

Necsa also strives to prevent pollution of soil, water and air by eliminating or minimizing waste, effluent and emissions. Conservation of fauna and flora includes ensuring that provision is made for their sustenance. This includes the provision of salt licks among other nutritional requirements as well as veterinary services. Necsa strives and adheres to nature conservation through control of invasive and indigenous plants.

A comprehensive Environmental Monitoring Programme is in place to meet the requirements of the Air Quality Act, the Nuclear Energy Act, the National Environmental Management Act and the National Water Act. Resource usage, waste generation, and impacts on media and ecology are monitored and illustrated in the following sections:

Conservation

Necsa also strives to prevent pollution of soil, water and air by eliminating or minimizing waste, effluent and emissions. Conservation of fauna and flora includes ensuring that provision is made for their sustenance. This includes the provision of salt licks among other nutritional requirements as well as veterinary services. Necsa strives and adheres to nature conservation through control of invasive and indigenous plants.

Dose

Necsa continually strives to improve the safety, health and environment management system and performance by keeping exposure to radiation as low as reasonably achievable. The public dose for the calendar year 2022 was 1.6% (0.0040 mSv) of the annual public dose constraint (0.250 mSv), which was consistent with that of previous years. The dose data show there is no significant dose impact on the environment due to Necsa's activities.

Necsa is also actively reducing the number of safety-, health- and environment related incidents and public concerns. No environmental nuclear occurrences related to environmental monitoring were reported to the NNR during the period 1 April 2022 to 31 March 2023. The Environmental Monitoring Programme at Vaalputs was in full compliance with sample reporting levels and no environmental nuclear occurrences were registered.

Pelindaba modelled dose to the public (mSv/a)

	2020 Calendar Year mSv	2021 Calendar Year mSv	2022 Calendar Year mSv
Liquid to Crocodile River	0.0029	0.0029	0.0025
Gaseous releases	0.0008	0.0014	0.0015
Total	0.0036	0.0043	0.0040
% of the annual public dose constraint (0.250 mSv)	1.46%	1.71 %	1.60 %

Emissions

Pelchem operates under the Atmospheric Emission Licence number: BPDM/AEL/OCTOBER2020. Quarterly and annual air emissions are reported to the Bojanala Platinum District Municipality. The total fluoride emissions for the January 2022 to December 2022 period amounted to 1 307kg, which was 896kg lower than the 2 203kg of 2021. The monthly site limit was not exceeded during the year. Total fluoride emissions for the reporting period were 7.4% of the annual air emission licence constraint of 17 696kg/year.

Compliance with Water Permit Requirements

Compliance is measured against the current water permit (Permit No. 1874B).

The total water consumption was 68.5%, which is a decrease compared to 74% of our permit value in the previous reporting period. Necsa did not consume River Water during 2021/2022 water year. This was due to low river water levels as well as the purification plant that was not operational due to pumps damages due to sludge from the river as well as the degraded water quality of the river water. Borehole water was not used due to high maintenance cost on borehole.

All water leaks were addressed within reasonable periods given, depending on its severity.

The following table reflects the water consumption for the period October 2021 to September 2022.

Water consumption for period October 2021 to September 2022

Resource	Amount used (m^3)	Permitted amount (m^3)	Percentage of Permitted Amount	% change year on year
Rand water	856 027	400 000	214.0	-7.2
River water	-	840 000	-	-
Borehole	-	9 490	-	-
Total	**856 027**	**1 249 490**	**68,5**	**-7.2**

The Liquid Effluent Generated for the period October 2021 to September 2022 (water year) was 34.5% of the permitted amount. This was a decrease of 13% year on year.

The following table reflects the effluent generated from October 2021 to September 2022 (water year).

Liquid effluent generated for period October 2021 to September 2022

Effluent Destination	Volume (m^3)	Water Permit Limit (m^3)	Percentage of Permitted (%)
Crocodile River	100 469	250 000	40.19
PE pans 1-5	-	19 000	-
PE pan 6	-	8 500	-
PE pan 9	1 542	15 000	10.28
PE pan 7	-	4 500	-
PE pan 8	772	4 500	17.16
CaF_2	-	941	-
Total	**102 783**	**297 000**	**34.50**

Necsa complied with the current water permit (Permit No. 1874B) during the mentioned water year. The effluent released into the Crocodile River is well below the water permit limits.

Discharges of industrial effluent and low active effluent to the Crocodile River October 2021 to September 2022

	Q4 (2021) Oct-Dec LE-REP-0718	Q1 (2022) Jan-March LE-REP-0728	Q2 (2022) Apr-Jun LE-REP-0738	Q3 (2022) Jul-Sept LE-REP-0751	Year to date Oct 2021-Sept 2022
Industrial effluent (m^3)	21 599	24 015	27 938	23 944	97 496
Low active effluent (m^3)	1 012	641	630	686	2 969
Total effluent discharged to Crocodile River (m^3)	22 611	24 656	28 572	24 630	100 469
Dose impact (mSv)*	0.0006339	0.000580	0.000679	0.000677	0.0025699

*Authorised dose impact = 0.150 mSv per annum; ≈ 0.0375 mSv per quarter (0.0125 mSv per month)

In using environmental assets, compressed air is produced by drawing ambient air from the environment into the air compressors, after which the compressed air is distributed throughout the site for powering air tools and equipment as well as valves.

In August 2022, the Necsa Board of Directors Chairperson approved the Energy Management System Policy, which will facilitate a system to ensure energy is used effectively and efficiently to continually improve Necsa's energy performance.

Safety, Health, Environment and Quality

Necsa Emergency Services

Necsa's emergency services serve Pelindaba and nearby communities.

Response to emergency calls

	Necsa	Community
Number of vehicle accidents	4	22
Number of patients transported during vehicle accidents	-	7
Animal-related vehicle accidents	1	-
Ambulance calls	37	43
Number of patients transported during ambulance calls	22	24

Due to Necsa having Nuclear Installations and Major Hazard Installation, a comprehensive emergency preparedness and response process in implemented. The 4 pillars of emergency response are comprehensive Emergency Plans, competent functionaries, appropriate equipment and exercises. Six (6) Emergency Exercises were planned and executed during the year in order to test the effectiveness of plans and to train functionaries. Minor deficiencies were identified and an action plans to correct the deficiencies were compiled and executed. One of the exercises were a joint Emergency and Security exercise with the South African Police.

Medical Services

Occupationally exposed workers (chemical, laser, noise and radiation workers) are subjected to regular, formal medical surveillance and healthcare programme. A total of 1 352 medical assessments and surveys was conducted during the financial year.

Compliance

Compliance with Nuclear Licences and Permit Requirements

Compliance categories

Provision of regulatory and licensing support functions are executed via the Compliance department. It obtains and maintains authorisations, permits and licences for all Necsa Group facilities. It also develops and maintains the integrated management system and provides specialist support to operational facilities for the health and safety of the employees, site users, the public and the environment. Further, it ensures compliance to legal requirements and industry best practices, and oversees compliance assurance functions through implementation of an inspection and audit event management programmes.

No major events/incidents related to environmental, public or workers' exposure occurred during the reporting period. Necsa embarked on a programme to improve the analyses and trending of safety, health and environment non-conformities and the quality of event investigations in order to minimise the occurrence of non-conformities and to prevent accidents and incidents.

The Compliance department is also mandated to discharge national safeguards as the national authority on safeguards implementation and application by implementing systems and processes to ensure that there is no diversion of nuclear material from peaceful nuclear activities and to assure the absence of undeclared nuclear material or activities in the state. This mandate is implemented through ad hoc, routine compliance inspections.

To increase efficiencies and service excellence the department is also responsible for providing SHEQ and radiation protection services to the facilities through the centre-led functions.

Other tasks include:

- National Nuclear Disaster Management Plan. IAEA convention for :
  - Early notification of nuclear/radiological emergences
  - Request for assistance
- Manual: Joint management of incidents involving chemical or biological agents or radio-active materials
- Comprehensive Nuclear-Test-Ban Treaty
  - Establishment of radionuclide monitoring station (RN62).

Necsa Group continues to ensure compliance to statutory requirements and continuous improvement of SHEQ management system implementation through effective monitoring and controls.

Compliance Assurance

The current mandate of the Compliance Assurance Enforcement function is derived from the National Nuclear Regulatory Act 46 of 1999, which, through paragraph 26(2), requires that the holder of a nuclear installation implement an inspection programme to ensure compliance with all conditions of the nuclear authorisation. The conditions of authorisation are incorporated into the SHEQ integrated management system with other regulations and legislation applicable to the Necsa Group, such as the Occupational Health and Safety Act, 85 of 1993 and the process-based licence.

Necsa has implemented the requirement for inspection through a three-tiered approach, with the first tier being self-inspection by each facility, the second inspection by the Necsa Compliance Assurance Enforcement function and SHEQ audits. The last tier comprises inspections and audits by external bodies such as NNR, the South African Bureau of Standards and customers. The Compliance Assurance Enforcement function and SHEQ audits augment each other. During 2022/23, 25 inspections and 47 audits were conducted with areas of improvements identified and corrective action plans implemented.

Licensing

Licensing capacity building with the emphasis on training of specialists has been an area of focus to provide licensing support for all Necsa facilities and specifically strategic projects. The management of the priority and commitment list required interventions between the NNR and Necsa to improve the turnaround time of licensing submissions, which had an adverse impact on the rate of authorisations for critical operations.

Necsa is currently the licence holder of 41 nuclear installation licenses issued by the NNR. The NNR issued new variations of 24 licences in the past financial year, amended in line with improved industry standards and to expand on or clarify existing licensing conditions. Amendment of the other licences will continue.

Safeguards and Nuclear Non-Proliferation

Safeguards and nuclear non-proliferation activities were performed on behalf of the South African government, according to DMRE-delegated functions under the Nuclear Energy Act to meet the obligations of the Comprehensive Safeguards Agreement and its protocols signed in 1991 and 2002 respectively between South Africa and the IAEA. This is required by the Nuclear Non-Proliferation Treaty, to which South Africa acceded in 1991.

Inspection Activities

All inspections carried out during the reporting period met the IAEA safeguard requirements and were conclusive. Integrated safeguards and state-level safeguards have been in place in South Africa since 2015. The IAEA 2022 safeguards implementation report again confirmed that South Africa's nuclear facilities and materials remain in peaceful use.

This conclusion confirms South Africa's strong commitment towards non-proliferation and its ability to use nuclear energy and technology to contribute to socio-economic development. Furthermore, it reiterates South Africa's continued strong cooperation with the IAEA. The country also remains committed to strengthening the verification regime, a commitment that is reflected in its continued participation in member state support programmes and in the voluntary reporting scheme on nuclear material exports.

Additional Protocol

The annual additional protocol declarations were submitted to the IAEA as required in May 2022 and were accepted as satisfactory.

Various uranium concentration plants, mines and organisations related to nuclear fuel cycle activities were examined to ensure compliance.

Safeguards officials participated at international and national workshops to further enhance nuclear safeguards effectiveness and implementation measures in South Africa.

Remote Monitoring System

The remote monitoring systems installed at key facilities in the country by the IAEA functioned well over the period, with minor reported downtime resolved with the agency.

Non-destructive Assay

The final hot commissioning report of the high-activity active well coincidence counter for characterisation of irradiated nuclear material was received in March 2022 from Oakridge National Laboratory. The report was further reviewed and received in September 2022.

Bilateral Meeting

The annual safeguards implementation bilateral meeting between the IAEA and South Africa was held on 6 and 7 April 2022 at Necsa. Officials from IAEA, DMRE. Necsa and the Department of International Relations and Cooperation attended.

Legal Services

During the year, the Legal Services division ensured that Necsa operated within the regulatory framework anchored mainly by the Nuclear Energy Act, NNR Act and more than 200 regulations and legislations, including intellectual property management and protection.

The mandate of this department is to render a general commercial legal advisory services to Necsa Group and all subsidiaries and to ensure that all comply with corporate governance and legislative or regulatory requirements.

Security

The Security Services department implements and ensures compliance to security measures at Necsa's sites. Security measures are implemented on a graded approach with sufficient defence in depth at each facility based on IAEA facility categorisation guidelines combined with the current design basis threat. In accordance with international best practices, security is achieved through implementation of security measures applying the defence-in-depth principle. This varies per facility based on its risk profile to prevent unauthorised removal of assets such as nuclear material and/or potential sabotage. As a national key point in terms of the National Key Points Act (Act 102 of 1980), Necsa is evaluated annually to determine effectiveness of implementation of requirements.

Necsa security personnel with their shooting competition trophies.

Information Technology (IT)

The IT function at Necsa is provided through systems and information management based in the Strategy and Business Enablement division. The year under review was dominated by activities related to the wide rationalisation and restructuring process, which has consolidated all IT components and functions across Necsa and its subsidiaries.

Group IT Governance and Information Security

A group-wide IT Steering Committee was established to align and promote effective IT governance and management, enable business and enable business. In the last financial year, the IT department sustained the company's safe operations, which were predominately performed under new conditions of a hybrid work/office environment. This was an incident-free year with no major security incidents that had a negative impact on business. IT has also implemented the prescripts of the PoPI Act.

Performance and IT Projects

There were no major service interruptions across the group. The average service level agreement target of 99% for infrastructure and applications was achieved.

During the year, the financial system, network and service infrastructure were upgraded.

The Auditor-General conducted the annual audit on general computer controls. There were no material findings.

Deriving Value through Social Relationships Capital

The Corporate Communication, Branding and Stakeholder Relations department is a custodian mainly of the social and relationship capital, which is executed across various areas of the organisation. Necsa maintains stakeholder relations with various institutes and communities locally and globally to manage various interests and issues of myriad stakeholders to ensure sustainability of business operations.

This is also seen in section 11 of this report, in which the stakeholder wheel is depicted with a list of all the key engagements Necsa had in the year under review.

Strategy, Productivity and Performance

The Strategy, Productivity and Performance department ensures formulation of the strategy for the Group while considering macro-environmental contexts and shifts in the nuclear industry as well as adjacent activities to Necsa's core business to ensure that Necsa has a medium- to long-term sustainable strategy. The department is also expected to ensure that the strategy is implementable and implemented, while monitoring progress against strategic goals. In addition, it conducts strategic reviews from Board to divisional level.

In the year under review, it oversaw attainment of contracted targets set as performance indicators and in the shareholder's compact with the DMRE and the corporate plan through performance reports. Measures are monitored and evaluated and the department accounts to the Board, DMRE, National Treasury and Parliament in accordance with section 92 of the Constitution. Information is collated and reported monthly to the Executive Committee and quarterly to the Board as well as reported to external stakeholders. These are internally assured by Integrated Assurance and by AGSA.

As part of process improvements in the year under review, the department enhanced its methodology of measuring key performance indicators whether achieved or not achieved.

Business Development and Technology Commercialisation

As part of the Strategy and Business Enablement division, Business Development and Technology Commercialisation is mandated to promote sustainable revenue growth through identification, screening, evaluation, prioritisation and development of new market pull and push opportunities; forging of strategic partnerships to exploit complementary capabilities for market-oriented opportunities, and facilitation of fundraising for technology development and commercial opportunities.

Opportunities with High Market Potential

Necsa continues to leverage its technological innovation capabilities to pursue opportunities with high market potential. Various market-pull technologies have been advanced from proof-of-concept to higher levels of readiness for commercialisation. Some of these are summarised on the following page.

Mining Shroud Detection Technology

Necsa has patented a technology based on gamma emission sources for the detection of broken or loose mining shovel shrouds in opencast mines. It has better detection capabilities than traditional detection technologies such as radiofrequency detection. Broken shovel shrouds have a potential to damage ore crusher, leading to costly production downtime and safety risks associated with the shroud potentially being ejected from the crusher.

Necsa has secured the full funding requirement of R17m to develop its patented technology from a bench-scale to a pilot and full-scale implementation. This funding comprises R7m from Necsa's subsidiary NTP Radioisotopes SOC (which has secured rights for the manufacturing of sealed radioactive sources) and R10m from TIA. A pilot test system is expected to be completed in 2025, before the technology can be rolled out to the mines.

Neodymium Difluoride Production (NdF3)

As part of South Africa's minerals beneficiation aspirations, Necsa has patented a cost-effective and environment-friendly process for converting neodymium oxide to neodymium fluoride using the company's fluorination research capabilities. Neodynium fluoride is used mainly in the manufacture of permanent magnets in many commercial applications.

Necsa, in its efforts to support local small, medium and micro enterprises, and strengthen local manufacturing capabilities, has collaborated with a private entity, Rare Earth Refinery, which has since secured funding from TIA and built a 70 ton-a-year pilot plant. The plant has demonstrated capability to produce NdF3 and some optimisation work will be undertaken to develop the product for market acceptance before market entry at a minimum economically viable capacity of 70 tons a year.

Gallium-68 PSMA 11 Diagnostic Kit for Prostate Cancer

Ga-68 PSMA-11 is currently the only commercially available positron emission tomography-based nuclear medicine diagnostic tool for prostate cancer in the market. Necsa has developed a more cost-effective kit, currently undergoing the last phase of development before transferring the technology to NTP for production under current good manufacturing practice. The project is co-funded by NTP. In principle, offtake undertakings have been secured with Steve Biko Academic Hospital to provide a market acceptance test case for the improved diagnostic kit.

"Safe, efficient and optimal operations of nuclear installation sites at Pelindaba site anchors key objectives of this division."

NUCLEAR OPERATIONS AND ADVANCED MANUFACTURING

Ayanda Myoli
Group Executive: Nuclear Operations and Advanced Manufacturing

NUCLEAR OPERATIONS AND ADVANCED MANUFACTURING

Nuclear Operations and Advanced Manufacturing is a division that has been newly formed at the start of 2022. Its mandate is to operate nuclear facilities on the Necsa site related to irradiation services, waste management, laboratory services and advanced (nuclear) manufacturing, as well as provide engineering, maintenance, facilities management and project management services in a financially sustainable manner. These services are provided internally across the Necsa group to support production facilities and site tenants, but externally to drive external revenue generation and growth of the Necsa Group.

The division receives a government grant for some of its activities, while most operations that are part of the medical radioisotopes production supply chain are funded by NTP. One of the key facilities is the SAFARI-1 reactor, which is a forerunner to the MPR expected to be commissioned around 2030. The MPR project is one of the most important projects managed by the division. The division plays a key and substantial role in supporting the Necsa Group to grow and become financially sustainable. Two of the key areas, which continued to have important interventions for financial turnaround, were advanced manufacturing and laboratories. The former holds the ASME III certification, which allows Necsa to design, manufacture and supply nuclear-grade components.

The upgrade and in some cases replacement of ageing site infrastructure is key to supporting the division's activities and objectives. Adequate human and financial resources are also enablers for the successful execution of the division's mandate. Several projects and strategic interventions have been undertaken to achieve this in alignment with the five strategic pillars for the growth of the organisation.

Analytical and Calibration Services

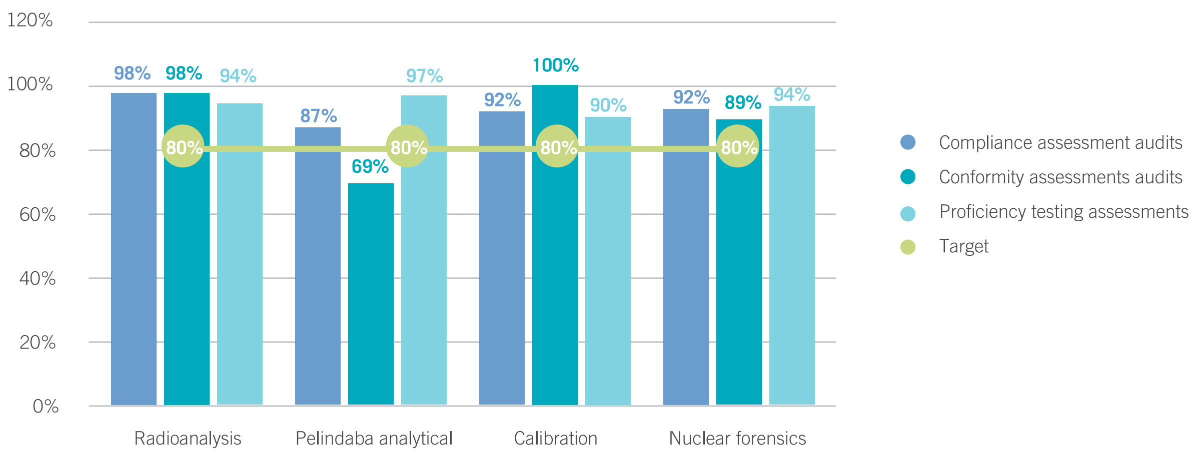
Necsa Laboratory Services

Necsa Laboratory Services' main function is to provide third-party quality assurance of products and services produced for markets of interest as well as verification of compliance to regulatory requirements on behalf of its customers. The operation runs four state-of-the-art laboratories, namely radioanalysis, Pelindaba analytical, calibration and Nuclear Forensics laboratories using proven technologies and experienced scientist and technicians. They are supported by a Marketing and Development Support Business Unit.

Quality Accreditations

Annual internal and external assessment audits were conducted for the chemical, radioanalytical and calibration laboratories during the reporting period. The purpose was to verify compliance with standards and legislation to retain accreditation. All three laboratories met 80% of requirements, as detailed on the following page:

CONFORMITY AND COMPLIANCE ASSESSMENTS

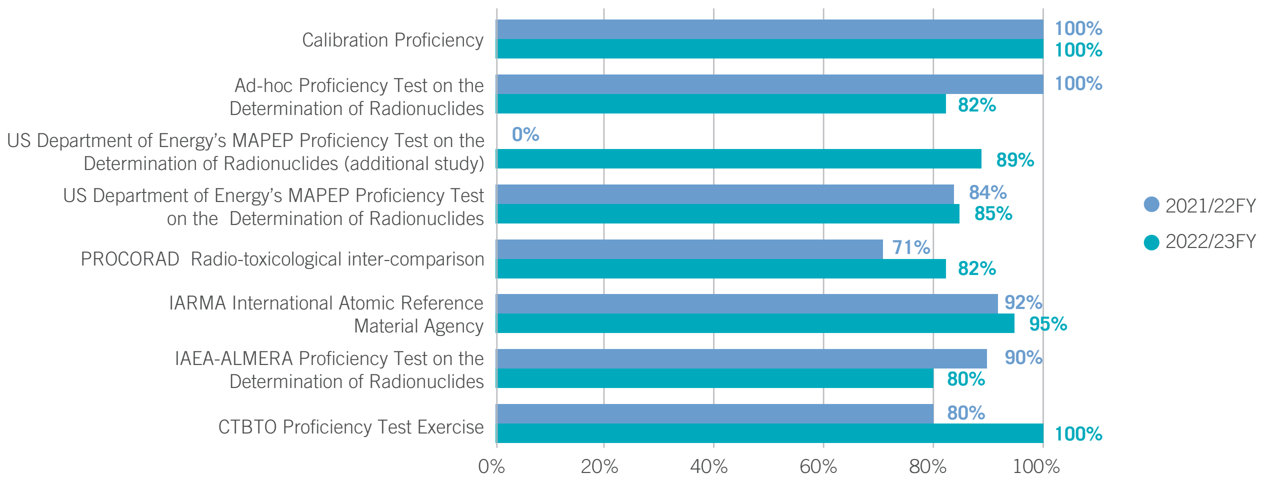


Conformity and compliance assessment audits

Proficiency Tests

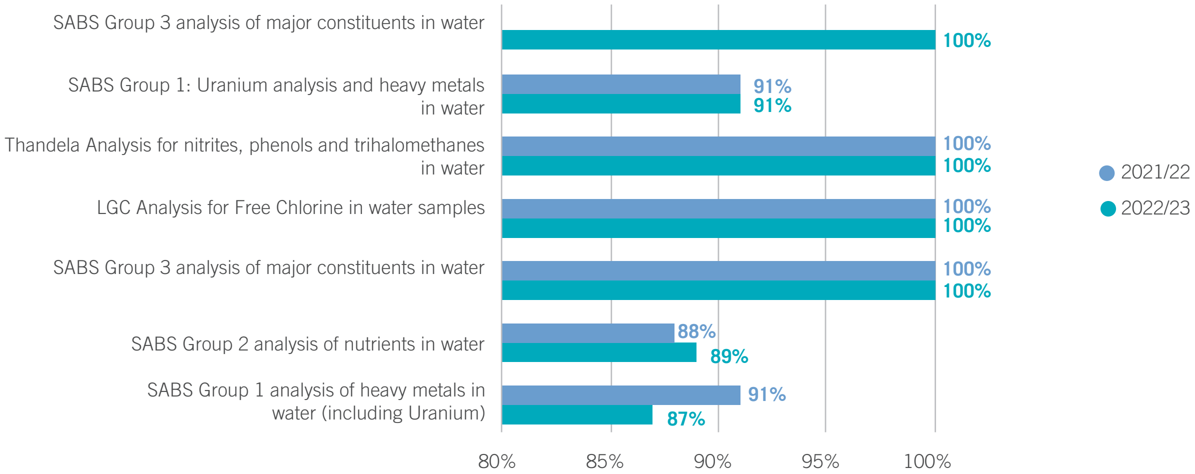
The laboratories participated in various annual international and national proficiency test schemes as part of the requirement to retain South African National Accreditation System accreditation (see Figure 3 and 4 below). Laboratories participated in 15 proficiency test schemes compared to 13 in the previous financial year. Of these, none fell below the target of 80%. On average, performance of our labs in proficiency test schemes improved marginally from 91% last year to 92% during the reporting period. This improvement can be attributed to training and retraining over the past year years.

RADIOANALYTICAL AND CALIBRATION LAB SERVICES



Proficiency results for radioanalytical and calibration lab services

CHEMICAL AND NUCLEAR FORENSIC LAB SERVICES



Proficiency test results for chemical and nuclear forensic lab services

Nuclear Waste Management

Decommissioning and Decontamination

The Nuclear Waste Management department was established to discharge nuclear liabilities of past strategic nuclear facilities. The D&D programme involves the dismantling, decontamination and decommissioning of the related nuclear facilities, and the management of all historical nuclear waste and waste generated during the decommissioning of these facilities.

Since 2000, the D&D work carried out by Necsa has been funded through Necsa budget appropriation as well as a special Ministerial allocation (ring-fenced funding) in line with the 2004 nuclear liabilities.

Management Plan

Cabinet approved the 2004 Nuclear Liabilities Management Plan and divided the total nuclear liabilities (nuclear and related chemical facilities) into three major stages. The approved funding was for nuclear liabilities of past disused strategic nuclear facilities, as a ring-fenced allocation to Necsa.

The 2021 Policy Procedure on Management of Liabilities Arising from Past Strategic Nuclear Facilities requires Necsa to submit an annual plan of action and report retrospectively on its progress.

The three D&D stages are:

STAGE 1: Decommissioning and waste management of all disused historical nuclear facilities.

STAGE 2: Decommissioning and waste management of all remaining (currently operating) nuclear facilities.

STAGE 3: Disposal of certain long-lived and high-level waste (including SAFARI-1 spent fuel) when an appropriate disposal facility for such waste become available.

Decommissioning Services

The decommissioning activities are divided into three phases:

PHASE 1: Entails the removal of source material and partial dismantling of the process system.

PHASE 2: Entails dismantling of process systems and decontamination of the facility.

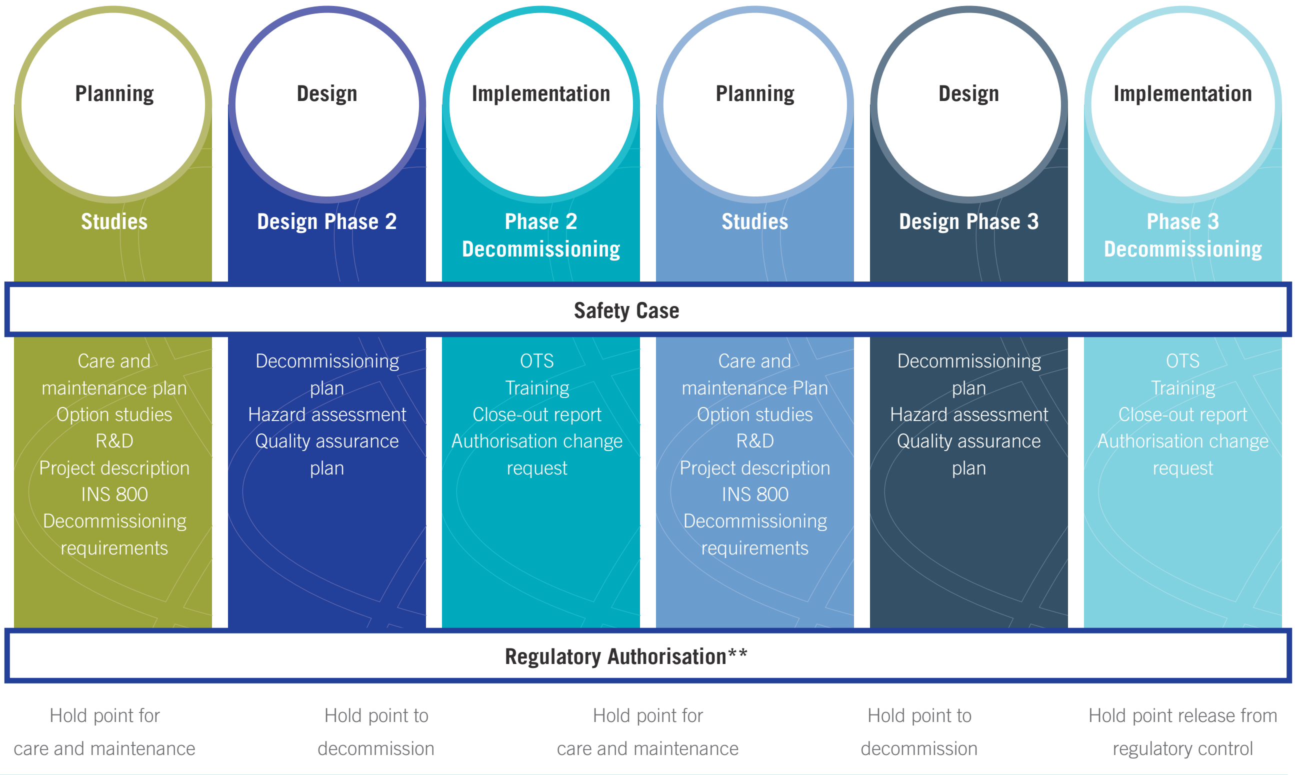
PHASE 3: Further decontamination/cleaning of the facility to achieve the decommissioning end-point and clearance from regulatory control.

Each phase can span a number of years to decades due to factors relevant to facility's strategy and plan such as:

- Hazards and size of the facility;
- Personnel;

- Records; and
- Equipment and technology required.

The diagram below gives an overview on the typical process entailed in the phases 2 and 3 decommissioning of facilities. To date phase 1 of most of the facilities have been completed and all these are under care, maintenance and awaiting phases 2 and 3 decommissioning. During the decommissioning and cleaning of the facilities, a major part of the work is the radiation protection measurement and characterisation of all areas and equipment. Typically, cleaning will be performed, after which the area is radiologically characterised to confirm if it is clean. If not, the process is repeated.



* Care and maintenance start after the phase 1 decommissioning of a facility

** Before any hold point approval: NNR review and all comments addressed of all required submissions as per plan

Implementation of phases 2 and 3 decommissioning

Decommissioning Projects

The following decommissioning projects activities were performed during the 2022/23 financial year:

Phase 2 decommissioning of the conversion facility

Currently, the NNR comments on the hazard assessment report and decommissioning strategy are being addressed. The NNR comments necessitated the revision of the project schedule and a new project strategy to be developed on the use of localised ventilation or refurbishment of the existing facility ventilation. Engineering Services will perform the evaluation of the ventilation system.

The user requirement specification was compiled and send to the market. The two tender offers received for conversation plant ventilation were rejected as the price was deemed uncompetitive. The tender will be readvertised in 2023/24.

Decontamination Services

Decontamination is defined as a complete or partial removal of contamination by a deliberate physical, chemical or biological process.

The decontamination facility consists of:

- Wet decontamination section, where chemical decontamination techniques are used to recover nuclear materials.
- Dry decontamination section, where nuclear materials are physically and mechanically removed to recover nuclear materials.

Decontamination services is currently constructing the smelter facility at A26 where radiological components will be decontaminated through metallurgical techniques.

The following activities were performed in this financial year:

- 240 batches originated from A26 facility and quarantine storage facility were processed in the decontamination facility.
- 1 430kg of degreased oil pipes from area 14 were processed at the dry decontamination facility.
- 457kg of stripped copper tubing from area 26.
- 3 768 litres of liquid evaporated from decontamination facility, the product of nuclear manufacturing.

Management of Nuclear Waste

Nuclear waste from various points of origin was collected and safely stored at Necsa during the review period as follows:

Solid waste management

Type	Origin	Actual Number received 2022/23	Total at 31 March 2023
Drums	Facilities on Necsa site and external clients	1 065 (received in storage facilities)	74 638 (inclusive of the 34 shipments* sent to Vaalputs) 204 steel drums (MA concentrate) and 198 concrete drums for the reporting period
Spent fuel elements	SAFARI-1 storage pool	-	1 194
Spent sealed radioactive sources	Clients throughout South Africa, specifically the healthcare sector	253	13 122
Smoke detectors	Clients throughout South Africa	1 372	32 804

** 1 steel drum shipment = 204 drums and 33 concrete drum shipment =198*

Drums

Thirty-four shipments, including steel containers, were transported and disposed of at Vaalputs, as at 31 March 2023. This is a total of 6 936 drums disposed of at the Vaalputs trenches.

Sources

Disused source storage facility received sources from around the country. These sources are characterised, conditioned and safely stored in the facility. During the financial year, 423 disused sealed radioactive sources and smoke detectors were characterised and conditioned. No disused radioactive sources were repatriated.

Waste characterisation

Waste characterisation is conducted on a continuous basis for safeguards and final disposal purposes. A total of 3 846 drums was measured using the IQ3 scanner and the BNFL segmented drum scanner. The contents of 2 148 drums have been physically verified and registered on the waste tracking system.

Thirty-four shipments, including steel containers, were transported and disposed of at Vaalputs, at 31 March 2023. A total of 6 976 has been disposed of at the Vaalputs trenches. Disused source storage facility received from sources around the country. These sources are characterised, conditioned and safely stored in the facility. During the financial year, 423 disused sealed radioactive sources and smoke detectors were characterised and conditioned. No disused radioactive sources were repatriated. Waste characterisation is conducted on a continuous basis for safeguards and final disposal purposes. A total of 3 846 drums was measured using the IQ3 scanner and the BNFL segmented drum scanner. The contents of 2 148 drums have been physically verified and registered on the waste tracking system.

Necsa is required to perform a periodic reassessment of its nuclear liabilities in terms of the 2021 policy procedure issued by the DMRE. Stage 2 (operational facilities) liabilities reassessments were conducted and are being reviewed by an independent assessor as required by the policy procedure.

Growth initiatives programme: Performance indicators, planned targets and actual achievements

Key performance area	Key performance indicator	Actual achievement 2022/23	Planned target 2022/23
Stage 1 D&D programme execution	D&D programme execution (stage 1): Execution of annual plan of action as approved by DMRE.	59.6%	90%

Liquid Effluent Management

Liquid Effluent Management's core business is to receive, treat and dispose of all industrial, low and medium activity radioactive effluent generated on the Pelindaba site. A comprehensive laundry service for work wear and personal protective equipment is also provided to various Pelindaba facilities as well as to the NNR. The facility's main priority is to compliantly operate under strict regulation and authorisation from the authorities.

During the reporting period, the function continued to provide uninterrupted essential services to the generators and other clients. All effluent releases were authorised by the authorities based on regulatory limits applicable. There were no unauthorised releases to the Crocodile River during this reporting period.

The key performance indicators for liquid effluent treatment for 2022/23 are tabled as follows:

Key Performance Area	Target	Actual
Limit environmental impact	Annual dose ≤ 150 μSv	2.360 μSv (1.57%)
All releases to Crocodile River authorised and within regulatory requirements	100% authorised releases	100%
Limit effluent releases to the Crocodile River	Total annual releases ≤ 250 000m^3	102 618m^3 (41.05%)
Zero downtime to customers	100% plant availability	100% (365 days)

UTILITIES SERVICES

Utilities Department

The Utilities department is mandated to provide Necsa with site utilities without interruption while adhering to the water permit and air emissions regulations and all related environmental regulation as well as conventional safety. Efficient production and distribution of utilities enables Necsa to use natural resources such as coal in an environmentally responsible manner. Statutory maintenance is carried out as scheduled.

The utilities provided include steam, water (drinking, process, demineralised, soft, chilled), compressed air, liquid nitrogen and sewage processing.

The average availability of these utilities was 99.3% for this financial year.

Necsa also provides external customers with rental of buildings and facilities. During this financial year, Necsa signed a memorandum of understanding with the Black Pharmaceutical Industry Association (BPIA), a group of companies that has shown interest in renting certain Necsa buildings to establish a healthcare cluster on the Necsa site.

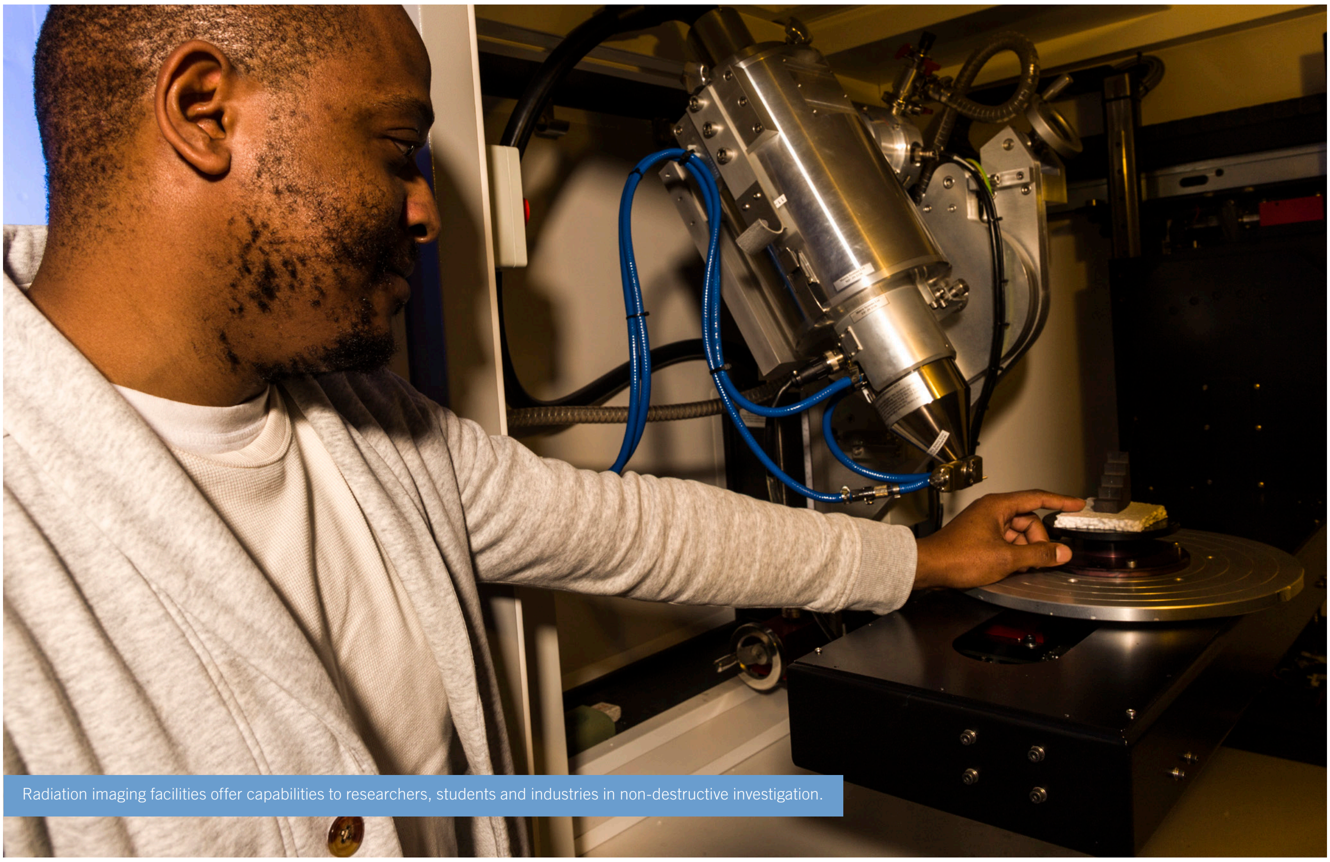
Another memorandum was signed with NARE Group of Companies.

Highlights/challenges

Eskom initiated an environment impact assessment and an environment authorisation was issued by the Department of Environmental Affairs in December 2022 for an 88kV high voltage overhead line from Lomond to SAFARI substation to replace the current obsolete oil-filled underground cables.

Natural capital indicators

Necsa Group	2021 - 2022	
Annual electricity usage	55.2GWh	April 2022 to March 2023
Annual water usage	856 027m^3	October 2021 to September 2022 – water year



Radiation imaging facilities offer capabilities to researchers, students and industries in non-destructive investigation.

"Research development and innovation is the key organisational mandate accomplished through research outputs in the form of innovation disclosures, peer-reviewed publications, technical and contract research reports."

RESEARCH AND INNOVATION

Dr Pradish Rampersadh
Group Executive: Research and Innovation

The mandate of the Research and Innovation division is to grow and maintain core research capacity in line with the Necsa mandate in radiation and reactor theory, applied chemistry and applied radiation. Through these focus areas, the division contributes primarily to the intellectual capital of Necsa. This is accomplished via the main research outputs in the form of innovation disclosures, peer-reviewed publications and technical and contract research reports.

Over the past few financial years, Research and Innovation focused on commercial products and services with income-generating potential, to grow the financial capital of Necsa. In line with this goal, it has a steadily growing number of clients that are served through contract research. The Necsa subsidiaries, in particular, are provided with focused research support to maintain a competitive advantage and to expand their existing product portfolio. A systems-engineering approach (based on technology readiness levels) to product development is followed. Core science and technology activities are supported by project and programme management. To benchmark and strengthen own capabilities, close collaboration with national and international collaborators is actively pursued. The division is uncompromising on SHEQ.

Since the nuclear/radiation field is a highly competitive environment, intellectual capital, being the value of a company's employee knowledge, skills, business training, or any proprietary information that may provide the company with a competitive advantage, is of critical importance to the Necsa Group. Based on research done, there exists a positive and significant relationship between intellectual capital and the performance of a company. Economists see knowledge and intellectual capital as two vital and intangible assets that help companies to create value and wealth in this knowledge-based economy.

The division is committed to developing and maintaining a group of highly qualified and skilled employees to comply with its mandate of maintaining a core research capacity. It is the responsibility of these highly skilled researchers to ensure that the Necsa Group is at the forefront of new technologies and innovative in its development of new products. The main research outputs and list of publications are proof of the division's contribution to intellectual capital. Some of these research outputs resulted in four new patents granted, seven innovation disclosures and 32 peer-reviewed publications during the 2022/23 financial year.

Research and Innovation further contributes to the intellectual capital of Necsa by housing the Office of Technology Transfer, which is mandated in terms of the Intellectual Property Rights from Publicly Financed Research and Development Act 2008 (Act 51 of 2008) to facilitate the identification, protection and exploitation (or commercialisation) of intellectual property developed and owned by Necsa. This makes the division an important player in the National System of Innovation in establishing a knowledge-based economy with specific emphasis on the nuclear and radiation sciences.

The Necsa intellectual property portfolio of 19 patent families, 17 trademarks and four domain names was maintained in more than 120 countries during the last financial year. Progress on innovation disclosures and registered intellectual property are submitted to the National Intellectual Property Management Office annually as required. Necsa acknowledges the office's support in maintaining its portfolio.

Highlights

- The knowledge dissemination-related research outputs of the division is as follows. A list of journal publications appears at the end of this report.

Main research outputs

Type of Output	Number
Innovation disclosures	7
Peer-reviewed publications	27
Technical and contract research reports	35

- The Radiation and Reactor Theory unit completed the shielding design work on the interim storage facility for the original steam generators from the Koeberg nuclear power station, as part of the life extension project for the two nuclear power units. The old steam generators have since been safely placed in the storage facility and all dose levels have been reported below the required limits.
- The OSCAR nuclear reactor calculational system, developed in-house by Necsa, has expanded its international usage footprint for both research reactors and SMR users during the past year. The system was licensed to an SMR client for the first time, which opens a new avenue of growth and expansion for the OSCAR platform.
- Radiation and Reactor Theory contributed to the further update and maturing of the MPR user requirement specification, in particular via extensive neutronic modelling of both existing research reactor and conceptual designs (put forward during the request for information phase). This modelling was conducted to confirm that the specification is representing the need for a next-generation South African research reactor, while ensuring achievability in the requirements.
- A significant part of the effort was in support of the larger Necsa D&D stage 1 programme managed by Nuclear Liabilities Management. The larger focus is on finding environmentally safe methods to minimise the risk of nuclear waste. Some of these projects have completed the laboratory development phase and are progressing with engineering design for the establishment of demonstration facilities. There are also a number of projects that are still in the lower technology readiness level phases.
- The interim Preclinical Imaging Facility (iPCIF) under subcontract from Nuclear Medicine Research Infrastructure (NuMeRI) had a successful year with more than 40 (animal) studies completed and all equipment fully operational.
- The Research and Innovation team hosted an IAEA delegation on an integrated research reactor utilisation review mission of the beam line facilities at SAFARI-1 and their progression into the MPR.
- Necsa scientists are heavily involved in academic development in the nuclear field. Within the division, two personnel are enrolled for Masters degrees and seven are enrolled for PhD degrees. Formal academic supervision is provided for 31 postgraduate (19 MSc, eight PhD and four postdoc) students during the year. They also serve as lecturers and external examiners for MSc and PhD theses (both domestic and international universities).

The main activities and notable performances during the 2022/23 financial year are highlighted in the following sections, per area of specialisation.

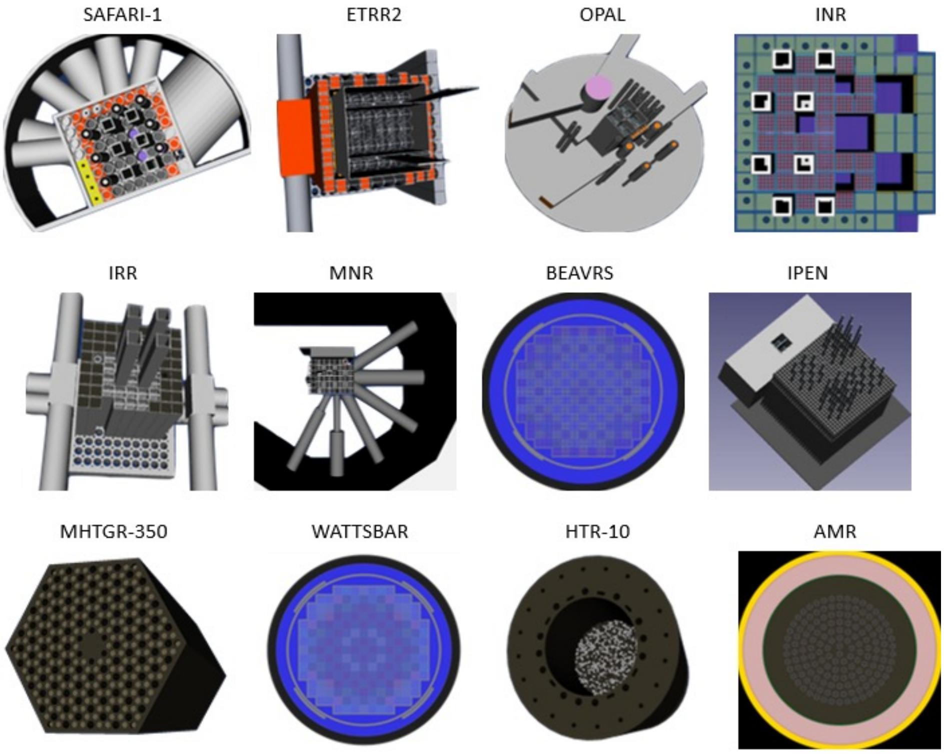
Radiation and Reactor Theory Focus Area

Radiation and Reactor Theory provides calculational and analysis services in reactor neutronics, thermal-hydraulics, criticality, shielding, activation and isotope production, to both Necsa and external clients. Furthermore, it develops, hosts and manages the OSCAR reactor calculational platform that is used inhouse and by various nuclear institutions around the world to model their respective reactors. Both of these activities leverage on a strong technology platform in radiation transport and reactor modelling and simulation in, maintained through an active research programme. In general, these programmes contribute to the strategic thematic areas of neutron source generation projects, radioisotopes and pharmaceutical business sustainability, advanced manufacturing, nuclear and related technology applications, energy projects as well as waste projects.

In line with these requirements during this past year, the unit managed to meet all primary mandated key performance indicators. This includes generation of external income in excess of the defined target, and adhering to its knowledge and innovation generation mandate with six peer-reviewed publications, four international conference contributions, one innovation disclosure and 12 contract R&D reports.

Highlights in this area:

- The multi-year project with Eskom, for the original steam generator replacement at Koeberg, was successfully completed this year when these generators were removed from the plant and placed in interim storage on Koeberg site. The unit was involved in the planning and licensing of this



Various OSCAR-5 computational models of reactors

storage facility via calculational analysis of shielding requirements.

- Fuel and core management in the form of reload and core-follow safety calculations for SAFARI-1 are routinely performed. Such analyses are used to ensure that the planned operational cycle adheres to all safety and utilisation requirements. Activities of interest during this year was expansion of the scope of the analysis via improved multi-physics approaches, and improving safety-related computational models to take uncertainties in critical parameters into account. Such improved analyses enhance the safety and support the improved utilisation of the SAFARI-1 reactor.
- Calculation and analysis services are performed to support the safety- and licensing-related submissions at Necsa. Radiation and Reactor Theory was involved in a number of projects in support of internal and external clients in the areas of shielding, material activation and criticality assessments. This also includes analysis support for isotope yield prediction, safety assessment and product transport and storage.
- The OSCAR nuclear reactor calculational system is currently in its fifth generation and was notably expanded during this year. In particular, new developments include improved multi-physics reactor operational support, the inclusion of uncertainty propagation schemes for safety analysis, machine learning-based approaches for reactor core design and various general and automation-based enhancements for Research Reactor, Light Water Reactor and SMR calculational support.
- OSCAR is currently used as the primary reactor calculational platform at the SAFARI-1 reactor at Necsa, the High Flux Reactor and Hoger Onderwijs Reaktor reactors in the Netherlands, the McMaster Nuclear Reactor reactor in Canada, as well as at various universities locally and abroad. For the first time, the unit signed a licensing agreement for OSCAR to be used as a design tool for SMR type reactors. The agreement with Ultra Safe Nuclear Corporation was concluded in 2022 with both code usage and collaborative development components. Further, during this year, client support was focused largely on migrating existing clients to the new OSCAR-5 platform and engaging with a number of new prospective clients for potential onboarding in 2023.
- Necsa, via the unit, and in collaboration with North Carolina State University, has been invited to participate in the task force on artificial intelligence and machine learning for scientific computing in nuclear engineering. This activity occurs within the Working Party on Scientific Issues and Uncertainty Analysis of Reactor Systems, under the Organisation for Economic Co-operation and Development/ Nuclear Energy Agency.

Applied Chemistry Focus Area

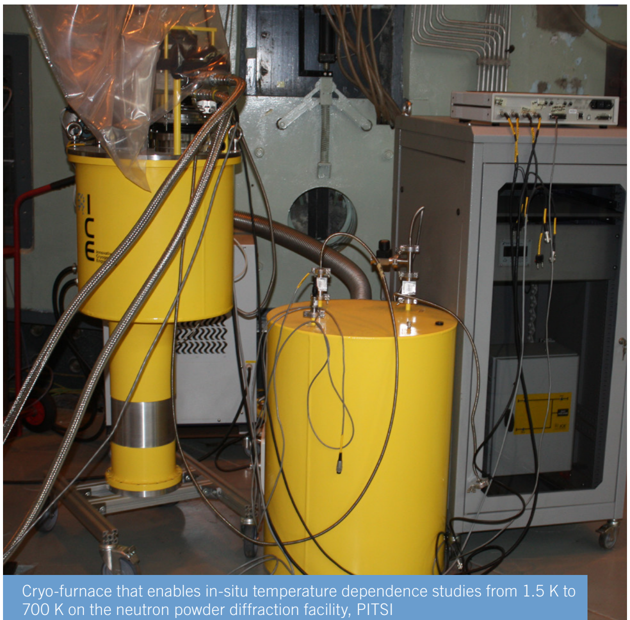
The main focus of the Applied Chemistry department is the development of commercial processes, contract research and maintenance of basic chemistry technology platforms required by Necsa. These projects are aligned to the following strategic thematic areas as per the Necsa corporate plan: Advanced manufacturing, nuclear and related technology applications, fluorochemical business sustainability, waste projects and energy projects. The current mandate for the department is to develop process up to technology readiness level 4. This implies a laboratory-scale integrated proof-of-concept level. As in the past few years, most of the effort was focused on contract research for internal and external customers.

Main core skills areas are in nuclear fuel cycle-related materials beneficiation, plasma-based material modification and processing, waste conditioning technology, and fluorine technology. Important National System of Innovation programmes such as the Energy Storage Programme and the Advanced Materials Initiative programmes of the Department of Science and Innovation (DSI) reaped significant benefit from the research involvement of the applied chemistry focus area, through Research and Innovation's specialised core skills.

- Related to the D&D plasma work is a project to use the gases generated by a plasma as fuel for an electricity generator. This process is known as the plasma waste to energy system. The focus is currently on smoothing the operation of this system to increase continuous running time and reliability.
- The current projects running at Necsa under the Advanced Metal Initiative are all more focused on eventual commercial products. The largest of these is focused on producing spheriodised metallic powders for the 3D printing industry. This project is done in collaboration with a number of external entities such as Centre for Rapid Prototyping and Manufacturing at Central University of Technology. During the past year, the focus of research was on the treatment of titanium alloy powder Grade 5, which is used in the manufacturing of aircraft components due to its light weight and strength.
- Two of Necsa's patents are being developed further for commercialisation by external parties under licence. These involve patents for the production of certain pigments from plasma dissociated zircon and a process to produce neodymium trifluoride.
- Within the fluorine chemistry expertise, a project that is still funded by the DSI, is focused on the development of a commercial process to produce lithium hexafluorophosphate. This project is currently aiming to demonstrate the technology on a bench scale. Necsa is also participating in the Energy Storage Consortium project. Our focus is on the modification of cathode materials in batteries with fluorine. The process for fluorination of cathode materials was further improved and the fluorination of samples for other consortium members is continuing.

Applied Radiation Focus Area

Applied radiation is a recently formed focus area that is a combination of the radiochemistry group and certain groups from radiation science. The focus area contributes to the strategic thematic areas of radioisotopes and pharmaceutical business sustainability as well as advanced manufacturing, nuclear and related technology applications. It further focuses on the development of radiopharmaceuticals for oncology and infection and inflammation imaging by translating fundamental research performed to commercial outcomes. Groups that are involved with product development continued to perform pipeline research to retain and enhance Necsa's status as an internationally competitive radiochemical isotope producer, thus contributing to enhancing quality of life. Besides the development of radiochemicals (precursors for radiopharmaceuticals), the emphasis has shifted further down the value chain to the development of new radiopharmaceuticals. Technology from several product development programmes has matured to culminate in commercial outcomes. At early technology



Cryo-furnace that enables in-situ temperature dependence studies from 1.5 K to 700 K on the neutron powder diffraction facility, PITSI readiness levels, these are supported by funded technology platforms/clusters to enable the required National System of Innovation and industry partnerships. Besides the involvement in commercially orientated research, fundamental research that lays the basis for future innovations and products continues.

Highlights in this area:

- Applied radiation within Research and Innovation has developed single-vial lyophilised PSMA-11 for primary and secondary prostate cancer kit formulation that can be radiolabelled with Gallium-68 (68Ga), a new and exciting short lived positron emission tomography imaging radioisotope. The kit has passed the technical feasibility study and now needs to undergo good manufacturing practice compliance before production and distribution under a section 21 authorisation from the South African Health Products Regulatory Authority. Necsa secured funding from NTP R&D and the Innovation Fund to proceed with the next step in the value chain, namely the production according to good manufacturing practice in collaboration with the P3000 radiopharmaceutical facility at Necsa. Additional funding was secured from the DMRE virement fund for labour costs in the 2022/23 financial year.
- Part A of the phase I/II clinical trial on the use of ^{195m}Pt-cisplatinum as a companion diagnostic to optimise and individualise the dose for patients, funded by TIA for completion of the trial preparation phase, has been completed. NTP co-funding for the next phase, which is execution of the trial (part B), is contingent on receipt of funding from another entity. Together with Business Development, funders will be approached. Facility re-qualification (a requirement of execution of part B) actions in response to the South African Health Products Regulatory Authority audit findings progressed significantly.
- The Applied Radiation department has been part of an international network (led by Paul Scherer Institute in Switzerland) that is advocating the use of the therapeutic isotope Tb-161, which can be produced in SAFARI-1 and has similar radiation characteristics as Lu-177 (currently produced at NTP's plant) with the added benefit of emission of an auger allowing for treatment of micro metastasis. All targets (10 per annum on average) for the production are irradiated in SAFARI-1 and then shipped to Switzerland for processing and formulation of Tb-161 radiopharmaceuticals such as Tb-161 Dototate. The current phase focuses on translating the radiolabelling to a good manufacturing practice level.
- GluCAB™ is a new theranostic (agent used for diagnosis via imaging followed by therapy) that will initially be used to seek, identify and treat solid mass tumours such as those found in breast and ovarian cancer. The concept of passive targeting through the enhanced permeability and retention effect has been demonstrated through micro-positron emission tomography evaluation in xenografted mice where clear tumour uptake could be demonstrated. A new chelator has been successfully incorporated into the molecule to improve the radiolabelling conditions (room temperature, physiological pH) with both Pd and Cu.

Applied Radiation continues to facilitate and support technology enabling platforms or clusters. The NuMeRI project was successfully incubated by Necsa for its first three years. This is a major achievement for Necsa having delivered on a large infrastructure programme for the DSI. NuMeRI (independent legal entity) has since taken over the project. Necsa was subcontracted to operate iPCIF at Pelindaba for this financial year. The NuMeRI iPCIF was set up by transforming general laboratories at Necsa already licensed to perform radioactive work into a dedicated facility with an array of molecular imaging equipment to scan laboratory animals. This financial year the iPCIF was involved in more than 40 different studies including research and services, technical validation or measuring techniques, collaboration, training and laboratory support. The mobile biosafety level 3 laboratory received governmental approval for operation of the relevant iPCIF project portfolio to extend into research focusing on infectious diseases such as tuberculosis.

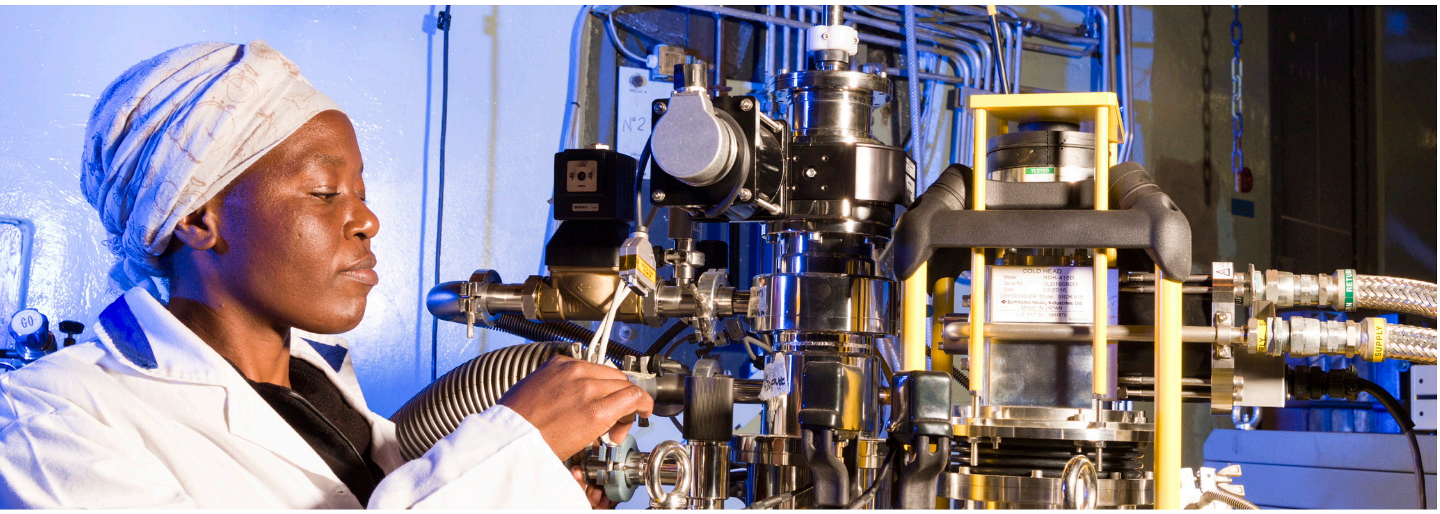
Necsa hosts and manages the Nuclear Technologies in Medicine and Biosciences Initiative (NTeMBI), which is a DSI programme that was transferred to TIA in 2019. NTeMBI is in transition to a new cluster model and is foreseen as an overarching umbrella for all research in the country in the area of nuclear medicine with TIA as the funding vehicle. The Necsa-TIA agreement for the interim phase (facilitation of the three projects and their administration by Necsa) is still in place. Two projects have now been successfully concluded, resulting in five publications and three PhDs. The third project, at Universitas Hospital in Bloemfontein on cervical cancer patients, is in progress. NTP's funding of research at academic hospitals has been channelled through NTeMBI, demonstrating industry funding. Disbursement of funds remains slow due to delays in acquiring ethical approvals. The Re/Tc project, which entails preparing tricarbonyl Re-186 complexes, is a collaboration between Necsa and the University of KwaZulu-Natal under the NTeMBI banner and is also an NTP-funded project. While still in its infancy, progress to date on the project demonstrates that Re-186 may play a role in the future as a potential theranostic metal.

Applied radiation uses radiation-based science (including accelerator-based particle beams) to provide non-destructive solutions for industrial and mining problems.

Highlights in this area:

- Full funding (and signed funding agreements) was secured from TIA, NTP and Necsa for the mining shroud project, which involves the development of a gantry system that detects dislodged shrouds that are tagged with a manmade gamma-emitting source. This technology will minimise the downtime experienced during mining operations, thus reducing financial losses and increasing the safety of operation. The technology was also presented at the Electra Mining Expo with industry expressing great interest in the solution. A further in vitro diagnostic was filed on the technology, expanding the potential list of isotopes that could be used in the tagging element.
- Another radiation-based solution being developed in the department is wall abrasion monitoring. This technology is able to determine the wearing of ceramic tiles that line the walls of a hydrocyclone used in mining operations. Early detection allows for intervention and replacement of the tiles before complete erosion, thereby minimising unscheduled downtime and saving on repairs and operational cost. To date the laboratory scale concept has been proven and a collaboration with hydrocyclone manufacturers has been achieved.

Applied radiation develops and uses techniques to optimize use of neutron and X-ray radiation as non-destructive probes to investigate objects and materials for pure and applied research. This is of particular benefit in heritage studies where the full elemental composition of fossilised samples can be obtained without destruction, which is of long-term benefit to this field. The diffraction laboratory at Necsa offers unique capabilities on the African continent by enabling the use of thermal neutron beams and laboratory-generated X-ray beam techniques as complementary probes of crystalline materials at the microstructural level. Equipped with four modern instruments dedicated to applications such as chemical phase identification, chemical phase quantification, magnetic phenomena and residual stress analyses, the facilities are instrumental in non-destructive determination of depth-resolved stresses in additive manufactured components produced using different build techniques and strategies. In addition, these have contributed to the benchmarking of predictive models. The new MPR will allow for substantial expansion of the current capabilities at SAFARI-1 in use of neutron beam techniques for research. It is envisaged that the instrument suite will facilitate studies of matter at extensive length and dynamic ranges. Projects and activities to determine key specifications of the MPR towards maturing the user requirement specification and the feasibility report. This includes inputs to siting, communications, option analysis and human capacity development teams; participation and inputs to the value management process; establishing a reference publication database for neutron beam line applications; establishing a base information document on MPR Neutron Beam Line Centre sources, beam delivery and beam line instruments; and establishing a base information document on fast neutron and gamma beam vaults.



"The Power and Industry identifies and secures new business opportunities in existing and potential markets."

POWER AND INDUSTRY

Mxolisi Makhatini
Group Executive: Power and Industry

The Power and Industry division was reconfigured based on existing capabilities in 2021, as part of Necsa's turnaround strategy, to grow Necsa's corporate business organically and structurally. This includes marketing and selling Necsa's current and new products and services to existing and prospective customers, focusing on advance nuclear manufacturing capabilities. Additionally, it involves Necsa's active participation in the generation and sale of energy through new initiatives, acquisitions, mergers or takeovers of existing companies in the power sector to fulfil Necsa's ambition to be an independent power producer.

Necsa's P&I division is responsible for identifying and securing new business opportunities in the markets it serves, including the development of potential new markets. Upon securing an opportunity, in collaboration with relevant entities within Necsa, by placing an order on Necsa, the opportunity becomes a project, which is then assigned to the Project Management Office (PMO) in collaboration with the respective service providers for execution. To ensure that the customer's needs are met, P&I serves as the customer's internal representative during the project's execution.

Through Advanced Manufacturing

P&I works closely with Advanced Manufacturing to fulfil its responsibility of promoting and selling Necsa's new and existing goods and services to both existing and new clients.

The Advanced Manufacturing specialises in engineering and manufacturing of nuclear and commercial pressure boundary equipment. It has the capabilities and expertise to put together project teams of specialists within Necsa, ensuring projects are integrated across the company's engineering, scientific and fabrication disciplines to meet customer needs.

The department is an ISO 9001:2015 certified operation that is also an ASME III-certified supplier of nuclear components. The latter certification gives the operation the capability to design, fabricate and assemble nuclear components, including vessels, piping, supports and tanks. It is also an ASME VIII supplier of commercial manufacturing for coded non-nuclear grade work, holds ASME VIII (u-stamp) certification for pressure boundary equipment and is ISO 3 834 accredited for welding.

The department is involved in the life extension of Koeberg and is becoming an important local supplier of this specialised work.

Completed Eskom heat exchangers.

"NTP is amongst the top four medical radioisotopes producers reaching approximately 7 million patients. It is a profitable organisation with the revenue of R1.4b in the year under review."

NTP RADIOISOTOPES SOC Ltd

Thabo Tselane
Managing Director: NTP Radioisotopes SOC Ltd

Managing Director's Perspectives

The ageing population and lifestyle changes are triggering an increase in non-communicable diseases such as cancer, heart disease and diabetes, causing millions of deaths and putting further pressure on healthcare resources.

At NTP our purpose is to sustain and use radioisotopes especially for nuclear medicine to improve the quality of life of our people. Our vision is to become the most trusted and valued radioisotope manufacturing company in the world – valued not only for our business performance, but for the difference our products make for patients and society. Through our core business, we actively enhance the lives of millions of people around the world, while creating value for our employees, shareholders and the communities in which we operate. Patient health and reliable supply of quality products are fundamental to our business. We cannot deliver on our purpose if we do not perform safe and compliant operations in accordance with strict regulations from nuclear and health authorities that regularly inspect our facilities to ensure we are complying with all relevant laws and standards.

The 2022/23 financial year ended on a high for the NTP Group with year-end sales of R1 440.6m exceeding budget by 20.3%. This is a significant improvement of 23.4% compared to the previous year's revenue of R1 167m. The improved income is also reflected in the net profit after tax of R138.2m, compared with R61.5m in 2021/22. Importantly, this performance was achieved through safe and fully compliant operations, by committed staff, throughout the entire financial year.

The sterling performance was driven largely by NTP Radiopharmaceuticals Pelindaba operation (NTPR) that recorded its highest-ever annual sales of R1 161.9m and contributed R113.04m to the Group net profit after tax. Going beyond our expectations, sales of all products in NTPR's portfolio increased year-on-year with record I-131 sales (R122.7m) exceeding the R100m mark for the first time in history, thereby decreasing the dominance of Mo-99 in support of NTPR's strategic objectives. The revenue growth in areas other than Mo-99 contributed to NTPR exceeding the key performance indicator on improving customer spread with sales excluding the top five customers totalling R386m. NTPR's strategy is reflected as earning the highest annual sales in history.

We significantly increased our sustainability targets, initiatives and impact in many areas of the business. One of our strategic initiatives is to continue to accelerate our growth and these achievements are reflected in the average customer satisfaction survey achieved for 2022 of 81%, delivering on NTP's core values to customers. A total of 1 284 flights was used with supply delays of 6.1% experienced on all active pharmaceutical ingredient exports. Unfortunately, optimal logistics from South Africa remain challenging following Covid-19, with limited flight availability to destinations such as Japan and South America and increased flight times on selected routes. Despite minor setbacks, we continue to keep our key strategic priorities to attain new heights in deliverables and market share.

We are also looking at research and innovation – this functional area needs to increasingly deliver new technologies that will enable growth in existing commercial areas while creating new technologies that lead to future commercial enterprises through which the Necsa Group will directly enhance people's lives.

In line with best practice, a strong integrated management system with excellence, effectiveness and efficiency of operations as central pillars is a necessity. This inculcates a strong safety culture with full adherence to the SHEQ system, strong conformance to all nuclear facility licensing conditions, a well-entrenched governance system and good strategic support for core commercial areas by all support services.

In addition, we will maintain talent excellence and a high-performance culture to maintain a strong organisational culture with a fully entrenched set of organisational values, best skilled and experienced resources deployed throughout the organisation with a strong performance system and continuous improvement. This is achievable through hard work and dedication.

The review year's financial performance was built on the foundation of reliable production and plant availability, through enhanced safety culture and compliance to all applicable regulatory requirements and applicable safety practices.

The outlook for the 2023/24 financial year is positive with continued growth expected. Our business performance is on track and broadly consistent with our strategy. We continue to attract, develop and retain employees; develop new skills across the company; promote a corporate culture based on our values and behaviours, and ensure a safe and healthy working environment. The conditions and business momentum remain favourable and we are without a doubt on track to deliver on our next financial ambition.

NTP Overview

NTP is a responsible manufacturer of a range of radiation-based products and supplier of services and equipment for healthcare, life sciences and industry. NTP supplies local and foreign markets, earning valuable foreign exchange for South Africa. As a dynamic company spanning more than 50 years, NTP has been at the forefront of nuclear- and radiation-based technology in Africa, growing from a research facility and local radioisotope manufacturer to a leading global radiation-based products and services provider. The company has enjoyed steady growth based on quality and customer satisfaction over the years.

NTP's vision to be the world's leading supplier of life-enhancing, nuclear-based technology products and solutions holds true since it manufactures and supplies Mo-99, I-131 and Lu-177 nca as active pharmaceutical ingredients for the global market. NTP's mission is to be an excellent radiation-based products and services business. It offers its customers world-class products, provides quality service to its customers by treating them as partners, understanding their needs, responding on time and honouring their commitments. It also boasts a comprehensive logistic solution that saves money and time.

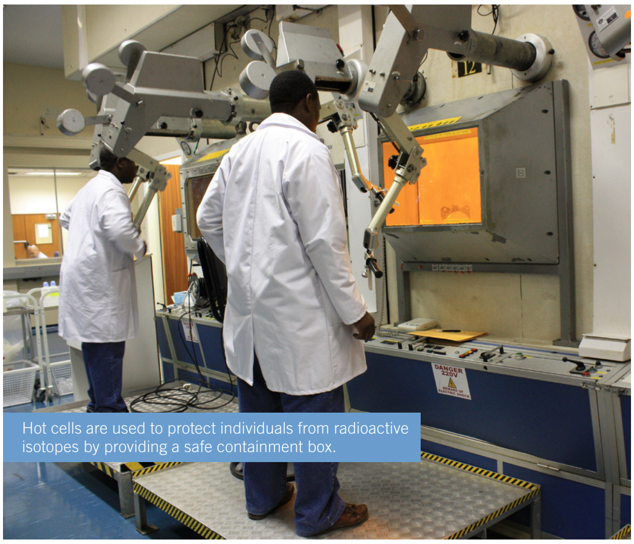
Its operation at Pelindaba has unique and valuable assets, which include production facilities, intellectual property, skills and expertise. NTP is mandated by the shareholder to leverage these assets to grow the business organically or by acquisition of compatible technologies and business ventures. These business ventures could be local and/or international.

Being customer focused and socially and environmentally responsible, NTP has put South Africa on the world map as a promising emerging market, contributing in excess of R1-billion in local and international radiopharmaceutical revenue annually.

As NTP looks to the future as a focused medicines company, dedication to innovation and excellence will drive it forward. Clear growth ambitions are strategically structured and, through reshaping NTP, we are set on reimagining medicine for decades to come.

Thabo Tselane
Managing Director
NTP Radioisotopes SOC Ltd

Gamma camera scan.



Hot cells are used to protect individuals from radioactive isotopes by providing a safe containment box.

Highlights

NTP Group Highlights

- NTP Radioisotopes SOC Ltd achieved an unqualified audit opinion.
- All NTP Radioisotopes SOC Ltd facilities operated uninterruptedly in adherence to strict safety and licensing requirements.
- NTPL performance reflected a 18.9% increase in revenue compared to R37.7m during the prior year, an increase of R7.7m.
- NTPL year-end net profit before tax was R11.9m, 68% above a target of R7.1m.
- AEC–Amersham SOC Ltd launched a new product, Actiunium-225, in the latter part of the year and has seen sales worth R1.3m.

NTP Group Subsidiaries

NTP Logistics

NTPL provides bespoke end-to-end supply chain logistics services specialising in the global distribution of all classes of hazardous goods, time-sensitive, temperature-sensitive and high-value goods offering a full spectrum of land, air and sea solutions. The company is a market leader with experience in national and international regulatory requirements and holds permits and licences from the NNR, DMRE, Department of Health and Department of Transport. The company maintains ISO 9001 certification.

NTPL's year-end revenue totalled R44.8m, which was 17.2% above the annual target of R38.2m. This represents a 18.9% increase in revenue compared to the R37.7m of the previous year. The year-end net profit after tax of R11.9m was 68% above a target of R7.1m.

Revenue earned from customers not related to the Necsa Group totalled R21.988m at year-end. This was 5% below the target of R22.896m.

AEC-Amersham

AEC-A is the African and Indian Ocean islands region distributor for NTP radiopharmaceutical products and a range of other imported life-science products and service offerings. The company is ISO 9001 certified and complies with all the regulatory requirements to import and export its products.

- Year-end sales were R164.1m against R148.1m.
- The sales of food and feed product were 12,9%.
- Tc generator sales into African countries improved towards the end of the year.

Gammatec NDT Supplies

Gammatec is a supplier, distributor, manufacturer and turnkey solution provider of non-destructive testing equipment, accessories and consumables. Technologies provided include acoustic emission, ultrasonic, phased array, visual inspection, dye penetrant, eddy current, magnetic particle and radiography sources such as iridium-192, caesium and selenium. The company is ISO 9001 accredited. Gammatec exports to over 70 countries with a focus on Africa, the Middle East, Southeast Asia and Australasia. Gammatec's equity associate, Oserix SA, based in Belgium, services the gamma radiation isotopes market in Europe, North Africa and the Americas.

- Gammatec's revenue of R202m exceeded the budget of R180.5m by 22%. Net profit after tax of R8.5m exceeded 15.3%.
- SHEQ and customer satisfaction targets are within key performance indicators, with a key focus on creating staff awareness, adherence and participation in promoting a behaviour-based safety system.
- The structure of Gammatec continues to evolve to remain sustainable and meet and exceed all stakeholders' expectations. The company continues to meet all legislative reporting requirements, the most recent being the submission of an employment equity report.
- Financial ratios are within expectations. Changes in the Preferential Procurement Policy Framework are being addressed to ensure minimal impact on operations while remaining with the framework of the Act.
- IT infrastructure and security remain effective and an aggressive approach has been taken to continue to review new technologies and to train staff to remain ahead of the challenges in this environment.

More than 7 million patients benefit annually from nuclear medicine procedures with products supplied globally by NTP.

NTP's Contribution to Government Outcomes

In addition to the above stated objectives, the NTP Radioisotopes Group contributed to some of the 12 outcomes based on the government's Medium-term Strategic Framework. As a public entity, NTP Radioisotopes contributes to the following outcomes, to which the Minister of Minerals and Energy has committed. The remaining six outcomes are not applicable to the NTP business environment.

Outcome 2: A long and healthy life for all South Africans

NTP contributes through:

- An enhanced quality of and a healthier life for South Africans through facilitating the wider use of radioisotopes for industry and lifesaving radiopharmaceutical products for South Africans. These products are further distributed to the rest of the African continent and the global markets.

Outcome 4: Decent employment through inclusive economic growth

NTP contributes through:

- Helping to elevate employment through an internship programme. Forty-nine new job opportunities have been created for graduates since 2016.
- Personal development of and study assistance and bursaries for employees and employee's children as part of staff retention programmes.
- Having retained jobs during Covid-19.

Outcome 5: A skilled and capable workforce to support an inclusive growth path

NTP contributes through:

- Funding of employee's studies through study support in related fields towards employee tertiary study assistance programmes.

- Three behaviour-based competency assessment models that will become part of the selection process for recruitment, succession planning and developmental practices.

Training of employees in a range of areas was as follows:

- A leadership development matrix in development will incorporate the results of assessments and 360° outcomes for heads of departments, developing management and supervisory development programmes for C3 to D3 levels.
- Skills development and behaviour-based training.
- Statutory training.

Outcome 6: An efficient, competitive and responsive economic infrastructure network

NTP contributes by:

- Maintaining its position of being among the major advanced manufacturers and suppliers of radioisotopes through state-of-the-art infrastructure compliant to good manufacturing practices and ISO standards as well as all applicable regulatory requirements.

Outcome 10: Environmental assets and natural resources that are well protected and continually enhanced.

NTP contributes by:

- Having a mandate for environmental protection and remediation through the industry specific regulations within which it operates.
- Incorporating compliance with second 13 of the Nuclear Energy Act and the Companies Act.
- Providing a safe working environment by promoting a safety culture and maintaining operational best practices benchmarked to international standards.

Outcome 12: An efficient, effective, development-oriented public service and an empowered, fair and inclusive citizenship

NTP contributes through:

- Educating consumers through participation in nuclear medicine education and empowerment programmes and corporate social investment activities.
- Enhancing the lives of residents of communities in which we operate through addressing shortcomings in schooling and implementing other initiatives.
- Hosting girls from grades 9 to 12 through the Cell C 'Take a girl child to work' programme.

NTP'S Contribution to the National Development Plan

The National Development Plan aims to eliminate poverty and reduce inequality by 2030 through uniting South Africans, unleashing the energies of its citizens, growing an inclusive economy, building capabilities, enhancing the capability of the state and encouraging leaders to work together to solve complex problems.

Although NTP contributes indirectly to most of the enabling milestones of the plan, it contributes to the following enabling milestones:

Enabling milestone 1: Increase employment from 13 million in 2010 to 24 million by 2030

- Direct contribution: NTP has grown its local workforce by 271 permanent staff from 211 permanent staff in 2010 to 493 permanent staff as of 31 March 2023.
- Indirect contribution: NTP contributes to the value chain (indirect employment) by working with many small and medium enterprises as service providers.

Enabling milestone 2: Per capita income from R50 000 in 2010 to R120 000 by 2030

- All local NTP employees earn a minimum of R11 646 per month (R139 752 per annum), thus improving the minimum R50 000 per capita income target per individual.

Enabling milestone 5: Ensure that skilled, technical, professional and managerial posts better reflect the country's racial, gender and disability makeup

NTP contributes through:

- Development and implementation of an employment equity plan.
- Implementation of a learnership and internship programme.
- Training and development of staff and stakeholders.

Enabling milestone 8: Provide affordable access to quality healthcare while promoting health and wellbeing

NTP contributes through:

- Ensuring the security and reliable supply of radioisotopes for critical diagnostic imaging and therapeutic interventions of many diseases to the South African and global markets.
- Through subsidiary AEC-Amersham, supplies various radiopharmaceuticals products to South Africa and the continent to enhance quality of life and improve healthcare services.

“Pelchem fluorochemical products are used in the petroleum, pharmaceutical, glass, electrical transmission, mining, polymer, detergents, agrochemical, construction, aluminium and detergent industries.”

PELCHEM SOC Ltd

Umesh Natha
Managing Director: Pelchem SOC Ltd

Managing Director’s Perspectives

Pelchem SOC Ltd, is a world-class producer and supplier of fluorochemicals and competes with multinationals companies from the United States, Europe, Japan and China. Pelchem is the sole manufacturer and supplier in the southern hemisphere and has been in operation for over 39 years.

It is a 100% subsidiary company of Necsa and was incorporated on 1 April 2007. The production facilities are operated under patented trade secret or trademark protection that gives Pelchem recognised and unique knowhow across its product value chain.

Pelchem products are used in the petroleum, pharmaceutical, glass, electricity transmission, metallurgical, mining, polymer, agrochemical, electronics, construction, aluminium and detergent industries. Around the world, societies benefit daily from products manufactured, processed or enhanced using fluorochemicals. These include high octane fuel, anaesthetics, metered dose inhalers, polished crystal glasses, frosted glass, electrical insulators, foam insulation and packaging materials, special alloys in aircraft and turbines, telephones, cellphones, diamonds, domestic and industrial refrigeration, non-stick cookware, plastic components in automotive applications, electrical cable insulation, beverage cans, pesticides and herbicides in agriculture, microchips for domestic appliances and computers, memory chips in computers, flash memory sticks, liquid crystal displays (LCD) on electronic components and displays for electrical components and televisions, cement, alloy wheels, gaming devices, automotive safety devices (airbags), aluminium foils, designer stainless steel kitchenware, stainless steel automotive components, soaps and washing powders, fluoride toothpaste, fluoride tablets and fluoride dental treatment.

For the year under review, the production performance remained unsatisfactory and investments are required to refurbish certain plants. Key partnerships were established during the year with customers that resulted in improved supply of products to the market. The safety record of Pelchem improved tremendously and I would like to thank all staff their effort and collaboration in improving our safety culture.

The short-term priority for Pelchem continues to be completing the refurbishments of its current production facilities so that plant reliability is improved and product offering diversified. The manufacturing and selling of xenon difluoride has been identified as a significant growth opportunity. The marketing and sales team is finalising multi-year supply contracts with four large international customers. This will be the most significant contributor to Pelchem’s turnaround to profitability.

Pelchem highlights and lowlights for 2022/23

Highlights	Lowlights
• Pelchem Board approval of its revised turnaround strategy, which is premised on product mix optimisation, reliability-centred maintenance programme and phased plant investments based on cash flows. • Xenon difluoride growth opportunity from 2023/24. • Improvement in safety record. • Customer and supplier support.	• Missed production targets due to the increasingly deteriorating plant performance. • Missed sales due to unreliability of production plants. • Lack of investment in upgrading the production infrastructure.

Umesh Natha
Managing Director
Pelchem SOC Ltd

Pelchem is an important supplier of hydrofluoric acid and fluorine.

13

INTEGRATED ASSURANCE

"Leads provision of objective assurance and consulting services of internal control systems, risk management, ethics and corporate governance."

Ms Laura Mabunda
Head of Integrated Assurance

Integrated Assurance is responsible for Necsa's risk and internal audit functions. It sets the vision for the Necsa Group Risk Management function, working with executive management and leads provision of independent and objective assurance and consulting services of internal control systems, risk management, ethics and corporate governance, performance, predetermined objectives and IT-related matters to the Audit and Risk Committee and the Board according to International Standards for Professional Practice of Internal Auditing and the Internal Audit Charter.

Internal Audit

Internal Audit is an independent and objective assurance and consulting activity that is guided by a philosophy of adding value to improve the operations of the company. It assists it in accomplishing its objectives by bringing a systematic and disciplined approach to evaluating and improving the effectiveness of governance, risk management and internal control.

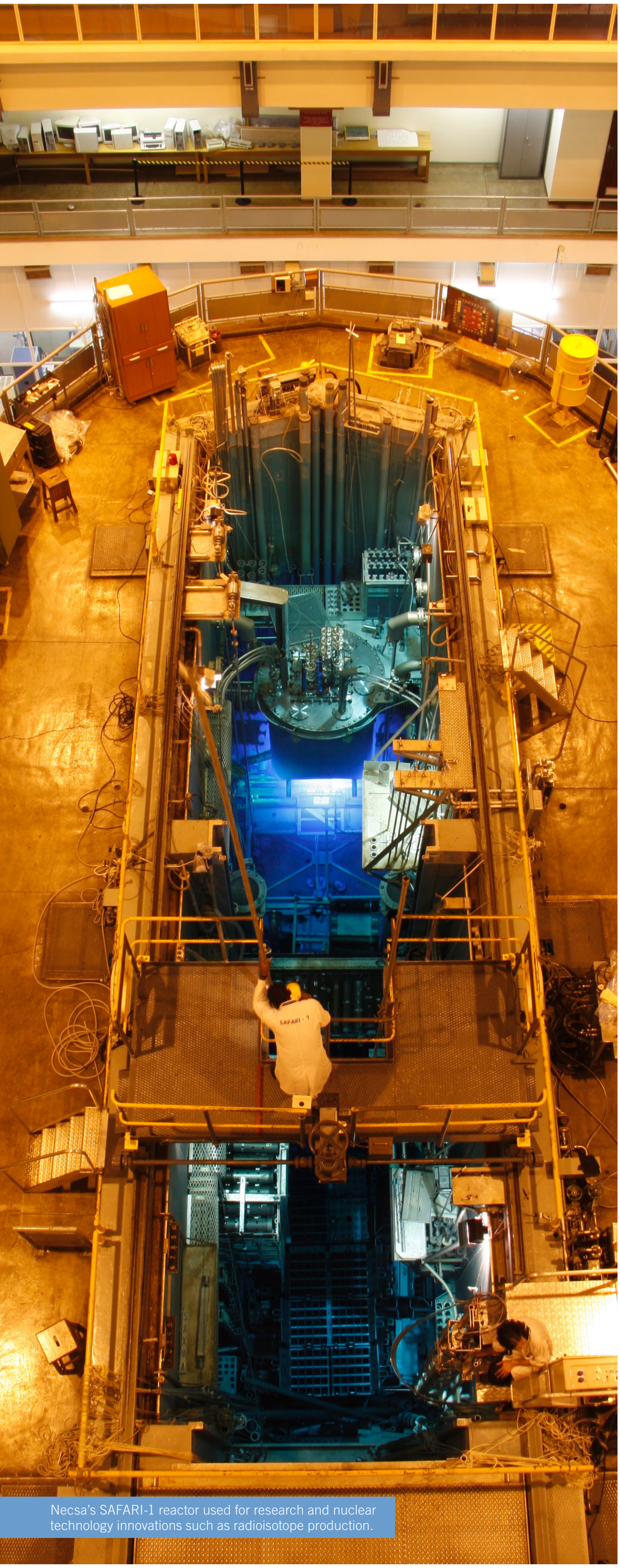
The Internal Audit function was established by the Necsa Board of Directors and the Audit and Risk Committee, with the responsibilities defined by the Board as part of its oversight role in line with the Public Finance Management Act of 2003, recommendations of King IV and the international standards of the Institute of Internal Auditors.

The function's responsibilities include providing assurance and consulting services to assist the Board of Directors and executive management in examining and evaluating the adequacy and effectiveness of governance, risk management and internal controls as well as the quality of performance in carrying out assigned responsibilities to achieve stated goals and objectives for Necsa and its subsidiaries.

Internal Audit provides quarterly adequacy and effectiveness of the entity's internal control and risk management systems based on the annual approved audit plan.

Internal Audit activities during the reporting period:

- Systems and compliance
- Business performance audit
- Information technology audit
- Review of strategic internal audit three-year rolling plan and development of risk-based internal audit plan for Necsa, NTP Radioisotopes and Pelchem
- Review of the audit committee charter
- 100% implementation of the annual risk-based internal audit plans
- AGSA follow-up audits
- Internal audit findings follow-up audits
- Key controls assessments (dashboard review)
- Quarterly reporting to the Audit and Risk Committee
- Monitoring of fraud hotline reporting and investigations
- Seventeen ad hoc/investigation assignments as per management requests
- Execution of a 100% performance audit methodology aligned to National Treasury framework on performance management, adding value to service delivery quality
- Recommendations on the external quality review and quality assurance improvement plan developed and implemented, resulting in improved governance, effective risk management and adequate internal controls in the Internal Audit function
- Audits of quarterly performance management reports and annual performance information for Necsa, NTP Radioisotopes and Pelchem to test the adequacy


Necsa's SAFARI-1 reactor used for research and nuclear technology innovations such as radioisotope production.

of the planned performance indicators, targets and reported achievements supported by evidence

- Review of the group and subsidiary annual financial statements for accuracy, completeness of account balances, presentation and disclosures
- Review of the Group Chief Executive Officer and group executive assessments on reported achievements supported by evidence and the performance scorecard, including alignment to the Board-approved Variable Pay Model Policy
- Review to assess adherence to corporate governance practices and principles.

14

GOVERNANCE

“The Group Company Secretariat supports and oversee board effectiveness in line with the Nuclear Act 46 of 1999.”

GROUP COMPANY SECRETARY

Fakazile Nyembe

Group Company Secretary

The Group Company Secretary provides guidance and support to the Board on good governance and changes in legislation while maintaining an arm’s length relationship with the Board and the directors.

Board governance at a glance

Necsa is governed and controlled, in accordance with the Nuclear Energy Act, by a Board of Directors to ensure that the objectives of the Act 46 of 1999 are carried out and to exercise general control over the performance of Necsa’s functions. The Group’s strategy and the sound corporate governance practices are designed to support the delivery of Necsa’s mandate by ensuring that all business functions are executed ethically with integrity and professionalism as required by the King IV report.

The Board of Directors embraces the principles of good corporate governance and considers these as the underlying philosophy in creating organisational excellence at all levels within Necsa. The Board is committed to efficient governance and to observing international trends in sound governance standards to attain best practice. A King IV compliance report has been developed and approved by the Board, which sets out the application of King IV principles in the organisation.

Ethical and effective leadership

The Board sets the precedent in driving ethics and good governance within the organisation. It strives to provide ethical and effective leadership to ensure that Necsa acts in a responsible manner that will enhance stakeholder value and ensure sustainability. The Board

Necsa Board members visiting Pelchem facility of Directors is aware that it should exercise its fiduciary duties ethically and in good faith both individually and collectively. Consistent with its commitment to embrace good corporate governance, the Board has established an ethics office to ensure that business is conducted with the highest standards of integrity in line with best governance practice.

Roles and Responsibilities

Chairperson

- leads the Board, sets the agenda and promotes culture of openness and debate;
- is responsible for overall effectiveness in leading the company and setting the culture;
- ensures the highest standards of corporate governance;
- is the main point of contact between the Board and management; and
- ensures effective communication with the shareholder and stakeholders.

Group Chief Executive Officer

- leads the business, implements strategy, chairs the Executive Committee and provides leadership to executive management
- communicates with the Board, the shareholder, employees, government authorities, other stakeholders and the public.

Non-Executive Directors

- contribute to developing Group strategy;
- scrutinise and constructively challenge the performance of management in the execution of the Group's strategy;
- oversee succession planning, including the appointment of executive directors

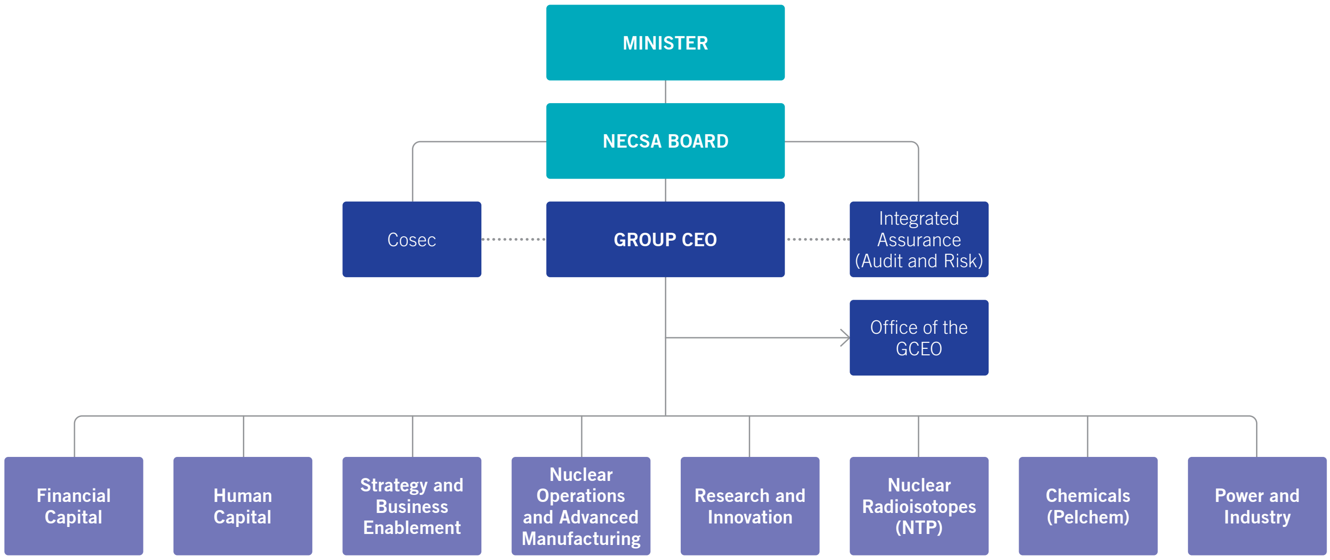
Directors' roles

Separation of Roles

There is a clear separation of the roles of the Chairman and the Group Chief Executive Officer. The Chairman is responsible for the operation of the Board and for ensuring that all directors are properly informed and consulted on all relevant matters. The Chairman, in the context of the Board meetings and as a matter of practice, also meets separately with the non-executive directors without the presence of the Chief Executive Officer and promotes the culture of openness and debate within Board sessions as well as outside the formal sessions.

Board Composition

The Board composition reflects the wide range of skills and knowledge necessary to meet Necsa's strategic objectives. During the appointment process, consideration is also given to expected time commitment to ensure that the effectiveness of the Board is not compromised.


MINISTER
NECSA BOARD
Cosec
GROUP CEO
Integrated Assurance (Audit and Risk)
Office of the GCEO
Financial Capital
Human Capital
Strategy and Business Enablement
Nuclear Operations and Advanced Manufacturing
Research and Innovation
Nuclear Radioisotopes (NTP)
Chemicals (Pelchem)
Power and Industry

Details of Group Board members

Directors appointed from 17 January 2020 to 16 January 2023

Name	Gender	Race (African, Asian, Coloured or White)	Age	Skills, knowledge and experience Qualification	Terms of Board appointment	Membership to Board committees and Necsa subsidiary boards	Active membership on other organisation, company, entity boards
David Nicholls	Male	White	69	• BSc (Hons) in Mechanical Engineering (2-1), • Postgraduate Diploma in Nuclear Reactor Technology, Royal Naval College, Greenwich • Professional registered engineer (Engineering Council of South Africa) • Chartered engineer in the UK	17 January 2020 to 16 January 2023	• Research, Development and Technology Committee • Business Development Committee • Structural Optimisation (Rationalisation) Committee	• Carlswald Estate Homeowners' Association • Chairperson of the nuclear research chapter of the South African Institute of Electrical Engineers • Co-Chairperson of the IAEA technical working group on nuclear power plant operations
Dr Namane Magau	Female	Black	70	• DEd Harvard University • MEd Rand Afrikaans University • BEd University of South Africa • BA University of the North	17 January 2020 20 May 2022	• Chairperson of Human Resources, Social and Ethics Committee • Investment and Finance Committee • Structural Optimisation (Rationalisation) Committee • Member of NTP Board of Directors	• Trustee of Bertha Gxowa Foundation • Department of Water Izakhiwo Imfundo Trust
Prof Gregory Davids	Male	Coloured	63	• BA Public Administration, University of Western Cape, • BA (Hon) Development • Management US • MPA US • PhD, University of Western Cape • Certificate in International Finance and Economics (IIAP-France) • Programme for Management Development (Harvard) • Governance for non-profit organisations (Harvard)	17 January 2020 16 January 2023	• Chairperson of Business Development Committee • Audit and Risk Committee • Human Resources, Social and Ethics Committee • Research, Development and Technology Committee	• Acting Deputy Director School of Governance (University of Western Cape) • Board member Overberg Water

Name	Gender	Race (African, Asian, Coloured or White)	Age	Skills, knowledge and experience Qualification	Terms of Board appointment	Membership to Board committees and Necsa subsidiary boards	Active membership on other organisation, company, entity boards
James Maboa	Male	Black	43	• Chartered Accountant • Registered Auditor • BCom (Accounting), University of Cape Town • Postgraduate Diploma in Accounting • Advanced Certificate in Auditing	17 January 2020 to 16 January 2023	• Chairperson Structural Optimisation (Rationalisation) Committee • Chairperson Investment and Finance Committee • Business Development Committee	• Movundlela Consulting Pty Ltd • M Consulting Mashukudu James Maboa and Co Incorporated • Nehawu Investment Holdings (Pty) Ltd • Eyesizwe Mining Development Trust • Eyesizwe Mining (Pty) Ltd • Mashukudu James Maboa and Co Incorporated • Unisa Council • Bokone Gas Pty Ltd • Nehawu Lottery Investments
Joseph Shayi	Male	Black	64	• Master of Business Leadership, University of South Africa (Unisa) • Master of Science in Chemistry, University of Pretoria • BSc (Hons): Majors in Physical and Inorganic Chemistry, University of Natal • BSc Majors in Chemistry and Physics, University of the North	17 January 2020 to 16 January 2023	• Chairperson of Nuclear Oversight and Regulatory Compliance Committee • Human Resources, Social and Ethics Committee • Research, Development and Technology Committee • Member of Pelchem Board of Directors	N/A

Name	Gender	Race (African, Asian, Coloured or White)	Age	Skills, knowledge and experience Qualification	Terms of Board appointment	Membership to Board committees and Necsa subsidiary boards	Active membership on other organisation, company, entity boards
Senamile Masango	Female	Black	36	• Masters in Nuclear Physics, University of Western Cape • Hons in Nuclear Physics, University of Zululand • BSc Physics and Electronics (major in electronics), University of Zululand • Project Management Diploma, Varsity College • Certificate in Detector and Instrumentation Technology, Fermilab, USA • Posgraduate Diploma in Energy Leadership, Wits Business School	17 January 2020 to 16 January 2023	• Chairperson Research, Development and Technology Committee • Nuclear Oversight and Regulatory Compliance Committee • Audit and Risk Committee • Human Resources, Social and Ethics Committee	Chairperson of Senamile Masango Foundation
Letlhogonolo Noge-Tungamirai	Female	Black	41	• Master of Business Administration, Wits Business School • Postgraduate Diploma in Management • Management Advancement Programme • Master Network Engineering Diploma, Torque-IT • IT Programming Diploma, CTU Training Solutions	17 January 2020 to 16 January 2023	• Chairperson of Nuclear Oversight and Regulatory Compliance • Audit and Risk Committee • Chairperson Research, Development and Technology Committee • Member of Pelchem Board of Directors	• Member of the Institute of Directors • Board member Sticky BBQ Group • Board member Empanda • Board member Epion • Board member Isimangaliso Wetland Park • Board member Environmental Assessment Practitioners Association • Board member Mangosuthu University of Technology

Name	Gender	Race (African, Asian, Coloured or White)	Age	Skills, knowledge and experience Qualification	Terms of Board appointment	Membership to Board committees and Necsa subsidiary boards	Active membership on other organisation, company, entity boards
Ms Chowan A	Female	Indian	49	• CA(SA) Registered Auditor • Bachelor of Accountancy • Postgraduate Diploma in Accounting • LLB degree • Admitted Advocate	17 January 2020 to 16 January 2023	• Chairperson of Audit and Risk Committee • Human Resources, Social and Ethics Committee • Investment and Finance Committee • Business Development Committee • Member of NTP Board of Directors	Board and audit and risk committee member at: • Council of Geosciences • Cross-border Road Transport Agency
Elsie Monale DMRE Representative	Female	Black	58	• MSc in Applied Radiation • BSc Ed • Training Course on Physical Protection of Nuclear Material and facilities – (IAEA)	1 February 2020 to 31 January 2023	• Structural Optimisation (Rationalisation) Committee • Nuclear Oversight and Regulatory Compliance	N/A
Bessie Makgopa (alternate to Elsie Monale)	Female	Black	47	• MSc Nuclear Engineering • BSc Honours Environmental Management • BSc Honours in Physics • BSc Physical Sciences • Programme in Project Management • Executive Leadership Development Programme	1 February 2020 to 31 January 2023	Nuclear Oversight and Regulatory Compliance	Tsebo Science and Technology Centre
Ambassador Ndumiso Ntshinga	Male	Black	66	• Masters in Law	26 November 2021 to 25 November 2024	Board member	N/A

Name	Gender	Race (African, Asian, Coloured or White)	Age	Skills, knowledge and experience Qualification	Terms of Board appointment	Membership to Board committees and Necsa subsidiary boards	Active membership on other organisation, company, entity boards
Marthinus van Schalkwyk (alternative to Ambassador Ndumiso Ntshinga)	Male	White	64	• BA Honours Degree in International Politics and Political Science • B Admin Degree in International Relations	26 November 2021 to 25 November 2024	Board member	N/A
Dr Mosidi Makgae	Female	Black	49	• PhD Environmental Chemistry Stellenbosch University • MSc Chemistry in Membrane Technology North West University • BSc Hons, North West University • Management Advancement • Technology Leadership Programme • Environmental Management • Project management	9 January 2023 to 8 January 2026	• Human Resources, Social and Ethics Committee • Audit and Risk Committee • Nuclear Oversight and Regulatory Compliance • Director: NTP Radioisotopes	• Strategic Fuel Fund • Mhlatuze Water Board

Name	Gender	Race (African, Asian, Coloured or White)	Age	Skills, knowledge and experience	Terms of Board appointment	Membership to Board committees and Necsa subsidiary boards	Active membership on other organisation, company, entity boards
				Qualification			
Suren Maharaj	Male	Indian		• Masters in Business Administration • Chartered Government Finance Officer, Chartered Institute of Government Finance, Audit and Risk Officers • Municipal Executive Financial Management, Wits Business School • Fellow Member of the Institute of Directors Southern Africa • Green Belt Digital Six Sigma Certified • Chartered Accountant CA (SA), South African Institute of Chartered Accountants • Hons BCompt Unisa • BCom Degree	9 January 2023 to 8 January 2026	• Chairperson of the Audit and Risk Committee • Human Resources, Social and Ethics Committee	• South African Institute of Chartered Accountants • Boxing South Africa • Tshwane University of Technology Enterprise • South African State Theatre • Companies and Intellectual Properties Commission • South African Weather Service • Road Traffic Infringement Authority • Independent Communications Authority of South Africa • Quality Council for Trades and Occupants • Ntabankulu Local Municipality • Buffalo City Metropolitan Municipality
Leonard Mavuso	Male	Black	66	• Bachelor of Arts • Masters Degree, Labour Studies • Executive Development Programme • Board Leadership Programme • Certificate in Essentials of Management Coaching	9 January 2023 to 8 January 2026	• Chairperson of the Human Resources, Social and Ethics Committee • Investment and Finance Committee • Research, Development and Technology Committee	N/A

Name	Gender	Race (African, Asian, Coloured or White)	Age	Skills, knowledge and experience Qualification	Terms of Board appointment	Membership to Board committees and Necsa subsidiary boards	Active membership on other organisation, company, entity boards
Hilton Lazarus	Male	Coloured	56	• MBA, Henley Business School (Reading, UK) • Global Executive Development Programme; Gordon Institute of Business Science • Management Development Programme; Gordon Institute of Business Science • Masters in Development Finance; Stellenbosch University (Business School) • Bachelor of Engineering (Civil); University of Cape Town	9 January 2023 to 8 January 2026	• Chairperson of the Investment and Funding Committee • Audit and Risk Committee • Director: NTP Radioisotopes	• Palabora Mining Company • Prilla 2000 • Masorini Iron Beneficiation • BRICS Manufacturing Working Group (South African Chapter)
Ashley Latchu	Male	Indian		• PhD Degree (current) • MSc Degree • Honours Degree • BSc IT Management Degree • Degree in Financial Accounting and Internal Auditing (on hold to pursue PhD) • Diploma in Networking • National School of Government – Board Induction • National School of Government – Ethics in the Public Sector • Microsoft Certified Systems Engineer • Microsoft Certified Solutions Developer	9 January 2023 to 8 January 2026	• Audit and Risk Committee • Investment and Finance Committee • Research, Development and Technology Committee	• Commission for Conciliation, Mediation and Arbitration • South African State Theatre • National Regulator for Compulsory Specifications • Social Housing Regulatory Authority • The Performing Arts Centre of the Free State • Tertiary Education and Research Network of South Africa • Department of Sports, Arts and Culture • Department of Justice and Constitutional Development

Name	Gender	Race (African, Asian, Coloured or White)	Age	Skills, knowledge and experience Qualification	Terms of Board appointment	Membership to Board committees and Necsa subsidiary boards	Active membership on other organisation, company, entity boards
				• Microsoft Certified Systems Administrator • Microsoft Certified Database Administrator • Mining and Minerals Business and Technology Certification from University of Johannesburg.			• Mpumalanga Community Education and Training College • Council for the Built Environment • Unisa School of Computing • Southern African Trust • Public Service Commission • Gauteng Industrial Development Zone • Ekurhuleni East TVET College
Loyiso Tyabashe	Male	Black	48	• Master of Science in Mechanical Engineering • Bachelor of Science in Mechanical Engineering • Executive Leadership Programme	1 January 2021 to date	• Chairperson of Pelchem Board of Directors • Chairperson of NTP Board of Directors • Ex-Officio on committee of the Board	• Consolidated Plant Solutions • Constellation Investment Corporation

Board Effectiveness

Newly appointed directors are apprised of Necsa's business, their duties and responsibilities as directors and are given the opportunity to visit Necsa's plants and operations. The development of industry and Group knowledge is a continuous process and directors are briefed on risks and general business environment on an ongoing basis.

The Board, its committees and directors are entitled to seek independent professional advice concerning the company's affairs and to gain access to any information they may require in discharging their duties as directors.

The Board formally evaluates its performance and effectiveness and those of its committees, directors and the Chairman every year. A formal evaluation was conducted by Peakford Management Consultants in 2022.

Board Meetings

Board attendance

Details of directors whose term ended 16 January 2023				
Member Details	Meeting Date			
	30 May	30 Aug	05 Oct	30 Nov
DR Nicholls	P	P	P	P
Prof GJ Davids	P	P	P	P
MJ Maboa	P	A	P	P
LJ Shayi	P	P	P	P
SKN Masango	P	P	P	P
L Noge-Tungamirai	P	P	P	P
A Chowan	P	P	P	P
PE Monale	P	A	A	P
B Makgopa	A	A	P	A
Amb NN Ntshinga	A	A	A	A
M Van Schalkwyk	P	P	P	P
Details of directors appointed from 17 January 2023				
Member Details	**Meeting Date**			
	30 Jan	**06 Feb**	**25 Feb**	**15 March**
DR Nicholls	P	P	P	P
LJ Shayi	P	P	A	P
SKN Masango	P	P	P	P
PE Monale	P	A	A	P
B Makgopa	P	P	P	A
Amb NN Ntshinga	A	A	A	A
M Van Schalkwyk	A	P	P	A
S Maharaj	P	P	P	P
Dr M Makgae	P	P	P	P
L Mavuso	P	P	P	P
H Lazarus	A	P	P	P
A Latchu	P	P	P	P
L Tyabashe	P	P	P	P

P Member present at the meeting
A Member not present, but tendered an apology
T Member participated via telecon
N Member not appointed at this stage

Focus Areas of the Board and its Committees

The Board Charter is founded on the Nuclear Energy Act and Board Protocol. The Board Charter and Board committees' terms of reference are reviewed as and when required but at least every year to ensure they remain relevant and aligned with the Companies Act and other regulatory requirements, King IV and governance best practices. The Board uses its meetings to discharge its governance and regulatory responsibilities. Its work plan and those of its committees outline the matters that should be dealt with at meetings and are aligned with the responsibilities and requirements set out in the Board Charter and the committees' terms of reference.

Matters considered include operational and financial performance, strategy, risk and opportunity, and compliance, as well as matters reserved for Board decision-making. There are four Board meetings a year. The Board also meets once a year to discuss strategy. For the reporting period, the Board held eight meetings.

Committees of the Board

The Board was advised and assisted by four Board committees, namely the Audit and Risk, Human Resources, Social and Ethics, Research and Development, and Investment and Finance. The committees met at least quarterly and all have adopted formal terms of reference and provide the required feedback to the Board through committee reports. Board committees and their terms of reference are reviewed annually to ensure continuing relevance.

In terms of section 19 of the Nuclear Energy Act, the Board is advised and assisted by advisory committees whose mandate is to assist the Board in discharging its responsibilities. These committees play an important role in enhancing standards of governance and improving effectiveness within the Necsa Group. External advisers are invited to attend Board and/or committee meetings as or when the need arises.

Audit and Risk Committee

The Audit and Risk Committee assists the Board to fulfil its oversight responsibilities in areas such as financial reporting, internal control systems, risk management systems and the internal and external audit functions.

Meeting attendance

Details of directors whose term ended 16 January 2023						
Member Details	Meeting Date					
	25 May	29 May	25 Jul	26 Aug	31 Oct	14 Dec
A Chowan (Chairperson)	P	P	P	P	P	P
L Noge-Tungamirai	P	P	P	P	P	P
SKN Masango	P	P	P	P	P	P
LJ Shayi	P	P	P	P	P	P
Prof GJ Davids	P	P	P	P	P	P

Details of directors appointed from 17 January 2023		
Member Details	Meeting Date	
	24 Feb	31 Mar
S Maharaj (Chairperson)	P	P
SKN Masango	P	P
A Latchu	P	A
Dr M Makgae	P	P
H Lazarus	A	A

Human Resources, Social and Ethics Committee

This committee was formally constituted in line with the provisions of regulation 43(5) read with section 72(4)-(10) of the Companies Act, Act 71 of 2008. Its role is to assist the Board with the oversight of human resources, social and ethics matters.

Meeting attendance

Details of directors whose term ended 16 January 2023				
Member Details	**Meeting Date**			
	20 May 2022	**20 Sep 2022**	**27 Sep 2022**	**17 Nov 2022**
Dr NT Magau (Chairperson)	P	D	D	D
L Noge-Tungamirai (Acting Chairperson)	N	P	P	P
Adv A Chowan	P	P	P	P
LJ Shayi	P	P	P	P
SKN Masango	P	P	P	P
Dr GJ Davids	P	P	P	P
L Tyabashe	A	P	A	P

Details of directors appointed from 17 January 2023		
Member Details	**Meeting Date**	
	20 Feb 2023	**13 Mar 2023**
Mr CL Mavuso (Chairperson)	P	P
Mr S Maharaj	P	P
Ms SKN Masango	P	P
Mr LJ Shayi	P	P
Mr L Tyabashe	P	A

P Member present at the meeting
A Member not present, but tendered an apology
D Member deceased
N Member not yet appointed

Board of Directors attending the Necsa Research & Innovation workshop

Investment and Finance Committee

The Investment and Finance Committee assists the Board by receiving reports, deliberating and/or making recommendations to the Board on investment policies, reviewing the viability of business opportunities and/or cases, reviewing the Necsa Group's financial performance, procedures to monitor the application of and compliance with the investment policies by officers, employees and Necsa's investment board's agents, approval of all other investment transactions, the effectiveness of the investment policies and the achievement of the objects of the Necsa Board, considering and recommending for approval by the Necsa Board the Necsa Group corporate plan, and other matters delegated to the committee by the Board.

Meeting attendance

Details of directors whose term ended 16 January 2023			
Member Details	Meeting Date		
	16 May 2022	22 Aug 2022	15 Nov 2022
MJ Maboa (Chairperson)	P	P	P
Dr NT Magau	P	D	D
Adv A Chowan	P	P	P
SKN Masango	P	P	P
L Tyabashe	A	P	P

P Member present at the meeting
A Member not present, but tendered an apology
D Member deceased

Technology (Research and Development) Committee

The committee assures Necsa shareholder and stakeholders that technology, including research and development, are strategic, innovative and supported at the highest level.

Meeting attendance

Details of directors whose term ended 16 January 2023			
Member Details	Meeting Date		
	19 May 2022	21 Sep 2022	14 Nov 2022
SKN Masango	P	P	P
DR Nicholls	P	P	P
Dr GJ Davids	P	P	P
LJ Shayi	P	P	A
L Noge-Tungamirai	P	P	P
BM Makgopa	P	A	A
L Tyabashe	A	P	P

Details of directors appointed from 17 January 2023			
Member Details	**Meeting Date**		
	22 Feb 2023	**6 Mar 2023**	**30 Mar 2023**
SKN Masango	P	P	P
C L Mavuso	P	P	P
A Latchu	P	P	P
LJ Shayi	P	P	P
DR Nicholls	P	P	P
BM Makgopa	P	P	A
L Tyabashe	A	A	A

P Member present at the meeting
A Member not present, but tendered an apology

Business Development Committee

The committee identifies and develops new business opportunities, including growth areas, trends, customers, products and service.

Meeting attendance

Details of directors whose term ended 16 January 2023		
Member Details	**Meeting Date**	
	17 May 2022	**16 Nov 2022**
Dr GJ Davids (Chairperson)	P	P
MJ Maboa	P	A
DR Nicholls	P	P
Adv A Chowan	P	P
L Noge-Tungamirai	P	P
L Tyabashe	A	P

P Member present at the meeting
A Member not present, but tendered an apology


Necsa Board Members visiting SAFARI-1

Nuclear Oversight and Regulatory Compliance Committee

The committee focuses on nuclear safety and medical licences. It receives and reviews the Nuclear Compliance and Services Department periodic reports on safety, security, quality and SHEQ.

Meeting attendance

Details of directors whose term ended 16 January 2023			
Member Details	**Meeting Date**		
	18 May 2022	**22 Sep 2022**	**18 Nov 2022**
LJ Shayi	P	P	P
SKN Masango	P	P	P
L Noge-Tungamirai	P	P	P
PE Monale	A	A	P
BM Makgopa	A	A	A
L Tyabashe	A	A	P

Details of directors appointed from 17 January 2023	
Member Details	**Meeting Date**
	17 Feb 2023
LJ Shayi	P
Dr ME Makgae	P
SKN Masango	P
CL Mavuso	A
PE Monale	P
BM Makgopa	P
L Tyabashe	P

Board Structural Optimisation Committee

This in an interim board committee appointed to oversee the possible restructuring and repurposing of the Necsa Group in line with the government's call to rationalise SOCs.

Meeting attendance

Details of directors whose term ended 16 January 2023		
Member Details	**Meeting Date**	
	11 April 2022	**19 May 2022**
MJ Maboa (Chairperson)	P	P
DR Nicholls	P	P
Dr NT Magau	P	P
PE Monale	A	A
L Tyabashe	P	P

Executive Management

The Group CEO, in carrying out the powers set out above, is assisted by the Executive Management Committee. The Group CEO is the Chairperson of the Group Executive Committee. The committee's main functions include alignment of Necsa's business with the Group mission, vision, strategies, targets, policies and consideration of material business, strategic, financial and functional issues.

One of the key objectives of the rationalisation process is to ensure that the Group CEO has sufficient capacity to steer the organisation in the right direction effectively. The group structure ensures that all subsidiaries are effectively supported by the group as well as the appropriate governance to ensure effective execution of the strategy. Subsequent to the approval of the new organisational structure, the Group CEO appointed the following executives to execute the mandate from the Board:

Ayanda Myoli	Group Executive: Nuclear Operations and Advanced Manufacturing
Qhamkile Boyede	Group Executive: Strategy and Business Enablement
Precious Hawadi	Financial Capital
Pradish Rampersadh	Group Executive: Research and Innovation
Monde Mondi	Group Executive: Human Capital
Nto Rikhotso	Executive in the Office of the Group Chief Executive

Executive Committee

EXCO member credentials

Name	Capacity	Appointed Date	Qualifications
Loyiso Tyabashe	Necsa Group CEO	1 January 2021	• MSc Mech Eng • BSc Mech Eng • Executive Leadership Programme
Precious Hawadi	Group Chief Financial Officer	3 January 2021 to date	• CA(SA) • Programme for executive development • Transition to business leadership • Foundation to business leadership • BCom Honours Accounting • BCom Accounting
Thabo Tselane	Acting NTP Group Managing Director NTP Managing Director	1 February 2021 to 28 February 2022 1 March 2022	• MSc (Applied Nuclear Physics • BSc (Honours Nuclear Physics) • BSc (Chemistry and Physics) • Project management qualification • Programme qualification • Global Executive Development Programme
Umesh Natha	Managing Director: Pelchem	March 2021 to date	• BEng (Chemical Engineering) • Masters of Business Administration
Dr Pradish Rampersadh	Group Executive: Research and Innovation	1 March 2022 to date	• BSc Chemistry and Applied Chemistry • BSc (Hons) • MSc (Organometallic Chemistry) • PhD (Inorganic Chemistry) • Management Advancement Programme
Monde Mondi	Group Executive: Human Resources and Real Estates Asset Management	1 September 2017 to date	• BPhil • BA Education • Masters Diploma in Human Resources Management • Masters Artium (Labour Relations and Human Resources Management) • Management Development Programme
Ayanda Myoli	Group Executive: Nuclear Operations and Advanced Manufacturing	3 January 2022 to date	• BSc (Eng)(Mech) • Masters of Business Leadership • Senior management programme • Diploma Packaging Management
Qhamkile Boyede	Group Executive: Strategy and Business Enablement	3 January 2022 to date	• Bachelor of Chemical Engineering • Postgraduate Diploma in Business Administration • Masters in Business Administration
Mxolisi Makhathini	Group Executive: Power and Industry	1 June 2022 to 17 January 2023	• Bachelor of Science: Electrical Engineering • Engineering Council of South Africa: Candidate Engineer • National Diploma: Electrical Engineering • Denel Executive Development Programme

Name	Capacity	Appointed Date	Qualifications
Laura Mabunda	Head: Integrated Assurance	1 July 2022 to date	• Certified Internal Auditor • Chartered Internal Auditor or Chartered Member of the Institute of Internal Auditors • Qualification in Internal Audit Leadership • B-Tech Internal Auditing • Master of Philosophy In Internal Auditing • Master of Business Administration • Certified Ethics Officer • Institute of Internal Auditors Accreditation for Quality Assurance and Improvement Programme • Executive Leadership Management Development Programme • Women in Leadership Executive Development Programme
Fakazile Nyembe	Group Company Secretary	1 June 2021 to date	• Admitted Attorney of the High Court of South Africa • Masters in Commercial Law • Bachelor Of Laws • Leadership Development for Executive Managers
Nto Rikhotso	Executive: Office Of the GCEO	3 January 2022 to date	• Bachelor of Arts in Education • Bachelor of Education • Higher Diploma in Integrated Marketing Communications • Management Advancement Programme
Dr Nikelwa Tengimfene	Senior Manager: Corporate Communication and Stakeholder Relations	1 September 2017 to date	• MA (Industrial and Organisational Psychology) • PhD (Psychology)

Nuclear Manufacturing

Necsa details

Registration number:	2000/003735/06
Shareholder ministry:	Department of Mineral Resources and Energy
Country of incorporation and domicile:	South Africa
Physical and business address:	Elias Motsoaledi Street Extension (formerly Church Street West) R104 Pelindaba, Brits Magisterial District, Madibeng Municipality, North West 0240
Postal address:	PO Box 582, Pretoria 0001 South Africa
Telephone number:	+27 12 305 4911
Fax number:	+27 12 305 3111
Email address:	communication@necsa.co.za
Website address:	www.necsa.co.za
External auditors:	Auditor-General of South Africa (AGSA) 39 Scott St, Bramley, Johannesburg, 2090
Banker:	Nedbank Limited, 135 Rivonia Road, Sandown, Sandton
Group Company Secretary:	Fakazile Nyembe +27 12 305 4454 Fakazile.Nyembe@necsa.co.za
Enquiries about this report:	Group Executive: Financial Capital Telephone: +27 12 305 5563 Precious.Hawadi@necsa.co.za

15

ADDENDUM: ABBREVIATIONS AND ACRONYMS

ACS	Analytical and Calibration Services
AEC	Atomic Energy Corporation
AFS	Audited financial statements
AGSA	Auditor-General of South Africa
ASME	American Society for Mechanical Engineers
B-BBEE	Broad-based Black Economic Empowerment
Covid-19	2019 novel Coronavirus
CTBTO	Comprehensive Nuclear-Test-Ban Treaty Organisation
D&D Stage 1	Decontamination, decommissioning and waste management of disused historical nuclear facilities
D&D Stage 2	Decontamination, decommissioning and waste management of operating nuclear facilities
DIIR	Disabling Injury Incidence Rate
DMRE	Department of Mineral Resources and Energy
DSI	Department of Science and Innovation
EXCO	Executive Committee
FIDPM	Framework for Infrastructure Delivery and Procurement Management
GCEO	Group Chief Executive Officer
IAEA	International Atomic Energy Agency
IFRS	International Financial Reporting Standards
ICPMS	Inductively Coupled Plasma Mass Spectrometry
iPCIF	interim Pre-Clinical Imaging Facility
ISO 9001	Quality Management Systems - Requirements
IT	Information Technology
MWh	Megawatt hours
Molybdenum-99	A radioactive isotope of molybdenum
MPR	Multipurpose reactor
Necsa	South African Nuclear Energy Corporation SOC Limited
Nehawu	National Education, Health and Allied Workers Union
NLA	Necsa Learning Academy
NNR	National Nuclear Regulator
NQF	National Qualifications Framework
NSI	National System of Innovation
NTeMBI	Nuclear Technologies in Medicine and the Biosciences Initiative
NuMeRI	Nuclear Medicine Research Infrastructure
OSCAR	Overall System for the Calculation of Reactors
PFMA	Public Finance Management Act
PSMA	Prostate-specific membrane antigen
R&D	Research and Development
SABS	South African Bureau of Standards
SAFARI-1	South African Fundamental Atomic Research Installation
SHEQ	Safety, Health, Environment and Quality
SOC	State-owned Company
TIA	Technology Innovation Agency
USA	United States of America
Xe	Xenon

16

ADDENDUM: LIST OF RESEARCH PUBLICATIONS AND REPORTS

Peer-reviewed Publications:

1. Adamovich I, Bogaerts A, Coulombe S, Hori M, Magin TE, Puac N, Tarasenko N, Turner MM, Agarwal S, Ahedo E, Alves LL, Baalrud S, Babaeva N, Bourdon A, Bruggeman PJ, Canal C, Choi EH, Donkó Z, Graves DB, Hamaguchi S, Hegemann D, Kim H, Kroesen GMW, Kushner MJ, Laricchiuta A, Li X, Mededovic Thagard S, Miller V, Murphy AB, Oehrlein GS, Sankaran RM, Samukawa S, Shiratani M, Šimek M, Terashima K, Thomas Jr E, Trieschmann J, Tsikata S, Van der Walt IJ, Van de Sanden MCM and Von Woedtke T. (2022). The 2022 Plasma roadmap: Low temperature plasma science and technology. Journal of Physics D-Applied Physics Article ID https://doi.org/10.1088/1361-6463/ac5e1c. https://doi.org/10.1088/1361-6463/ac5e1c AC-PGR-PUB-22001
   [Publication/Presentation date 27 July 2022]

2. Alawad BAB, Abdelbagi H, Ntsoane TP and Hlatshwayo T. (2022). Microstructure of zirconium carbide ceramicssynthesized by spark plasma sintering materials and devices, Open Access Journal Materials and Devices Article ID DOI: 10.23647/ca.md20220408. http://caip.co-ac.com/index.php/materialsanddevices/article/view/146 RS-DIFF-PUB-22003
   [Publication/Presentation date 23 April 2022]

3. Bokov PM and Botes D. (2022). Hierarchical interpolation of homogenised few-group neutron cross-sections on samples with uncorrelated uncertainty. International Conference on Physics of Reactors 2022 (PHYSOR 2022); Pittsburgh, Pennsylvania, USA; May 2022; Proceedings published by: American Nuclear Society: 3666-3675. https://www.ans.org/pubs/proceedings/article-51339/ RRT-SUBMIT-PUB-21008
   [Publication/Presentation date 20 May 2022]

4. Bokov PM, Botes D, Prinsloo RH and Tomasevic D. (2023). A multi-group homogeneous flux reconstruction method based on the ANOVA-HDMR decomposition. Nuclear Science and Engineering 197: 308-322. https://doi.org/10.1080/00295639.2022.2108654 RRT-SUBMIT-PUB-22003
   [Publication/Presentation date 01 February 2023]

5. Dube TM, Van der Merwe AF, Matope S and Bissett H. (2021). Value chain of the spheroidisation of metal with particular emphasis on titanium: A literature review. Fourth European Conference on Industrial Engineering and Operations Management: 1028-1039.
   http://ieomsociety.org/proceedings/2021rome/439.pdf AC-AMI2020SPH-PUB-21004
   [Publication/Presentation date 02 August 2021]

6. Dube TM, Van der Merwe AF, Matope S, Bissett H, Postma CJ and Makhofane MM. (2022). Environmental impact assessment of reconditioning of titanium alloy. 2022 RAPDASA-RobMech-PRASA-CoSAAMI Conference 370 https://www.matec-conferences.org/10.1051/matecconf/202237006006 AC-AMI2020SPH-PUB-22005
   [Publication/Presentation date 09 November 2022]

7. Everix L, Nair S, Driver CHS, Goethals I, Sathekge M, Ebenhan T, Vandevoorde C and Bolcaen J (2022). Perspective on the use of DNA repair inhibitors as a tool for imaging and radionuclide therapy of glioblastoma. Cancers Article ID 1821.
   https://doi.org/10.3390/cancers14071821 RC-ADM-PUB-22001
   [Publication/Presentation date 03 April 2022]

8. Glaser D, Polese C, Venter AM, Marais D and Plaisier J. (2022). Evaluation of laser shock peening process parameters incorporating Almen strip deflections. Surface & Coatings Technology 434:
   https://doi.org/10.1016/j.surfcoat.2022.128158 RS-DIFF-PUB-22004
   [Publication/Presentation date 25 March 2022 but captured in April 2022]

9. Gouws AC, Kruger HG, Gheysens O, Zeevaart JR, Govender T, Naicker T and Ebenhan T. (2022). Antibiotic-derived radiotracers for positron emission tomography: Nuclear or 'unclear' infection imaging?. Angewandte Chemie-InternationalEdition https://doi.org/10.1002/anie.202204955 RC-ADM-PUB-22002
[Publication/Presentation date 14 July 2022]

10. Haruna A, Barrett D, Rodella C, Erasmus R, Venter AM, Sentsho ZN and Ozoemena K. (2022). Microwave irradiation suppresses the Jahn-Teller distortion in spinel LiMn2O4 cathode material for lithium-ion batteries. Electrochimica Acta 426: 140786-14089.
https://doi.org/10.1016/j.electacta.2022.140786 RS-DIFF-PUB-22006
[Publication/Presentation date 10 September 2022]

11. Jacobs C, Chinaka EM and Bedhesi L. (2022). Radiation shielding for the transportation of radioactive Lutetium-177. Fourteenth International Conference on Radiation Shielding and 21st Topical Meeting of the Radiation Protection and Shielding Division: 253-256. https://www.ans.org/pubs/proceedings/issue-3217/ RRT-SUBMIT-PUB-22004
[Publication/Presentation date 04 November 2022]

12. Juget F, Talip Z, Nedjadi Y, Durán MT, Grundler PV, Zeevaart JR, Van der Meulen NP and Bailat C. (2022). Precise activity measurements of medical radionuclides using an ionisation chamber: a case study with Terbium-161. Ejnmmi Physics Article ID 19 (2022). https://doi.org/10.1186/s40658-022-00448-0 RL-RPCTb161-PUB-22001
[Publication/Presentation date 14 March 2022]

13. Kgatle M, Das R, Lawal I, Boshomame T, Mokoala K, Gaspar C, Mbokazi L, Nkambule N, Gow V, Ndlovu H, Mzizi Y, Chalwe J, Diphofa J, Mokobodi D, Gxekwa N, Zongo L, Maphosa T, Vorster M, Bassa S, Venkatesan A, Khanyile R, Munga Y, Ebenhan T, Zeevaart JR and Sathekge M. (2023). The SARS-COV-2 seroprevalence among oncology patients. Journal of Clinical Medicine Article ID jcm-2015360.
https://doi.org/10.3390/ jcm12020529 RC-MNG-PUB-23002
[Publication/Presentation date 09 January 2023]

14. Maqabuka BG, Bedhesi L, Chinaka EM, Connell SH, Daniels GC, Naidoo P, Nicholls D, Pieterse F and Slabber J. (2022). Fibre optic sensors for nuclear power reactors. The proceedings of SAIP2021, the 65th Annual Conference of the South African Institute of Physics: 241-246. https://events.saip.org.za/event/206/page/446-the-proceedings-of-saip2021 RD-FOS-PUB-21001
[Publication/Presentation date 04 April 2022]

15. Marjanovic-Painter B, Kleynhans J, Zeevaart JR, Rohwer E and Ebenhan T. (2022). A decade of ubiquicidin development for PET imaging of infection: a systematic review. Nuclear Medicine and Biology Article ID https://doi.org/10.1016/j.nucmedbio.2022.11.001. https://doi.org/10.1016/j.nucmedbio.2022.11.001 RC-ADM-PUB-22003
[Publication/Presentation date 13 November 2022]

16. Mbwebwe J, Kolesnikov A, Van der Walt IJ and Bissett H. (2022). Validation of computational fluid dynamics method through experimental investigation of the plasma spraying process. 2022 RAPDASA-RobMech-PRASA-CoSAAMI 370 https://www.matec-conferences.org/10.1051/matecconf/202237009002 AC-AMI2020SPH-PUB-22003
[Publication/Presentation date 05 December 2022]

17. Moloko LE, Bokov PM, Wu X and Ivanov K. (2022). Quantification of neural networks uncertainties with applications to SAFARI-1 axial neutron flux profiles. International Conference on Physics of Reactors 2022 (PHYSOR 2022), Pittsburgh, PA, May 15-20, 2022: 1398-1407. https://www.ans.org/pubs/proceedings/article-51121/ RRT-SUBMIT-PUB-22002
[Publication/Presentation date 15 May 2022]

18. Motsomone L, Diale R, Ngoepe P, Koen R and Chauke H. (2022). Structural and mechanical properties of monazite type LnPO4 (Ln = La, Ce, Pr and Nd). 2022 RAPDASA-RobMech-PRASA-CoSAAMI 370 https://www.matec-conferences.org/10.1051/matecconf/202237009008 AC-AMI-PUB-22002
[Publication/Presentation date 05 December 2022]

19. Ncwane S, Greeff I and Van der Walt IJ. (2022). Study on nitrogen plasma gasification for small scale waste processing. Chemical Engineering Research and Design Article ID https://doi.org/10.1016/j.cherd.2022.09.057. https://doi.org/10.1016/j.cherd.2022.09.057 AC-PGR-PUB-22002
[Publication/Presentation date 30 September 2022]

20. Nwaila GT, Manzi MSD, Zhang SE, Bourdeau JE, Bam LC, Rose DH, Maselela K, Reid DL, Ghorbani Y and Durrheim RJ. (2022). Constraints on the geometry and gold distribution in the Black Reef Formation of South Africa Using 3D reflection seismic data and micro-X-ray computed tomography. Natural Resources Research 31: 1225-1244.
https://doi.org/10.1007/s11053-022-10064-5 RS-RESSUP-PUB-22002
[Publication/Presentation date 22 April 2022]

21. Pineau J, Lima LP, Platas-Inglesias C, Zeevaart JR, Driver CHS, Le Bris N and Tripier R. (2022). Relevance of palladium to radiopharmaceutical development considering enhanced coordination properties of TE1PA. Chemistry-A European Journal Article ID e202200942.
https://doi.org/10.1002/chem.202200942 RC-RPCPD103-PUB-22001
[Publication/Presentation date 13 May 2022]

22. Pineau J, Lima L, Le Roy M, Marionneau-Lambot S, Cordier M, Le Saec P, Zeevaart JR, Driver CHS, Faivre-Chauvet A, Le Bris N and Tripier R. (2022). Highly inert Cu(II) complexes of C-aryl bifunctional cyclam-picolinates with remarkable 64Cu-labelling and biodistribution. Chemical Communications 59: 888-891. https://doi.org/10.1039/D2CC06602E RC-RPCPD103-PUB-23001
[Publication/Presentation date 21 December 2022]

23. Prinsloo RH, Groenewald SA, Jacobs C and Tomasevic D. (2022). Demonstration of an embedded diffusion scheme for modelling the BEAVRS benchmark problem. International Conference on Physics of Reactors (PHYSOR 2022); Pittsburg, PA; May 2022: 2773-2782.
https://www.ans.org/pubs/proceedings/article-51252/ RRT-SUBMIT-PUB-22001
[Publication/Presentation date 04 July 2022]

24. Ramabulana T, Ndlovu M, Mosa RA, Sonopo MS and Selepe MA. (2022). Phytochemical profiling and isolation of bioactive compounds from leucosidea sericea (Rosaceae). Acs Omega 7: 11964-11972.
https://doi.org/10.1021/acsomega.2c00096 RL-TRANATP-PUB-22002
[Publication/Presentation date 31 March 2022]

25. Rousseau G, Fourie J, Kloppers C and Marais D. (2022). Published article: Effect of stress-relief anneal time on residual stress of Co-Cr-Mo parts manufactured with selective laser melting. 2022 RAPDASA-RobMech-RPRASA-CoSAAMI Proceedings published by Genevieve Rousseau, Jaundrie Fourie, CP Kloppers and Deon Marais Conference (2022) Published article Effect of stress-relief annual time on residual stress of Co-Cr-Mo-parts manufactured with selective laser melting: 1-12.
https://doi.org/10.1051/matecconf/202237011004 RS-DIFF-PUB-22007
[Publication/Presentation date 13 December 2022]

26. Selepe M, Kunyane P, Seboletswe P, Nair S, Cele N, Engelbrecht M, Vandevoorde C, Singh P and Sonopo MS. (2022). SAR studies of benzoylbenzofuran and isoflavone derivatives as sirtuin 1 inhibitors and their antiproliferative effects on MDA-MB-231 breast cancer cells. Bioorganic Chemistry Article ID 10.1016/j.bioorg.2022.106101.
https://doi.org/10.1016/j.bioorg.2022.106101 RC-TRANATP-PUB-20001
[Publication/Presentation date 12 August 2022]

27. Seya WA, Kolesnikov A, Van der Walt IJ and Bissett H. (2022). Impact of heat transfer on spheroidisation of titanium alloys. Conference of the South African Advanced Materials Initiative; Virtual; October; 2021; Proceeding published by: "Suid-Afrikaanse Tydskrif vir Natuurwetenskap en Tegnologie": 274-277. https://doi.org/10.36303/SATNT.2021cosaami.50 AC-AMI2020SPH-PUB-21005
[Publication/Presentation date 24 January 2022]

28. Seya WA, Kolesnikov A, Van der Walt IJ and Bissett H. (2022). Simulation of the effect of evaporation and gas composition during plasma spheroidisation of titanium particles. 2022 RAPDASA-RobMech-PRASA-CoSAAMI 370 https://www.matec-conferences.org/10.1051/matecconf/202237002004 AC-AMI2020SPH-PUB-22004
[Publication/Presentation date 05 December 2022]

29. Smit TC, Nobre JP, Rei R, Wu T, Niendorf T, Marais D and Venter AM. (2022). Assessment and validation of incremental hole-drilling calculation methods for residual stress determination in fibre-metal laminates. Experimental Mechanics 62: 1289-1304.
https://doi.org/10.1007/s11340-022-00848-4 RS-DIFF-PUB-22005
[Publication/Presentation date 21 June 2022]

30. Suthiram J, Pieters A, Mohamed-Moosa Z, Zeevaart JR, Sathekge MM, Ebenhan T, Anderson R and Newton CL. (2023). Tachykinin receptor-selectivity of the potential glioblastoma-targeted therapy, DOTA-[Thi8,Met(O2)11]-Substance P. International Journal of Molecular Sciences Article ID 2134. https://doi.org/10.3390/ijms24032134 GMP-RPCIMBM-PUB-22001
[Publication/Presentation date 21 January 2023]

31. Van der Merwe R, Bissett H, Van der Walt IJ and Cornish LA. (2022). Induction melting of three CuAl alloys for good homogeneity for powder spheroidisation. Journal of Materials Engineering and Performance Article ID 10.1007/s11665-022-07685-5 1. https://doi.org/10.1007/s11665-022-07685-5 AC-AMI2020TP-PUB-22001
[Publication/Presentation date 06 December 2022]

32. Zanolli C, Davies T, Joannes-Boyau R, Beaudet A, Bruxelles L, De Beer FC, Hoffman JW, Hublin J, Jakata K, Kgasi L, Kullmer O, Macchiarelli R, Pan L, Schrenk F, Santos F, Stratford D, Tawane M, Thackeray F, Xing S, Zipfel B and Skinner M. (2022). Dental data challenge the ubiquitous presence of Homo in the Cradle of Humankind.. Proceedings of The National Academy of Sciences of The United States of America 119: 1-11. https://doi.org/10.1073/pnas.2111212119 RS-RESSUP-PUB-22001
[Publication/Presentation date 13 April 2022]

Contract research reports:

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[Publication/Presentation date 09 March 2023]

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[Publication/Presentation date 24 March 2023]

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[Publication/Presentation date 27 September 2022]

17

ANNUAL FINANCIAL STATEMENTS

GENERAL INFORMATION

The South African Nuclear Energy Corporation SOC Limited and its Group Companies
(Registration number 2000/003735/06)
Trading as Necsa
Annual financial statements for the year ended 31 March 2023

Country of incorporation and domicile
South Africa

Nature of business and principal activities
The South African Nuclear Energy Corporation SOC Limited is responsible for managing certain institutional obligations defined in the Nuclear Energy Act, No 46 of 1999

Directors
DR Nicholls, SKN Masango, PE Monale, LJ Shayi, BM Makgopa, Amb NN Ntshinga, M van Schalkwyk, L Mavuso, M Makgae, A Latchu, S Maharaj, HD Lazarus, L Tyabashe (Group Chief Executive Officer).

Registered office
Elias Motsoaledi Street Extension (Church Street West) R104 Pelindaba
Brits Magisterial District, Madibeng Municipality North West Province
0240

Business address
Elias Motsoaledi Street Extension (Church Street West) R104 Pelindaba
Brits Magisterial District, Madibeng Municipality North West Province
0240

Postal address
PO Box 582
Pretoria 0001

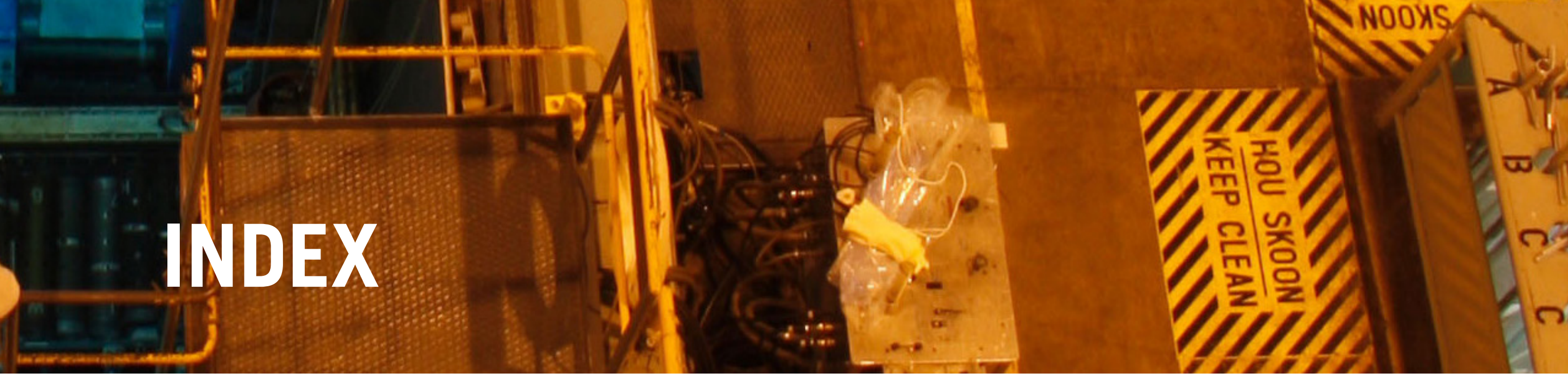
Holding company
Department of Mineral Resources and Energy

Auditor Auditor-General of South Africa

Secretary
Ms Fakazile Nyembe

Company registration number
2000/003735/06

Preparer
The annual financial statements were compiled under the supervision of Precious Hawadi CA (SA)



INDEX

ANNUAL FINANCIAL REPORT

Report of the Audit and Risk Committee

We herewith present our report for the financial year ended 31 March 2023.

Audit and Risk Committee Report

The Necsa Audit and Risk Committee (ARC) is a formal statutory committee in terms of Section 51(1)(a)(ii), Section 77 of the Public Finance and Management Act read together with Treasury Regulations 27.1, the Companies Act and functions as a governance structure of the entity. The committee functions within documented terms of reference and complies with relevant legislation, regulation and governance codes. This report of ARC is presented to the stakeholders in compliance with the requirements of the Companies Act 71, of 2008 and the King Code of Governance Principles.

Composition of the Audit and Risk Committee

The committee comprises five independent non-executive directors. The committee is elected by the Necsa Board subsequent to the Board appointment by the Minister. The committee remains fully capacitated since the appointment of the new Board in January 2023.

Audit and Risk Committee Terms of Reference

The ARC has adopted a formal terms of reference that have been approved by the Board of Directors. The committee has conducted its affairs in compliance with its terms of reference and has discharged its responsibilities contained therein. The terms of reference are available on request.

Audit and Risk Committee Members, Meeting Attendance and Qualifications

Meeting attendance	25 May 2022	29 May 2022	25 July 2022	26 August 2022	14 December 2022	24 February 2023	31 March 2023
LJ Shayi	Yes	Yes	Yes	Yes	Yes	N/a	N/a
Adv A Chowan	Yes	Yes	Yes	Yes	Yes	N/a	N/a
SKN Masango	Yes	Yes	Yes	Yes	Yes	Yes	Yes
L Noge-Tungamirai	Yes	Yes	Yes	Yes	Yes	N/a	N/a
Dr GJ Davids	Yes	Yes	Yes	Yes	Yes	N/a	N/a
S Maharaj	N/a	N/a	N/a	N/a	N/a	Yes	Yes
A Latchu	N/a	N/a	N/a	N/a	N/a	Yes	No
Dr M Makgae	N/a	N/a	N/a	N/a	N/a	Yes	Yes
H Lazarus	N/a	N/a	N/a	N/a	N/a	Yes	Yes

Name	Appointment date	Qualification
S Maharaj	17 January 2023	Masters in Business Administration, Chartered Government Finance Officer, Municipal Executive Financial Management, Chartered Accountant CA(SA), Honours BCompt Degree, BCom Degree
A Latchu	17 January 2023	PhD Degree (Current), MSC Degree, Honours Degree, BSc IT Management, Diploma in Networking, The National School of Government – Board Induction, Ethics in the Public Sector, Microsoft Certified Systems Engineer (MCSE), Microsoft Certified Solutions Developer (MCSD), Microsoft Certified Systems Administrator (MCSA), Microsoft Certified Database Administrator (MCDBA), Mining and Minerals Business and Technology Certification, Degree in Financial Accounting and Internal Auditing (on hold to pursue PhD)
SKN Masango	24 February 2020	Masters in Nuclear Physics, Hons in Nuclear Physics, BSc Physics and Electronics (major in electronics), Project Management Diploma, Certificate in Detector and Instrumentation Technology, Postgraduate Diploma in Energy Leadership
Dr M Makgae	17 January 2023	PhD Environmental Chemistry, Hons in Nuclear Physics, MSc Chemistry in Membrane Technology, BSc Honours, Certificate in Management Advancement, Programme Technology Leadership Programme, Certificate in Environmental Management, Certificate in Project Management (PMBOK)
H Lazarus	17 January 2023	Masters in Business Administration, Global Executive Development Programme, Management Development Programme, Masters in Development Finance, Bachelor of Engineering (Civil)

The committee meets at least four times per year as per its terms of reference. Attendance of meetings, dates of appointments as well as qualifications of the members are included in the governance report.

Roles and responsibilities

Statutory Duties

The Committee's role and responsibilities include statutory duties as per the Companies Act, Public Finance Management Act No 1 of 1999, Treasury Regulations and further responsibilities assigned to it by the Board of Directors.

External Auditor Appointments and Independence

The committee has satisfied itself that the external auditor was independent of the group, as set out in the Companies Act, which includes consideration of conflicts of interest as prescribed by the Public Audit Act (PAA).

Requisite assurance was sought and provided by the external auditor that internal governance processes within the audit firm support and demonstrate its claims to independence. The committee, in consultation with executive management, agreed to the engagement letter, audit plan and budgeted fee for the 2023 year.

Financial Statements and Accounting Practices

The committee has evaluated the annual financial statements of the company and the group for the year ended 31 March 2023 and based on the information provided to the committee, considers that they comply in all material respects with the requirements for the preparation of the annual financial statements, with the requirements of the Companies Act and the Public Finance Management Act No 1 of 1999, and International Financial Reporting Standards. The committee concurs that the adoption of the going-concern premise in the preparation of the annual financial statements is appropriate. The committee has recommended the adoption of the annual financial statements and the integrated annual report by the Board of Directors. The ARC has:

- Reviewed and approved the appropriateness of accounting policies, disclosure policies and the effectiveness of internal financial controls;
- Reviewed and discussed with the Auditor-General and Accounting Authority the audited annual financial statements;
- Reviewed the Auditor-General's management letter and management responses;
- Reviewed changes in accounting policies and practices;
- Reviewed significant adjustments resulting from the audit; and
- Reviewed and discussed with the Accounting Authority performance information submitted to the Auditor-General.

Internal Financial Controls

While the Board is responsible for the internal control systems and for reviewing their effectiveness, responsibility for their actual implementation and maintenance rests with executive management. The systems of internal control are based on established organisational structures, together with written policies and procedures, and provide for suitably qualified employees, segregation of duties, clearly defined lines of authority and accountability.

As a result of the issues outlined under the finance section in this report as well as the external audit opinions for the three previous years, there is room for improvement in the internal financial function and various recommendations have been made to management towards improving the control environment. The committee has overseen a process by which Internal Audit has performed audits according to a risk-based audit plan where the effectiveness of the risk management and internal controls was evaluated.

Combined Assurance

Ensure the combined assurance model addresses all significant risks facing the group; and by monitoring of the relationship between external and internal assurance providers and the group.

Report of the Audit and Risk Committee (continued)

Going-concern

Notwithstanding the liquidity issues at Necsa and its subsidiary Pelchem SOC Ltd, the committee has reviewed management's assessment of the going-concern status of the group and has recommended to the Board of Directors that the group is a going concern.

Despite the previous losses that Necsa have made there is a positive trajectory with reduced losses year on year and the company has a track record of continuing in operation. It is expected that this resilience will continue into the foreseeable future. Section 12 of the Nuclear Energy Act supports the mandate of the company in support of going concern. Furthermore, Necsa has the ability to pay its short-term obligations, which it will do through the initiatives documented, including through working capital management, austerity measures implemented, increasing revenue streams and prioritisation of cash-generating projects to name a few. Refer to note 44 for additional details.

Internal Audit

The committee is responsible for ensuring that the group's Internal Audit is independent and has the necessary resources, standing and authority within the group to enable it to discharge its duties. Furthermore, the committee oversees cooperation between the internal and external auditors and serves as a link between the Board of Directors and these functions. The committee considered and approved the Internal Audit Charter. The Internal Audit function's annual audit plan and three-year strategic plan were approved by the committee.

The Internal Audit function reports administratively to the Chief Executive Officer and functionally to this committee and is responsible for reviewing and providing assurance on the adequacy of the internal control environment across all of the group's operations.

The Chief Audit Executive has direct access to the committee, primarily through its Chairperson. From the various reports of the internal auditors, the findings were noted and recommendation made to management to implement the corrective actions.

Auditor's Report

To confirm the independence of the external auditors, the committee is satisfied that the audit was conducted without influence from management. To this end, the committee remains open to discussing any other issues that the auditors may have, without the presence of management.

The committee accepts the audit opinion of the Auditor-General on the annual financial statements and recommends that the audited annual financial statements be accepted and read together with the report of the Auditor-General.

The committee expresses its appreciation to the accounting authority, the senior management team, internal audit and the Auditor-General for their continued support and dedication during the year under review.

On behalf of the Audit and Risk Committee:

S Maharaj CA(SA)
Chairman – Audit and Risk Committee
15 August 2023

Directors' responsibilities and approval

The directors are required in terms of the Companies Act, 2008 (Act No 71 of 2008) and the Public Finance Management Act No 1 of 1999 (PFMA) to maintain adequate accounting records and are responsible for the content and integrity of the annual financial statements and related financial information included in this report. It is their responsibility to ensure that the annual financial statements fairly present the state of affairs of the group as at the end of the financial year and the results of its operations and cash flows for the period then ended, in conformity with International Financial Reporting Standards. The external auditor is engaged to express an independent opinion on the annual financial statements.

The annual financial statements are prepared in accordance with International Financial Reporting Standards and the requirements of the Companies Act of South Africa; and are based upon appropriate accounting policies consistently applied and supported by reasonable and prudent judgments and estimates.

The directors acknowledge that they are ultimately responsible for the system of internal financial controls established by the group and place considerable importance on maintaining a strong control environment. To enable the directors to meet these responsibilities, they set standards for internal control aimed at reducing the risk of error or loss in a cost-effective manner. The standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties to ensure an acceptable level of risk. These controls are monitored throughout the group and all employees are required to maintain the highest ethical standards in ensuring the group's business is conducted in a manner that in all reasonable circumstances is above reproach. The focus of risk management in the group is on identifying, assessing, managing and monitoring all known forms of risk across the group. While operating risk cannot be fully eliminated, the group endeavours to minimise it by ensuring that appropriate infrastructure, controls, systems and ethical behaviour are applied and managed within predetermined procedures and constraints.

The directors are of the opinion, based on the information and explanations given by management, that the system of internal control provides reasonable assurance that the financial records may be relied on for the preparation of the annual financial statements. However, any system of internal financial control can provide only reasonable, and not absolute, assurance against material misstatement or loss.

The directors have reviewed the group's cash flow forecast for the year to 31 March 2024 and, in light of this review and the current financial position, they are satisfied that the group has or has access to adequate resources to continue in operational existence for the foreseeable future.

The annual financial statements set out on pages 149 to 258, which have been prepared on the going-concern basis, were approved by the directors on 15 August 2023 and were signed on their behalf by:

L Tyabashe
(Group Chief Executive Officer)
Pelindaba
15 August 2023

DR Nicholls
(Necsa Chairperson)
Pelindaba
15 August 2023

Group Secretary's certification

In terms of Section 88(2)(e) of the Companies Act, 2008 (Act No 71 of 2008), as amended, I certify that the group has lodged with the Companies and Intellectual Properties Commission all such returns as are required of a public company in terms of the Act and that all such returns are true, correct and up to date.

In my opinion as Company Secretary, I hereby confirm, in terms of the Companies Act, 2008 (Act No 71 of 2008), for the year ended 31 March 2023, that the group has lodged with the Commissioner of Companies all such returns as are required of a public company in terms of this Act and that all such returns are true, correct and up to date.

F Nyembe
Company Secretary
15 August 2023

Directors' report

The directors have pleasure in submitting their report on the annual financial statements of the South African Nuclear Energy Corporation SOC Limited and its group companies for the year ended 31 March 2023.

Nature of business

Incorporated in the year 2000, The South African Nuclear Energy Corporation SOC Limited (Necsa) is mandated to undertake and promote research and development (R&D) in the field of nuclear energy and radiation sciences and technology. The company is also responsible for processing source material, special nuclear material and restricted material and to reprocess and enrich these. Apart from its main activities at Pelindaba, which include operation and utilisation of the SAFARI-1 research reactor, Necsa also manages and operates the Vaalputs National Radioactive Waste Disposal Facility in the Northern Cape on behalf of the National Radioactive Waste Disposal Institute (NRWDI).

Necsa engages in commercial business mainly through its wholly-owned commercial subsidiaries NTP Radioisotopes SOC Ltd (NTP), which is responsible for a range of radiation-based products and services for healthcare, life sciences and industry, and Pelchem SOC Ltd (Pelchem), which supplies fluorine and fluorine-based products. Both subsidiaries, together with their subsidiaries, supply local and foreign markets, earning valuable foreign exchange for South Africa.

There have been no material changes to the nature of the group's business from the prior year.

Review of financial results and activities

Necsa derives its mandate from the Nuclear Energy Act, No 46 of 1999 and the Minister of Mineral Resources and Energy to manage and operate certain of the Republic's nuclear-related functions and facilities.

Necsa has been assigned the responsibility for managing certain institutional obligations of the Republic as defined in the Act. The main functions of the company are:

- To undertake and promote research and development in the field of nuclear energy and radiation sciences and technology and subject to the safeguards agreement, to make these generally available;
- To process source material, special nuclear material and restricted material and to process and enrich source material and nuclear material and
- To cooperate with any person or institution in matters falling within these functions subject to the approval of the Minister.

Ancillary powers and functions may be granted to the group

- In connection with its main functions;
- Create and utilise viable business opportunities in commerce and industry and
- Undertake the development and/or exploitation of nuclear technology or nuclear-related technology. With regard to its nuclear-related activities Necsa is governed by nuclear installations licences issued by the National Nuclear Regulator (NNR) in terms of the Nuclear Regulator Act 47 of 1999.

The subsidiary companies in turn, have a mandate from Necsa to operate in a self-sustainable manner and to remain competitive in the industries within which they operate.

Directors' report (continued)

The group made a profit after tax of R125.451 million (2022: R78.827 million loss). The company made a profit after tax of R9.182 million (2022: R110.267 million loss). The group total comprehensive income was R145.332 million (2022: R30.686 million loss) and the company total comprehensive income was R27.83 million (2022: R64.782 million loss).

Full details of the financial position, results of operations and cash flows of the group are set out in these consolidated annual financial statements.

Share capital

There were no changes to the authorised or issued share capital during the year under review.

Dividends

Refer to the statement of changes in equity for dividends declared and paid to shareholders during the year.

Directorate

Details of the directors in office during the year and to the date of this report are as follows:

Directors	Designation	Appointed	Changes
DR Nicholls	Chairperson of the Board	Appointed 1 January 2020	Term renewed 2023
Dr NT Magau	Non-executive	Appointed 17 January 2020	Deceased Friday, 20 May 2022
L Noge-Tungamirai	Non-executive	Appointed 17 January 2020	Term ended Monday, 16 January 2023
Dr GJ Davids	Non-executive	Appointed 17 January 2020	Term ended Monday, 16 January 2023
SKN Masango	Non-executive	Appointed 17 January 2020	Term renewed 2023
PE Monale	Non-executive	Appointed 1 February 2020	Term renewed 2023
Adv A Chowan	Non-executive	Appointed 01 February 2020	Term ended Monday, 16 January 2023
LJ Shayi	Non-executive	Appointed 17 January 2020	Term renewed 2023
BM Makgopa	Non-executive	Appointed 1 February 2020	Term renewed 2023
MJ Maboa	Non-executive	Appointed 1 February 2020	Term ended Monday, 16 January 2023
Amb NN Ntshinga	Non-executive	Appointed 26 November 2021	
M van Schalkwyk	Non-executive	Appointed 26 November 2021	
L Mavuso	Non-executive		Appointed Tuesday, 17 January 2023
Dr M Makgae	Non-executive		Appointed Tuesday, 17 January 2023
A Latchu	Non-executive		Appointed Tuesday, 17 January 2023
S Maharaj	Non-executive		Appointed Tuesday, 17 January 2023
HD Lazarus	Non-executive		Appointed Tuesday, 17 January 2023
L Tyabashe	Group Chief Executive Officer	Appointed 1 January 2021	

Directors' interests in contracts

During the financial year, no contracts were entered into which directors or officers of the group had an interest and which significantly affected the business of the group.

Interests in subsidiaries, associates and joint arrangements

Details of material interests in subsidiary companies, associates and joint arrangements are presented in the consolidated annual financial statements in notes 6 and 7. The interest of the group in the profits and losses of its subsidiaries, associates and joint arrangements for the year ended 31 March 2023 are as follows:

Name of Company	Nature of Business	Place of Incorporation	Issued Share Capital		Effective Percentage		Number of Shares		Profit/(Loss) after Taxation	
			2023	2022	2023	2022	2023	2022	2023	2022
			R	R	%	%			R'000	R'000
ARECSA Human Capital SOC Ltd (5 and 6)	Training in nuclear and related industries	South Africa	1 000	1 000	51	51	510	510	-	-
Cyclofil SOC Ltd (5)	Dormant	South Africa	1	1	100	100	1	1	-	-
NTP Radioisotopes SOC Ltd (5)	Marketing and distribution of radiopharmaceuticals	South Africa	220	220	100	100	220	220	113 043	52 032
NTP Logistics SOC Ltd (1)	Logistics	South Africa	100	100	51	51	51	51	11,923	10 011
NTP Radioisotopes Europe SA (1)	Control lost in 2018	Belgium	726 137	726 137	100	100	4 734	4 734	-	-
AEC Amersham SOC Ltd (1)	Marketing of radiopharmaceutical products	South Africa	4 000	4 000	100	100	4 000	4 000	(10 765)	19 749
Pharmatopes SOC Ltd (3)	Dormant	South Africa	1 000	1 000	100	100	1 000	1 000	(1)	(3)
Gammatec NDT Supplies SOC Ltd (1)	Non-destructive testing equipment and accessories	South Africa	300	300	55	55	165	165	8 538	6 041
Gammatec Aseana NDT Supplies SDN. BHD (4)	Non-destructive testing equipment, accessories and consumables	Malaysia	860 074	860 074	55	55	275 000	275 000	-	-
Pelchem SOC Ltd (5)	Fluorochemical products	South Africa	770 310	770 310	100	100	770 310	770 310	(61 674)	(63 533)
Fluoro Pack SOC Ltd (2)	Dormant	South Africa	100	100	100	100	100	100	-	-
Fluorochem SOC Ltd (2)	Dormant	South Africa	100	100	100	100	100	100	-	-
Fluoropharm SOC Ltd (2)	Dormant	South Africa	4 000	4 000	100	100	4 000	4 000	-	-
Limited Electronics South Africa SOC Ltd (2)	Manufacturing and distribution of nitrogen trifluoride	South Africa	1 000	1 000	100	100	1 000	1 000	-	-

1. Subsidiary of NTP Radioisotopes SOC Ltd
2. Subsidiary of Pelchem SOC Ltd
3. Subsidiary of AEC Amersham SOC Ltd
4. Subsidiary of Gammatec NDT Supplies SOC Ltd
5. Subsidiary of Necsa SOC Ltd
6. The profit/(loss) after tax relates to interest earned on Arecsa's bank account. Arecsa is almost wholly impaired.

Details of the company investment in subsidiaries are set out in note 6.

There were no significant acquisitions or divestitures during the year ended 31 March 2023.

Interest in associates

The group's holding company is Department of Mineral Resources and Energy, which holds 100% (2022: 100%) of the group's equity. Department of Mineral Resources and Energy is incorporated in South Africa.

Name of Company	Nature of Business	Place of Incorporation	Issued Share Capital		Effective Percentage		Number of Shares	
			2023	2022	2023	2022	2023	2022
			R	R	%	%		
Business Venture Exploration Investments No 33 (Pty) Ltd (2)	Dormant	South Africa	3 840	3 840	41.61	41.61	1 598	1 598
Gamwave (Pty) Ltd (formerly Cyclotope) (3)	Radiation of food sources	South Africa	100	100	40	40	40	40
Oserix (1)	Supply of isotopes and accessories for the radiographic non-destructive testing market	South Africa	582	582	13.75	13.75	80	80
Element 42 (3)	Dormant	South Africa	-	-	50	50	-	-

1. Associate of Gammatec NDT Supplies SOC Ltd. Gammatec NDT Supplies SOC Ltd holds 25% of Oserix issued share capital.
   NTP Radioisotopes SOC Ltd holds 55% of Gammatec NDT Supplies SOC Ltd, resulting in the group having significant influence over the associate.
2. Associate of Necsa SOC Limited
3. Associate of NTP Radioisotopes SOC Ltd

Directors' report (continued)

Shareholder

The company's sole shareholder is the state, represented by the Minister of Mineral Resources and Energy.

Events after the reporting period

The directors are not aware of any material event that occurred after the reporting date and up to the date of this report.

Going concern

The annual financial statements have been prepared on the basis of accounting policies applicable to a going concern. This basis presumes that funds will be available to finance future operations and that the realisation of assets and settlement of liabilities, contingent obligations and commitments will occur in the ordinary course of business.

We draw attention to the fact that at 31 March 2023, the group had a profit of R125.451 million and that the group's total assets exceed its liabilities by R639.418 million.

Necsa has turned around the prior-year losses to now reflect profits and a positive trajectory going forward. The company has a track record of continuing in operation. It is expected that this resilience will continue into the foreseeable future. Section 12 of the Nuclear Energy Act supports the mandate of the company in support of going concern. Furthermore, Necsa has the ability to pay its short-term obligations, which it will do through the initiatives documented, including through working capital management, austerity measure implementation, increasing revenue streams and prioritisation of cash-generating projects to name a few.

Refer to note 44 for additional details around the going-concern consideration of the company.

Auditors

Auditor-General of South Africa continued in office as auditors for the company and its subsidiaries for 2023.

Company Secretary

The company secretary is Fakazile Nyembe.

Postal address:	PO Box 582 Pretoria 0001
Business address:	Elias Motsoaledi Street Extension (Church Street West) R104 Pelindaba Brits Magisterial District, Madibeng Municipality North West Province 0240

Compliance with legislation

The directors believe the group has complied, in all material respects, with the provisions of the Companies Act No 71 of 2008, Public Finance Management Act No 1 of 1999 and the Nuclear Energy Act No 46 of 1999 and other applicable legislation during the year under review.

Report of the auditor-general to Parliament on the South African Nuclear Energy Corporation SOC Limited

Report on the audit of the consolidated and separate financial statements

Qualified opinion

1. I have audited the consolidated and separate financial statements of the South African Nuclear Energy Corporation SOC Limited (Necsa) and its subsidiaries (the group) set out on pages 149 to 258, which comprise the consolidated and separate statement of financial position as at 31 March 2023, consolidated and separate statement of profit or loss and other comprehensive income, statement of changes in equity, and statement of cash flows for the year then ended, as well as notes to the consolidated and separate financial statements, including a summary of significant accounting policies.

2. In my opinion, except for the effects of the matters described in the basis for qualified opinion section of this auditor's report, the consolidated and separate financial statements present fairly, in all material respects, the financial position of the group as at 31 March 2023, and the group's profit or loss and other comprehensive income and group cash flows for the year then ended in accordance with the International Financial Reporting Standards (IFRS), the requirements of the Public Finance Management Act 1 of 1999 (PFMA) and the Companies Act 2008 (Act No. 71 of 2008) (Companies Act).

Basis for qualified opinion

Decommissioning and decontamination (D&D) on stage 1 liability and asset

3. I was unable to obtain sufficient appropriate audit evidence in respect of the D&D stage 1 liability due to inconsistencies noted from the information submitted to support the group's estimated timing and quantum of estimated costs used in determining the liability. I was unable to confirm the D&D on stage 1 liability by alternative means. Consequently, I was unable to determine whether any adjustments were necessary to the D&D stage 1 liability stated at R2 593 856 000 (2022: R3 222 453 000) in note 23 to the consolidated and separate financial statements. Furthermore, due to my inability to obtain sufficient appropriate audit evidence for the D&D on stage 1 liability, I was unable to determine by alternative means, whether any adjustments are required to the D&D on stage 1 asset stated at R2 593 856 000 (2022: R3 222 453 000) in note 23 to the consolidated and separate financial statements.

Investment income

4. I was unable to obtain sufficient appropriate audit evidence for investment income: stage 1 D&D stated at R296 275 000 (2022: R309 701 000) in note 31 to the consolidated and separate financial statements, because this interest income is calculated based on the D&D stage 1 asset, for which I was not able to obtain sufficient appropriate audit evidence. Consequently, I was unable to determine whether any adjustments were necessary to the investment income: stage 1 D&D stated at R296 275 000 (2022: R309 701 000) in note 31 to the consolidated and separate financial statements.

Finance cost

5. I was unable to obtain sufficient appropriate audit evidence for finance costs: stage 1 D&D stated at R290 535 000 (2022: R309 701 000) in note 32 to the consolidated and separate financial statements, because these finance costs are calculated based on the D&D stage 1 liability, for which I was not able to obtain sufficient appropriate audit evidence. Consequently, I was unable to determine whether any adjustments were necessary to the finance costs: stage 1 D&D stated at R290 535 000 (2022: R309 701 000) in note 32 to the consolidated and separate financial statements.

Acceptance of decommission and decontamination Stage 1

6. I was unable to determine whether any adjustments were necessary to the acceptance of D&D stage 1, stated at R868 954 000 (2022: R1 650 945 000) in note 23 to the consolidated and separate financial statements, because I could not obtain sufficient appropriate audit evidence for the D&D stage 1 liability. Furthermore, because I could not obtain sufficient appropriate audit evidence for the D&D stage 1 liability, I was unable to determine whether any adjustments were necessary to government grant expense (D&D stage 1), stated at R868 954 000 (2022: R1 650 945 000) in note 23 to the consolidated and separate financial statements. This item is a movement to release the government grant to profit or loss, based on the D&D stage 1 liability.

Context of opinion

7. I conducted my audit in accordance with the International Standards on Auditing (ISAs). My responsibilities under those standards are further described in the responsibilities of the auditor-general for the audit of the consolidated and separate financial statements section of my report.

8. I am independent of the group in accordance with the International Ethics Standards Board for Accountants' *International code of ethics for professional accountants (including International Independence Standards)* (IESBA code) as well as other ethical requirements that are relevant to my audit in South Africa. I have fulfilled my other ethical responsibilities in accordance with these requirements and the IESBA code.

9. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my qualified opinion.

Emphasis of matter

10. I draw attention to the matter below. My opinion is not modified in respect of this matter.

Restatement of corresponding figures

11. As disclosed in note 41 to the financial statements, the corresponding figures for 31 March 2022 were restated as a result of errors in the financial statements of the public entity at, and for the year ended, 31 March 2023.

Other matter

12. I draw attention to the matter below. My opinion is not modified in respect of this matter.

Unaudited irregular expenditure and fruitless and wasteful expenditure

13. On 23 December 2022, the National Treasury issued Instruction Note 4 of 2022-23, which came into effect on 3 January 2023, in terms of section 76(1)(b), (e) and (f), 2(e) and (4)(a) and (c) of the PFMA. The instruction note deals with the PFMA compliance and reporting framework and addresses, amongst others, the disclosure of unauthorised expenditure, irregular expenditure and fruitless and wasteful expenditure. Irregular expenditure and fruitless and wasteful expenditure incurred in prior financial years and not yet addressed no longer needs to be disclosed in either the annual report or the disclosure notes to the annual financial statements. Only the current year and prior year figures are disclosed in the notes to the financial statements of the South African Nuclear Energy Corporation SOC Limited. Movements in respect of irregular expenditure and fruitless and wasteful expenditure also no longer need to be disclosed in the notes to the annual financial statements. The disclosure of these movements (e.g. condoned, recoverable, removed, written off, under assessment, under determination and under investigation) is now included as part of the other information in the annual report of the South African Nuclear Energy Corporation SOC Limited. I do not express an opinion on the disclosure of irregular expenditure and fruitless and wasteful expenditure in the annual report.

Responsibilities of the board of directors, which constitutes the accounting authority for the consolidated and separate financial statements

14. The board of directors, which constitutes the accounting authority is responsible for the preparation and fair presentation of the consolidated and separate financial statements in accordance with the IFRS and the requirements of the PFMA and the Companies Act; and for such internal control as the board of directors, which constitutes the accounting authority determines is necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

15. In preparing the consolidated and separate financial statements, the board of directors, which constitutes the accounting authority is responsible for assessing the group's ability to continue as a going concern; disclosing, as applicable, matters relating to going concern; and using the going concern basis of accounting unless the appropriate governance structure either intends to liquidate the group or to cease operations, or has no realistic alternative but to do so.

Responsibilities of the auditor-general for the audit of the consolidated and separate financial statements

16. My objectives are to obtain reasonable assurance about whether the consolidated and separate 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 my opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with the 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 aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated and separate financial statements.

17. A further description of my responsibilities for the audit of the consolidated and separate financial statements is included in the annexure to this auditor's report.

Report on the audit of the annual performance report

18. In accordance with the Public Audit Act 25 of 2004 (PAA) and the general notice issued in terms thereof, I must audit and report on the usefulness and reliability of the reported performance against predetermined objectives for selected strategic focus areas presented in the annual performance report. The board of directors, which constitutes the accounting authority is responsible for the preparation of the annual performance report.

19. I selected the following strategic focus areas presented in the annual performance report for the year ended 31 March 2023 for auditing. I selected strategic focus areas that measure the public entity's performance on its primary mandated functions and that are of significant national, community or public interest.

Strategic focus areas	Page numbers	Purpose
Research and innovation	33	To increasingly deliver new technologies that will enable growth in existing commercial areas while creating new technologies that lead to future commercial enterprises through which the Necsa Group will directly impact on people's lives.
Business continuity and efficiency	34 - 35	A strong, integrated management system (IMS) with excellence, effectiveness and efficiency of operations as central pillars. In addition, a strong safety culture with good adherence to the Safety, Health, Environment and Quality (SHEQ) system, strong conformance to all nuclear facility licensing conditions, a well-entrenched governance system, and good strategic support for core commercial areas by all support services.

20. I evaluated the reported performance information for the selected strategic focus areas against the criteria developed from the performance management and reporting framework, as defined in the general notice. When an annual performance report is prepared using these criteria, it provides useful and reliable information and insights to users on the public entity's planning and delivery on its mandate and objectives.

21. I performed procedures to test whether:

- the indicators used for planning and reporting on performance can be linked directly to the public entity's mandate and the achievement of its planned objectives
- the indicators are well defined and verifiable to ensure that they are easy to understand and apply consistently and that I can confirm the methods and processes to be used for measuring achievements
- the targets can be linked directly to the achievement of the indicators and are specific, time bound and measurable to ensure that it is easy to understand what should be delivered and by when, the required level of performance as well as how performance will be evaluated
- the indicators and targets reported on in the annual performance report are the same as what was committed to in the approved initial or revised planning documents
- the reported performance information is presented in the annual performance report in the prescribed manner
- there are adequate supporting evidence for the achievements reported and for the reasons provided for any over- or underachievement of targets.

22. I performed the procedures for the purpose of reporting material findings only; and not to express an assurance opinion.

23. I did not identify any material findings on the reported performance information of research and innovation and business continuity and efficiency of selected subject matters.

Other matters

24. I draw attention to the matters below.

Achievement of planned targets

25. The annual performance report includes information on reported achievements against planned targets and provides explanations for over and under achievements.

Material misstatements

26. I identified material misstatements in the annual performance report submitted for auditing. These material misstatements were in the reported performance information of research and innovation and business continuity and efficiency strategic focus areas. Management subsequently corrected all the misstatements and I did not include any material findings in this report.

Report on compliance with legislation

27. In accordance with the PAA and the general notice issued in terms thereof, I must audit and report on compliance with applicable legislation relating to financial matters, financial management and other related matters. The board of directors, which constitutes the accounting authority is responsible for the public entity's compliance with legislation.

28. I performed procedures to test compliance with selected requirements in key legislation in accordance with the findings engagement methodology of the Auditor-General of South Africa (AGSA). This engagement is not an assurance engagement. Accordingly, I do not express an assurance opinion or conclusion.

29. Through an established AGSA process, I selected requirements in key legislation for compliance testing that are relevant to the financial and performance management of the public entity, clear to allow consistent measurement and evaluation, while also sufficiently detailed and readily available to report in an understandable manner. The selected legislative requirements are included in the annexure to this auditor's report.

30. The material findings on compliance with the selected legislative requirements, presented per compliance theme, are as follows:

Annual financial statements, performance reports and annual reports

31. The financial statements submitted for auditing were not prepared in accordance with the prescribed financial reporting framework and supported by full and proper records, as required by section 55(1) (a) and (b) of the PFMA.

32. Material misstatements of non-current assets, current assets, current liabilities, revenue, expenditure, cash flow statement and disclosure items identified by the auditors in the submitted financial statements were corrected

and the supporting records were provided subsequently, but the uncorrected material misstatements and the supporting records that could not be provided resulted in the financial statements receiving a qualified opinion.

Expenditure management

33. Effective and appropriate steps were not taken to prevent irregular expenditure as disclosed in note 45 to the annual financial statements, as required by section 51(1) (b) (ii) of the PFMA. The majority of the irregular expenditure was caused by non-compliance with National Treasury Instruction Note 03 of 2021/22.

34. Effective steps were not taken to prevent fruitless and wasteful expenditure, as disclosed in note 45 to the annual financial statements, as required by section 51(1) (b) (ii) of the PFMA. The majority of the fruitless and wasteful expenditure was caused by net loss incurred on a sale to a customer.

Revenue management

35. Effective and appropriate steps were not taken to collect all revenue due, as required by section 51(1) (b) (i) of the PFMA.

Consequence management

36. I was unable to obtain sufficient appropriate audit evidence that disciplinary steps were taken against officials who had incurred irregular expenditure as required by section 51(1) (e) (iii) of the PFMA. This was because investigations into irregular expenditure were not performed.

Other information in the annual report

37. The board of directors, which constitutes the accounting authority is responsible for the other information included in the annual report, which includes the directors' report, the audit committee's report and the company secretary's certificate, as required by the Companies Act 71 of 2008. The other information referred to does not include the consolidated and separate financial statements, the auditor's report and those selected strategic focus areas presented in the annual performance report that have been specifically reported in this auditor's report.

38. My opinion on the consolidated and separate financial statements, the report on the audit of the annual performance report and the report on compliance with legislation, do not cover the other information included in the annual report and I do not express an audit opinion or any form of assurance conclusion on it.

39. My responsibility is to read this other information and, in doing so, consider whether it is materially inconsistent with the consolidated and separate financial statements and the selected strategic focus areas presented in the annual performance report, or my knowledge obtained in the audit, or otherwise appears to be materially misstated.

40. I did not receive the other information prior to the date of this auditor's report. When I do receive and read this information, if I conclude that there is a material misstatement therein, I am required to communicate the matter to those charged with governance and request that the other information be corrected. If the other information is not corrected, I may have to retract this auditor's report and re-issue an amended report as appropriate. However, if it is corrected this will not be necessary.

Report of the auditor-general (continued)

Internal control deficiencies

41. I considered internal control relevant to my audit of the consolidated and separate financial statements, annual performance report and compliance with applicable legislation; however, my objective was not to express any form of assurance on it.

42. The matters reported below are limited to the significant internal control deficiencies that resulted in the basis for the qualified opinion and the material findings on compliance with legislation included in this report.

43. The accounting authority and senior management did not exercise adequate oversight over the preparation of regular, accurate and complete financial reports that are supported and evidenced by reliable information.

44. The accounting authority and senior management did not exercise adequate oversight over the review and monitoring of compliance with applicable laws and regulations.

AUDITOR - GENERAL

Johannesburg

18 August 2023

AUDITOR-GENERAL
SOUTH AFRICA

Auditing to build public confidence

Annexure to the auditor's report

The annexure includes the following:

- the auditor-general's responsibility for the audit
- the selected legislative requirements for compliance testing.

Auditor-general's responsibility for the audit

Professional judgment and professional scepticism

As part of an audit in accordance with the ISAs, I exercise professional judgement and maintain professional scepticism throughout my audit of the consolidated and separate financial statements and the procedures performed on reported performance information for selected strategic focus areas and on the public entity's compliance with selected requirements in key legislation.

Financial statements

In addition to my responsibility for the audit of the consolidated and separate financial statements as described in this auditor's report, I also:

- identify and assess the risks of material misstatement of the consolidated and separate 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 public entity's internal control
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made
- conclude on the appropriateness of the use of the going concern basis of accounting in the preparation of the consolidated and separate financial statements. I also conclude, based on the audit evidence obtained, whether a material uncertainty exists relating to events or conditions that may cast significant doubt on the ability of the public entity and its subsidiaries 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 consolidated and separate financial statements about the material uncertainty or, if such disclosures are inadequate, to modify my opinion on the consolidated and separate financial statements. My conclusions are based on the information available to me at the date of this auditor's report. However, future events or conditions may cause a public entity to cease operating as a going concern
- evaluate the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and determine whether the consolidated and separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

Annexure to the auditor's report (continued)

Communication with those charged with governance

I communicate with the board of directors, which constitutes the accounting officer 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 also provide the board of directors, which constitute the accounting officer, 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, actions taken to eliminate threats or safeguards applied.

Compliance with legislation – selected legislative requirements

The selected legislative requirements are as follows:

Legislation	Sections or regulations
Public Finance Management Act No 1 of 1999 (PFMA)	Section 50(3); 50(3)(a); 50(3)(b) Section 51(1)(a)(ii); 51(1)(a)(iii); 51(1)(a)(iv); 51(1)(b); 51(1)(b)(i); 51(1)(b)(ii); 51(1)(e)(iii) Section 52(b) Section 53(4) Section 54(2)(c); 54(2)(d) Section 55(1)(a); 55(1)(b); 55(1)(c)(i) Section 56 Section 57(b); 57(d) Section 66(3)(a)
Treasury Regulations for departments, trading entities, constitutional institutions and public entities	Regulation 29.1.1; 29.1.1(a); 29.1.1(c;); 29.2.1 29.2.2; 29.3.1 Regulation 31.2.5; 31.2.7(a) Regulation 33.1.1; 33.1.3
Companies Act No 71 of 2008	Section 30(3)(b)(i); 33(1)(a) Section 45(2); 45(3)(a)(ii); 45(3)(b)(i); 45(3)(b)(ii); 45(4) Section 46(1)(a); 46(1)(b); 46(1)(c) Section 72(4)(a) Section 75(6) Section 86(1); 86(4); Section 88(2)(d) Section 112(2)(a); Section 129(7)
Prevention and Combating of Corrupt Activities Act No 12 of 2004	Section 34(1)
Companies Regulations	Regulation 30(2); 43(2)(a)
Construction Industry Development Board Act No 38 of 2000	Section 18(1) Section 22(3)
Construction Industry Development Regulations	CIDB regulation 17; 18(1A)1; 25(1); 25 (5) and 25(7A)
PPPFA	Section 1(i); 2.1(a); 2.1(b); 2.1(f)

Annexure to the auditor's report (continued)

Legislation	Sections or regulations
PPR 2017	Paragraph 4.1; 4.2 Paragraph 5.1; 5.3; 5.6; 5.7 Paragraph 6.1; 6.2; 6.3; 6.5; 6.6; 6.8 Paragraph 7.1; 7.2; 7.3; 7.5; 7.6; 7.8 Paragraph 8.2; 8.5 Paragraph 9.1; 9.2 Paragraph 10.1; 10.2 Paragraph 11.1; 11.2 Paragraph 12.1 and 12.2
PPR 2022	Paragraph 3.1 Paragraph 4.1; 4.2; 4.3; 4.4 Paragraph 5.1; 5.2; 5.3; 5.4
NT SCM Instruction Note 03 2021/22	Paragraph 4.1; 4.2; 4.2 (b); 4.3; 4.4; 4.4 (c); 4.4(d); 4.6 Paragraph 5.4
NT SCM Instruction 4A of 2016/17	Paragraph 6
NT SCM Instruction Note 03 2019/20	Paragraph Par 5.5.1(iv); 5.5.1(x)
NT SCM Instruction Note 11 2020/21	Paragraph 3.1; 3.4 (a); 3.4(b); 3.9: 6.1; 6.2; 6.7
PFMA SCM Instruction 08 of 2022/23	Paragraph 3.2 Paragraph 4.3.2; 4.3.3
Competition Act	Section 4(1)(b)(ii)
NT Instruction Note 4 of 2015/16	Paragraph 3.4
Second amendment of NTI 05 of 2020/21	Paragraph 4.8; 4.9; 5.1; 5.3
Erratum NTI 5 of 202/21	Paragraph 1
Erratum NTI 5 of 202/21	Paragraph 2
NT Instruction Note 5 of 2020/21	Paragraph 5.1 and 5.3

Consolidated and separate statement of financial position

as at 31 March 2023

		Group		Company	
	Note(s)	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Assets					
Non-current Assets					
Property, plant and equipment	4	1 427 335	1 406 624	1 107 932	1 093 944
Right-of-use assets	15	8 250	17 829	7 307	16 694
Goodwill	21	16 585	16 585	-	-
Intangible assets	5	14 525	17 971	-	506
Investments in subsidiaries	6	-	-	220 701	220 701
Investment in associate	7	7 594	8 437	2	2
Financial assets at fair value	9	354 084	299 802	354 057	299 767
Retirement benefit asset	16	21 810	36 908	21 810	17 872
Deferred tax	10	70 672	108 343	-	-
Decommissioning and decontamination of stage 1	23	2 593 856	3 222 453	2 593 856	3 222 453
Decommissioning and decontamination of stage 2	23	243 931	193 753	243 931	193 753
Vaalputs aftercare	24	22 108	22 845	22 108	22 845
		4 780 750	**5 351 550**	**4 571 704**	**5 088 537**
Current Assets					
Inventories	11	368 684	320 450	48 739	51 206
Trade and other receivables	12	352 429	279 549	116 661	106 222
Derivatives	22	3 372	2 748	3 372	-
Prepayments		131 261	61 858	66 444	58 662
Current tax receivable		20 655	11 715	-	-
Cash and cash equivalents	13	981 450	804 477	662 219	609 873
		1 857 851	**1 480 797**	**897 435**	**825 963**
Total Assets		**6 638 601**	**6 832 347**	**5 469 139**	**5 914 500**
Equity and Liabilities					
Equity					
Equity attributable to equity holders of parent					
Share capital	14	2 205	2 205	2 205	2 205
Reserves		787 361	767 331	764 899	747 110
Accumulated loss		(225 674)	(341 319)	(917 022)	(925 972)
		563 892	428 217	(149 918)	(176 657)
Non-controlling interest		75 526	68 483	-	-
		639 418	**496 700**	**(149 918)**	**(176 657)**

Consolidated and separate statement of financial position

as at 31 March 2023

		Group		Company	
	Note(s)	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Liabilities					
Non-current Liabilities					
Vaalputs aftercare liability	24	56 178	52 821	56 178	52 821
Loans from group companies	8	-	-	-	38 377
Leases liabilities	15	3 557	2 752	3 232	2 325
Retirement benefit obligation	16	282 786	299 289	255 074	256 755
Deferred income	17	674 526	635 860	674 526	635 860
Deferred tax	10	756	1 648	-	-
Provisions	18	818 681	862 436	671 354	737 456
Investments contributions for future liabilities	26	67 212	62 307	67 212	62 307
Decommissioning and decontamination of stage 1	23	2 593 856	3 222 453	2 593 856	3 222 453
Decommissioning and decontamination of stage 2	23	243 931	193 753	243 931	193 753
		4 741 483	**5 333 319**	**4 565 363**	**5 202 107**
Current Liabilities					
Trade and other payables	19	301 699	250 295	171 060	146 649
Loans from group companies	8	-	-	16 354	2 105
Derivatives	22	1 997	805	-	805
Leases liabilities	15	2 094	1 552	1 642	1 162
Retirement benefit obligation	16	27 889	26 741	26 095	24 183
Deferred income	17	497 438	382 269	497 438	382 269
Current tax payable		251	886	-	-
Provisions	18	133 636	137 549	69 522	83 352
Payment received in advance		271 506	188 224	271 506	248 525
Bank overdraft	13	21 190	14 007	77	-
		1 257 700	**1 002 328**	**1 053 694**	**889 050**
Total Liabilities		**5 999 183**	**6 335 647**	**5 619 057**	**6 091 157**
Total Equity and Liabilities		**6 638 601**	**6 832 347**	**5 469 139**	**5 914 500**

Consolidated and separate statement of profit or loss and other comprehensive income *as at 31 March 2023*

		Group		Company	
	Note(s)	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Continuing operations					
Revenue	27	2 422 555	1 779 548	887 304	847 763
Cost of sales	28	(1 076 870)	(856 411)	(162 988)	(149 943)
Gross profit		**1 345 685**	**923 137**	**724 316**	**697 820**
Fair-value adjustments	33	5 906	4 843	6 754	4 843
Other operating income	29	90 303	328 946	323 825	305 966
Other operating losses		(10 998)	(18 255)	(1 980)	(8 186)
Expected credit losses	12	(14 899)	(39 583)	(82 162)	(66 723)
Other operating expenses		(1 063 125)	(1 041 906)	(943 917)	(979 242)
Government Grant expense (decommissioning and decontamination stage 1)	23	(868 954)	(1 650 945)	(868 954)	(1 650 945)
Acceptance of decommission and decontamination stage 1	23	868 954	1 650 945	868 954	1 650 945
Administration and fees		(240 280)	(251 980)	(104 659)	(105 544)
Operating profit (loss)	30	**112 592**	**(94 798)**	**(77 823)**	**(151 066)**
Investment income	31	363 334	356 773	379 822	353 337
Finance costs	32	(306 301)	(318 347)	(292 817)	(312 537)
Income from equity accounted investments		1 126	2 632	-	-
Profit (loss) before taxation		**170 751**	**(53 740)**	**9 182**	**(110 266)**
Taxation	34	(45 300)	(25 027)	-	-
Profit (loss) from continuing operations		**125 451**	**(78 767)**	**9 182**	**(110 266)**
Discontinued operations					
Loss from discontinued operations		-	(60)	-	-
Profit (loss) for the year		**125 451**	**(78 827)**	**9 182**	**(110 266)**
Other comprehensive income:					
Items that will not be reclassified to profit or loss:					
Remeasurements on net defined benefit liability/asset	16	(231)	17 507	(231)	14 676
Gains on property revaluation	4	21 433	30 948	17 984	30 645
Share of comprehensive income of equity accounted investments		(1 126)	-	-	-
Income tax relating to items that will not be reclassified	34	-	(543)	-	-
Total items that will not be reclassified to profit or loss		**20 076**	**47 912**	**17 753**	**45 321**
Items that may be reclassified to profit or loss:					
Gains on hedge of net investment in foreign operations	35	-	65	-	-
Fair value through other comprehensive income adjustments	20	(195)	164	(195)	164
Total items that may be reclassified to profit or loss		**(195)**	**229**	**(195)**	**164**

Consolidated and separate statement of profit or loss and other comprehensive income *as at 31 March 2023*

		Group		Company	
	Note(s)	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Other comprehensive income for the year net of taxation	35	**19 881**	**48 141**	**17 558**	**45 485**
Total comprehensive income (loss) for the year		**145 332**	**(30 686)**	**26 740**	**(64 781)**
Profit (loss) attributable to:					
Owners of the parent		117 949	(87 209)	9 182	(110 266)
Non-controlling interest		7 502	8 382	-	-
		125 451	**(78 827)**	**9 182**	**(110 266)**
Profit (loss) attributable to:					
Owners of the parent:					
From continuing operations		115 876	(87 176)	9 182	(110 266)
From discontinued operations		-	(33)	-	-
		115 876	**(87 209)**	**9 182**	**(110 266)**
Total comprehensive income (loss) attributable to:					
Owners of the parent		135 757	(39 088)	26 740	(64 781)
Non-controlling interest		9 575	8 402	-	-
		145 332	**(30 686)**	**26 740**	**(64 781)**

Consolidated and separate statement of changes in equity

as at 31 March 2023

	Share capital	Foreign currency translation reserve	Revaluation reserve	Reserve for valuation of investments	Reserve for valuation of liabilities	Total reserves	Accumulated loss	Total attributable to equity holders of the group/ company	Non-controlling interest	Total equity
	R 000	R 000	R 000	R 000	R 000	R 000	R 000	R 000	R 000	R 000
Group										
Balance at 01 April 2021	**2 205**	**(1 755)**	**726 795**	**332**	**8 502**	**733 874**	**(268 774)**	**467 305**	**62 202**	**529 507**
Loss for the year	-	-	-	-	-	-	(87 209)	(87 209)	8 382	(78 827)
Other comprehensive income	-	45	30 942	164	2 306	33 457	14 664	48 121	20	48 141
Total comprehensive loss for the year	-	**45**	**30 942**	**164**	**2 306**	**33 457**	**(72 545)**	**(39 088)**	**8 402**	**(30 686)**
Dividends	-	-	-	-	-	-	-	-	(2 121)	(2 121)
Balance at 01 April 2022	**2 205**	**(1 710)**	**757 737**	**496**	**10 808**	**767 331**	**(341 319)**	**428 217**	**68 483**	**496 700**
Profit for the year	-	-	-	-	-	-	115 876	115 876	9 574	125 450
Other comprehensive income	-	-	21 433	(195)	(1 208)	20 030	(231)	19 799	2 823	22 622
Total comprehensive income for the year	-	-	**21 433**	**(195)**	**(1 208)**	**20 030**	**115 645**	**135 675**	**12 397**	**148 072**
Dividends	-	-	-	-	-	-	-	-	(5 354)	(5 354)
Balance at 31 March 2023	**2 205**	**(1 710)**	**779 170**	**301**	**9 600**	**787 361**	**(225 674)**	**563 892**	**75 526**	**639 418**
Note(s)	14	35	20&35	25	25		35			
Company										
Balance at 01 April 2021	**2 205**	-	**715 969**	**332**	-	**716 301**	**(830 382)**	**(111 876)**	-	**(111 876)**
Loss for the year	-	-	-	-	-	-	(110 266)	(110 266)	-	(110 266)
Other comprehensive income	-	-	30 645	164	-	30 809	14 676	45 485	-	45 485
Total comprehensive loss for the year	-	-	**30 645**	**164**	-	**30 809**	**(95 590)**	**(64 781)**	-	**(64 781)**
Balance at 01 April 2022	**2 205**	-	**746 614**	**496**	-	**747 110**	**(925 973)**	**(176 658)**	-	**(176 658)**
Profit for the year	-	-	-	-	-	-	9 182	9 182	-	9 182
Other comprehensive income/(loss)	-	-	17 984	(195)	-	17 789	(231)	17 558	-	17 558
Total comprehensive income for the year	-	-	**17 984**	**(195)**	-	**17 789**	**8 951**	**26 740**	-	**26 740**
Balance at 31 March 2023	**2 205**	-	**764 598**	**301**	-	**764 899**	**(917 022)**	**(149 918)**	-	**(149 918)**
Note(s)	14	35	20 and 35				35			

The accounting policies on pages 32 to 57 and the notes on pages 58 to 135 form an integral part of the annual financial statements.

Consolidated and separate statement of cash flows

as at 31 March 2023

		Group		Company	
	Note(s)	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Cash flows from operating activities					
Cash receipts from customers and grant		2 663 441	2 239 745	1 295 344	1 269 784
Cash paid to suppliers and employees		(2 399 904)	(1 994 179)	(1 189 762)	(1 101 159)
Cash generated from operations and others	36	263 537	245 566	105 582	168 625
Interest income	31	65 470	45 720	44 028	31 863
Finance costs	32	(9 623)	(8 559)	(1 699)	(2 472)
Dividends		1 589	1 352	13 368	11 773
Net cash generated from/(used in) operating activities		**320 973**	**284 079**	**161 279**	**209 789**
Cash flows from investing activities					
Purchase of property, plant and equipment	4	(93 879)	(67 180)	(66 291)	(30 875)
Sale of property, plant and equipment	4	179	-	-	-
Disposal of non-current assets held for sale		-	716	-	-
Intangible assets additions	5	(407)	(662)	-	(158)
Net cash from financial assets	9	(48 571)	(29 592)	(47 731)	(29 586)
Net cash used in investing activities		**(142 678)**	**(96 718)**	**(114 022)**	**(60 619)**
Cash flows from financing activities					
Repayment of loans from group companies	8	-	(23)	-	(8 623)
Repayment of lease liabilities	15	(8 056)	(1 132)	(1 913)	(3 074)
Other financial liabilities		-	(10 090)	-	(10 090)
Proceeds from investment contributions for future liabilities	26	4 905	3 558	4 905	3 558
Movement in borrowings and loans due to group companies		-	(2 043)	2 022	-
Dividends paid		(5 354)	(2 121)	-	-
Liability of disposal group		-	(51)	-	-
Net cash generated from financing activities		**(8 505)**	**(11 902)**	**5 014**	**(18 229)**
Total cash movement for the year		**169 790**	**175 459**	**52 271**	**130 941**
Cash at the beginning of the year	13	790 470	615 011	609 873	478 932
Total cash at end of the year	13	**960 260**	**790 470**	**662 144**	**609 873**

Accounting policies

as at 31 March 2023

1 Significant accounting policies

The principal accounting policies applied in the preparation of these consolidated and separate annual financial statements are set out below.

1.1 Basis of preparation

The consolidated and separate annual financial statements have been prepared on the going-concern basis in accordance with, and in compliance with, International Financial Reporting Standards (IFRS), the requirements of the Public Finance Management Act of South Africa, 1999 (Act No 1 of 1999) (PFMA), International Financial Reporting Interpretations Committee (IFRIC) interpretations issued and effective at the time of preparing these annual financial statements and the Companies Act, 2008 (Act No 71 of 2008) of South Africa, as amended.

These annual financial statements comply with the requirements of and the financial reporting pronouncements issued by the Financial Reporting Standards Council.

The annual financial statements have been prepared on the historic cost basis, except for certain properties and financial instruments that are measured at revalued amounts or fair values, as explained in the accounting policies below. Historical cost is generally based on the fair value of the consideration given in exchange for goods and services. They are presented in Rands, which is the group's and company's functional currency.

Unless otherwise stated, all financial figures are rounded off to the nearest thousand Rand (R'000). These accounting policies are consistent with those of the previous period.

Accordingly, the group has prepared annual financial statements, which comply with IFRS applicable for periods ending on or after 31 March 2023, together with the comparative period data as at and for the year ended 31 March 2022, as described in the accounting policies.

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, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the group takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purpose in these consolidated financial statements is determined on such a basis, except for share-based payment transactions that are within the scope of IFRS 2, leasing transactions that are within the scope of IFRS 16, and measurements that have some similarities to fair value but are not fair value, such as net realisable value in IAS 2 or value in use in IAS 36.

In addition, for financial reporting purposes, fair value measurements are categorised into levels 1, 2 or 3 based on the degree to which the inputs to the fair values measurements are observable and the significance of the inputs to the fair value measurements in its entirety, which are described as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date;
- Level 2 inputs are inputs, other than quoted prices included within level 1, that are observable for the asset or liability, either directly or indirectly and
- Level 3 inputs are observable inputs for the asset or liability.

The principal accounting policies are set out below.

1.2 Consolidation basis of consolidation

The consolidated annual financial statements incorporate the annual financial statements of Necsa and its subsidiaries. Subsidiaries are entities (including structured entities) controlled by the group.

Control is achieved when Necsa or its subsidiaries:
- has power over the investee;
- is exposed, or has rights, to variable returns from its involvement with the investee; and
- has the ability to use its power to affect its returns.

When Necsa or its subsidiaries have less than a majority of the voting rights of an investee, they have power over the investee when the voting rights are sufficient to give them the practical ability to direct the relevant activities of the investee unilaterally. Necsa considers all relevant facts and circumstances in assessing whether or not Necsa's or its subsidiaries' voting rights in an investee are sufficient to give power, including:
- the size of the company's holding of voting rights relative to the size and dispersion of holdings of the other vote holders;
- potential voting rights held by the company, other vote holders or other parties;
- rights arising from other contractual arrangements; and
- any additional facts and circumstances that indicate that the company has, or does not have, the current ability to direct the relevant activities at the time that decisions need to be made, including voting patterns at previous shareholders' meetings.

Consolidation of a subsidiary begins when Necsa or its subsidiaries obtains control over the subsidiary and ceases when Necsa or its subsidiaries loses control of the subsidiary. Specifically, income and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated statement of profit or loss and other comprehensive income from the date Necsa or its subsidiaries gains control until the date when Necsa or its subsidiaries cases to control the subsidiary.

Profit or loss and each component of other comprehensive income are attributed to the owners of Necsa and to the non-controlling interests. Total comprehensive income of subsidiaries is attributed to the owners of the Necsa and to the non-controlling interests.

All intragroup assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the group are eliminated in full on consolidation.

1.3 Investment in associate

An associate is an entity over which the group has significant influence and that is neither a subsidiary nor a joint arrangement. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control over those policies. It generally accompanies a shareholding of between 20% and 50% of the voting rights.

The requirements of IFRS 9 are applied to determine whether it is necessary to recognise any impairment loss with respect to the group's investment in an associate. The results of assets and liabilities of associates are incorporated in these consolidated financial statements using the equity method of accounting, except when the investment is classified as held for sale, in which case it is accounted for in accordance with IFRS 5 Noncurrent Assets Held for Sale and Discontinued Operations. Under the equity method, an investment in an associate is initially recognised in the consolidated statement of financial position at cost and adjusted thereafter to recognise the group's share of the profit or loss and other comprehensive income of the associate. When the group's share of losses of an associate exceeds the group's interest in that associate (which includes any long-term interests that, in substance, form part of the group's net investment in the associate), the group discontinues recognising its share of further losses. Additional losses are classified as liabilities when recognised, only to the extent that the group has incurred legal or constructive obligations or made payments on behalf of the associate.

When necessary, the entire carrying amount of the investment (including goodwill) is tested for impairment in accordance with IAS 36 Impairment of Assets as a single asset by comparing its recoverable amount (higher of value in use and fair value less costs to sell) with its carrying amount. Any impairment loss recognised forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognised in accordance with IAS 36 to the extent that the recoverable amount of the investment subsequently increases.

When a group entity transacts with its associate, profits and losses resulting from the transactions with the associate are recognised in the group's consolidated financial statements only to the extent of interests in the associate that are not related to the group.

1.4 Investment property

Investment properties are properties held to earn rentals.

Investment property is initially recognised at cost. Transaction costs are included in the initial measurement.

Costs include costs incurred initially and costs incurred subsequently to add to, or to replace a part of or service a property. If a replacement part is recognised in the carrying amount of the investment property, the carrying amount of the replaced part is derecognised.

Fair value

Subsequent to initial measurement investment property is measured at fair value.

A gain or loss arising from a change in fair value is included in net profit or loss for the period in which it arises.

An investment property is derecognised upon disposal or when the investment property is permanently withdrawn from use and no future economic benefits are expected from the disposal. Any gain or loss arising on derecognition of the property (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in profit or loss in the period in which the property is derecognised.

1.5 Property, plant and equipment

Property, plant and equipment is initially measured at cost.

Costs include costs incurred initially to acquire or construct an item of property, plant and equipment and costs incurred subsequently to add to, replace part of or service it. If a replacement cost is recognised in the carrying amount of an item of property, plant and equipment, the carrying amount of the replaced part is derecognised.

The initial estimate of the costs of dismantling and removing an item and restoring the site on which it is located is also included in the cost of property, plant and equipment, where the group is obligated to incur such expenditure, and where the obligation arises as a result of acquiring the asset or using it for purposes other than the production of inventories.

Assets under construction include expenditure capitalised for work in progress in respect of activities to develop, expand or enhance items of property, plant and equipment.

Plant and equipment are stated at cost less accumulated depreciation and any impairment losses.

Land and buildings are carried at revalued amount, being the fair value at the date of revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses.

Revaluations are made with sufficient regularity such that the carrying amount does not differ materially from that which would be determined using fair value at the end of the reporting year.

The frequency of revaluations depends upon the changes in fair values of the items of property, plant and equipment being revalued. Some items of property, plant and equipment experience significant and volatile changes in fair value, thus necessitating annual revaluation. Such frequent revaluations are unnecessary for items of property, plant and equipment with only insignificant changes in fair value. Instead, it may be necessary to revalue the item every three to five years.

When an item of property, plant and equipment is revalued, any accumulated depreciation at the date of the revaluation is eliminated against the gross carrying amount of the asset.

Any increase in an asset’s carrying amount, as a result of a revaluation, is recognised in other comprehensive income and accumulated in the revaluation reserve in equity. The increase is recognised in profit or loss to the extent that it reverses a revaluation decrease of the same asset previously recognised in profit or loss.

Any increase in an asset’s carrying amount, as a result of a revaluation, is recognised in profit or loss in the current year. The decrease is recognised in other comprehensive income to the extent of any credit balance existing in the revaluation reserve in respect of that asset. The decrease recognised in other comprehensive income reduces the amount accumulated in the revaluation reserve in equity.

The revaluation surplus in equity related to a specific item of property, plant and equipment is transferred directly to retained income when the asset is derecognised.

Property, plant and equipment are depreciated on the straight-line basis over their expected useful lives to their estimated residual value. The useful lives of items of property, plant and equipment have been assessed as follows:

Item	Average useful life
Buildings	10 - 50 years
Land	Indefinite
Plant	5 - 50 years
Furniture and fixtures	2 - 22 years
Motor vehicles and transport containers	2 - 26 years
Office equipment	2 - 22 years
IT equipment	2 - 22 years
Research facilities	2 - 22 years
Leasehold improvements	2 - 10 years
Machinery and equipment	2 - 22 years
Component spares	2- 10 years
Small capital items (less than R7000)	Not applicable – depreciated immediately

The residual value, useful life and depreciation method of each asset are reviewed at the end of each reporting year. If the expectations differ from previous estimates, the change is accounted for prospectively as a change in accounting estimate.

The depreciation charge for each year is recognised in profit or loss unless it is included in the carrying amount of another asset.

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected from its continued use.

The gain or loss arising from the derecognition of an item of property, plant and equipment is included in profit or loss when the item is derecognised. The gain or loss arising from the derecognition of an item of property, plant and equipment is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

1.6 Intangible assets

An intangible asset is recognised when:
- it is probable that the expected future economic benefits that are attributable to the asset will flow to the entity; and
- the cost of the asset can be measured reliably.

Intangible assets are initially recognised at cost.

Internally generated intangible assets – research and development expenditure.

Expenditure on research (or on the research phase of an internal project) is recognised as an expense when it is incurred.

An intangible asset arising from development (or from the development phase of an internal project) is recognised when all of the following have been demonstrated:

- it is technically feasible to complete the asset so that it will be available for use or sale;
- the intention to complete the intangible asset and use or sell it;
- the ability to use or sell the intangible asset;
- it will generate probable future economic benefits;
- how the intangible asset will generate probable future economic benefits;
- the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset and
- the ability to measure reliably the expenditure attributable to the intangible asset during its development.

The amount initially recognised for internally generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset first meets the recognition criteria listed above. Where no internally generated intangible asset can be recognised, development expenditure is recognised in profit or loss in the period in which it is incurred.

Subsequent to initial recognition, internally generated intangible assets are reported at cost less accumulated amortisation and accumulated impairment losses, on the same basis as intangible assets that are acquired separately.

The amortisation period and the amortisation method for intangible assets are reviewed at the end of each reporting period.

Reassessing the useful life of an intangible asset with a finite useful life after it was classified as indefinite is an indicator that the asset may be impaired. As a result the asset is tested for impairment and the remaining carrying amount is amortised over its useful life.

Internally generated brands, mastheads, publishing titles, customer lists and items similar in substance are not recognised as intangible assets.

Amortisation is provided to write down the intangible assets, on a straight-line basis, to their residual values as follows:

Item	Useful lives
Patents, trademarks and other rights	20 years
Computer software	3 years

1.7 Investments in subsidiaries

Company financial statements

In the company's separate annual financial statements, investments in subsidiaries are carried at cost less any accumulated impairment. The cost of an investment in a subsidiary is the aggregate of:

- the fair value, at the date of exchange, of assets given, liabilities incurred or assumed and equity instruments issued by the company; plus
- any costs directly attributable to the purchase of the subsidiary.

1.8 Investments in associates

Company

An investment in an associate is carried at cost less any accumulated impairment.

1.9 Financial instruments

Broadly, the classification possibilities, which are adopted by the group, as applicable, are as follows: Financial assets that are equity instruments:

- Mandatorily at fair value through profit or loss; or
- Designated as at fair value through other comprehensive income (this designation is not available to equity instruments that are held for trading or that are a contingent consideration in a business combination).

Financial assets that are debt instruments:

- Amortised cost (this category applies only when the contractual terms of the instrument give rise, on specified dates, to cash flows that are solely payments of principal and interest on principal, and where the instrument is held under a business model whose objective is met by holding the instrument to collect contractual cash flows); or
- Fair value through other comprehensive income (this category applies only when the contractual terms of the instrument give rise, on specified dates, to cash flows that are solely payments of principal and interest on principal, and where the instrument is held under a business model whose objective is achieved by both collecting contractual cash flows and selling the instruments); or
- Mandatorily at fair value through profit or loss (this classification automatically applies to all debt instruments that do not qualify as at amortised cost or at fair value through other comprehensive income); or
- Designated at fair value through profit or loss (this classification option can be applied only when it eliminates or significantly reduces an accounting mismatch).

Derivatives that are not part of a hedging relationship:

- Mandatorily at fair value through profit or loss.

Financial liabilities:

- Amortised cost; or
- Mandatorily at fair value through profit or loss (this applies to contingent consideration in a business combination or to liabilities that are held for trading); or
- Designated at fair value through profit or loss (this classification option can be applied when it eliminates or significantly reduces an accounting mismatch; the liability forms part of a group of financial instruments managed on a fair-value basis; or it forms part of a contract containing an embedded derivative and the entire contract is designated as at fair value through profit or loss).

Note 42 financial instruments and risk management presents the financial instruments held by the group based on their specific classifications.

All regular-way purchases or sales of financial assets are recognised and derecognised on a trade-date basis. Regular-way purchases or sales are purchases or sales of financial assets that require delivery of assets within the timeframe established by regulation or convention in the marketplace.

The specific accounting policies for the classification, recognition and measurement of each type of financial instrument held by the group are presented below:

Loans receivable at amortised cost

Classification

Loans to group companies are classified as financial assets subsequently measured at amortised cost.

They have been classified in this manner because the contractual terms of these loans give rise, on specified dates, to cash flows that are solely payments of principal and interest on the principal outstanding, and the group's business model is to collect the contractual cash flows on these loans.

Recognition and measurement

Loans receivable are recognised when the group becomes a party to the contractual provisions of the loan. The loans are measured, at initial recognition, at fair value plus transaction costs, if any.

They are subsequently measured at amortised cost.

The amortised cost is the amount recognised on the loan initially, minus principal repayments, plus cumulative amortisation (interest) using the effective interest method of any difference between the initial amount and the maturity amount, adjusted for any loss allowance.

Application of the effective interest method

Interest income is calculated using the effective interest method and is included in profit or loss in investment income (note 31).

The application of the effective interest method to calculate interest income on a loan receivable is dependent on the credit risk of the loan as follows:

- The effective interest rate is applied to the gross carrying amount of the loan, provided the loan is not credit impaired. The gross carrying amount is the amortised cost before adjusting for a loss allowance.
- If a loan was not purchased or originally credit-impaired, but it has subsequently become credit-impaired, then the effective interest rate is applied to the amortised cost of the loan in the determination of interest. If, in subsequent periods, the loan is no longer credit impaired, then the interest calculation reverts to applying the effective interest rate to the gross carrying amount.

Loans denominated in foreign currencies

When a loan receivable is denominated in a foreign currency, the carrying amount of the loan is determined in the foreign currency. The carrying amount is then translated to the Rand equivalent using the spot rate at the end of each reporting period. Any resulting foreign exchange gains or losses are recognised in profit or loss in the other operating gains (losses).

Impairment

The group recognises a loss allowance for expected credit loss (ECL) on all loans receivable measured at amortised cost. The amount of ECL is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective loans.

The group measures the loss allowance at an amount equal to lifetime ECL when there has been a significant increase in credit risk since initial recognition. If the credit risk on a loan has not increased significantly since initial recognition, then the loss allowance for that loan is measured at 12 month ECL.

Lifetime ECL represents the ECL that will result from all possible default events over the expected life of a loan. In contrast, 12-month ECL represents the portion of lifetime ECL that is expected to result from default events on a loan that are possible within 12 months after the reporting date.

In order to assess whether to apply lifetime ECL or 12-month ECL, in other words, whether or not there has been a significant increase in credit risk since initial recognition, the group considers whether there has been a significant increase in the risk of a default occurring since initial recognition rather than evidence of a loan being credit impaired at the reporting date or of an actual default occurring.

Definition of default

For purposes of internal credit risk management purposes, the group considers that a default event has occurred if there is either a breach of financial covenants by the counterparty, or if internal or external information indicates that the counterparty is unlikely to pay its creditors in full (without taking collateral into account).

Irrespective of the above analysis, the group considers that default has occurred when a loan instalment is more than 90 days past due unless there is reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate.

Write-off policy

The group writes off a loan when there is information indicating that the counterparty is in severe financial difficulty and there is no realistic prospect of recovery, e.g. when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings. Loans written off may still be subject to enforcement activities under the group recovery procedures, taking into account legal advice where appropriate. Any recoveries made are recognised in profit or loss.

Credit risk

Details of credit risk related to loans receivable are included in the specific notes and the financial instruments and risk management (note 42).

Derecognition

Refer to the ‘derecognition’ section of the accounting policies for the policies and processes related to derecognition. Any gains or losses arising on the derecognition of a loan receivable are included in profit or loss.

Debt instruments at fair value through other comprehensive income

Classification

The group holds certain investments in bonds and debentures that are classified as subsequently measured at fair value through other comprehensive income (note 35).

They have been classified in this manner because the contractual terms of these debt instruments give rise, on specified dates, to cash flows that are solely payments of principal and interest on the principal outstanding, and the objectives of the group's business model is achieved by both collecting the contractual cash flows on these instruments and by selling them.

Recognition and measurement

These debt instruments are recognised when the group becomes a party to the contractual provisions. They are measured, at initial recognition, at fair value plus transaction costs, if any.

They are subsequently measured at fair value.

Even though they are measured at fair value, the group determines the amortised cost of each instrument as if they were measured at amortised cost. The difference, at reporting date, between the amortised cost and the fair value of the debt instruments, is recognised in other comprehensive income and accumulated in equity in the reserve for valuation of investments.

The amortised cost is the amount recognised on the loan initially, minus principal repayments, plus cumulative amortisation (interest) using the effective interest method of any difference between the initial amount and the maturity amount, adjusted for any loss allowance.

Application of the effective interest method

Interest income is calculated using the effective interest method and is included in profit or loss in investment income (note 31).

The application of the effective interest method to calculate interest income on debt instruments at fair value through other comprehensive income is dependent on the credit risk of the instrument as follows:

- The effective interest rate is applied to the gross carrying amount of the instrument, provided the instrument is not credit-impaired. The gross carrying amount is the amortised cost before adjusting for a loss allowance.
- If a debt instrument was not purchased or originally credit-impaired, but it has subsequently become credit-impaired, then the effective interest rate is applied to the amortised cost of the instrument in the determination of interest. If, in subsequent periods, the instrument is no longer credit-impaired, then the interest calculation reverts to applying the effective interest rate to the gross carrying amount.

Debt instruments denominated in foreign currencies

When a debt instrument measured at fair value through other comprehensive income is denominated in a foreign currency, the amortised cost and the fair value (carrying amount) of the investment are determined in the foreign currency. The amortised cost and fair value are then translated to the Rand equivalent using the spot rate at the end of each reporting period. Any foreign exchange gains or losses arising on the amortised cost of the instrument are recognised in profit or loss in the other operating gains (losses). The remaining foreign exchange gains or losses relate to the valuation adjustment and are included in other comprehensive income and are accumulated in equity in the reserve for valuation of investments.

Details of foreign currency risk exposure and the management thereof are provided in the specific loan notes and in the financial instruments and risk management note (note 42).

Impairment

The group recognises a loss allowance for ECL on all debt instruments measured at fair value through other comprehensive income. The amount of ECL is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective instruments.

The group measures the loss allowance at an amount equal to lifetime ECL when there has been a significant increase in credit risk since initial recognition. If the credit risk on a debt instrument has not increased significantly since initial recognition, then the loss allowance for that instrument is measured at 12-month ECL.

Lifetime ECL represents the expected credit losses that will result from all possible default events over the expected life of the instrument. In contrast, 12-month ECL represents the portion of lifetime ECL that is expected to result from default events that are possible within 12-months after the reporting date.

In order to assess whether to apply lifetime ECL or 12-month ECL, in other words, whether or not there has been a significant increase in credit risk since initial recognition, the group considers whether there has been a significant increase in the risk of a default occurring since initial recognition rather than evidence of a debt instrument being credit-impaired at the reporting date or of an actual default occurring.

Credit risk

Details of credit risk related to debt instruments at fair value through other comprehensive income are included in the specific notes and the financial instruments and risk management (note 42).

Derecognition

Refer to the derecognition section of the accounting policies for the policies and processes related to derecognition.

On derecognition of a debt instrument at fair value through other comprehensive income, the cumulative gain or loss on that instrument that was previously accumulated in equity in the reserve for valuation of investments is reclassified to profit or loss.

Trade and other receivables classification

Trade and other receivables, excluding, when applicable, VAT and prepayments, are classified as financial assets subsequently measured at amortised cost (note 12).

They have been classified in this manner because their contractual terms give rise, on specified dates, to cash flows that are solely payments of principal and interest on the principal outstanding, and the group's business model is to collect the contractual cash flows on trade and other receivables.

Recognition and measurement

Trade and other receivables are recognised when the group becomes a party to the contractual provisions of the receivables. They are measured, at initial recognition, at fair value plus transaction costs, if any.

They are subsequently measured at amortised cost.

The amortised cost is the amount recognised on the receivable initially, minus principal repayments, plus cumulative amortisation (interest) using the effective interest method of any difference between the initial amount and the maturity amount, adjusted for any loss allowance.

Application of the effective interest method

For receivables that contain a significant financing component, interest income is calculated using the effective interest method and is included in profit or loss in investment income (note 31).

The application of the effective interest method to calculate interest income on trade receivables is dependent on the credit risk of the receivable as follows:

- The effective interest rate is applied to the gross carrying amount of the receivable, provided the receivable is not credit-impaired. The gross carrying amount is the amortised cost before adjusting for a loss allowance.
- If a receivable was not purchased or originally credit-impaired, but it has subsequently become credit-impaired, then the effective interest rate is applied to the amortised cost of the receivable in the determination of interest. If, in subsequent periods, the receivable is no longer credit-impaired, then the interest calculation reverts to applying the effective interest rate to the gross carrying amount.

Trade and other receivables denominated in foreign currencies

When trade and other receivables are denominated in a foreign currency, the carrying amount of the receivables is determined in the foreign currency. The carrying amount is then translated to the Rand equivalent using the spot rate at the end of each reporting period. Any resulting foreign exchange gains or losses are recognised in profit or loss in other operating gains (losses).

Details of foreign currency risk exposure and the management thereof are provided in the financial instruments and risk management (note 42).

Impairment

The group recognises a loss allowance for ECL on trade and other receivables, excluding VAT and prepayments. The amount of ECL is updated at each reporting date.

The group measures the loss allowance for trade and other receivables at an amount equal to lifetime ECL, which represents the ECL that will result from all possible default events over the expected life of the receivable.

Credit risk

Details of credit risk are included in the trade and other receivables note (note 12) and the financial instruments and risk management note (note 42).

Derecognition

Refer to the derecognition section of the accounting policies the policies and processes related to derecognition.

Any gains or losses arising on the derecognition of trade and other receivables are included in profit or loss in the derecognition gains (losses) on financial assets at amortised cost line item.

Investments in equity instruments

Classification

Investments in equity instruments are presented in note 9. They are classified as at fair value through profit or loss. As an exception to this classification, the group may make an irrevocable election, on an instrument by instrument basis, and on initial recognition, to designate certain investments in equity instruments as at fair value through other comprehensive income.

The designation as at fair value through other comprehensive income is never made on investments that are either held for trading or contingent consideration in a business combination.

Recognition and measurement

Investments in equity instruments are recognised when the group becomes a party to the contractual provisions of the instrument. The investments are measured, at initial recognition, at fair value. Transaction costs are added to the initial carrying amount for those investments that have been designated as at fair value through other comprehensive income. All other transaction costs are recognised in profit or loss.

Investments in equity instruments are subsequently measured at fair value with changes in fair value recognised either in profit or loss or in other comprehensive income (and accumulated in equity in the reserve for valuation of investments) depending on their classification. Details of the valuation policies and processes are presented in note 43.

Fair value gains or losses recognised on investments at fair value through profit or loss are included in other operating gains (losses).

Dividends received on equity investments are recognised in profit or loss when the group's right to receive the dividends is established, unless the dividends clearly represent a recovery of part of the cost of the investment. Dividends are included in investment income (note 31).

Investments denominated in foreign currencies

When an investment in an equity instrument is denominated in a foreign currency, the fair value of the investment is determined in the foreign currency. The fair value is then translated to the Rand equivalent using the spot rate at the end of each reporting period. Any resulting foreign exchange gains or losses are recognised in profit or loss as part of the fair value adjustment for investments that are classified as at fair value through profit or loss. Foreign exchange gains or losses arising on investments at fair value through other comprehensive income are recognised in other comprehensive income and accumulated in equity in the reserve for valuation of investments.

Details of foreign currency risk exposure and the management thereof are provided in the financial instruments and risk management (note 42).

Impairment

Investments in equity instruments are not subject to impairment provisions.

Derecognition

Refer to the derecognition section of the accounting policies for the policies and processes related to derecognition.

The gains or losses that are accumulated in equity in the reserve for valuation of investments for equity investments at fair value through other comprehensive income are not reclassified to profit or loss on derecognition. Instead, the cumulative amount is transferred directly to retained earnings.

Investments in debt instruments at fair value through profit or loss

Classification

Certain investments in debt instruments are classified as mandatorily at fair value through profit or loss. These investments do not qualify for classification at amortised cost or at fair value through other comprehensive income because either the contractual terms of these instruments do not give rise, on specified dates, to cash flows that are solely payments of principal and interest on the principal outstanding or the objectives of the group business model are met by selling the instruments rather than holding them to collect the contractual cash flows.

The group holds investments in debentures and corporate bonds (note 9) which are held at fair value through profit or loss.

The group has designated certain investments in debt instruments at fair value through profit or loss. The reason for the designation is to reduce or eliminate an accounting mismatch which would occur if the instruments were not classified as such. Refer to note 9 for details.

Recognition and measurement

Investments in debt instruments at fair value through profit or loss are recognised when the group becomes a party to the contractual provisions of the instrument. The investments are measured at initial recognition and subsequently, at fair value. Transaction costs are recognised in profit or loss.

Fair value gains or losses are included in other operating gains (losses). Details of the valuation policies and processes are presented in note 43.

Interest received on debt instruments at fair value through profit or loss is included in investment income (note 31).

Investments denominated in foreign currencies

When an investment in a debt instrument at fair value through profit or loss is denominated in a foreign currency, the fair value of the investment is determined in the foreign currency. The fair value is then translated to the Rand equivalent using the spot rate at the end of each reporting period. Any resulting foreign exchange gains or losses are recognised as part of the fair value adjustment in profit or loss.

Details of foreign currency risk exposure and the management thereof are provided in the financial instruments and risk management (note 42).

Impairment

Investments in debt instruments at fair value through profit or loss are not subject to impairment provisions.

Derecognition

Refer to the derecognition section of the accounting policies for the policies and processes related to derecognition.

Non-hedging derivatives

Classification

Non-hedging derivatives are classified as mandatorily at fair value through profit or loss.

The group enters into a variety of derivative financial instruments in order to manage its exposure to foreign exchange risk and cash flow interest rate risk. Derivatives held by the group that are not in designated hedging relationships include forward exchange contracts and interests rate swaps (note 22)

Recognition and measurement

Derivatives are recognised when the group becomes a party to the contractual provisions of the instrument. They are measured at initial recognition and subsequently, at fair value. Transaction costs are recognised in profit or loss.

Fair value gains or losses are included in other operating gains (losses). Details of the valuation policies and processes are presented in note 43.

Derecognition

Refer to the derecognition section of the accounting policies for the policies and processes related to derecognition.

Borrowings and loans from related parties

Recognition and measurement

Borrowings and loans from related parties are recognised when the group becomes a party to the contractual provisions of the loan. The loans are measured, at initial recognition, at fair value plus transaction costs, if any.

They are subsequently measured at amortised cost using the effective interest method.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial liability, or (where appropriate) a shorter period, to the amortised cost of a financial liability.

Interest expense, calculated on the effective interest method, is included in profit or loss in finance costs (note 32).

Borrowings expose the group to liquidity risk and interest rate risk. Refer to note 42 for details of risk exposure and management thereof.

Loans denominated in foreign currencies

When borrowings are denominated in a foreign currency, the carrying amount of the loan is determined in the foreign currency. The carrying amount is then translated to the Rand equivalent using the spot rate at the end of each reporting period. Any resulting foreign exchange gains or losses are recognised in profit or loss in the other operating gains (losses).

Details of foreign currency risk exposure and the management thereof are provided in the specific loan notes and in the financial instruments and risk management (note 42).

Derecognition

Refer to the derecognition section of the accounting policies for the policies and processes related to derecognition.

Trade and other payables

Classification

Trade and other payables (note 19), excluding VAT and amounts received in advance, are classified as financial liabilities subsequently measured at amortised cost.

Recognition and measurement

They are recognised when the group becomes a party to the contractual provisions and are measured, at initial recognition, at fair value plus transaction costs, if any.

They are subsequently measured at amortised cost using the effective interest method.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial liability, or (where appropriate) a shorter period, to the amortised cost of a financial liability.

If trade and other payables contain a significant financing component and the effective interest method results in the recognition of interest expense, then it is included in profit or loss in finance costs (note 32).

Trade and other payables expose the group to liquidity risk and possibly to interest rate risk. Refer to note 42 for details of risk exposure and management thereof.

Trade and other payables denominated in foreign currencies

When trade payables are denominated in a foreign currency, the carrying amount of the payables are determined in the foreign currency. The carrying amount is then translated to the Rand equivalent using the spot rate at the end of each reporting period. Any resulting foreign exchange gains or losses are recognised in profit or loss in the other operating gains (losses).

Details of foreign currency risk exposure and the management thereof are provided in the financial instruments and risk management note (note 42).

Derecognition

Refer to the derecognition section of the accounting policies for the policies and processes related to derecognition.

Financial liabilities at fair value through profit or loss

Classification

Financial liabilities that are held for trading are classified as financial liabilities at fair value through profit or loss.

When a financial liability is a contingent consideration in a business combination, the group classifies it as a financial liability at fair value through profit or loss.

The group, does, from time to time, designate certain financial liabilities as at fair value through profit or loss. The reason for the designation is to reduce or significantly eliminate an accounting mismatch that would occur if the instruments were not classified as such; or if the instrument forms part of a group of financial instruments that are managed and evaluated on a fair value basis in accordance with a documented management strategy; or in cases where it forms part of a contract containing an embedded derivative and IFRS 9 permits the entire contract to be measured at fair value through profit or loss.

Recognition and measurement

Financial liabilities at fair value through profit or loss are recognised when the group becomes a party to the contractual provisions of the instrument. They are measured at initial recognition and subsequently, at fair value. Transaction costs are recognised in profit or loss.

Fair value gains or losses recognised on investments at fair value through profit or loss are included in other operating gains (losses).

For financial liabilities designated at fair value through profit or loss, the portion of fair value adjustments that are attributable to changes in the group's own credit risk is recognised in other comprehensive income and accumulated in equity in the reserve for valuation of liabilities, rather than in profit or loss. However, if this treatment would create or enlarge an accounting mismatch in profit or loss, then that portion is also recognised in profit or loss.

Interest paid on financial liabilities at fair value through profit or loss is included in finance costs (note 32).

Financial liabilities denominated in foreign currencies

When a financial liability at fair value through profit or loss is denominated in a foreign currency, the fair value of the instrument is determined in the foreign currency. The fair value is then translated to the Rand equivalent using the spot rate at the end of each reporting period. Any resulting foreign exchange gains or losses are recognised as part of the fair value adjustment in profit or loss. To the extent that the foreign exchange gain or loss relates to the portion of the fair value adjustment recognised in other comprehensive income, that portion of foreign exchange gain or loss is included in the fair value adjustment recognised in other comprehensive income.

Details of foreign currency risk exposure and the management thereof are provided in the financial instruments and risk management (note 42).

Derecognition

Refer to the derecognition section of the accounting policies for the policies and processes related to derecognition.

The changes in fair value attributable to changes in own credit risk that accumulated in equity for financial liabilities that were designated at fair value through profit or loss are not reclassified to profit or loss. Instead, they are transferred directly to retained earnings on derecognition.

Financial guarantee contracts

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due in accordance with the terms of a debt instrument.

Financial guarantee contracts issued by the group are initially measured at their fair values and, if not designated as at fair value through profit or loss (FVPTL) and do not arise from a transfer of a financial asset, are subsequently measured at the higher of:

- the amount of the loss allowance determined in accordance with IFRS 9; and
- the amount initially recognised less, where appropriate, the cumulative amount of income recognised in accordance with the revenue recognition policies.

Commitments to provide a loan at a below-market interest rate

Commitments to provide a loan at a below-market interest rate are initially measured at their fair values and, if not designated as at FVTPL, are subsequently measured at the higher of:

- the amount of the loss allowance determined in accordance with IFRS 9; and
- the amount initially recognised less, where appropriate, the cumulative amount of income recognised in accordance with the revenue recognition policies.

Cash and cash equivalents

Cash and cash equivalents are stated at carrying amount which, is deemed to be fair value.

Bank overdrafts

Bank overdrafts are initially measured at fair value and are subsequently measured at amortised cost, using the effective interest rate method.

Derecognition

Financial assets

The group derecognises a financial asset only when the contractual rights to the cash flows from the asset expire or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another party. If the group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the group recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the group retains substantially all the risks and rewards of ownership of a transferred financial asset, the group continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

Financial liabilities

The group derecognises financial liabilities when, and only when, the group obligations are discharged, cancelled or expire. The difference between the carrying amount of the financial liability derecognised and the consideration paid and payable, including any non-cash assets transferred or liabilities assumed, is recognised in profit or loss.

Reclassification

Financial assets

The group reclassifies affected financial assets only if there is a change in the business model for managing financial assets. If a reclassification is necessary, it is applied prospectively from the reclassification date. Any previously stated gains, losses or interest are not restated.

The reclassification date is the beginning of the first reporting period following a change in the business model that necessitates a reclassification.

Financial liabilities

Financial liabilities are not reclassified.

1.10 Hedge accounting

At the inception of the hedge relationship, the group documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the group documents whether the hedging instrument is effective in offsetting changes in fair values or cash flows of the hedged item attributable to the hedged risk, which is when the hedging relationships meet all of the following hedge effectiveness requirements:

- there is an economic relationship between the hedged item and the hedging instrument;
- the effect of credit risk does not dominate the value changes that result from that economic relationship; and
- the hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the group actually hedges and the quantity of the hedging instrument that the group actually uses to hedge that quantity of hedged item.

If a hedging relationship ceases to meet the hedge effectiveness requirement relating to the hedge ratio but the risk management objective for that designated hedging relationship remains the same, the group adjusts the hedge ratio of the hedging relationship (i.e. rebalances the hedge) so that it meets the qualifying criteria again.

The group designates the full change in the fair value of a forward contract (i.e. including the forward elements) as the hedging instrument for all of its hedging relationships involving forward contracts.

The group excludes the time value of options and designates only the intrinsic value of options as the hedging instruments in hedges involving options as the hedging instruments. The change in fair value attributable to the time value of options is recognised in other comprehensive income and accumulated in equity as deferred hedging gains (losses). The group hedges only time-period-related items using options. The change in the aligned time value is recognised in other comprehensive income and is amortised on a systematic and rational basis over the period during which the hedge adjustment for the option's intrinsic value could affect profit or loss (or other comprehensive income if the hedged item is an equity instrument at fair value through other comprehensive income). However, if hedge accounting is discontinued, the net amount (i.e. including cumulative amortisation) that has been accumulated in the deferred hedging reserve is immediately reclassified into profit or loss.

1.11 Leases

Company as lessee

A lease liability and corresponding right-of-use asset are recognised at the lease commencement date for all lease agreements for which the company is a lessee.

The various lease and non-lease components of contracts containing leases are accounted for separately, with consideration being allocated to each lease component on the basis of the relative stand-alone prices of the lease components and the aggregate stand-alone price of the non-lease components (where non-lease components exist).

However, as an exception to the preceding paragraph, the company has elected not to separate the non-lease components for leases of land and buildings.

Details of leasing arrangements where the company is a lessee are presented in note 15 leases (company as lessee).

Lease liability

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted by using the rate implicit in the lease. If this rate cannot be readily determined, the company uses its incremental borrowing rate.

Lease payments included in the measurement of the lease liability comprise the following:
- fixed-lease payments, including in-substance fixed payments, less any lease incentives;

- variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date;
- the amount expected to be payable by the company under residual value guarantees;
- the exercise price of purchase options if the company is reasonably certain to exercise the option;
- lease payments in an optional renewal period if the company is reasonably certain to exercise an extension option; and
- penalties for early termination of a lease if the lease term reflects the exercise of an option to terminate the lease.

Variable rents that do not depend on an index or rate are not included in the measurement of the lease liability (or right-of-use asset). The related payments are recognised as an expense in the period incurred and are included in operating expenses (note 15).

The lease liability is presented as a separate line item on the statement of financial position.

The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and by reducing the carrying amount to reflect lease payments made. Interest charged on the lease liability is included in interest expense (note 32).

The company remeasures the lease liability (and makes a corresponding adjustment to the related right-of-use asset) when:
- there has been a change to the lease term, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate;
- there has been a change in the assessment of whether the company will exercise a purchase, termination or extension option, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate;
- there has been a change to the lease payments due to a change in an index or a rate, in which case the lease liability is remeasured by discounting the revised lease payments using the initial discount rate (unless the lease payments change is due to a change in a floating interest rate, in which case a revised discount rate is used);
- there has been a change in expected payment under a residual value guarantee, in which case the lease liability is remeasured by discounting the revised lease payments using the initial discount rate;
- a lease contract has been modified and the lease modification is not accounted for as a separate lease, in which case the lease liability is remeasured by discounting the revised payments using a revised discount rate.

When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or is recognised in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

Right-of-use assets

Lease payments included in the measurement of the lease liability comprise the following:
- the initial amount of the corresponding lease liability;
- any lease payments made at or before the commencement date;
- any initial direct costs incurred;
- any estimated costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, when the group incurs an obligation to do so, unless these costs are incurred to produce inventories; and
- less any lease incentives received.

Right-of-use assets are subsequently measured at cost less accumulated depreciation and impairment losses. Right-of-use assets are depreciated over the shorter period of the lease term and useful life of the underlying asset.

The residual value, useful life and depreciation method of each asset is reviewed at the end of each reporting year. If the expectations differ from previous estimates, the change is accounted for prospectively as a change in accounting estimate. Each part of a right-of-use asset with a cost that is significant in relation to the total cost of the asset is depreciated separately.

The depreciation charge for each year is recognised in profit or loss unless it is included in the carrying amount of another asset.

Company as lessor

Leases for which the company is a lessor are classified as finance or operating leases. Whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee, the contract is classified as a finance lease. All other leases are classified as operating leases.

Lease classification is made at inception and is only reassessed if there is a lease modification.

When the company is an intermediate lessor, it accounts for the head lease and the sublease as two separate contracts. The sublease is classified as a finance or operating lease by reference to the right-of-use asset arising from the head lease. If the head lease is a short-term lease to which the company applies the exemption described previously, then it classifies the sub-lease as an operating lease.

The various lease and non-lease components of contracts containing leases are accounted for separately, with consideration being allocated by applying IFRS 15.

Finance leases

Amounts due from lessees are recognised from commencement date at an amount equal to the company net investment in the lease.

The interest rate implicit in the lease is used to measure the net investment in the lease. If the interest rate implicit in a sublease cannot be readily determined for a sublease, then the discount rate used for the head lease (adjusted for any initial direct costs associated with the sublease) is used to measure the net investment in the sublease.

The interest rate implicit in the lease is defined in a manner that causes the initial direct costs to be included in the initial measurement of the net investment in the lease.

Lease payments included in the measurement of the net investment in the lease comprise the following:
- fixed lease payments, including in-substance fixed payments, less any lease incentives payable;
- variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date;
- the amount expected to be receivable by the company from the lessee, a party related to the lessee or a third party unrelated to the company under residual value guarantees (to the extent of third parties, this amount is included only if the party is financially capable of discharging the obligations under the guarantee);
- the exercise price of purchase options, if the lessee is reasonably certain to exercise the option and

- penalties for early termination of a lease, if the lease term reflects the exercise of an option to terminate the lease.

The company recognises finance income over the lease term, based on a pattern that reflects a constant periodic rate of return on the net investment in the lease. Finance income recognised on finance leases is included in investment income in profit or loss (note 31).

The company applies the impairment provisions of IFRS 9 to lease receivables. Refer to the accounting policy for trade and other receivables as lease receivables are impaired on a consistent basis with that accounting policy.

Operating leases – lessor

Operating lease income is recognised as an income on a straight-line basis over the lease term.

Initial direct costs incurred in negotiating and arranging operating leases are added to the carrying amount of the leased asset and recognised as an expense over the lease term on the same basis as the lease income.

Income for leases is disclosed under revenue in profit or loss.

Operating leases – lessee

Short-term and low-value lease payments are recognised as an expense on a straight-line basis over the lease term except when another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed. The difference between the amounts recognised as an expense and the contractual payments is recognised as a short-term and low-value lease asset.

This liability is not discounted.

In the event that lease incentives are received to enter into short-term and low-value leases, such incentives are recognised as a liability. The aggregate benefit of incentives is recognised as a reduction of rental expense on a straight-line basis, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed.

Any contingent rents are expensed in the period they are incurred.

1.12 Inventories

Inventories are measured at the lower of cost and net realisable value.

Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

The cost of inventories comprises all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition.

The cost of inventories of items that are not ordinarily interchangeable and goods or services produced and segregated for specific projects is assigned using specific identification of the individual costs.

The cost of inventories is assigned using the weighted average cost formula. The same cost formula is used for all inventories having a similar nature and use to the entity.

When inventories are sold, the carrying amount of those inventories is recognised as an expense in the period in which the related revenue is recognised. The amount of any write-down of inventories to net realisable value and all losses of inventories are recognised as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories arising from an increase in net realisable value is recognised as a reduction in the amount of inventories recognised as an expense in the period in which the reversal occurs.

1.13 Non-current assets held for sale

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the asset (or disposal group) is available for immediate sale in its present condition. Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

Non-current assets and disposal groups are classified as held for distribution to owners when the entity is committed to distributing the asset or disposal group to the owners. This condition is regarded as met only when the distribution is highly probable and the asset (or disposal group) is available for immediate distribution in its present condition, provided the distribution is expected to be completed within one year from the classification date.

Non-current assets (or disposal groups) held for sale (distribution to owners) are measured at the lower of their carrying amount and fair value less costs to sell (distribute).

A non-current asset is not depreciated (or amortised) while it is classified as held for sale (held for distribution to owners) or while it is part of a disposal group classified as such.

Interest and other expenses attributable to the liabilities of a disposal group classified as held for sale (distribution to owners) are recognised in profit or loss.

Any gain or loss on the remeasurement on a non-current asset classified as held for sale that does not meet the definition of a discontinued operation is included in profit or loss from continuing operations.

Any impairment loss is recognised for any initial or subsequent write-down of the asset to fair value less cost to sell.

A gain shall be recognised for any subsequent increase in fair value less costs to sell the asset, but not in excess of the cumulative impairment loss that has been recognised previously.

1.14 Impairment of tangible and intangible non-financial assets

The group assesses at each end of the reporting period whether there is any indication that an asset may be impaired. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any).

Irrespective of whether there is any indication of impairment, the group also:

- tests goodwill acquired in a business combination for impairment annually.

If it is not possible to estimate the recoverable amount of the individual asset, the recoverable amount of the cash-generating unit to which the asset belongs is determined.

The recoverable amount of an asset or a cash-generating unit is the higher of its fair value less costs to sell and its value in use.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount.

An impairment loss of assets carried at cost less any accumulated depreciation or amortisation is recognised immediately in profit or loss. Any impairment loss of a revalued asset is treated as a revaluation decrease.

Goodwill acquired in a business combination is, from the acquisition date, allocated to each of the cash-generating units, or groups of cash- generating units, that are expected to benefit from the synergies of the combination.

An impairment loss is recognised for cash-generating units if the recoverable amount of the unit is less than the carrying amount of the units. The impairment loss is allocated to reduce the carrying amount of the assets of the unit in the following order:
- first, to reduce the carrying amount of any goodwill allocated to the cash-generating unit and
- then, to the other assets of the unit, pro rata on the basis of the carrying amount of each asset in the unit.

The carrying amount of an asset included in a cash-generating unit may not be reduced below the highest of (1) its fair value less cost to sell; (2) its value in use or (3) zero.

An entity assesses at each reporting date whether there is any indication that an impairment loss recognised in prior periods for assets other than goodwill may no longer exist or may have decreased. If any such indication exists, the recoverable amounts of those assets are estimated.

The increased carrying amount of an asset other than goodwill attributable to a reversal of an impairment loss does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset in prior periods.

A reversal of an impairment loss of assets carried at cost less accumulated depreciation or amortisation other than goodwill is recognised immediately in profit or loss. Any reversal of an impairment loss of a revalued asset is treated as a revaluation increase.

1.15 Share capital and equity

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Ordinary shares are classified as equity and measured at cost.

1.16 Employee benefits

Short-term employee benefits

The cost of short-term employee benefits (those payable within 12 months after the service is rendered, such as paid vacation leave and sick leave, bonuses and non-monetary benefits such as medical care) is recognised in the period in which the service is rendered and is not discounted.

The expected cost of compensated absences is recognised as an expense as the employees render services that increase their entitlement or, in the case of non-accumulating absences, when the absence occurs.

The expected cost of profit sharing and bonus payments is recognised as an expense when there is a legal or constructive obligation to make such payments as a result of past performance.

Defined contribution plans

The company operates a provident fund on behalf of its employees. The scheme is generally funded through payments to insurance companies or trustee-administered funds, determined by periodic actuarial calculations. A defined contribution plan is a plan under which the company pays fixed contributions into a separate entity. The company has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefit relating to employee service in the current and prior periods.

Payments to defined contribution retirement benefit plans are charged as an expense as they fall due. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in the future payments is available.

Defined benefit plans

Some group companies provide post-retirement healthcare benefits to their retirees. The entitlement to these benefits is usually conditional on the employee remaining in service up to retirement age and the completion of a minimum service period. For defined benefit plans the cost of providing the benefits is determined using the projected unit credit method.

Actuarial valuations are conducted on an annual basis by independent actuaries separately for each plan.

Consideration is given to any event that could affect the funds up to the end of the reporting period where the interim valuation is performed at an earlier date.

Past service costs are recognised immediately to the extent that the benefits are already vested and are otherwise amortised on a straight-line basis over the average period until the amended benefits become vested.

Actuarial gains and losses are recognised in the year in which they arise, in other comprehensive income.

Gains or losses on the curtailment or settlement of a defined benefit plan are recognised when the group is demonstrably committed to curtailment or settlement.

When it is virtually certain that another party will reimburse some or all of the expenditure required to settle a defined benefit obligation, the right to reimbursement is recognised as a separate asset. The asset is measured at fair value. In all other respects, the asset is treated in the same way as plan assets. In profit or loss, the expense relating to a defined benefit plan is presented as the net of the amount recognised for a reimbursement.

The amount recognised in the statement of financial position represents the present value of the defined benefit obligation as adjusted for unrecognised actuarial gains and losses and unrecognised past service costs, and reduces by the fair value of plan assets.

Any asset is limited to unrecognised actuarial losses and past service costs, plus the present value of available refunds and reduction in future contributions to the plan.

1.17 Provisions and contingencies

Provisions are recognised when:
- the group has a present obligation as a result of a past event;
- it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation; and
- a reliable estimate can be made of the obligation.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material).

Where some or all of the expenditure required to settle a provision is expected to be reimbursed by another party, the reimbursement shall be recognised when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement shall be treated as a separate asset. The amount recognised for the reimbursement shall not exceed the amount of the provision.

Provisions are not recognised for future operating.

Onerous contracts

If an entity has a contract that is onerous, the present obligation under the contract shall be recognised and measured as a provision.

An onerous contract is considered to exist where the group has a contract under which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received from the contract. Rental income relating to Pelchem has resulted in an onerous contract.

Contingent assets and liabilities

After their initial recognition contingent liabilities recognised in business combinations that are recognised separately are subsequently measured at the higher of:
- the amount that would be recognised as a provision; and
- the amount initially recognised less cumulative amortisation.

Contingent assets and contingent liabilities are not recognised. Contingencies are disclosed in note 38.

1.18 Government grants and deferred grant income

Government grants are recognised when there is reasonable assurance that:
- the group will comply with the conditions attached to them; and
- the grants will be received.

Government grants are recognised as income over the periods necessary to match them with the related costs that they are intended to compensate.

A government grant that becomes receivable as compensation for expenses or already incurred or for the purpose of giving immediate financial support to the entity with no future related costs is recognised as income of the period in which it becomes receivable.

Government grants related to assets, including non-monetary grants at fair value, are presented in the statement of financial position by setting up the grant as deferred income or by deducting the grant in arriving at the carrying amount of the asset.

Grants related to income are presented as a credit in the profit or loss (separately).

Repayment of a grant related to income is applied first against any unamortised deferred credit set up in respect of the grant. To the extent that the repayment exceeds any such deferred credit, or where no deferred credit exists, the repayment is recognised immediately as an expense.

Repayment of a grant related to an asset is recorded by increasing the carrying amount of the asset or reducing the deferred income balance by the amount repayable. The cumulative additional depreciation that would have been recognised to date as an expense in the absence of the grant is recognised immediately as an expense.

1.19 Revenue

Necsa derives revenue from the following major sources:

- Sale of goods to customer
- Services rendered to customers
- Interest
- Dividend.

Revenue is measured based on the consideration specified in a contract with a customer and excludes amounts collected on behalf of third parties. The company recognises revenue when it transfers control of a product or service to a customer.

Sale of goods to customers

The group sells goods directly to customers. Revenue is recognised at a point in time for sales of goods. For sales of goods to customers, revenue is recognised when control of the goods has transferred, being at the point the customer purchases the goods. Payment of the transaction price is due immediately at the point the customer purchases the goods. A receivable is recognised for account-holding customers. Delivery occurs when the goods have been shipped to the customer's location. When the customer initially purchases the goods the transaction price received by the company is recognised as a contract liability until the goods have been delivered to the customer.

Services rendered

The group renders services for its customers. Revenue from providing services is recognised in the accounting period in which the services are rendered. For fixed-price contracts, revenue is recognised based on the actual service provided to the end of the reporting period as a proportion of the total services to be provided. Estimates of revenues, costs or extent of progress toward completion are revised if circumstances change. Any resulting increases or decreases in estimated revenues or costs are reflected in profit or loss in the period in which the circumstances that give rise to the revision become known by management. In case of fixed-price contracts, the customer pays the fixed amount based on a payment schedule. If the services rendered by the company exceed the payment, a contract asset is recognised. If the payments exceed the services rendered, a contract liability is recognised.

Contract revenue

Contract revenue comprises:

- the initial amount of revenue agreed in the contract; and
- variations in contract work, claims and incentive payments:
  - to the extent that it is probable that they will result in revenue; and
  - they are capable of being reliably measured.

Interest income

Interest income from a financial asset is recognised when it is probable that the economic benefits will flow to the group and the amount of income can be measured reliably. Interest income is accrued on a time basis, by reference to the principal outstanding and at the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount on initial recognition.

Dividends

Dividends are recognised, in profit or loss, when the shareholder's right to receive payment has been established, provided that it is probable that the economic benefits will flow to the entity and that the amount of dividend income can be measured reliably. Service fees included in the price of a product are recognised as revenue over the period during which the service is performed.

1.20 Translation of foreign currencies

Functional and presentation currency

Items included in the annual financial statements of each of the group entities are measured using the currency of the primary economic environment in which the entity operates (functional currency).

The consolidated annual financial statements are presented in Rand, which is the group functional and presentation currency.

In preparing the financial statements of each individual group entity, transactions in currencies other than the entity's functional currency (foreign currencies) are recognised at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined.

Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated.

Exchange differences on monetary items are recognised in profit or loss in the period in which they arise except for:
- exchange differences on transactions entered into in order to hedge certain foreign currency risks; and
- exchange differences on foreign currency borrowings relating to assets under construction for future productive use, which are included in the cost of those assets when they are regarded as an adjustment to interest costs on those foreign currency borrowings;
- exchange differences arising on the settlement of monetary items or on translating monetary items at rates different from those at which they were translated on initial recognition during the period or in previous annual financial statements, which are recognised in profit or loss in the period in which they arise.

When a gain or loss on a non-monetary item is recognised to other comprehensive income and accumulated in equity, any exchange component of that gain or loss is recognised to other comprehensive income and accumulated in equity. When a gain or loss on a non-monetary item is recognised in profit or loss, any exchange component of that gain or loss is recognised in profit or loss.

Necsa is exposed to foreign currency translation risks relating to Euro, Malaysian Ringgit and Dirham currencies.

Necsa, NTP and Pelchem enter into forward exchange contracts for all procurement transactions over R300 000 and enter into contracts for exposure to income receivable.

Investments in subsidiaries, joint ventures and associates

For the purposes of presenting consolidated financial statements, the assets and liabilities of the group's foreign operations are translated into Rands using exchange rates prevailing at the end of each reporting period. Income and expense items are translated at the average exchange rates for the period, unless exchange rates fluctuate significantly during that period, in which case the exchange rates at the dates of the transactions are used. Exchange differences arising, if any, are recognised in other comprehensive income and accumulated in equity (attributed to non-controlling interests as appropriate).

On the disposal of a foreign operation (i.e. a disposal of the group's entire interest in a foreign operation, or a disposal involving loss of control over a subsidiary that includes a foreign operation, a disposal involving loss of joint control over a jointly controlled entity that includes a foreign operation, or a disposal involving loss of significant influence over an associate that includes a foreign operation), all of the exchange differences accumulated in equity in respect of that operation attributable to the owners of the company are reclassified to profit or loss.

In the case of a partial disposal that does not result in the group losing control over a subsidiary that includes a foreign operation, the proportionate share of accumulated exchange differences is reattributed to non-controlling interests and is not recognised in profit or loss. For all other partial disposals (i.e. reductions in the group's ownership interest in associates or jointly controlled entities that do not result in the group losing significant influence or joint control), the proportionate share of the accumulated exchange differences is reclassified to profit or loss.

Goodwill and fair-value adjustments on identifiable assets and liabilities acquired arising on the acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and translated at the rate of exchange prevailing at the end of each reporting period.

Exchange differences arising are recognised in equity.

1.21 Related parties

The group operates in an economic environment currently dominated by entities directly or indirectly owned by the South African government. As a result of the constitutional independence of all three spheres of government in South Africa, only parties within the national sphere of government are considered to be related parties.

Key management is defined as being individuals with the authority and responsibility for planning, directing and controlling the activities of the entity. All individuals from the level of Chief Executive Officer up to the Board of Directors are regarded as key management.

Close family members of key management personnel are considered to be those family members who may be expected to influence or be influenced by key management individuals or other parties related to the entity.

1.22 Fruitless, wasteful and irregular expenditure

Fruitless and wasteful expenditure in terms of the Public Finance Management Act means expenditure that was made in vain and would have been avoided had reasonable care been exercised is recorded in the notes to the financial statements.

Irregular expenditure is recorded in the notes to the financial statements. The amount recorded in the notes is equal to the value of the irregular expenditure incurred unless it is impracticable to determine the value thereof.

1.23 Borrowing costs

Borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalised as part of the cost of that asset until such time as the asset is ready for its intended use. The amount of borrowing costs eligible for capitalisation is determined as follows:

- Actual borrowing costs on funds specifically borrowed for the purpose of obtaining a qualifying asset less any temporary investment of those borrowings.
- Weighted average of the borrowing costs applicable to the entity on funds generally borrowed for the purpose of obtaining a qualifying asset. The borrowing costs capitalised do not exceed the total borrowing costs incurred.

The capitalisation of borrowing costs commences when:

- expenditures for the asset have occurred;
- borrowing costs have been incurred, and
- activities that are necessary to prepare the asset for its intended use or sale are in progress.

Capitalisation is suspended during extended periods in which active development is interrupted.

Capitalisation ceases when substantially all the activities necessary to prepare the qualifying asset for its intended use or sale are complete.

All other borrowing costs are recognised as an expense in the period in which they are incurred.

2. Significant judgments and sources of estimation uncertainty

Significant judgment and estimates in assessing the impairment of financial assets

Financial assets, other than those at FVPL, are assessed for indicators of impairment at the end of each reporting period. The group uses significant judgment in determining whether financial assets are considered to be impaired when there is objective evidence that, as a result of one or more events that occurred after the initial recognition of the financial asset, the estimated future cash flows of the investment have been affected.

For annual financial statements equity investments, a significant or prolonged decline in the fair value of the security below its cost is considered to be objective evidence of impairment. This determination requires significant judgment by the group.

For certain categories of financial assets, such as trade receivables, assets are assessed for impairment on a collective basis even if they were assessed not to be impaired individually. Objective evidence of impairment for a portfolio of receivables could include the group's past experience of collecting payments, an increase in the number of delayed payments in the portfolio past the average credit period of 90 days, as well as observable changes in national or local economic conditions that correlate with default on receivables.

Classification of buildings rented out

The buildings are all located on the Necsa premises and due to the security requirements related to the nuclear activities of Necsa, these buildings cannot be sold separately and have to be kept by Necsa as part of fulfilling its nuclear responsibilities. The purpose for which the buildings are held is therefore solely connected to Necsa's main nuclear business and the buildings are not held for the purpose of capital appreciation, nor to earn rentals. When buildings are vacant and when there is a tenant to which a vacant building can be leased, vacant buildings are leased out. The leasing activity is incidental to the purpose for which the buildings are held and the buildings are not held for the purpose of leasing them out.

Allowance for slow-moving, damaged and obsolete inventory

An allowance is made to write inventory down to the lower of cost or net realisable value. Management has made estimates of the selling price and direct cost to sell on certain inventory items. The write-down is included in the operating profit note 30.

Fair-value estimation

Some of the group assets and liabilities are measured at fair value for financial reporting purposes. The Chief Financial Officer determines appropriate valuation techniques based on the accounting standards.

The fair value of financial instruments traded in active markets (such as trading and available-for-sale securities) is based on quoted market prices at the end of the reporting period. The quoted market price used for financial assets held by the group is the current bid price. The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The group uses a variety of methods and makes assumptions that are based on market conditions existing at the end of each reporting period. Other techniques, such as estimated discounted cash flows, are used to determine fair value for the remaining financial instruments. The fair value of forward foreign exchange contracts is determined using quoted forward exchange rates at the end of the reporting period. In estimating the fair value of an asset or liability, the group uses market observable data to the extent that it is available. Where level 1 inputs are not available, the group engages valuers to establish the appropriate valuation techniques and inputs into the model.

The carrying value less impairment provision of trade receivables and payables is assumed to approximate their fair values. The fair value of financial liabilities for disclosure purposes is estimated by discounting the future contractual cash flows at the current market interest rate that is available to the group for similar financial instruments. The assumption is based on the management expectation that outstanding balances will be collected or paid within 12 months, therefore the time value of money will not have an impact as it is considered to be immaterial.

Information about valuation techniques, inputs used in determining fair values of various assets and liabilities is disclosed in notes.

Impairment testing of goodwill and tangible assets

The recoverable amounts of cash-generating units and individual assets have been determined based on the higher of value-in-use calculations and fair values less costs to sell. These calculations require the use of estimates and assumptions. It is reasonably possible that an assumption may change, which may then affect estimations and may then require a material adjustment to the carrying value of goodwill and tangible assets.

The group reviews and tests the carrying value of assets when events or changes in circumstances suggest that the carrying amount may not be recoverable. In addition, goodwill is tested on an annual basis for impairment. Assets are grouped at the lowest level for which identifiable cash flows are largely independent of cash flows of other assets and liabilities. If there are indications that impairment may have occurred, estimates are prepared of expected future cash flows for each group of assets. Expected future cash flows used to determine the value in use of goodwill and tangible assets are inherently uncertain and could materially change over time.

Provisions

Provisions are estimated by management based on the available information. Additional disclosure of these estimates is included in note 18 provisions.

Taxation

Necsa is not a tax-paying entity but subsidiaries are tax-paying entities.

Judgment is required in determining the provision for income taxes due to the complexity of legislation. There are many transactions and calculations for which the ultimate tax determination is uncertain during the ordinary course of business. The group recognises liabilities for anticipated tax audit issues based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will affect the income tax and deferred tax provisions in the period in which such determination is made.

The group recognises the net future tax benefit related to deferred income tax assets to the extent that it is probable that the deductible temporary differences will reverse in the foreseeable future. Assessing the recoverability of deferred income tax assets requires the group to make significant estimates related to expectations of future taxable income. Estimates of future taxable income are based on forecast cash flows from operations and the application of existing tax laws in each jurisdiction. To the extent that future cash flows and taxable income differ significantly from estimates, the ability of the group to realise the net deferred tax assets recorded at the end of the reporting period could be affected.

Useful lives and residual values of property, plant and equipment

The useful lives of assets are based on management's estimation. Management considers the following factors to determine the optimum useful life expectation for each of the individual items of property, plant and equipment.

- Expected usage of the asset. Usage is assessed by reference to the asset's expected capacity or physical output.
- Expected physical wear and tear, which depends on operational factors such as the number of shifts for which the asset is to be used and the repair and maintenance programme, and the care and maintenance of the asset while idle.
- Technical or commercial obsolescence arising from changes or improvement in production or from a change in the market demand for the product or service output of the asset.
- Exit policy of the company.

The estimation of residual value of assets is also based on management's judgment that the asset will be sold and what its condition will be at the end of its useful life. For assets that incorporate both a tangible and intangible portion, management uses judgment to assess which element is more significant to determine whether it should be treated as property, plant and equipment or intangible assets.

Post-retirement benefit obligation

Judgment is required when recognising and measuring the retirement benefit obligation of the group and the company. The obligation is valued by an independent actuary at each reporting date. The actuarial valuation method is used to value the obligation and the projected unit credit method is used. Future benefit values are projected using specific actuarial assumptions and the liability to in-service members is accrued over the expected working lifetime. The most significant of these are subsidy inflation, longevity, cash flow risk, changes in bond yields and the consumer price index (CPI) as well as further changes in legislation.

Lease classification

Lessors

The company is party to leasing arrangements, as a lessor. The treatment of leasing transactions in the annual financial statements is mainly determined by whether the lease is considered to be an operating lease or a finance lease. In making this assessment, management considers the substance of the lease, as well as the legal form, and makes a judgment about whether substantially all of the risks and rewards of ownership are transferred.

Significant judgment was applied by management in concluding the correct lease classification. Management, therefore, determines whether or not the lease should be classified as an operating or finance lease.

Lessees

IFRS 16 estimation and uncertainty:
- calculating discount rate
- estimating lease term
- estimating variable lease payments dependent on index or rate.

Other IFRS 16 judgments:
- judgment in identifying whether a contract includes a lease
- establishing whether or not it is reasonably certain that an extension option will be exercised
- considering whether or not it is reasonably certain that a termination option will not be exercised
- determining whether or not variable lease payments are truly variable or in substance fixed.

Critical judgments in determining the lease term

In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option: or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

The assessment is reviewed if a significant event or a significant change in circumstances occurs that affects this assessment and that is within the control of the lessee. During the current financial year, the financial effect of revising lease terms to reflect the effect of exercising extension and termination options was an increase in recognised lease liabilities and right-of-use assets of R94 million.

Impairment of financial assets

The group assesses impairment of financial assets by calculating the expected credit loss allowance on trade and other receivables.

Forward-looking information is included by adjusting the credit risk of receivables for macro-economic conditions that impact credit risk. As the group operates in a niche market with a reliable customer base, the affect was not sufficiently significant to warrant any significant adjustments to financial assets.

Inventory obsolescence

The group's inventory is continuously considered for obsolescence due to the nature of the group's business. The amount of any write-down of inventories to net realisable value and losses of inventories is recognised as an expense in the period the write-down or loss occurs.

Cash flows and liquidity

The group assessed the impact of the lockdown on the cash resources on hand and available from committed facilities together with the possibility of default by customers. The group is prioritising its spending with a focus on reducing non-essential costs and making operations more efficient. The group is further committed to minimising the impact on salaries and job losses.

The group's liquidity and access to facilities are continuously monitored to ensure that sufficient funds are available to meet the group's commitments. The group has overdraft facilities with local banks and other funding institutions. In addition, the company can rely on financial support from its shareholder should the need arise.

3. New standards and interpretations

3.1. Standards and interpretations not yet effective

The group has chosen not to early adopt the following standards and interpretations, which have been published and are mandatory for the group's accounting periods beginning on or after 01 April 2023 or later periods:

Standard/interpretation:	Effective date: Years beginning on or after	Expected impact:
• IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors	01 January 2023	Possible changes to the wording of accounting policies and notes to align to the new definition.
• IFRS Accounting Taxonomy 2021 – Update 3 Initial Application of - IFRS 17 and IFRS 9 – Comparative Information	01 January 2023	Unlikely there will be a material impact.
• IFRS Accounting Taxonomy 2022 – Update 1 General - Improvements and Common Practice	01 January 2023	No material impact expected.
• IAS 1 Practice statement 2 Making Material Judgments: Disclosure of Accounting Policies	01 January 2024	Possible changes to the wording of accounting policies and notes to align to the new definition.
• Lease Liability in a Sale and Leaseback Amendments to IFRS 16	01 January 2024	No material impact expected.
• IFRS 4 Insurance Contracts: Extension of the Temporary Exemption from applying IFRS 9	01 January 2023	No material impact expected.
• IFRS 7 Financial Instruments: Disclosure of Accounting Policies	01 January 2023	Possible changes to the wording of accounting policies and notes to align to the new definition.
• IAS 26 Accounting and Reporting by Retirement Benefit Plans: Disclosure of Accounting Policies	01 January 2023	Possible changes to the wording of accounting policies and notes to align to the new definition.
• IAS 34 Interim Financial Reporting: Disclosure of Accounting Policies	01 January 2023	No material impact expected.
• IFRS 8 Operating Segments: Disclosure of Accounting Policies	01 January 2023	No material impact expected.
• IAS 12 Income Taxes: Deferred Tax related to Assets and Liabilities arising from a single transaction	01 January 2023	No material impact expected.
• IFRS 17 Insurance Contracts: IFRS Taxonomy 2020 extension of the temporary exemption from applying IFRS 9 and Property, Plant and Equipment – Proceeds before intended use Amendment to IFRS 17 in respect of initial application of IFRS 17 and IFRS 9 – Comparative information	01 January 2023	No material impact expected.

Standard/interpretation:	Effective date: Years beginning on or after	Expected impact:
• IFRS 9 Financial Instruments: IFRS Taxonomy 2020 extension of the temporary exemption from applying IFRS 9 and Property, Plant and Equipment – Proceeds before intended use	01 January 2023	No material impact expected.
• IAS 16 Property, Plant and Equipment: IFRS Taxonomy 2020 extension of the temporary exemption from applying IFRS 9 and Property, Plant and Equipment – Proceeds before intended use	01 January 2023	No material impact expected.
• IFRS 1 First-time Adoption of IFRS: Deferred Tax related to Assets and Liabilities arising from a single transaction	01 January 2023	No material impact expected.
• Classification of Liabilities as Current or Non-current – Amendment to IAS 1	01 January 2023	No material impact expected.
• IFRS 17 Insurance Contracts	01 January 2023	No material impact expected.

4. Property, plant and equipment

	2023			2022		
	Cost or revaluation	Accumulated depreciation	Carrying value	Cost or revaluation	Accumulated depreciation	Carrying value
Group						
Used within the group						
Research facilities	36 633	(10 410)	26 223	40 979	(9 896)	31 083
Component spares	24 681	(24 455)	226	907	(614)	293
Furniture and fixtures	12 785	(9 327)	3 458	22 466	(18 570)	3 896
IT equipment	93 328	(72 842)	20 486	133 375	(114 583)	18 792
Land and buildings	941 624	(47 459)	894 165	950 993	(45 534)	905 459
Leasehold improvements	17 711	(5 125)	12 586	17 503	(1 759)	15 744
Machinery and equipment	453 985	(360 343)	93 642	462 284	(363 044)	99 240
Motor vehicles and transport containers	67 422	(56 321)	11 101	67 112	(54 061)	13 051
Office equipment	17 913	(15 817)	2 096	14 520	(12 806)	1 714
Plant	700 471	(337 119)	363 352	642 390	(325 038)	317 352
Total	**2 366 553**	**(939 218)**	**1 427 335**	**2 352 529**	**(945 905)**	**1 406 624**

	2023			2022		
	Cost or revaluation	Accumulated depreciation	Carrying value	Cost or revaluation	Accumulated depreciation	Carrying value
Company						
Used within the company						
Furniture and fixtures	5 888	(4 533)	1 355	15 277	(13 644)	1 633
IT equipment	61 159	(47 871)	13 288	76 617	(64 672)	11 945
Land and buildings	890 824	(47 459)	843 365	907 998	(45 339)	862 659
Machinery and equipment	315 859	(259 435)	56 424	333 803	(270 152)	63 651
Motor vehicles and transport containers	29 401	(24 791)	4 610	30 786	(24 100)	6 686
Office equipment	16 209	(14 319)	1 890	12 899	(11 366)	1 533
Plant	285 346	(124 569)	160 777	239 442	(124 688)	114 754
Research facilities	36 633	(10 410)	26 223	40 979	(9 896)	31 083
Total	**1 641 319**	**(533 387)**	**1 107 932**	**1 657 801**	**(563 857)**	**1 093 944**

Reconciliation of property, plant and equipment – Group – 2023

Used within the group	Opening balance	Additions	Disposals	Transfers	Revaluations	Depreciation	Impairment (loss)/ reversal	Total
Land and buildings	905 459	10 185	(4)	-	25 984	(47 459)	-	894 165
Plant	317 352	52 753	-	-	-	(8 866)	2 113	363 352
Furniture and fixtures	3 896	314	(66)	-	-	(685)	(1)	3 458
Motor vehicles	13 051	1 375	(461)	109	-	(2 973)	-	11 101
Office equipment	1 714	240	(4 659)	10 603	-	(5 802)	-	2 096
IT equipment	18 792	8 264	(387)	-	-	(5 951)	(232)	20 486
Research facilities	31 083	(4 300)	(4)	-	-	(556)	-	26 223
Leasehold improvements	15 744	6 886	-	-	-	(3 170)	(6 874)	12 586
Machinery and equipment	99 240	17 881	(1 569)	(5)	-	(21 039)	(866)	93 642
Component spares	293	-	(2 903)	-	-	(67)	2 903	226
	1 406 624	**93 598**	**(10 053)**	**10 707**	**25 984**	**(96 568)**	**(2 957)**	**1 427 335**

Reconciliation of property, plant and equipment – Group – 2022

Used within the group	Opening balance	Additions	Disposals	Revaluations	Other changes, movements	Depreciation	Impairment (loss)/ reversal	Total
Land and buildings	917 603	4 899	-	30 945	2	(45 323)	(2 667)	905 459
Plant	303 883	36 497	114	-	(14 152)	(8 988)	(2)	317 352
Furniture and fixtures	4 390	110	-	-	295	(900)	1	3 896
Motor vehicles	15 191	1 268	(625)	-	-	(2 783)	-	13 051
Office equipment	1 614	315	(42)	-	-	(183)	10	1 714
IT equipment	19 564	6 687	(5)	-	43	(7 059)	(438)	18 792
Research facilities	31 664	2	-	-	-	(581)	(2)	31 083
Leasehold improvements	2 291	-	-	-	13 856	(403)	-	15 744
Machinery and equipment	118 276	15 797	(8 323)	-	(34)	(22 698)	(3 778)	99 240
Component spares	367	1 605	-	-	-	(994)	(685)	293
	1 414 843	**67 180**	**(8 881)**	**30 945**	**10**	**(89 912)**	**(7 561)**	**1 406 624**

Reconciliation of property, plant and equipment – Company – 2023

Used within the group	Opening balance	Additions	Disposals	Transfers	Revaluations	Depreciation	Impairment loss	Total
Land and buildings	862 659	10 185	(4)	-	17 984	(47 459)	-	843 365
Plant	114 754	45 929	-	-	-	(2 056)	2 150	160 777
Furniture and fixtures	1 633	140	(44)	-	-	(374)	-	1 355
Motor vehicles	6 686	85	(221)	-	-	(1 940)	-	4 610
Office equipment	1 533	153	(4 659)	10 603	-	(5 740)	-	1 890
IT equipment	11 945	4 934	(295)	-	-	(3 296)	-	13 288
Research facilities	31 083	(4 300)	(4)	-	-	(556)	-	26 223
Machinery and equipment	63 651	8 885	(1 513)	(5)	-	(14 594)	-	56 424
	1 093 944	**66 011**	**(6 740)**	**10 598**	**17 984**	**(76 015)**	**2 150**	**1 107 932**

Reconciliation of property, plant and equipment – Company – 2022

Used within the group	Opening balance	Additions	Disposals	Revaluations	Other changes, movements	Depreciation	Total
Buildings	875 103	2 233	-	30 645	1	(45 323)	862 659
Plant and machinery	86 299	29 871	-	-	-	(1 416)	114 754
Furniture and fixtures	1 957	7	-	-	-	(331)	1 633
Motor vehicles	8 339	66	-	-	-	(1 719)	6 686
Office equipment	1 364	316	-	-	-	(147)	1 533
IT equipment	11 584	4 711	(5)	-	44	(4 389)	11 945
Research facilities	31 664	-	-	-	-	(581)	31 083
Machinery and equipment	86 748	1 895	(8 229)	-	(35)	(16 728)	63 651
	1 103 058	**39 099**	**(8 234)**	**30 645**	**10**	**(70 634)**	**1 093 944**

Property, plant and equipment encumbered as security

No assets have been pledged as security and are secured by the lessor's title to the leased assets.

Details of properties
Land and buildings consist of the following properties:

Necsa: Farm 567, Weldaba; Erf 1150, 1153, 1155 and 1156 . The properties were revalued as at 31 March 2022 and 31 March 2023 by an independent valuator. Please refer to revaluation below.

Albertinia; Erf 4473 and 4474 Riverdale; Erf 1115, 1224, 1916, 1917, 1919, 1921, 1922, 1924, 1926, 1928 and 1929. These assets are measured at directors' valuation.

Springbok; Farm 369 and 380 Vaalputs. The rest of the assets are measured at directors' valuation.

Gammatec NDT: Portion 91 of Farm 601 Klipplaatdrif, Vereeniging. The property is encumbered as disclosed in note of Gammatec NDT annual financial statements. The property was revalued as at 3 April 2023 by an independent valuer.

AEC Amersham: Erf 176, 100 Indianapolis Street, Kyalami. The property was revalued as at 31 March 2023 by an independent valuer.

The estimation of the useful lives of property, plant and equipment is based on historic performance as well as expectations about future use and, therefore, requires a significant degree of judgment to be applied by management. These depreciation rates represent management's current best estimate of the useful lives of the assets.

Transfer of property, plant and equipment also includes transfers to other asset classes. The revaluation reserve may not be distributed to shareholders.

A register containing the information required by Regulation 25(3) of the Companies Regulations, 2011 is available for inspection at the registered office of the company.

Assets in progress

Assets in progress recognised in the carrying amount of property, plant and equipment items in the course of its construction:

Group

Used within the group	Opening R'000	Additions R'000	Capitalised R'000	Closing R'000
Furniture and fixtures	7	314	(235)	86
IT equipment	51	8 264	(6 745)	1 570
Land and buildings	9 540	17 071	(26 601)	10
Machinery and equipment	22 972	17 881	(19 752)	21 101
Motor vehicles and transport containers	66	1 375	(1 927)	(486)
Office equipment	300	240	(524)	16
Plant	280 932	52 753	(30 584)	303 101
Research facilities	8 744	(4 300)	-	4 444
	322 612	**93 598**	**(86 368)**	**329 842**

Company

	Opening R'000	Additions R'000	Capitalised R'000	Closing R'000
Furniture and fixtures	7	140	(31)	116
IT equipment	(683)	4 934	(4 559)	(308)
Land and buildings	10 002	10 185	(20 187)	-
Machinery and equipment	9 705	8 885	(3 671)	14 919
Motor vehicles and transport containers	66	85	-	151
Office equipment	309	153	(442)	20
Plant	185 774	45 929	-	231 703
Research facilities	8 744	(4 300)	-	4 444
	213 924	**66 011**	**(28 890)**	**251 045**

During 2023 and 2022, land and buildings were valued by an independent valuer. The carrying amount that would have been recognised had the assets been carried under the cost model would have been as follows:

Land and buildings	39 396	41 190	17 260	19 054

5. Intangible assets

	2023			2022		
	Cost/ valuation	Accumulated amortisation	Carrying value	Cost/ valuation	Accumulated amortisation	Carrying value
Group						
Intellectual property	124 283	(110 242)	14 041	124 283	(107 278)	17 005
Computer software	5 447	(4 963)	484	5 198	(4 232)	966
Total	**129 730**	**(115 205)**	**14 525**	**129 481**	**(111 510)**	**17 971**
Company						
Computer software	2 317	(2 317)	-	2 189	(1 683)	506

Reconciliation of intangible assets – Group – 2023

	Opening balance	Additions	Amortisation	Total
Intellectual property	17 005	-	(2 964)	14 041
Computer software	966	534	(1 016)	484
	17 971	**534**	**(3 980)**	**14 525**

Reconciliation of intangible assets – Group – 2022

	Opening balance	Additions	Disposals	Amortisation	Total
Intellectual property	19 947	-	-	(2 942)	17 005
Computer software	1 831	670	(20)	(1 515)	966
	21 778	**670**	**(20)**	**(4 457)**	**17 971**

Reconciliation of intangible assets – Company – 2023

	Opening balance	Additions	Amortisation	Total
Computer software	506	128	(634)	-

Reconciliation of intangible assets – Company – 2022

	Opening balance	Additions	Amortisation	Total
Computer software	1 360	158	(1 012)	506

Other information

The intellectual property included production processes, drug master files, licences, manufacturing techniques and technology purchased from external parties.

Amortisation is included in other operating expenses. The remaining useful life is between three and 18 years.

The intellectual property was tested for impairment and did not show the need for any impairment. The impairment test was done by comparing the carrying amount to the recoverable amount using the discounted cashflows. The four-year budget was used and adjusted for expected inflation going forward for a period of 20 years. The product is expected to be in the market for this time. A growth rate equal to inflation was used for the periods beyond four years. The discount rate used is 15.95%.

6. Interests in subsidiaries, including consolidated structured entities

The carrying amounts of subsidiaries are shown net of impairment losses.

The directors' value of the investment in subsidiaries is equal to its carrying value.

Company

Name of company	Held by	% holding 2023	% holding 2022	Carrying amount 2023	Carrying amount 2022
Pelchem SOC Limited	Necsa SOC Ltd	100%	100%	-	-
NTP Radioisotopes SOC Limited	Necsa SOC Ltd	100%	100%	220 700	220 700
Cyclofil SOC Limited	Necsa SOC Ltd	100%	100%	-	-
Arecsa SOC Limited	Necsa SOC Ltd	51%	51%	1	1
				220 701	220 701

7. Investment in associate

The following table lists all of the associates in the group:

Group

Name of company	Held by	% ownership interest 2023	% ownership interest 2022	Carrying amount 2023	Carrying amount 2022	Fair value 2023	Fair value 2022
Business Venture International No 33 (Pty) Ltd	Necsa SOC Ltd	42%	42%	2	2	2	2
Gamwave	NTP Radioisotopes SOC Ltd	40%	40%	-	-	-	-
Oserix	Gammatec NDT Supplies SOC Ltd	25%	25%	7 592	8 435	7 592	8 435
Element 42	Necsa SOC Ltd	50%	50%	-	-	-	-
				7 594	8 437	7 594	8 437

Company

Business Venture International No 33 (Pty) Ltd	Necsa SOC Limited	42%	42%	2	2	2	2
				2	2	2	2

Notes to the annual financial statements
as at 31 March 2023

Oserix is an associate of Gammatec NDT Supplies SOC Ltd, which holds 55% of Gammatec NDT Supplies SOC Ltd, resulting in the group having significant influence over the associate.

The carrying amounts of investments in associates are shown net of impairment losses.

The directors' value of the investment in associates is equal to its carrying value.

Material associates

The following associates are material to the group:

Summarised financial information of material associates

Summarised statement of profit or loss and other comprehensive income	Oserix SA	
	2023	2022
Revenue	134 435	153 042
Other income and expenses	(128 199)	(138 766)
Profit before tax	6 237	14 276
Tax expense	(1 734)	(3 747)
Profit after tax	4 503	10 529
Total comprehensive income	4 503	10 529
Dividends received from associate	1 120	960

Summarised statement of financial position	Oserix SA	
	2023	2022
Assets		
Non-current	4 035	2 715
Current	54 686	61 323
Total assets	58 721	64 038
Liabilities		
Non-current	2 619	2 603
Current	25 760	26 709
Total liabilities	28 379	29 312
Total net assets	30 342	34 726

Reconciliation of net assets to equity accounted investments in associates	Oserix SA	
	2023	2022
Interest in associates at percentage ownership	7 592	8 435
Cumulative unrecognised losses	-	-
Carrying value of investment in associate	7 592	8 435
Investment at beginning of period	8 435	6 762
Impairment loss	(848)	-
Share of profit	1 125	2 633
Dividends received from associate	(1 120)	(960)
Investment at end of period	7 592	8 435

The end of the reporting year of Oserix SA was 31 December 2022.

8. Loans from group companies

Subsidiaries

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Pelchem SOC Limited				
Medical aid cost paid by Necsa on behalf of the subsidiaries. These funds were recovered from the subsidiaries. The balance outstanding is due to over/under payment made by subsidiaries.	-	-	3 166	2 106
NTP Radioisotopes SOC Limited				
NTP initially granted Necsa an intercompany loan at prime minus 2% payable on 31 March 2019 with a main condition that any future dividends will be offset against the loan. The loan repayment date was 31 March 2021 and is yet to be extended. The balance and the remaining portion of the loan will be repaid in 2023/24.	-	-	13 188	38 377
	-	**-**	**16 354**	**40 483**

Split between non-current and current portions

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Non-current liabilities	-	-	-	38 377
Current liabilities	-	-	16 354	2 106
	-	**-**	**16 354**	**40 483**

During the current financial year, the 2022 loan that is due to NTP Radioisotopes SOC Ltd was reclassified to non-current liabilities.

9. Financial assets at fair value

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Equity investments at fair value through profit or loss	354 057	298 628	354 057	298 628
Debt investments at fair value through profit or loss	-	(76)	-	(76)
Equity investments at fair value through other comprehensive income	27	1 250	-	1 215
	354 084	**299 802**	**354 057**	**299 767**
Designated at fair value through profit or loss:				
Retention fees receivable	-	(76)	-	(76)
Retention fees receivable relates to contracts with clients where an amount is withheld until the quality conditions of the contracts have been fulfilled. The fair value approximates the carrying value.				

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Mandatorily at fair value through profit or loss:				
Unit trusts	354 057	298 628	354 057	298 628
Equity investments at fair value through other comprehensive income:				
Listed shares	27	1 250	-	1 215
	354 084	**299 802**	**354 057**	**299 767**

Split between non-current and current portions

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Non-current assets	354 084	299 802	354 057	299 767

Fair value information

Refer to notes 42 and 43 fair value information and risk management for details of valuation policies and processes.

10. Deferred tax

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Deferred tax liability				
Property plant and equipment	(31 210)	(32 291)	-	-
Investments at fair value	(2)	(5)	-	-
Right-of-use asset	(54)	(6 352)	-	-
Prepayments	(1 189)	(289)	-	-
Doubtful debt allowance	(13 144)	(9 035)	-	-
Revaluation reserve	(3 758)	(2 200)	-	-
Revaluation of property	(1 760)	(2 030)	-	-
Section 24c	(82)	(1 098)	-	-
Forex adjustment	(1 005)	(1 005)	-	-
	(52 204)	**(54 305)**	**-**	**-**

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Deferred tax asset				
Provision for leave pay	8 220	8 738	-	-
Lease liability	61	6 356	-	-
Provision for variable pay and bonuses	-	8 670	-	-
Tax loss carried forward	5 076	57 719	-	-
Tax losses to be utilised in future	9 167	7 590	-	-
Inventory impairments	3 381	4 621	-	-
Income received in advance	112	1 569	-	-
Provision for expected credit losses	17 249	561	-	-
Trade receivables with credit balances	624	290	-	-
Loss allowance on trade receivables	70	94	-	-
Property, plant and equipment	68	1 494	-	-
Provision for expected credit losses	16 342	22 588	-	-
Provision for 13th cheque	899	892	-	-
Provision for incentive scheme	671	729	-	-
Provision for bonus	7 148	3 884	-	-
Retirement benefit liability	7 845	7 035	-	-
Provision for waste disposal	32 600	27 803	-	-
Other personnel provisions	9 390	367	-	-
Provisions	3 197	-	-	-
	122 120	**161 000**	**-**	**-**
Total deferred tax	**69 916**	**106 695**	**-**	**-**
Net deferred tax				
Entities with net deferred tax liability	(756)	(1 648)	-	-
Entities with net deferred tax asset	70 672	108 343	-	-
	69 916	**106 695**	**-**	**-**

11. Inventories

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Raw materials, components	5 091	6 895	-	-
Work in progress	23 735	24 590	20 531	24 388
Finished goods	34 752	31 053	-	-
Life science products and equipment	16 613	9 064	-	-
Production supplies	14 782	15 517	-	-
Goods in transit	275 578	241 108	-	-
Consumables	38 248	32 777	38 248	32 842
Other inventories for sale	647	1 171	-	-
	409 446	362 175	58 779	57 230
Allowance for slow-moving stock	(40 762)	(41 725)	(10 040)	(6 024)
	368 684	**320 450**	**48 739**	**51 206**

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Carrying value of inventories carried at fair value less costs to sell	368 684	320 450	48 739	51 206
Impaired amount of categories of inventory				
Finished goods	40 762	23 108	10 040	6 024
Production supplies	-	13 002	-	-
Consumables	-	5 615	-	-
	40 762	**41 725**	**10 040**	**6 024**

Amounts recognised in profit or loss

Write-downs for slow moving inventories to net realisable value amounted to R10.040 million (2022: R6.024 million) for the company and R40.762 million (2022: R41.725 million) for the group. These were recognised as an expense during the year ended 31 March 2023, in cost of sales.

12. Trade and other receivables

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Financial instruments:				
Trade receivables	429 628	364 516	507 619	422 123
Loss allowance	(127 234)	(112 454)	(411 725)	(329 563)
Trade receivables at amortised cost	302 394	252 062	95 894	92 560
Deposits	8 714	78	8 654	18
Staff fuel debtors	1 787	1 689	1 787	1 689
Other receivables staff	9 518	3 706	10 326	11 955
Non-financial instruments:				
VAT	30 016	22 014	-	-
Total trade and other receivables	**352 429**	**279 549**	**116 661**	**106 222**

Trade and other receivables pledged as security

No trade and other receivables have been pledged as security.

Classification as trade receivables

Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business. They are generally due for settlement within 30 days. Trade receivables are recognised initially at the amount of consideration that is unconditional, unless they contain significant financing components, when they are recognised at fair value. The group holds the trade receivables with the objective of collecting the contractual cash flows and therefore measures them subsequently at amortised cost using the effective interest method. Details about the group's impairment policies and the calculation of the loss allowance are provided below.

Included in other receivables are sundry debtors and other miscellaneous items, of which sundry debtors form the biggest part of the total.

Approximate fair value of trade and other receivables

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Trade and other receivables	352 429	279 549	116 661	106 222

Trade and other receivables are initially measured at fair value and are subsequently measured at amortised cost using the effective interest rate method.

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

The group applies the IFRS 9 simplified approach to measuring ECL, which uses a lifetime ECL allowance for all trade receivables.

The recoverability of customers with outstanding balances of over R100 000 were individually assessed, taking each individual customer's circumstances into account. Balances older than 90 days for customers with a balances of less than R100 000 each, were provided for as ECL.

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

Trade receivables credit risk

Group

2023	Current	1-30 days	31-60 days	61-90 days	90 days	Total
Gross carrying amount	205 017	82 087	19 176	11 574	111 774	429 628
Expected loss rate	7.15%	15.60%	25.87%	32.19%	79.63%	29.61%
Loss allowance	**14 662**	**12 802**	**4 961**	**3 726**	**89 005**	**127 234**

2022	Current	1-30 days	31-60 days	61-90 days	90 days	Total
Gross carrying amount	240 683	52 280	8 022	8 031	55 500	364 516
Expected loss rate	10.41%	30.3%	100.0%	100.0%	100.0%	30.85%
Loss allowance	**25 050**	**15 853**	**8 022**	**8 031**	**55 500**	**112 454**

Necsa	Current	1-30 days	31-60 days	61-90 days	90 days	Total
2023						
Gross carrying amount	118 909	14 681	14 102	4 430	355 497	507 619
Expected loss rate	28.5%	75.8%	83.4%	91.2%	98.1%	81.11%
Loss allowance	**33 929**	**11 344**	**13 160**	**4 302**	**348 990**	**411 725**

2022	Current	1-30 days	31-60 days	61-90 days	90 days	Total
Gross carrying amount	113 790	4 118	5 216	4 327	294 672	422 123
Expected loss rate	25.8%	75.3%	82.9%	90.8%	100.0%	78.07%
Loss allowance	**23 529**	**3 102**	**4 328**	**3 932**	**294 672**	**329 563**

The group writes off debtors on a line-by-line basis on amounts greater than R100 000 in the over-90-days ageing bracket, taking into consideration whether the debtor is in severe financial difficulty and whether there is no realistic prospect of recovery.

The loss allowances for trade receivables as at 31 March 2023 reconcile to the opening loss allowances as follows:

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Opening loss allowance at 1 April 2022	112 454	72 872	329 563	262 840
Increase in loss allowance recognised in profit or loss during the year	14 780	55 223	82 162	66 723
Unused amounts reversed through profit and loss	-	(15 641)	-	-
	127 234	**112 454**	**411 725**	**329 563**

Trade receivables are written off where there is no reasonable expectation of recovery. Indicators that there is no reasonable expectation of recovery include the failure of a debtor to engage in a repayment plan with the group, and a failure to make contractual payments for a period of greater than 90 days past due.

These definitions for defaults as aforementioned were selected, because they are expected to result in the most accurate measurement of the ECL.

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.

Trade receivables – related parties	2023	2022
Trade receivables	433 184	352 208
Loss allowance	(375 579)	(278 019)
	57 605	**74 189**

13. Cash and cash equivalents

Cash and cash equivalents consist of:

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Cash on hand	43	75	20	62
Bank balances	875 896	702 224	662 199	609 811
Short-term deposits	105 511	102 178	-	-
Bank overdraft	(21 190)	(14 007)	(77)	-
	960 260	**790 470**	**662 142**	**609 873**
Current assets	981 450	804 477	662 219	609 873
Current liabilities	(21 190)	(14 007)	(77)	-
	960 260	**790 470**	**662 142**	**609 873**

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Current liabilities				
Gammatec	(8 106)	-	-	-
Pelchem	(13 000)	(14 000)	-	-
The Nuclear Energy Corporation of South Africa SOC Limited has signed suretyship for the R14 000 overnight facility. The overnight facility is reviewed once a year by Nedbank. There are no set repayment terms on the overdraft and the interest is charged at prime plus 0.5%				
Arecsa	(7)	(7)	-	-
Overdraft account with Absa				
Necsa deposits in transit	(77)	-	(77)	-
	(21 190)	**(14 007)**	**(77)**	**-**

Cash and cash equivalents

Details of facilities

The overdraft facility was revoked during the 2019/20 financial year. This was due to market fluctuations during the height of the Covid-19 pandemic influencing the markets. There are no set repayment terms of the overdraft and interest is charged at prime less 1.5%. There is no restrictions on the realisability of any of the cash and cash equivalents. The credit quality of cash at bank and short-term deposits, excluding cash on hand, is assessed by reference to external credit ratings (if available) or historical information about counterparty default rates:

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Asset-based financing	899	4 000	899	899
Bills of exchange	100	100	-	-
Cash flow coverage	2 000	2 000	-	-
Commitments regarding guarantees (local)	2 200	22 000	-	-
Corporate credit card	5 000	5 111	5 000	5 000
Forward exchanges contracts	68 615	67 115	36 500	35 000
Fleet management service	145	145	-	-
Forex cancellation limit	750	750	-	-
Forex settlement limit	7 000	7 000	-	-
General short-term banking facility	9 500	6 000	3 500	5 000
Letter of guarantee	5 000	11 300	-	-
Letter of credit	450	450	-	-
Overdraft	11 500	11 500	-	-
Vehicle and asset finance	5 290	5 290	-	-
Financial assets pledged as collateral	11 300	32 000	-	-
	129 749	**174 761**	**45 899**	**45 899**

14. Share capital

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Authorised				
500 000 000 ordinary shares of R1 each	500 000	500 000	500 000	500 000
Reconciliation of number of shares issued:				
Reported as at 31 March 2023	2 205	2 205	2 205	2 205
Issued				
Ordinary	2 205	2 205	2 205	2 205

15. Leases and right-of-use assets

Right-of-use assets are presented as a separate line item on the statement of financial position.

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Net carrying amounts of right-of-use assets				
The carrying amounts of right-of-use assets are as follows:				
Buildings	200	438	-	-
Motor vehicles	8 050	6 801	7 307	6 104
Equipment	-	10 590	-	10 590
	8 250	**17 829**	**7 307**	**16 694**
Additions to right-of-use assets				
Motor vehicles	3 269	3 140	2 717	3 140

Depreciation recognised on right-of-use assets

Depreciation recognised on each class of right-of-use assets is presented below. It includes depreciation that has been expensed in the total depreciation charge in profit or loss (note 30), as well as depreciation that has been capitalised to the cost of other assets.

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Buildings	228	220	-	-
Motor vehicles	1 762	2 468	1 514	2 345
Office equipment	-	(675)	-	(675)
	1 990	**2 013**	**1 514**	**1 670**
Other disclosures				
Interest expense on lease liabilities	6 134	451	583	364
Leases of low-value assets included in operating expenses	443	229	-	-
Leases of low-value assets included in cost of merchandise sold and inventories	(48)	(3 071)	-	-

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Lease liabilities				
The maturity analysis of lease liabilities is as follows:				
Within one year	2 151	1 899	1 642	1 461
Two to five years	3 596	3 022	3 232	2 584
	5 747	4 921	4 874	4 045
Less finance charges component	(96)	(617)	-	(558)
	5 651	**4 304**	**4 874**	**3 487**
Non-current liabilities	3 557	2 752	3 232	2 325
Current liabilities	2 094	1 552	1 642	1 162
	5 651	**4 304**	**4 874**	**3 487**

16. Retirement benefits

The company and its two major subsidiaries, NTP Radioisotopes and Pelchem, operate a provident fund scheme that is governed by the Pensions Fund Act No 24 of 1956. The scheme is generally funded through payments to insurance companies or trustee-administered funds, determined by periodic actuarial calculations. The company has defined contribution plans established in 1994. These contribution plans are compulsory for every permanent employee employed in accordance with the conditions of employment, primarily by means of monthly contributions to the Necsa retirement fund. A defined contribution plan is a provident fund under which the company pays fixed contributions into a separate entity. The company 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 services in the current and prior periods. The contributions are recognised as an expense when they are due. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in the future payments is available.

The Necsa retirement fund is revalued by an independent actuary on an annual basis. The last actuarial valuation was performed in April 2023 for the year ending 31 March 2023. The conclusion made in the latest actuarial valuation was that the fund is currently in a good financial position and should remain so, based on the contribution rates payable in terms of the rules of the fund, until the next actuarial valuation.

Defined benefit plan

Necsa, NTP Radioisotopes and Pelchem post-employment healthcare liabilities consist of a commitment to pay a portion of the members' post-employment medical scheme contributions. This liability is also generated in respect of independents who are offered continued membership of the medical scheme on the death of the primary member. The schemes have been valued per individual entity, namely Necsa, NTP Radioisotopes and Pelchem, which reflects the group figures. These schemes have been disclosed separately below.

Members employed before 1 September 2004 are entitled to a 100% subsidy of medical scheme contributions in retirement, provided they have been members of the medical scheme for at least 10 years. Should a member be on the medical scheme for fewer than 10 years at retirement, he or she will be entitled to a 10% subsidy for each year he or she was active on the medical scheme during employment at Necsa.

Eligible members receive a Rand amount based on the Essential Core option's contributions in 2005, increasing annually in line with consumer price inflation. The Rand amounts for 2023 are R1 008 per month for a single member and R2 312 for a married member. The child dependant subsidy for 2023 is R651 per month.

If a member qualifies to upgrade to a comprehensive option as per the subsidy rules then Necsa will subsidise an additional Rand amount for the upgrade. The additional Rand amounts for members on the Classic Comprehensive option in 2023 are R711 per month for a single member and R116 per month for a married member. The additional Rand amounts for members on the Essential Comprehensive option in 2023 are R715 for a single member and R126 per month for a married member.

Members who do not qualify for an upgrade to a comprehensive option or who do not belong to a comprehensive option receive an additional Rand amount for the medical savings account contributions. The additional Rand amount for 2023 is R718 per member, irrespective of marital status.

Members who retired before 1 July 1990, referred to as the 'Old 100% group', receive an additional Rand amount of R290 for 2023, irrespective of marital status.

Dependants of eligible continuation members receive a subsidy before and after the death of the principal member. Note: The Rand amounts above are based on year-on-year CPI inflation to September 2022.

Necsa's, NTP Radioisotopes' and Pelchem's subsidies of their current employees' future post-employment medical scheme contributions and current pensioners' medical scheme contributions present certain risks to the company, the most significant of which are summarised below. The majority of these risks mainly apply to the Pelchem group only as there is no plan asset arrangement in respect of the group.

Subsidy inflation	The post-employment health care liability is linked to consumer price inflation. Higher consumer price inflation than expected will lead to higher liabilities.
Longevity	The employer's subsidy covers the post-employment medical scheme contributions in retirement until the main pensioner's death. On the main pensioner's death the subsidy will continue at a reduced level based on the contributions for the remaining dependants. The longevity risk is the risk that pensioners will live longer than expected. Possible contributing factors are medical advances, better healthcare and greater emphasis on following healthier lifestyles. This would lead to benefits being payable for longer than expected.
Cash flow risk	The employer pays the subsidy amounts in respect of the pensioners either directly to the pensioner or to the medical aid. There is a risk to the employer that, due to unforeseen circumstances, funds may not be available at the time that they are required.
Changes in bond yields and CPI	A decrease in the bond yields used to determine the discount rate will increase the employer's reported post-employment healthcare liability. An increase in CPI will result in a higher subsidy inflation assumption, which consequently will lead to a higher reported post-employment healthcare liability. High volatility in the above rates may lead to volatile balance sheet and income statement disclosures.

Future changes in legislation The government's stated intention to implement a national health insurance system in the near future may lead to a requirement to provide some level of compensation to eligible members or to fund additional amounts into the system. Furthermore, changes in tax legislation affecting the subsidy may also pose a risk to both the employer and the recipients of the subsidy.

Company developments:

Necsa purchased additional annuities with effect from 1 May 2022 to cater for new retirements since the previous purchase. In addition, contributions were also made towards the recurring premium contracts in place. Furthermore, annuities were also purchased in respect of new retirees for Necsa's subsidiary, NTP Radioisotopes.

The most recent actuarial valuation of the plan assets and the present value of the defined benefit obligation was carried out at 31 March 2023 by Sean Neethling, Fellow of the Institute of Actuaries of South Africa. The present value of the defined benefit obligation, and the related current service cost and past service cost, were measured using the projected unit credit method. The firm, Momentum Consultants and Actuaries, also undertook the previous valuation for Necsa and its two major subsidiaries, NTP Radioisotopes and Pelchem as at 31 March 2023.

It quantified the present value of post-employment healthcare liabilities in terms of IAS19 for:

- Current continuation members
- Future continuation members emanating from the current active medical scheme members employed by Necsa.

In particular, the funded status of the post-employment plan as at the valuation date will be determined and compared to the projected liability, calculated as at 31 March 2021. An expense for the 2020/21 financial year will be derived and a projected expense for the forthcoming year will be calculated for budget purposes. The report complies with the relevant professional guidance from the Actuarial Society of South Africa described in Advisory Practice Note 301.

The principal assumptions used for the purposes of the actuarial valuations for Necsa and its two major subsidiaries, NTP Radioisotopes and Pelchem, were as follows.

	Valuation at	
Economic assumptions:	**2023**	**2022**
Discount rate (D)	11.15%	10.75%
CPI*	5.80%	5.95%
Subsidy contribution increase rate (H)	5.80%	5.95%
Net discount rate ((1+D)/(1+H)-1)	5.06%	4.53%
Expected return in plan assets	11.15%	10.75%

* This is the market expectation of long-term CPI.

We have estimated the total duration of the liability to be 8.7 years, based on the previous valuation basis and current membership data.

The rates derived are based on prevailing yields as at 31 March 2023. We used a convention of rounding the discount rate, price inflation and subsidy increase rates to the nearest 0.05%. In the previous valuation these rates were rounded to the nearest 0.1%. The net discount rate is rounded to the nearest 0.01%.

While it is essential that the assumptions are individually justifiable, it is the relative levels of the discount rate and healthcare cost inflation to one another that are important in the determination of the liability, rather than the nominal values.

Discount rate

We have derived the discount rate from the BEASSA zero-coupon yield curve. We used the spot rate on the nominal curve with duration equal to the rounded liability duration of 8.75 (8.7 years rounded to the nearest 0.25 years) to derive the discount rate of 11.15% per annum.

Price index inflation

The market expectation of long-term price inflation of 5.8% per annum was derived from the differential between the nominal yield curve and real yield curve at the same duration. An allowance for an inflation risk premium of 0.50% was introduced.

Subsidy contribution increase rate

The subsidy increase rate was set at price inflation.

Expected return on plan assets

The expected return on plan assets was set at the discount rate.

Comparison to previous valuation

The financial assumptions have been set on a consistent basis with the previous year's valuation.

	Valuation at	
Demographic assumptions:	**2023**	**2022**
Expected retirement age (males and females)	65	65

Family structure

	Current valuation	
	In-service members	**Pensioners**
Age difference between husband and wife	Actual ages used if available/ husband four years older than wife	Actual ages used
Proportion married	Assumed 75% married at retirement (previous valuation assumed 90% married at retirement)	Actual marital status used

Following discussions with the employer, it was agreed that the proportion married assumption be reviewed. The assumed proportion married at retirement was reduced from 90% to 75%. This was based on an analysis of the proportions married of in-service members as at 31 March 2023 over age 60. The analysis indicate that 71% of in-service members in the over 60 age group (i.e close to retirement) were married. It was noted that the marital status of in-service members may be updated only on notifications to the employer. A slightly more prudent assumption relative to the actual date is therefore appropriate.

In valuing the death-in-service healthcare liability, it is necessary to make a number of additional assumptions. We assumed that the percentage married of in-service members increases from 71% at age 40 to 75% at age 45 until retirement. We have assumed the following percentage married for valuing death-in-service healthcare liability.

Example at stated age	Proportion married
40	71%
45+	75%

We have assumed that pensioners' children and orphans will be subsidised until the age of 21. We have not made any allowance for in-service members to have child dependants in retirement.

Continuation percentages:

We assumed that none of the current in-service members eligible for a retirement subsidy would discontinue medical scheme membership upon reaching retirement with Necsa on the grounds of affordability. Similarly, we assumed that none of the dependants of current in-service members eligible for a death-in-service subsidy would discontinue medical scheme membership on the grounds of affordability upon the death-in-service of the principal member.

Other than the proportion married at retirement, the demographic assumptions are the same as those used in the previous valuation.

Decrement assumptions:	Valuation at	
	2023	2022
Mortality rates		
In-service members	SA 85-90 (light)	SA 85-90 (light)
Pensioners	PA (90) rated down two years	PA (90) rated down two years

In addition to the above pensioner mortality assumption, we have made allowance for 1.00% per annum improvement in mortality. We have used a base year of 2006 (i.e. as at valuation date there had been 17 years of mortality improvements).

Based on the above post-retirement mortality table the life expectancy of a 65-year-old male is 18.6 years and for a 65-year-old female it is 22.9 years.

Withdrawal rates

Example at stated age	Withdrawal rates
40 - 45	2%
45+	-

Notes to the annual financial statements

as at 31 March 2023

Reconciliation of assets and liabilities recognised on the statement of financial position

	Group		Company	
	2023 R'000	2022 R'000	2023 R'000	2022 R'000
Present value of the defined benefit obligation – wholly unfunded	(310 675)	(326 030)	(281 169)	(280 938)
Fair value of plan assets	21 810	36 908	21 810	17 872
	(288 865)	**(289 122)**	**(259 359)**	**(263 066)**
Non-current assets	21 810	36 908	21 810	17 872
Non-current liabilities	(282 786)	(299 289)	(255 074)	(256 755)
Current liabilities	(27 889)	(26 741)	(26 095)	(24 183)
	(288 865)	**(289 122)**	**(259 359)**	**(263 066)**

Reconciliation of net liability recognised on the statement of financial position

	Group		Company	
	2023 R'000	2022 R'000	2023 R'000	2022 R'000
Opening balance	289 122	313 445	263 066	286 385
Contributions by members	31 551	36 084	28 833	31 113
Exchange differences	1 892	2 383	1 640	1 824
Benefits paid	(3 948)	(5 148)	(3 948)	(3 079)
Net annual cost recognised in profit or loss	26 525	33 319	26 525	29 858
Acquired on acquisition of subsidiary	3 362	(24 493)	1 346	(21 647)
Other	-	(27 584)	-	(25 196)
Benefit payments from plan sssets	-	26 225	-	25 196
Employer prefunding/additional contributions	(33 114)	(31 790)	(31 578)	(31 530)
	288 865	**289 122**	**259 359**	**263 066**

Reconciliation of present value of obligations in excess of plan assets

	Group		Company	
	2023 R'000	2022 R'000	2023 R'000	2022 R'000
Current service cost	289 122	313 445	263 066	286 385
Interest cost	31 551	36 103	28 833	31 132
Current service cost	1 892	2 383	1 640	1 824
Expected return on plan assets	(3 948)	(5 167)	(3 948)	(3 098)
Past service cost	3 362	(24 493)	1 346	(21 647)
Actuarial gains	-	26 225	-	25 196
Curtailment or settlement	-	(27 584)	-	(25 196)
Expected return on plan assets	(33 114)	(31 790)	(31 578)	(31 530)
	288 865	**289 122**	**259 359**	**263 066**

Sensitivity analysis:

Company:

The liability derived by this valuation is dependent on the assumptions set out above, which may or may not be borne out in practice. Variations from these assumptions will emerge in future years as experience gains or losses and will be recognised by Necsa in accordance with its accounting policies.

The valuation results are sensitive to changes in the underlying assumptions. The effects of varying these assumptions are illustrated below.

The sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur and changes in some of the assumptions may be correlated. This is a limitation of a sensitivity analysis.

Discount rate

The table below shows the impact of a 1% increase and decrease in the discount rate.

	1% decrease R'000	Valuation basis R'000	1% increase R'000
Employer's accrued liability	305 198	281 169	260 432
Employer's service and interest cost	31 237	31 272	31 261

Therefore, a 1% increase in the discount rate assumption will result in a 7.4% decrease in the accrued liability. Similarly, a 1% decrease in the discount rate assumption will result in a 8.5% increase in the accrued liability.

Price inflation

The valuation basis assumes that the employer's medical subsidy contribution rate will increase in line with consumer price inflation annually. The effect of a 1% increase and decrease in the inflation rate is as follows:

	1% decrease R'000	Valuation basis R'000	1% increase R'000
Employer's accrued liability	259 979	281 169	305 429
Employer's service and interest cost	28 730	31 272	34 194

Therefore, a 1% increase in the inflation rate assumption will result in an 8.6% increase in the accrued liability. Similarly, a 1% decrease in the inflation rate assumption will result in a 7.5% decrease in the accrued liability.

Mortality

The table below shows the impact of changing the mortality basis from PA(90)-2 to PA(90)-3 and PA(90)-1, all with a 1% improvement.

	PA(90) – 3* R'000	Valuation basis R'000	PA(90) – 1* R'000
Employer's accrued liability	289 885	281 169	272 453
Employer's service and interest cost	32 274	31 272	30 269

*The mortality basis includes mortality improvements of 1% per annum, with a base year of 2006.

Therefore, a one-year downrating in the post-retirement mortality assumption will result in a 3.1% increase in accrued liability. Similarly, a one-year upward-rating in the post-retirement mortality assumption will result in a 3.1% decrease in the accrued liability.

A one-year downrating of the mortality assumption assumes that a person currently aged x will experience mortality equivalent to that of a person aged x-1.

Expected retirement age

The table below shows the impact of a one-year increase and decrease in the average retirement age assumption (which is the age that the liability is assumed to be fully accrued). The impact of reducing the average retirement age by two years is also shown in the table below. The average retirement age is assumed to be 65 years.

	1 year younger R'000	Valuation basis R'000	1 year older R'000
Employer's accrued liability	284 472	281 169	260 432
Employer's service and interest cost	31 528	31 272	28 925

Therefore, an increase of one year in the average retirement age assumption will result in a 7.4% decrease in the accrued liability. Similarly, a decrease of one year in the average retirement age assumption will result in a 1.2% increase in the accrued liability.

Group:

Discount rate

The table below shows the impact of a 1% increase and decrease in the discount rate.

	1% decrease R'000	Valuation basis R'000	1% increase R'000
Employer's accrued liability	356 387	326 030	299 934
Employer's service and interest cost	36 007	35 822	35 596

Therefore, a 1% increase in the discount rate assumption will result in a 8.6% decrease in the accrued liability. Similarly, a 1% decrease in the discount rate assumption will result in a 9.3% increase in the accrued liability.

Price inflation

The valuation basis assumes that the employer's medical subsidy contribution rate will increase in line with consumer price inflation annually. The effect of a 1% increase and decrease in the inflation rate is as follows:

	1% decrease R'000	Valuation basis R'000	1% increase R'000
Employer's accrued liability	299 258	326 030	356 740
Employer's service and interest cost	32 640	35 822	39 496

Therefore, a 1% increase in the inflation rate assumption will result in a 9.4% increase in the accrued liability. Similarly, a 1% decrease in the inflation rate assumption will result in a 8.26% decrease in the accrued liability.

Mortality

The table below shows the impact of changing the mortality basis from PA(90)-2 with a 1% improvement, to PA(90)-3 with a 1% improvement and PA(90)-1 with a 1% improvement.

	PA(90) – 3* R'000	Valuation basis R'000	PA(90) – 1* R'000
Employer's accrued liability	335 790	326 030	316 255
Employer's service and interest cost	36 920	35 822	34 724

*The mortality basis includes mortality improvements of 1% per annum, with a base year of 2006.

Therefore, a one year down-rating in the post-retirement mortality assumption will result in a 3% increase in accrued liability. Similarly, a one-year upward-rating in the post-retirement mortality assumption will result in a 3% decrease in the accrued liability.

A one-year downrating of the mortality assumption assumes that a person currently aged x will experience mortality equivalent to that of a person aged x-1.

Expected retirement age

The table below shows the impact of a one-year increase and decrease in the average retirement age assumption (which is the age that the liability is assumed to be fully accrued). The impact of reducing the average retirement age by two years is also shown in the table below. The average retirement age is assumed to be 65 years.

	1 year younger R'000	Valuation basis R'000	1 year older R'000
Employer's accrued liability	330 935	326 030	320 400
Employer's service and interest cost	36 260	35 822	35 167

Therefore, an increase of one year in the average retirement age assumption will result in a 1.7% decrease in the accrued liability. Similarly, a decrease of one year in the average retirement age assumption will result in a 1.5% increase in the accrued liability.

NTP Radioisotopes

Discount rate

The table below shows the impact of a 1% increase and decrease in the discount rate.

	1% decrease R'000	Valuation basis R'000	1% increase R'000
Employer's accrued liability	21 062	19 047	17 341
Employer's service and interest cost	2 311	2 403	2 215

Therefore, a 1% increase in the discount rate assumption will result in a 9% decrease in the accrued liability. Similarly, a 1% decrease in the discount rate assumption will result in a 10.6% increase in the accrued liability.

Price inflation

The valuation basis assumes that the employer's medical subsidy contribution rate will increase in line with consumer price inflation annually. The effect of a 1% increase and decrease in the inflation rate is as follows:

	1% decrease R'000	Valuation basis R'000	1% increase R'000
Employer's accrued liability	17 294	19 047	21 094
Employer's service and interest cost	2 040	2 403	2 522

Therefore, a 1% increase in the inflation rate assumption will result in a 10.7% increase in the accrued liability. Similarly, a 1% decrease in the inflation rate assumption will result in a 9.2% decrease in the accrued liability.

Mortality

The table below shows the impact of changing the mortality basis from PA(90)-2 with a 1% improvement to PA(90)-3 with a 1% improvement and PA(90)-1 with a 1% improvement.

	PA(90) – 3* R'000	Valuation basis R'000	PA(90) – 1* R'000
Employer's accrued liability	19 514	19 047	18 574
Employer's service and interest cost	2 318	2 403	2 205

*The mortality basis includes mortality improvements of 1% per annum, with a base year of 2006.

Therefore, a one-year downrating in the post-retirement mortality assumption will result in a 2.5% increase in accrued liability. Similarly, a one-year upward-rating in the post-retirement mortality assumption will result in a 2.5% decrease in the accrued liability.

A one-year downrating of the mortality assumption assumes that a person currently aged x will experience mortality equivalent to that of a person aged x-1.

Expected retirement age

The table below shows the impact of a one-year increase and decrease in the average retirement age assumption (which is the age that the liability is assumed to be fully accrued). The impact of reducing the average retirement age by two years is also shown in the table below. The average retirement age is assumed to be 65 years.

	1 year younger R'000	Valuation basis R'000	1 year older R'000
Employer's accrued liability	19 616	19 047	18 542
Employer's service and interest cost	2 301	2 403	2 186

Therefore, an increase of one-year in the average retirement age assumption will result in a 2.7% decrease in the accrued liability. Similarly, a decrease of one-year in the average retirement age assumption will result in a 3% increase in the accrued liability.

Pelchem

Discount rate

The table shows the impact of a 1% increase and decrease in discount rate.

	1% decrease R'000	Valuation basis R'000	1% increase R'000
Employer's accrued liability	32 878	29 506	26 686
Employer's service and interest cost	3 484	3 394	3 311

Therefore, a 1% increase in the discount rate assumption will result in a 9.6% decrease in the accrued liability. Similarly, a 1% decrease in the discount rate assumption will result in a 11.4% increase in the accrued liability.

Price inflation

The valuation basis assumes that the employer's medical subsidy contribution rate will increase in line with consumer price inflation annually. The effect of a 1% increase and decrease in the inflation rate is as follows:

	1% decrease R'000	Valuation basis R'000	1% increase R'000
Employer's accrued liability	26 602	29 506	32 940
Employer's service and interest cost	3 042	3 394	3 813

Therefore, a 1% increase in the inflation rate assumption will result in a 11.6% increase in the accrued liability. Similarly, a 1% decrease in the inflation rate assumption will result in a 9.8% decrease in the accrued liability.

Mortality

The table below shows the impact of changing the mortality basis from PA(90)-2 with a 1% improvement to PA(90)-3 with a 1% improvement and PA(90)-1 with a 1% improvement.

	PA(90) – 3* R'000	Valuation basis R'000	PA(90) – 1* R'000
Employer's accrued liability	30 115	29 506	28 885
Employer's service and interest cost	3 467	3 394	3 321

*The mortality basis includes mortality improvements of 1% per annum, with a base year of 2006.

Therefore, a one-year downrating in the post-retirement mortality assumption will result in a 2.1% increase in accrued liability. Similarly, a one-year upward-rating in the post-retirement mortality assumption will result in a 2.1% decrease in the accrued liability.

A one-year downrating of the mortality assumption assumes that a person currently aged x will experience mortality equivalent to that of a person aged x-1.

Expected retirement age

The table below shows the impact of a one-year increase and decrease in the average retirement age assumption (which is the age that the liability is assumed to be fully accrued). The impact of reducing the average retirement age by two years is also shown in the table below. The average retirement age is assumed to be 65 years.

	1 year younger R'000	Valuation basis R'000	1 year older R'000
Employer's accrued liability	30 086	29 506	28 988
Employer's service and interest cost	3 458	3 394	3 318

Therefore, an increase of one-year in the average retirement age assumption will result in a 1.8% decrease in the accrued liability. Similarly, a decrease of one-year in the average retirement age assumption will result in a 2% increase in the accrued liability.

Company

Necsa purchased an insurance policy in the form of a company-owned annuity policy, which qualifies as a plan asset, effective as at 1 March 2011. Following this, 11 further policy tranches were purchased with effective dates of 1 July 2012 and 1 May each year from 1 May 2013 to 1 May 2022.

As at 31 March 2023, the policy value of the plan asset provided by the insurer was R12 985 593.

The annuity portfolio is made up of a growth account and a guaranteed account. Increases are guaranteed at a minimum of CPI per annum. The growth account may be used for interim subsidies for new retirees until the annual annuity purchase.

	31 March 2023 R'000	31 March 2022 R'000
Guaranteed account	12 338	11 322
Growth account	648	19
Market value of plan asset	**12 986**	**11 341**

IAS 19 requires plan assets to be accounted for at fair value. To ensure comparability and consistency between the asset and liability valuation, the fair value of the guaranteed account was calculated as the present value of the liabilities (only for pensioners already on the Momentum annuity policy) using current valuation assumptions, less the present value of future outstanding premiums (after deducting administration costs, solvency and profit margins in the future premiums). For this, we have assumed admin costs of 2.95% and another 8.75% margin to cover solvency and profit margins. The fair value of the growth account was set at the market value.

The fair value of the plan asset is therefore set as follows:

	31 March 2023 R'000	31 March 2022 R'000
Guaranteed account	21 162	17 853
Growth account	648	19
Fair value of plan asset	**21 810**	**17 872**

The table below shows the reconciliation of the plan assets from opening to closing balance:

Reconciliation of plan assets	31 March 2023 R'000	31 March 2022 R'000
Opening balance of plan asset	17 872	9 229
Expected benefit payments from plan asset	(25 450)	(25 196)
Additional contributions	31 578	31 530
Expected return on plan asset	3 948	3 098

Reconciliation of plan assets	31 March 2023 R'000	31 March 2022 R'000
Expected asset value as at end of year	**27 948**	**18 661**
Actuarial gains/(losses)	(6 138)	(789)
Closing balance of plan asset	**21 810**	**17 872**

Group

Pelchem:

We are not aware of any assets set aside for post-employment medical aid funding that qualify as plan assets in terms of the requirements of IAS19. As such we have ascribed a nil value to the fair value of plan assets.

NTP Radioisotopes:

NTP purchased an insurance policy in the form of a company-owned annuity policy, which qualifies as a plan asset, effective as at 1 March 2011.

As at 31 March 2023, the policy value of the plan asset provided by the insurer was R21 377 992.

The annuity portfolio is made up of a growth account and a guaranteed account. Increases are guaranteed at a minimum of CPI per annum. Funds are transferred from the growth account to the guaranteed account to fund the purchase of annuities for new retirees. The account may also be used to fund any increase in employer contributions in excess of the guaranteed annuities.

At the current and previous valuation date, the values of each of these accounts were as follows:

	31 March 2023 R'000	31 March 2022 R'000
Guaranteed account	15 257	15 083
Growth account	6 121	6 559
Market value of plan asset	**21 378**	**21 642**

IAS 19 requires plan assets to be accounted for at fair value. To ensure comparability and consistency between the asset and liability valuation, the fair value of the guaranteed account was calculated as the present value of the liabilities with increases at CPI using current valuation assumptions. The fair value of the growth account remains at market value (this was limited to the value of accrued liability as this also funds future service liabilities).

The fair value of the plan asset is therefore set as follows:

	31 March 2023 R'000	31 March 2022 R'000
Fair value of plan assets	**19 047**	**19 036**

The table below shows the reconciliation of the plan assets from opening to closing balance:

Reconciliation of plan assets	31 March 2023 R'000	31 March 2022 R'000
Opening balance of plan asset	19 036	19 328
Expected benefit payments from plan asset	(1 156)	(1 029)
Contribution from growth account for current service costs	219	260
Expected return on plan asset	1 984	2 069
Expected asset value as at end of year	**20 083**	**20 628**
Actuarial gains/(losses)	(1 036)	(1 592)
Closing balance of plan asset	**19 047**	**19 036**

17. Deferred income

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Government grants for future expenditure:				
Non-current liabilities	674 526	635 860	674 526	635 860
Current liabilities	497 438	382 269	497 438	382 269
	1 171 964	**1 018 129**	**1 171 964**	**1 018 129**
At 1 April 2022	1 018 129	885 055	1 018 129	885 055
Received during the year	876 689	849 139	876 689	849 139
Released to the statement of comprehensive income	(722 854)	(716 065)	(722 854)	(716 065)
At 31 March 2023	**1 171 964**	**1 018 129**	**1 171 964**	**1 018 129**

Refer to note 23 and 26 for nature and detail of the government grant received relating to decommissioning and decontamination costs.

18. Provisions

Reconciliation of provisions – Group – 2023

	Opening balance	Additions	Utilised during the year	Reversed during the year	Change in discount factor	Total
Decommissioning and waste disposal	862 436	29 225	(7 573)	(69 685)	4 278	818 681
Leave provision	137 549	16 371	(11 678)	(8 606)	-	133 636
	999 985	**45 596**	**(19 251)**	**(78 291)**	**4 278**	**952 317**

Reconciliation of provisions – Group – 2022

	Opening balance	Additions	Utilised during the year	Reversed during the year	Change in discount factor	Total
Decommissioning and waste disposal	805 114	66 331	(8 745)	(2 178)	1 914	862 436
Leave provision	133 380	16 846	(9 537)	(3 140)	-	137 549
	938 494	**83 177**	**(18 282)**	**(5 318)**	**1 914**	**999 985**

Reconciliation of provisions – Company – 2023

	Opening balance	Additions	Utilised during the year	Reversed during the year	Total
Fuel elements and waste drums	737 456	1 288	(67 390)	-	671 354
Leave provision	83 352	-	(6 343)	(7 487)	69 522
	820 808	**1 288**	**(73 733)**	**(7 487)**	**740 876**

Reconciliation of provisions – Company – 2022

	Opening balance	Additions	Utilised during the year	Total
Fuel elements and waste drums	685 459	51 997	-	737 456
Leave provision	86 313	1 574	(4 535)	83 352
	771 772	**53 571**	**(4 535)**	**820 808**
Non-current liabilities	818 681	862 436	671 354	737 456
Current liabilities	133 636	137 549	69 522	83 352
	952 317	**999 985**	**740 876**	**820 808**

Provision for decommissioning and waste disposal:

Provision is made for the decommissioning of purely commercial plants and disposal of the resulting waste. The annual transfer is based on the latest available cost information. The company was awarded a licence from the National Nuclear Regulator to transport the waste to Vaalputs on 15 March 2011. The assessment methodology provides an estimate of the total cost associated with the decommissioning of commercial plants currently existing at Necsa to the point where they can be reused or released from regulatory control, and the total cost to manage (treat, condition, store and/or dispose) all the existing and future waste created by these activities. In order to estimate the cost and scheduling of the various decommissioning and waste management activities the following assumptions were made:

i. In view of the fact that the Necsa site will remain a licensed site for the foreseeable future, the decommissioning of facilities to the point of release from regulatory control is not necessarily regarded as the required endpoint, as that may depend on the potential future reuse of the nuclear facility.

ii. Only liabilities associated with existing facilities identified during the assessment cycle and future facilities identified as essential for the discharge of these liabilities are included in the assessment.

The following costs are included in the assessment:

The cost to decommission all facilities to the point where they can be released from regulatory control (the cost exclude future demolishing cost of buildings). Rehabilitation of the site was not included in the assessment, except in cases where this was considered to be the most viable option to achieve release from regulatory control.

A potential benefit (cost decrease) may be achieved as a result of technological progress in the fields of decommissioning and waste management. There are, however, many uncertainties that may affect the accuracy of cost estimates for discharging nuclear liabilities, mainly due to the long time periods over which the cost estimates must be done. Some of these uncertainties are listed below:

Non-technical aspects, such as socio-political factors and changes in laws or regulations in nuclear safety and waste management, are difficult to quantify in terms of impact on cost estimates.

Decommissioning cost for many projects occur some years in the future. The lifetime of some processes may also be extended, resulting in the postponement of decommissioning activities and cost.

Future developments in the nuclear industry (upscaling or downscaling) may result in the reuse of contaminated or previously decommissioned facilities. Refer notes 23 and 26 for further disclosure on the nature of decommissioning and decontaminating liability.

Leave provision:

The leave days are a provision because there is uncertainty over the timing and amount at year-end and it is still included as a provision and in our understanding it is a provision as defined.

General:

It is envisaged that, based on the current information available, any additional liability in excess of the amounts provided will not have a material adverse effect on the group's financial position, liquidity or cash flow.

The Necsa company leave provision for 2022 was increased to the correct amount during the current year and the values on the annual financial statements were updated.

2022

	Previously reported	Adjustment	Restated
Leave provision	75 865	7 487	83 352

19. Trade and other payables

Financial instruments:

	Group		Company	
	2023 R'000	2022 R'000	2023 R'000	2022 R'000
Trade payables	142 272	112 543	39 410	40 460
Funds held on behalf of NRWDI	-	34	-	-
Accrued expenses	40 230	51 422	42 021	38 342
Payroll accruals	16 586	14 224	8 009	8 144
Deposits received	374	97	-	-
Other payables	79 848	53 428	65 595	50 132
Non-financial instruments:				
Amounts received in advance	6 364	8 053	-	-
VAT	16 025	10 494	16 025	9 571
	301 699	**250 295**	**171 060**	**146 649**

Fair value of trade and other payables

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

Trade and other payables are initially measured at fair value and are subsequently measured at amortised cost using the effective interest rate method.

The average credit period on purchases is between 30 and 60 days from date of statement. The company and group settle payments to creditors on average 30 days from receipt of the statements. The company and group have financial risk management policies in place to ensure that all payables are paid within the credit timeframe.

Included in other payables are sundry creditors and other miscellaneous items, a big part of which are outstanding cheque deposits.

20. Revaluation reserve

The revaluation reserve consists of fair-value adjustments to the land and buildings of the company and group.

	Group		Company	
	2023 R'000	2022 R'000	2023 R'000	2022 R'000
	779 170	757 737	764 598	746 614

Necsa does not intend to sell its land and buildings before decommissioning and decontamination takes place. An exercise will need to be conducted to check the decommissioning and decontamination of the land and buildings. Refer to note 31 on further disclosure on the revaluation reserve.

21. Goodwill

Group	2023 Cost	2023 Accumulated impairment	2023 Carrying value	2022 Cost	2022 Accumulated impairment	2022 Carrying value
Goodwill	16 585	-	16 585	16 585	-	16 585

Reconciliation of goodwill – Group

Cost	Goodwill
At 31 March 2022	16 585
At 31 March 2022	**16 585**
At 31 March 2023	**16 585**
Carrying amount	
Cost	16 585
At 31 March 2022	**16 585**
Cost	16 585
At 31 March 2023	**16 585**

Goodwill

Goodwill was recognised on the acquisition of the following subsidiaries:

1) AEC-Amersham SOC Ltd
   Percentage of voting equity interests acquired: 100%
   Description of how the Necsa obtained control of AEC-Amersham: Necsa obtained control of AEC-Amersham through its 100% voting equity interest in NTP Radioisotopes, which in turn obtained 100% voting equity interests in AEC-Amersham.
   Factors that make up the goodwill recognised: Synergies are expected from combining operations of AEC-Amersham with the Necsa group of companies.

2) Gammatec NDT Supplies SOC Ltd
   Percentage of voting equity interests acquired: 55%
   Description of how the Necsa obtained control of Gammatec NDT Supplies: Necsa obtained control of Gammatec NDT Supplies through its 100% voting equity interest in NTP Radioisotopes, which in turn obtained 55% voting equity interests in Gammatec NDT Supplies.
   Factors that make up the goodwill recognised: Synergies are expected from combining operations of Gammatec NDT Supplies with the Necsa group of companies.

Goodwill allocation

	Group		Company	
	2023 R'000	2022 R'000	2023 R'000	2022 R'000
AEC-Amersham SOC Ltd	5 228	5 228	-	-
Gammatec NDT Supplies SOC Ltd	11 357	11 357	-	-
	16 585	**16 585**	**-**	**-**

22. Derivatives

Non-hedging derivatives

	Group		Company	
	2023 R'000	2022 R'000	2023 R'000	2022 R'000
Revaluation of open forward exchange contracts	(1 997)	2 748	-	-
Forex exchange contract	3 372	(805)	3 372	(805)
	1 375	**1 943**	**3 372**	**(805)**

Split between non-current and current portions

	Group		Company	
	2023 R'000	2022 R'000	2023 R'000	2022 R'000
Current assets	3 372	2 748	3 372	-
Current liabilities	(1 997)	(805)	-	(805)
	1 375	**1 943**	**3 372**	**(805)**

Refer to note 43 fair value information for details of valuation policies and processes. Refer to note 42 financial instruments and risk management further details.

23. Decommissioning and decontamination of stage 1

Necsa was established for the Republic in terms of the Nuclear Energy Act 46 of 1999 to manage and operate the Republic's nuclear and related objectives. Necsa derives its mandate (powers and functions) solely from the Act and the Minister of Energy via the Department of Minerals Resources and Energy (DMRE), and is subjected to the policies and procedures designed by the DMRE.

The National Nuclear Regulator (NNR), an organ of the state, was established in terms of the National Nuclear Regulator Act 47 of 1999. Section 1 (xiv) of the NNR Act makes provision for the granting of nuclear authorisations, also known as nuclear installations licenses. Section 20 (1) of the Act states that 'No person may site, construct, operate, decontaminate or decommission a nuclear installation, except under the authority of a nuclear installation licence'.

Section 21 (1) requires that any person wishing to site, construct, operate, decontaminate or decommission a nuclear installation may apply in the prescribed format to the Chief Executive Officer of the NNR for a nuclear installation licence and must furnish such information as the NNR Board of Directors requires. Necsa is currently the licence holder of 41 nuclear installation licences that was issued by the NNR. The NNR-approved licences issued to Necsa, govern all nuclear activities undertaken in the disused and operational nuclear facilities.

The Republic of South Africa announced its intention to abandon the nuclear weapons programme in 1989 and acceded to the Non-proliferation of Nuclear Weapons on 10 July 1991. Stemming from this announcement Necsa started in 1995 with the shutdown of the various strategic nuclear facilities directly linked to the nuclear weapons programme while the other strategically related operating nuclear facilities were excluded to continue the maintenance of the Necsa site licence and to support some of the current operating facilities to date.

These shutdown facilities (some have been decommissioned and decontaminated while others are scheduled to be decommissioned and decontaminated) are currently known as past disused strategic nuclear facilities. All the other ancillary nuclear facilities that were strategically used for the nuclear weapons programme have been kept operational for the new non-weapons (peaceful application of nuclear energy) mandate and are currently known as the past-operational strategic nuclear facilities.

In terms of Section 55 (2) read with Section 1 (xiia) of the Nuclear Energy Act, 1999 (Act No 46 of 1999), the decommissioned and decontaminated of past-operational strategic nuclear facilities, including the management of related radioactive material and waste, is an institutional nuclear obligation that vests in the Minister of Mineral Resources and Energy. Necsa is responsible for discharging of the liabilities and government is responsible for funding thereof.

In 2000 Necsa was requested by the then-DMRE to quantify the total nuclear and related liability at the Pelindaba site arising from the nuclear weapons/strategic programme. Necsa then submitted to Cabinet, in April 2004, through the DMRE, a Nuclear Liabilities Management Plan (NLMP). The NLMP differentiated between three stages of decommissioned and decontaminated, namely:

- Stage 1 decommissioning and decontamination of all disused historical nuclear facilities;
- Stage 2 decommissioning and decontamination of all remaining (currently operating as at 2004) nuclear facilities.

In November 2005 Cabinet approved funding of approximately R1.8 billion (2004/05 Rand values) as reflected below: The decommissioned and decontaminated of disused historical nuclear facilities (stage 1) of the NLMP (R1.5 billion) and decommissioning and remediation of Thabana waste trenches and waste storage facilities, which were excluded from the NLMP (R270 million).

In order to provide a monitoring mechanism for effective oversight of the implementation of the approved 2005 Cabinet resolutions, DMRE issued a policy procedure on the management of nuclear liabilities arising from past-operational strategic nuclear facilities in May 2008. The latest policy procedure was issued in April 2021. According to the policy procedure, Necsa must submit to DMRE a formal reassessment of the liabilities every five years or at a shorter frequency if so required by the Minister. The initial methodology for reassessing the liabilities and any changes to the methodology thereafter must be agreed with the DMRE prior to implementation.

The reassessment takes into account the following and is subjected to international experts benchmarking and validation:

a.) Review of variables and values used in the assessment model (e.g. interest rates, inflation rates, waste inventories, processing cost etc).
b.) Review assumptions made in the model.
c.) Appropriateness of model used.
d.) Adjustments due to liabilities discharged in previous years.

The assessed amount is adjusted for inflation annually until the next reassessment. Since 2007/08, Necsa has been receiving annually ringfenced grants from the state to discharge this liability on behalf of the DMRE stage1 liabilities: In 2013/14 financial year, all the parties considered that the decommissioning and decontamination liability vested in the Minister and was recognised in the financial statements of the DMRE; and Necsa was acting as an agent of the Minister with regard to decommissioning and decontamination. A senior counsel opinion, obtained in March 2016, confirmed that the liability to decommission and decontaminate past-operational strategic nuclear facilities rests with Necsa with regard to both disused and currently in use facilities; and that the state is obligated to fund these liabilities.

The Minister has accepted this opinion and has transferred this liability as well as Cabinet's approval to fund the stage 1 liability to Necsa; to be recognised in Necsa's financial statements as from the 2014/15 financial year.

An independent international expert has confirmed that the assessment methodology used to determine the liability was in line with international best practice and that the amount was sound and reasonable.

After adjusting for inflation and the costs already incurred this liability has been determined to be R2.6 billion as at 31 March 2023 and in terms of IAS 37 this liability is recognised as a provision (liability) and the state's funding obligation, approved by Cabinet is recognised as an asset.

The initial 2018/19 liability reassessment that was conducted by Necsa was not accepted by the 2019 independent review team for the following reasons:

1. Concern that the methodology assumed end-date of 2033 is not realistic and attainable
2. No justification/detailed long-term plan to substantiate the remaining years of the 2033 end-date
3. Indirect/overhead cost not sufficient (was less than 2013/14 +CPI). This approach was based on the 2013/14 methodology as agreed to base 2018/19 assessment
4. Queries in the facility inventory and decommissioning and decontamination assessments.

The above required corrective measures to be implemented and another 2018/19 reassessment to be conducted and reviewed by the 2020 independent review team. The R5.5 billion current price was confirmed/accepted as a reasonable estimate compared to the previously assessed R3.6 billion that was rejected by the review team. The reason for the increase was mainly due to the following:

- The high-level, long-term plans for waste management and decommissioning activities that were developed, after being identified as a shortcoming by the independent expert reviewer from the previous reassessment that was not accepted by the independent review team.
- These long-term plans pushed the projects from 2033 to 2040 increasing the project end-date by seven years.
- The negative impact of the underfunding over the past years that delayed the execution of the projects also contributed to this estimate, although additional funding was provided in 2018.

An independent international expert has confirmed that the 2020 assessment methodology used to determine the liability provides a reasonable central estimate of the ongoing liability. As such, it provides a reasonable figure for the purpose of securing government funding

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Non-current assets				
Decommissioning and decontamination – stage 1	2 593 856	3 222 453	2 593 856	3 222 453
Non-current liabilities				
Decommissioning and decontamination – stage 1	(2 593 856)	(3 222 453)	(2 593 856)	(3 222 453)
Government grant expense (decommissioning and decontamination – stage 1)	(868 954)	(1 650 945)	(868 954)	(1 650 945)
Acceptance of decommissioning and decontamination – stage 1	868 954	1 650 945	868 954	1 650 945
	-	-	-	-

	Opening R'000	Finance charge/ finance income R'000	Change in discount factor R'000	Total R'000
2023				
Assets	3 222 453	290 535	(919 132)	2 593 856
Liabilities	(3 222 453)	(290 535)	919 132	(2 593 856)
	-	-	-	-
2022				
Assets	4 597 130	294 578	(1 669 255)	3 222 453
Liabilities	(4 597 130)	(294 578)	1 669 255	(3 222 453)
	-	-	-	-

Stage 2 liabilities:

The stage 2 facilities are currently in operation and these facilities will be decommissioned and decontaminated only once operations cease.

Strategic operational nuclear facilities currently in use:

During 2013/14, the decommissioned and decontaminated stage 2 liability assessment by management was calculated at R478 million. The formal assessment of liability is done periodically. In between the formal assessments, applicable economic indicators such as inflation are utilised to calculate the liability.

The stage 2 liability has been assessed on the basis of the same methodology as for stage 1. The reassessment is conducted every five years and the assessed amount will be adjusted for inflation until the next reassessment. The last assessment was conducted in 2015/16 financial year. An independent international expert has confirmed that the assessment methodology used to determine the liability was in line with international best practice and that the amount of R512 million was sound and reasonable as on 30 March 2017.

Up to 2017/18, the asset could be recognised only to the extent of the allocation letter of grant for the Medium-term Expenditure Framework (MTEF) period received from the shareholder Department of Energy. However, in June 2018, the Minister of Finance through the Cabinet Memo 04 of 2018 accepted the funding obligation for stage 2. To this extent, the stage 2 liability matches the asset with effect from 2018/19 financial year. To address the incongruity between liabilities exceeding the asset with regard to decommissioned and decontaminated stage 2, Necsa, through the DMRE drafted Cabinet Memorandum 04 of 2018 requesting Cabinet to approve in writing the funding commitment of stage 2 liability for operational nuclear facilities at Necsa.

To this extent, the cabinet approved the funding of stage 2 and requested the DMRE and National Treasury to finalise the matter in such a way that AGSA will be satisfied that the funding obligation of stage 2 lies with the state. Therefore, with effect from 2018/19 the Cabinet memo read with the Minister of Finance's letter complies with IAS37.

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Non-current assets				
Decommissioning and decontamination - stage 2	243 931	193 753	243 931	193 753
Non-current liabilities				
Decommissioning and decontamination - stage 2	(243 931)	(193 753)	(243 931)	(193 753)
	-	-	-	-

	Opening R'000	Finance charge / finance income R'000	Change in discount factor R'000	Total R'000
2023				
Assets	193 753	-	50 178	243 931
Liabilities	(193 753)	-	(50 178)	(243 931)
	-	-	-	-
2022				
Assets	160 321	15 122	18 310	193 753
Liabilities	(160 321)	(15 122)	(18 310)	(193 753)
	-	-	-	-

The calculation of the decommissioning and decontamination asset, liability, revenue, expenditure, finance costs and investment income values was corrected in the current year and the values in the annual financial statements were updated.

24. Vaalputs aftercare

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Non-current asset				
Non-current liabilities	(56 178)	(52 821)	(56 178)	(52 821)
	(34 070)	**(29 976)**	**(34 070)**	**(29 976)**

	Opening R'000	Depreciation	Change in discount factor R'000	Total R'000
2023				
Vaalputs aftercare non-current asset	22 845	(737)	-	22 108
Vaalputs aftercare non-current liabilities	(52 821)	-	(3 357)	(56 178)
	(29 976)	**(737)**	**(3 357)**	**(34 070)**
2022				
Vaalputs aftercare non-current asset	23 581	(736)	-	22 845
Vaalputs aftercare non-current liabilities	(48 999)	-	(3 822)	(52 821)
	(25 418)	**(736)**	**(3 822)**	**(29 976)**

Vaalputs institutional control

In terms of Section 50 of the Nuclear Energy Act, the responsibility for the Republic's institutional nuclear obligations vests in the Minister of Mineral Resources and Energy. The management of nuclear waste disposal on a national basis is one of these obligations as defined in Section 1(xii) of the Act.

The management of radioactive waste disposal on a national basis is assigned to the NRWDI. The institute is an independent entity established by statute under the provision of section 55(2) of the Nuclear Energy Act to fulfil the institutional obligation of the Minister of Mineral Resources and Energy. Although the institute was established through the statutes and that Board of Directors was appointed, it is still not fully operational.

In terms of section 30(8) of the Disposal Institute Act, DMRE subsequently appointed Necsa on 7 March 2010 to maintain the nuclear installation licence for Vaalputs (NIL28) until such time as the NRWDI is in a position to take over these functions to the satisfaction of the NNR. To date the NNR still has not issued NRWDI with the nuclear installation licence.

Vaalputs is required to make provision in a long-term provision fund to cover the costs that will be incurred during the institutional control period of Vaalputs. This is a period of 300 years after closure of the disposal site called aftercare. Contributions to this fund should be made to the fund during the operational period of Vaalputs (currently foreseen until 2054), thus ensuring that sufficient funds are available by the start of the institutional control period for these 300 years.

Provision was made for this fund and annually contributions were made. A methodology and model were developed and documented by Necsa to determine and assess on an annual basis the total required provision that would be required by Vaalputs closure in current terms. This model also compares the determined required provision with the current total provision/asset, and then also determines the annual contributions required for the remainder of the operational period of Vaalputs.

The model considers all the projected operational expenses during the control period, investment return, inflation, site closure date etc. The model is run each year to reassess and compare the actual investment performance with the then projected current required provision, and the required annual fund contribution. The statement above reflects the current actual provision/investment as noncurrent asset and the model determined required current provision as noncurrent liabilities. The difference will be addressed by the model determined further annual contributions which will be made until site closure.

25. Financial assets measured at fair value through other comprehensive income reserve

The fair value through other comprehensive income reserve comprises all fair-value adjustments on financial instruments designated as financial assets measured at fair value through other comprehensive income. When an asset or liability is derecognised, the fair-value adjustment relating to that asset or liability is transferred to retained earnings/accumulated loss.

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Investments at fair value through other comprehensive income	301	496	301	496

26. Investments contributions for future liabilities

This represents contributions invested/ringfenced for the future decommissioning of facilities.

	2021 R'000	Additions R'000	2022 R'000	Additions R'000	2023 R'000
NTP decommissioning and decontamination of buildings exclusively utilised	24 580	1 269	25 849	1 712	27 561
NTP contribution to the decommissioning and decontamination of the Reactor/SAFARI-1	34 168	2 289	36 457	3 194	39 651
	58 748	**3 558**	**62 306**	**4 906**	**67 212**

The stage 2 facilities include the SAFARI-1 reactor that NTP Radioisotopes SOC Ltd (NTP), a subsidiary of Necsa, is contracted to manage and operate. In terms of the manage and operate agreement, NTP and Necsa will share the decommissioning and decontamination costs of SAFARI-1; and NTP will be charged based on the commercial utilisation of SAFARI-1 by NTP. NTP's contribution is ringfenced and invested to be utilised when decommissioning and decontamination commences. Refer to note 23 for further information on decommissioning and decontamination costs.

	Opening R'000	Additions R'000	Total R'000
2023			
NTP decommissioning and decontamination of buildings exclusively utilised	(25 849)	(1 712)	(27 561)
NTP contribution to the decommissioning and decontamination of the Reactor/ SAFARI-1	(36 457)	(3 194)	(39 651)
	(62 306)	**(4 906)**	**(67 212)**
2022			
NTP - Decommissioning and Decontamination of buildings exclusively utilised	(24 580)	(1 269)	(25 849)
NTP Contribution to the Decommissioning and Decontamination of the Reactor / Safari-1	(34 168)	(2 289)	(36 457)
	(58 748)	**(3 558)**	**(62 306)**

27. Revenue

	Group		Company	
	2023 R 000	**2022 R 000**	**2023 R 000**	**2022 R 000**
Revenue from contracts with customers				
Sale of goods	1 545 490	1 102 273	119 862	112 213
Rendering of services	18 731	(58 274)	-	-
Government grants	820 423	715 455	729 531	715 455
Other grants	37 911	20 094	37 911	20 095
	2 422 555	**1 779 548**	**887 304**	**847 763**
Disaggregation of revenue from contracts with customers				
The group disaggregates revenue from customers as follows:				
Sale of goods				
Sale of goods	1 545 490	1 102 273	119 862	112 213
Rendering of services				
Other revenue from rendering of services	18 731	(58 274)	-	-
Grants				
Government grants	820 423	715 455	729 531	715 455
Other grants	37 911	20 095	37 911	20 095
	858 334	**735 550**	**767 442**	**735 550**
The amount included in revenue arising from government grants is as follows:				
Operating activities	561 514	539 874	561 514	539 874
Decommissioning of strategic plants	205 928	185 127	205 928	185 128
Security	-	10 548	-	10 548
	767 442	**735 549**	**767 442**	**735 550**

The government grant relating to operating activities is primarily utilised to fund research and development expenses, non-commercial overheads and supplementary activities as required by the Nuclear Energy Act, costs for discarding radioactive waste and for storage of irradiated nuclear fuel.

The South African government has an obligation to discharge nuclear liabilities resulting from the previous strategic nuclear programme, which includes decommissioning and decontamination of disused historic facilities. The Minister of Department of Minerals, Resource and Energy is charged with this responsibility on behalf of government. The NLMP was approved by cabinet in February 2007.

Necsa, as a statutory body created in terms of the Nuclear Energy Act (Act 46 of 1999), has been delegated with certain responsibilities in this regard. It annually receives funds to apply to the decommissioning and decontamination process in terms of the NLMP. Funds received by Necsa for this purpose and not utilised at year-end are accounted for as deferred grants.

28. Cost of sales

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Sale of goods	809 698	601 594	80 138	81 867
Rendering of services	3 706	2 594	-	-
Construction contracts	83 220	67 828	83 220	67 828
Discount received	(459)	-	(459)	-
Manufactured goods:				
Raw materials consumed	89	248	89	248
Employee costs	170 800	172 335	-	-
Depreciation and impairment	9 371	14 613	-	-
Manufacturing expenses	445	(2 801)	-	-
	1 076 870	**856 411**	**162 988**	**149 943**

29. Other operating income

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Administration and management fees received	24	82	-	-
Commissions received	43	57	43	57
Royalties received	33 022	24 378	-	-
Other rental income	1 659	1 070	-	-
Other recoveries	33 710	289 885	308 247	284 587
Scrapping income	5 915	10 204	5 183	10 192
Other income	15 930	3 270	10 352	11 130
	90 303	**328 946**	**323 825**	**305 966**

30. Operating loss

Operating profit (loss) for the year is stated after charging (crediting) the following, among others:

		Group		Company	
	Note	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Low-value asset and short-term lease payments					
Fleet transport		3 337	2 654	3 337	2 654
Equipment		983	1 296	460	1 296
Buildings		49 196	49 093	49 094	49 093
Miscellaneous		1 440	444	1 440	444
		54 956	53 487	54 331	53 487
Less: Lease charges included in cost of merchandise sold and inventories		(136)	-	-	-
Auditor's remuneration – external					
Audit fees		16 938	14 944	10 280	8 222
Auditor's remuneration – internal		2 437	2 293	-	-

	Note	Group 2023 R 000	Group 2022 R 000	Company 2023 R 000	Company 2022 R 000
Other					
Employee costs (1)		1 108 551	1 106 580	763 248	740 680
Consulting and professional fees		25 629	20 340	9 723	9 563
Impairment of inventory	11	(40 762)	(5 996)	(10 040)	(6 024)
Employee costs included in cost of merchandise	28	(170 800)	(172 454)	-	-
Remuneration costs other than to employees		4 195	2 472	-	-
Defined contribution plan	16	-	1 300	-	-
Research and development costs		470	800	-	-
Amortisation on Intangible assets	5	3 980	1 012	634	1 012
Movement in trade and other receivables	12	1 281	(340)	-	-
Impairment of property, plant and equipment	4	2 957	7 803	-	-
Depreciation and amortisation					
Depreciation of property, plant and equipment	4	96 569	89 912	63 052	70 634
Depreciation of right-of-use assets	15	1 990	2 013	1 514	1 669
Amortisation of intangible assets	5	3 980	4 457	634	101
Total depreciation and amortisation		**102 539**	**96 382**	**65 200**	**72 404**
Less: Depreciation included in cost of merchandise sold and inventories		(18 461)	(18 777)	-	-
Total depreciation and amortisation expensed		**84 078**	**77 605**	**65 200**	**72 404**

30.1. During the current financial year, the 2022 Necsa company employee costs was increased by R7.487 million.

31. Investment income

	Group 2023 R 000	Group 2022 R 000	Company 2023 R 000	Company 2022 R 000
Dividend income				
Equity instruments at fair value through profit or loss:				
Unlisted investments – local	1 589	1 352	39 519	11 773
Interest income				
Investments in financial assets:				
Bank and other cash	66 076	39 727	44 028	31 863
Interest charged on trade and other receivables	495	187	-	-
Fair-value adjustments	(1 478)	2 309	-	-
Stage 1 decommissioning and decontamination	296 275	309 701	296 275	309 701
Local listed investment income	377	3 497	-	-
Total interest income	**361 745**	**355 421**	**340 303**	**341 564**
Total investment income	**363 334**	**356 773**	**379 822**	**353 337**

32. Finance costs

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Non-current borrowings	-	655	-	457
Interest on trade and other payables	10	21	-	-
Lease liabilities	6 134	451	583	364
Bank overdraft	6 784	7 396	1 699	2 015
Interest paid to receiver of revenue	142	10	-	-
Finance cost on decommissioning and decontamination provisions	290 544	309 704	290 535	309 701
Deemed interest on post-retirement liabilities actuarial valuation	2 657	-	-	-
Fair value adjustments (1)	30	110	-	-
Total finance costs	**306 301**	**318 347**	**292 817**	**312 537**

Necsa did not capitalise borrowing costs in the current or prior year.
(1) Fair-value adjustments relate to imputed interest.

33. Other non-operating losses

	Note	Group		Company	
		2023 R 000	2022 R 000	2023 R 000	2022 R 000
Gains (losses) on disposals, scrappings or settlements					
Investments in associates	7	(848)	-	-	-
Fair value losses					
Unit trusts		6 754	4 843	6 754	4 843
Total other non-operating gains (losses)		**5 906**	**4 843**	**6 754**	**4 843**

34. Taxation

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Major components of the tax expense (income)				
Current				
Local income tax – current period	9 544	5 308	-	-
Deferred				
Originating and reversing temporary differences	35 756	651	-	-
Arising from previously unrecognised tax loss/tax credit / temporary differences	-	19 087	-	-
Rate change to 27%	-	(19)	-	-
	35 756	**19 719**	**-**	**-**
	45 300	**25 027**	**-**	**-**
Reconciliation of the tax expense				
Reconciliation between accounting profit and tax expense.				
Accounting (loss) profit	**170 751**	**(53 740)**	**9 182**	**(110 266)**
Tax at the applicable tax rate of 27% (2022: 28%)	**46 331**	**(15 047)**	**-**	**-**

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Tax effect of adjustments on taxable income				
Permanent differences	(183)	45	-	-
Deferred tax effect income	-	(136)	-	-
Other income	782	(159)	-	-
Non-deductible impairments	3 400	-	-	-
Non-deductible expenses	-	(23)	-	-
Differences due to group transactions	-	(13 294)	-	-
Non-taxable dividends	(1 848)	(622)	-	-
Research and development allowance	(569)	(941)	-	-
Intellectual property amortisation	800	794	-	-
Consulting fees	-	130	-	-
Legal fees	49	55	-	-
Depreciation on site improvements	856	109	-	-
Deferred tax prior year	88	(471)	-	-
Under/(over) provision of tax in prior year	-	51	-	-
Rate change	(1)	4 845	-	-
Other income	-	(283)	-	-
Income from equity accounted investments	(304)	(737)	-	-
Wear-and-tear timing differences	504	517	-	-
Tax losses	14 312	19 320	-	-
Permanent differences: Holding company exempt from tax	(18 917)	30 874	-	-
	45 300	**25 027**	**-**	**-**

The South African Revenue services has approved an exemption for Necsa under section 10(1)(cA)(i) of the Income Tax Act. No provision is therefore made for tax for Necsa company.

35. Other comprehensive income

	Gross	Tax	Net before non-controlling interest	Net
Components of other comprehensive income – Group – 2023				
Items that will not be reclassified to profit (loss)				
Remeasurements on net defined benefit liability/asset	(231)	-	(231)	(231)
Movements on revaluation				
Gains (losses) on property revaluation	21 433	-	21 433	21 433
Movements on valuation of net defined benefit obligation				
Gains on valuation	(2 016)	808	(1 208)	(1 208)
Total items that will not be reclassified to profit (loss)	**19 186**	**808**	**19 994**	**19 994**
Items that may be reclassified to profit (loss)				
Financial assets measured at fair value through other comprehensive income adjustments				
Gains (losses) on valuation	(195)	-	(195)	(195)
Total	**18 991**	**808**	**19 799**	**19 799**

	Gross	Tax	Net before non-controlling interest	Non- controlling interest	Net
Components of other comprehensive income – Group – 2022					
Items that will not be reclassified to profit (loss)					
Remeasurements on net defined benefit liability/asset	14 664	-	14 664	-	14 664
Movements on revaluation					
Gains (losses) on property revaluation	30 942	-	30 942	-	30 942
Movements on valuation of net defined benefit obligation					
Gains (losses) on valuation	2 849	(543)	2 306	-	2 306
Total items that will not be reclassified to profit (loss)	**48 455**	**(543)**	**47 912**	**-**	**47 912**
Items that may be reclassified to profit (loss)					
Exchange differences on translating foreign operations					
Exchange differences arising during the year	-	-	-	(20)	(20)
Gains (losses) on hedge of net investment in foreign operations					
Gains (losses) on hedge	65	-	65	-	65
Financial assets measured at fair value through other comprehensive income adjustments					
Gains (losses) on valuation	164	-	164	-	164
Total items that may be reclassified to profit (loss)	**229**	**-**	**229**	**(20)**	**209**
Total	**48 684**	**(543)**	**48 141**	**(20)**	**48 121**

	Gross	Tax	Net
Components of other comprehensive income – Company – 2023			
Items that will not be reclassified to profit (loss)			
Remeasurements on net defined benefit liability/asset	(231)	-	(231)
Remeasurements on net defined benefit liability/asset			
Movements on revaluation	17 984	-	17 984
Gains (losses) on property revaluation			
Total items that will not be reclassified to profit (loss)	**17 753**	-	**17 753**
Items that may be reclassified to profit (loss)			
Financial assets measured at fair value through other comprehensive income adjustments			
Gains (losses) on valuation	(195)	-	(195)
Total	**17 558**	-	**17 558**
Components of other comprehensive income – Company – 2022			
Items that will not be reclassified to profit (loss)			
Remeasurements on net defined benefit liability/asset	14 676	-	14 676
Remeasurements on net defined benefit liability/asset			
Movements on revaluation	30 645	-	30 645
Gains (losses) on property revaluation			
Total items that will not be reclassified to profit (loss)	**45 321**	-	**45 321**
Items that may be reclassified to profit (loss)			
Financial assets measured at fair value through other comprehensive income adjustments			
Gains (losses) on valuation	164	-	164
Total	**45 485**	-	**45 485**

36. Cash generated from/(used in) operations

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Profit/(loss) for the year	125 451	(78 827)	9 182	(110 266)
Adjustments for:				
Fair-value adjustment on financial assets	(5 906)	(4 843)	(6 754)	(4 843)
Depreciation and amortisation	105 496	112 794	76 013	73 316
Movement in other comprehensive income for non-controlling interest	2 822	-	-	-
Movement in retirement benefit asset	(1 696)	(7 333)	(3 938)	(8 643)
Movement in expected credit losses	14 780	-	82 162	-
Income from equity accounted investments	843	(1 673)	-	-
Allowance for slow-moving stock	(963)	-	4 016	-
Government grant income (decommissioning and decontamination stage 1)	868 954	1 650 945	868 954	1 650 945
Acceptance of decommissioning and decontamination stage 1	(868 954)	(1 650 945)	(868 954)	(1 650 945)

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Interest income relating to stage 1 decommissioning and decontamination	(296 275)	(309 701)	(296 275)	(309 701)
Interest expense (decommissioning and decontamination related)	290 544	309 701	290 535	309 701
Total decommissioning and decontamination asset and liability movements	9 825	4 559	9 834	4 559
Lease liability interest expense	6 134	87	583	364
Movement in provisions	(51 773)	61 492	(79 933)	49 036
Deferred tax expense	36 854	19 719	-	-
Movement in deferred tax	(75)	(1 180)	-	-
Movement in current tax payable/receivable	(9 575)	(906)	-	-
Assets written off	9 874	-	6 740	-
Bad debts written off	533	-	533	-
Interest income	(65 470)	(45 720)	(44 028)	(31 863)
Finance costs	9 623	8 559	1 699	2 472
Dividend income	(1 589)	(1 352)	(39 519)	(11 773)
Foreign exchange gains and losses	144	-	144	-
Changes in working capital:				
Movements in inventories	(47 271)	44 159	(1 549)	2 316
Movements in trade and other receivables	(87 804)	69 782	(92 745)	70 075
Movements in prepayments	(69 403)	(4 423)	(7 782)	(12 200)
Movements in trade and other payables	50 873	10 166	23 880	25 268
Amounts received in advance	83 282	(72 568)	22 981	(12 267)
Movements in deferred income	153 835	133 074	153 835	133 074
Movements in derivatives	424	-	(4 033)	-
	263 537	**245 566**	**105 581**	**168 625**

37. Commitments

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Authorised capital expenditure				
Already contracted for but not provided for				
Property, plant and equipment	270 466	16 246	129 148	16 114
Biological assets	-	55 673	-	-

This committed expenditure relates to plant and equipment and will be financed through ordinary trading operations.

38. Contingencies

By their nature, contingencies will be resolved only when one or more future events occur or fail to occur. The assessment of such contingencies inherently involves the exercise of significant judgment and estimates of the outcome of future events.

Litigation and other judicial proceedings as a rule raise difficult and complex legal issues and are subject to uncertainties and complexities including the facts and circumstances of each particular case, issues regarding the jurisdiction in which each suit is brought and differences in applicable law. Upon resolution of any pending legal matter, the company may be forced to incur charges in excess of the presently established provisions and related insurance coverage. It is possible that the financial position, results of operations or cash flows of the company could be materially affected by the unfavourable outcome of litigation.

Legal claims:
Possible legal obligations exist for the group in connection with disputes with unfair labour practice and Council for Conciliation, Mediation and Arbitration (CCMA) disputes. These cases are currently being investigated by the Necsa legal division. A possible loss of R1 635 324 can be reliably estimated.

A former employee was injured at work. He instituted a claim against Necsa for damages suffered. It is highly likely that the matter will be in Necsa's favour given the fact that the Compensation for Occupational Injuries and Diseases Act is the liable entity. The claim amount is R15 000 000.

Plaintiffs were employed as independent contractors and their contracts were terminated as Necsa no longer required their services. The amount claimed was R149 040 and R359 920 respectively.

An employee was dismissed on the on 7 August 2018. The CCMA ruled that the dismissal was procedural and fair. The employee has approached the labour court for review of CCMA award. At the time of his dismissal he was earning R113 448 per annum. Depending on the outcome of the review Necsa may be ordered to reinstate the employee with retrospective payment. However, considering that the CCMA previously ruled in Necsa's favour, the prospects are positive for a decision in Necsa's favour.

A former Necsa Board member is suing another Board entity regarding the appointment of executives at Necsa. It is highly likely the matter will be resolved in Necsa's favour. No fees have been paid as yet and it is difficult to quantify the quantum of a potential claim.

A supplier is suing for alleged unlawful termination of contract. The contract was lawfully terminated following evidence of unlawful conduct by the company and two Necsa employees. The amount claimed is R6 500 000.

An external entity requires Necsa to complete work as set out in the snag list compiled by the entity. Necsa has filed a counter claim for arrear rentals and electricity amounting to R1 300 000.

A local community is laying claims for land that includes Necsa at the Land Claims Court. Given the activities at Necsa and its national strategic importance, it is highly likely that the land will not be restored to the claimants. Amount of claim is not quantifiable.

An independent contractor is suing Necsa for alleged breach of contract. The contract was lawfully terminated due to non-performance. The amount claimed is R25 000 000.

Necsa and another body are liable to pay a former Necsa employee for money he would have received had he switched his retirement monies to another administrator. Necsa is reviewing the PP decision on the matter. The amount of claim is not quantifiable.

Guarantees:
Guarantees of R1 868 000 (2022: R2 068 000) were issued by Nedbank on behalf of NTP Logistics SOC Limited in favour of suppliers.

Suretyship:
A limited deed of suretyship for an amount of up to R20 000 000 (2022: R20 000 000) has been given to Pelchem SOC Limited for a Nedbank facility. R13 000 000 (2022: R14 000 000) relates to an overnight facility and R7 000 000 (2022: R6 000 000) to an asset-based finance.

NTP Radioisotopes SOC Limited

An extraordinary shareholders meeting of NTP Radioisotopes Europe SA was held on 31 August 2017 wherein a decision regarding dissolution of NTP Radioisotopes Europe SA was taken. The liquidator, in his report of 20 March 2018, indicated that NTP undertook to cover liabilities up to an amount of EUR 733 500 of which EUR 270 107 has been paid to date. The liquidation process is ongoing. The amount is in dispute and in litigation. Necsa is confident that it will be able to successfully defend the matter.

39. Related parties

Relationships	
Holding entity	Department of Mineral Resources and Energy
Subsidiaries	Refer to note 6
Associates	Refer to note 7
National government	All national government departments are regarded to be related parties in accordance with circular 4 of 2005: Guidance on the term 'state-controlled entities' in the context of IAS 24 - Related Parties, issued by the South African Institute of Chartered Accountants. No transactions are implied simply by the nature of existence of the relationship between entities. All directors have given general declarations of interest in terms of the Companies Act.
Directors and members of key management	Details of directors and key management remuneration paid are disclosed in note 40

The following is a summary of transactions with related parties during the year and balances due at year-end

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
National public entities				
Services rendered	-	-	-	-
National Nuclear Regulator	(542)	(756)	(542)	(756)
National Radioactive Waste Disposal Institute	(1 380)	(1 608)	(1 380)	(1 608)
The Petroleum Oil and Gas Corporation	(7)	-	(7)	-
Services received	-	-	-	-
National Nuclear Regulator	60 399	57 198	60 399	57 198
Trade amount due from	-	-	-	-
National Nuclear Regulator	198	12	198	12
National Radioactive Waste Disposal Institute	208	80	208	80

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
The Petroleum Oil and Gas Corporation	4	-	4	-
National government departments				
Services rendered	-	-	-	-
Department of Energy	(1 574)	(2 917)	(1 574)	(2 917)
Dept of Energy – grant	(876 689)	(849 139)	(876 689)	(849 139)
Trade amount due from				
Department of Energy	1 799	3 355	1 799	3 355
Dept of Energy – grant	-	1 538	-	1 538
Loan owing to				
NTP Radioisotopes SOC Ltd	-	-	(13 578)	(38 377)
Pelchem SOC Ltd	-	-	(3 166)	(2 106)
Trade and other receivables				
NTP Radioisotopes SOC Ltd	-	-	84 384	53 534
AEC-Amersham SOC Ltd	-	-	1	92
Gammatec NDT Supplies Ltd	-	-	942	197
NTP Logistics SOC Ltd	-	-	68	32
Pelchem SOC Ltd	-	-	347 789	298 353
Trade and other payables				
NTP Radioisotopes SOC Ltd	-	-	(1 652)	(9)
AEC-Amersham SOC Ltd	-	-	(5)	(7)
NTP Logistics SOC Ltd	-	-	(4 449)	(841)
Gammatec NDT Supplies Ltd	-	-	(59)	-
Interest paid				
NTP Radioisotopes SOC Ltd	-	-	(1 265)	(1 918)
Purchases				
NTP Radiosiotopes SOC Ltd	-	-	1 659	319
AEC-Amersham SOC Ltd	-	-	229	106
Gammatec NDT Supplies SOC Ltd	-	-	78	4
NTP Logistics SOC Ltd	-	-	3 640	2 225
Pelchem SOC Ltd	-	-	17	66
Sales				
NTP Radiosiotopes SOC Ltd	-	-	(239 345)	(301 022)
AEC-Amersham SOC Ltd	-	-	(356)	(554)
Gammatec NDT Supplies SOC Ltd	-	-	(1 951)	(911)
NTP Logistics SOC Ltd	-	-	(748)	(673)
Pelchem SOC Ltd	-	-	(42 763)	(38 791)
Electricity deposit				
NTP Radioisotopes SOC Ltd	-	-	1 849	904
Loans due from group companies				
NTP Radioisotopes SOC Ltd	-	-	139	-

Trade amount due to/from subsidiaries are gross values reflected prior to provisions for bad debts. A provision for bad debts relating to Pelchem was raised R346.2 million (2022: R298.3 million)

Trade debtor, Gammatec, has payment terms of 60 days. Pelchem trade debtors have payment terms of 120 days. The remaining accounts have payment terms of 30 days.

Necsa does not have any commitments with its related parties nor has Necsa given any guarantees to its related parties. This is also applicable to the holding company of Necsa in that there are no commitments nor guarantees between Necsa and its holding company.

40. Directors' and prescribed officers' emoluments

Group executives

	Taxable allowance R 000	Leave Pay R 000	Retirement fund contributions R 000	Other company contribution R 000	Salary R 000	Total R 000
2023						
TJ Tselane: MD - NTP Group	252	-	366	75	2 586	3 279
MA Mondi: GE - Human Capital	398	-	359	29	1 750	2 536
UKRD Natha: MD - Pelchem	-	-	276	27	1 949	2 252
MX Makhatini: GE - Power and Industry (1)	770	101	137	20	605	1 633
BJ Blom: Acting GE - Power and Industry (1)	12	-	54	5	286	357
AB Myoli: GE - Nuclear Operations and Advanced Manufacturing	594	-	334	31	1 729	2 688
PF Hawadi: GE - Financial Capital	760	-	346	32	1 650	2 788
QM Boyede: GE - Strategy and Business Enablement	1 180	-	208	29	921	2 338
Dr P Rampersadh: GE - Research and Innovation	91	-	354	27	1 753	2 225
SEN Rikhotso: Executive - Office of the GCEO	514	-	233	24	1 110	1 881
	4 571	**101**	**2 667**	**299**	**14 339**	**21 977**
2022						
MA Rasweswe: GE - Nucleur Compliances and Services	266	124	222	22	1 161	1 795
TJ Tselane: MD - NTP Group	516	-	290	28	1 497	2 331
HNB Khumalo: Chief Financial Officer	-	289	375	28	1 719	2 411
MA Mondi: GE - Human Capital	343	-	315	27	1 537	2 222
MU Ramatsui: GE - Pelindaba Enterprises	387	265	217	24	1 123	2 016
ZA Ismail: Acting Chief Audit Officer	319	-	112	18	746	1 195
NF Tengimfene: GM - Corporate Communication and Stakeholder Relations	352	-	198	22	1 021	1 593
UKRD Natha: MD - Pelchem	613	-	140	21	686	1 460
Dr JR Zeevaart: Acting Divisional Executive	13	-	315	27	1 885	2 240
JF du Bruyn: Acting Chief Technology Officer	-	-	275	25	1 679	1 979
N Matube	341	-	187	21	981	1 530
FM Mkhabela: Chief Risk Officer	625	-	172	22	801	1 620
AB Myoli: GE - Nucleur Operations and Advanced Manufacturing	496	-	278	27	1 440	2 241
PF Hawadi: GE - Financial Capital	365	-	-	94	413	872
QM Boyede: GE - Strategy and Business Enablement	274	-	-	59	249	582
Dr P Rampersadh: GE - Reasearch and Innovation	7	-	-	31	146	184
SEN Rikhotso: Executive - Office of the GCEO	127	-	-	64	278	469
	5 044	**678**	**3 096**	**560**	**17 362**	**26 740**

1. MX Makhatini resigned on 17 January 2023 and BJ Blom acted from 18 January 2023.

Executive director

	Taxable allowance R 000	Retirement fund contributions R 000	Other company contributions R 000	Salary R 000	Total R 000
2023					
Mr L Tyabashe	**1 260**	**346**	**40**	**1 600**	**3 246**
2022					
Mr L Tyabashe	**1 254**	**346**	**38**	**1 700**	**3 338**

Non executive directors 2023

	Directors' fees R 000	Reimbursive travel allow-ance R 000	Other company contributions R 000	Total R 000
2023				
Adv A Chowan	183	1	2	186
Dr GJ Davids	164	-	2	166
MJ Maboa	142	-	1	143
Dr NT Magau	41	-	1	42
SKN Masango	282	-	3	285
DR Nicholls	321	4	4	329
LJ Shayi	240	35	3	278
LN Noge-Tungamirai	193	2	2	197
CL Mavuso	73	2	1	76
S Maharaj	74	2	1	77
Dr ME Makgae	52	2	1	55
	1 765	**48**	**21**	**1 834**
2022				
Adv A Chowan	255	1	3	259
Dr GJ Davids	200	-	2	202
MJ Maboa	153	-	2	155
Dr NT Magau	219	-	3	222
SKN Masango	250	-	3	253
DR Nicholls	282	4	3	289
LJ Shayi	226	19	3	248
LN Noge-Tungamirai	207	1	2	210
	1 792	**25**	**21**	**1 838**

The following directors did not receive any emoluments:

Ms PE Monale, Ms BM Makgopa, Amb NN Ntshinga, Mr M van Schalkwyk, Mr A Latchu, Mr AD Lazarus

Details of service contracts

No director has a notice period in excess of one year and no director's contract makes provision for predetermined compensation on termination exceeding one year's salary and benefits in kind. No directors are proposed for election or re-election at the forthcoming annual general meeting. All the directors have a service contract.

41. Prior-period errors

Leave provision and Cash and Cash Equivalents

The calculation of the leave provision was corrected in the 2021/22 and the correction is reflected in the 2022/23 financial year. The amount corrected in the 2021/22 was R7 487 160.21, which was not viewed to be significant nor a big amount. The leave provision amount has therefore been increased to reflect the correct amount in both 2021/22 and 2022/23 financial years.

Financial assets at amortised cost (restricted cash) have been reclassified as cash and cash equivalents and the correction is reflected in the 2022/23 financial year.

The following prior-period error was corrected in the current year annual financial statements and the amounts of the corrections and the financial statements line items affected are as follows:

Statement of financial position	Previously reported 2022 R 000	Adjustment R 000	Restated 2022 R 000	Previously reported 2021 R 000	Adjustment R 000	Restated 2021 R 000
Current liabilities						
Leave provision	75 865	7 487	83 352	86 313	-	86 313
Assets	-	-	-	-	-	-
Cash and cash equivalents	33 819	576 053	609 872	21 151	457 781	478 932
Financial assets at amortised cost (restricted cash)	576 053	(576 053)	-	457 781	(457 781)	-
	685 737	**7 487**	**700 711**	**565 245**		**565 245**

Operating expenses and revenue

In response to the 2021/22 audit opinion, management ensured internal recovery accounts were classified accordingly as operating expenses. R42 740 000 was reclassified between admin fees and operating expenses.

Similar reclassifications were made for items classified as revenue and now reclassified as other operating income (recoveries). Other accounts were reclassified from cost of sales to other operating expenses.

The following prior-period error was corrected in the current year annual financial statements and the amounts of the corrections and the financial statements line items affected are as follows:

Statement of profit or loss and other comprehensive income	Previously reported 2022 R 000	Adjustment R 000	Restated 2022 R 000	Previously reported 2021 R 000	Adjustment R 000	Restated 2021 R 000
Admin fees	148 283	(42 740)	105 543	137 392	-	137 392
Other operating expenses	813 799	165 445	979 224	1 115 777	-	1 115 777
Revenue	1 132 350	(284 587)	847 763	1 053 231	-	1 053 231
Other operating income	21 379	284 587	305 966	11 044	-	11 044
Cost of sales	265 161	(115 218)	149 943	182 446	-	182 446
	2 380 972	**7 487**	**2 388 439**	**2 499 890**		**2 499 890**

Cash generated from operations

In response to the 2021/22 audit opinion, management corrected balances relating to the following class of transactions and balances.

The following prior-period error was corrected in the current year annual financial statements and the amounts of the corrections and the financial statements line items affected are as follows:

Statement of cash flows	Previously reported 2022 R 000	Adjustment R 000	Restated 2022 R 000	Previously reported 2021 R 000	Adjustment R 000	Restated 2021 R 000
Cash generated from (used in) operations and others	35 550	133 074	168 624	(141 865)	-	(141 865)
Net cash from financial assets	(147 858)	118 272	(29 586)	(149 109)	-	(149 109)
Cash flows from financing activities	114 845	(133 074)	(18 229)	198 571	-	198 571
Total cash movement for the year	12 668	118 272	130 940	4 709	-	4 709
	15 205	**236 544**	**251 749**	**(87 694)**	**-**	**(87 694)**

Decommissioning and decontaminations of stage 1

The updates to the decontamination and decommissioning have been disclosed in the prior-period note.This change was mainly premised on new information becoming available and all of the previous recommendations from the prior year have been taken into account.

In the current period, management has revised the calculation of the decommissioning and decontamination asset, liability, revenue and expenditure values.

The statement of cash flows has been updated to incorporate the changes above from the impact of new information that has become available.

The effect of this revision is noted in the note below:

	Previously reported 2022 R 000	Adjustment R 000	Restated 2022 R 000	Previously reported 2021 R 000	Adjustment R 000	Restated 2021 R 000
Statement of financial position – R 000						
Non-current assets	-	-	-	-	-	-
Decommissioning and decontaminations of stage 1	4 762 140	(1 539 687)	3 222 453	4 597 130	-	4 597 130
Non-current liabilities	-	-	-	-	-	-
Decommissioning and decontaminations of stage 1	4 762 140	(1 539 687)	3 222 453	4 597 130	-	4 597 130
	9 524 280	**(3 079 374)**	**6 444 906**	**9 194 260**	**-**	**9 194 260**
Statement of profit or loss and other comprehensive income – R 000						
Government grant expense (Decommissioning and decontamination stage 1)	(129 578)	(1 521 367)	(1 650 945)	(84 063)	-	(84 063)
Acceptance of decommission and decontamination stage 1	129 578	1 521 367	1 650 945	84 063	-	84 063
Investment income	328 020	(18 319)	309 701	-	-	-
Finance costs	(328 020)	18 319	(309 701)	-	-	-
	-	-	-	-	-	-

42. Financial instruments and risk management

Categories of financial instruments

Categories of financial assets

	Note(s)	Fair value through other comprehensive income – equity instruments	Fair value through profit or loss – Mandatory	Amortised cost	Total	Fair value
Group – 2023						
Investments at fair value	9	27	354 057	-	354 084	354 084
Derivatives – non-hedging	22	-	3 372	-	3 372	3 372
Trade and other receivables	12	-	-	322 413	322 413	322 413
Cash and cash equivalents	13	-	-	1 264 351	1 264 351	1 264 351
		27	**357 429**	**1 586 764**	**1 944 220**	**1 944 220**
Group – 2022						
Loans receivable		-	-	-	-	576 053
Investments at fair value	9	1 250	298 552	-	299 802	299 802
Derivatives – non-hedging	22	-	2 748	-	2 748	2 748
Trade and other receivables	12	-	-	257 535	257 535	257 535
Cash and cash equivalents	13	-	-	1 034 561	1 034 561	1 034 561
		1 250	**301 300**	**1 292 096**	**1 594 646**	**2 170 699**

	Note(s)	Fair value through profit or loss – mandatory	Amortised cost	Total	Fair value
Company – 2023					
Loans receivable		-	-	-	615 406
Investments at fair value	9	354 057	-	354 057	354 057
Derivatives – non-hedging	22	3 372	-	3 372	3 372
Trade and other receivables	12	-	116 661	116 661	116 661
Cash and cash equivalents	13	-	945 120	945 120	945 120
		357 429	**1 061 781**	**1 419 210**	**2 034 616**

	Note(s)	Fair value through other comprehensive income – equity instruments	Fair value through profit or loss – mandatory	Amortised cost	Total	Fair value
Company – 2022						
Loans receivable		-	-	-	-	576 053
Investments at fair value	9	1 215	298 552	-	299 767	299 767
Trade and other receivables	12	-	-	106 222	106 222	106 222
Cash and cash equivalents	13	-	-	839 957	839 957	839 957
		1 215	**298 552**	**946 179**	**1 245 946**	**1 821 999**

Categories of financial liabilities

	Note(s)	Fair value through profit or loss – held for trading	Amortised cost	Leases	Total	Fair value
Group – 2023						
Trade and other payables	19	-	279 300	-	279 300	284 998
Loans from shareholders		-	-	-	-	15
Compound instruments		-	56 178	-	56 178	56 178
Derivatives – non-hedging	22	1 997	-	-	1 997	1 997
Finance lease obligations	15	-	-	5 651	5 651	5 651
Bank overdraft	13	-	21 113	-	21 113	21 113
		1 997	**356 591**	**5 651**	**364 239**	**369 952**
Group – 2022						
Trade and other payables	19	-	231 746	-	231 746	231 746
Compound instruments		-	52 821	-	52 821	52 821
Derivatives – non-hedging	22	805	-	-	805	805
Finance lease obligations	15	-	-	4 304	4 304	4 304
Bank overdraft	13	-	14 007	-	14 007	14 007
		805	**298 574**	**4 304**	**303 683**	**303 683**

	Note(s)	Amortised cost	Leases	Total	Fair value
Company – 2023					
Trade and other payables	19	155 037	-	155 037	164 772
Loans from group companies	8	16 354	-	16 354	16 355
Compound instruments		56 178	-	56 178	56 178
Finance lease obligations	15	-	4 874	4 874	4 874
		227 569	**4 874**	**232 443**	**242 179**

	Fair value through profit or loss – held for trading	Amortised cost	Leases	Total	Fair value
Company – 2022					
Trade and other payables	-	137 076	-	137 076	137 076
Loans from group companies	-	40 482	-	40 482	40 483
Compound instruments	-	52 821	-	52 821	52 821
Derivatives – non-hedging	805	-	-	805	805
Finance lease obligations	-	-	3 487	3 487	3 487
	805	**230 379**	**3 487**	**234 671**	**234 672**

The carrying value approximates fair value.

Capital risk management

The group's objective when managing capital (which includes share capital, borrowings, working capital and cash and cash equivalents) is to maintain a flexible capital structure that reduces the cost of capital to an acceptable level of risk and to safeguard the group's ability to continue as a going concern while taking advantage of strategic opportunities in order to maximise stakeholder returns sustainably.

The group manages capital structure and makes adjustments to it in light of changes in economic conditions and the risk characteristics of the underlying assets. In order to maintain the capital structure, the group may adjust the amount of dividends paid to the shareholder, return capital to the shareholder, repurchase shares currently issued, issue new shares, issue new debt, issue new debt to replace existing debt with different characteristics and/or sell assets to reduce debt.

		Group		Company	
	Note	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Compound instruments		56 178	52 821	56 178	52 821
Loans from group companies	8	-	-	16 354	40 482
Lease liabilities		5 651	4 304	4 874	3 487
Trade and other payables	19	284 997	231 746	164 771	137 076
Total borrowings		**346 826**	**288 871**	**242 177**	**233 866**
Cash and cash equivalents	13	(960 261)	(790 469)	(662 143)	(609 872)
Net borrowings		**(613 435)**	**(501 598)**	**(419 966)**	**(376 006)**
Equity		635 171	496 702	(149 921)	(176 662)
Gearing ratio		(97)%	15 %	280 %	(118)%

Financial risk management

Overview

The group is exposed to the following risks from its use of financial instruments:

- Credit risk;
- Liquidity risk; and
- Market risk (currency risk, interest rate risk and price risk).

The Board has overall responsibility for the establishment and oversight of the group's risk management framework. The Board has established the risk committee, which is responsible for developing and monitoring the group's risk management policies. The committee reports quarterly and reports to the Board on its activities.

The group's risk management policies are established to identify and analyse the risks faced by the group, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the group's activities.

Credit risk

Credit risk is the risk of financial loss to the group if a customer or counterparty to a financial instrument fails to meet its contractual obligations.

The maximum exposure to credit risk is presented in the table below:

		2023			2022		
	Note	Gross carrying amount	Credit loss allowance	Amortised cost/fair value	Gross carrying amount	Credit loss allowance	Amortised cost/fair value
Group							
Loans to group companies		27	(27)	-	-	-	-
Investments at fair value through profit or loss	9	-	-	-	(76)	-	(76)
Trade and other receivables	12	479 663	(127 234)	352 429	391 778	(112 229)	279 549
Cash and cash equivalents	13	1 264 351	-	1 264 351	1 034 561	-	1 034 561
		1 744 041	**(127 261)**	**1 616 780**	**1 426 263**	**(112 229)**	**1 314 034**
Company							
Investments at fair value through profit or loss	9	-	-	-	(76)	-	(76)
Trade and other receivables	12	528 386	(411 725)	116 661	435 785	(329 563)	106 222
Cash and cash equivalents	13	945 120	-	945 120	839 957	-	839 957
		1 473 506	**(411 725)**	**1 061 781**	**1 275 666**	**(329 563)**	**946 103**

Liquidity risk

The maturity profile of contractual cash flows of non-derivative financial liabilities, and financial assets held to mitigate the risk, are presented in the following table. The cash flows are undiscounted contractual amounts.

	Note	Less than 1 year	2 to 5 years	Total	Carrying amount
Group – 2023					
Non-current liabilities					
Lease liabilities		-	3 557	3 557	3 557
Current liabilities					
Trade and other payables	19	284 998	-	284 998	279 300
Loans from shareholders		15	-	15	-
Lease liabilities		2 094	-	2 094	2 094
Bank overdraft	13	21 190	-	21 190	304 091
		(308 297)	**(3 557)**	**(311 854)**	**(589 042)**
Group – 2022					
Non-current liabilities					
Lease liabilities		-	3 022	3 022	2 752
Current liabilities					
Trade and other payables		231 746	-	231 746	231 746
Lease liabilities		1 899	-	1 899	1 552
Bank overdraft	13	14 007	-	14 007	14 007
		(247 652)	**(3 022)**	**(250 674)**	**(250 057)**
Company – 2023					
Non-current liabilities					
Lease liabilities		-	3 232	3 232	3 232
Current liabilities					
Trade and other payables		104 132	-	104 132	104 132
Loans from shareholders		15	-	15	-
Lease liabilities		1 642	-	1 642	1 642
Bank overdraft	13	77	-	77	282 978
		(105 866)	**(3 232)**	**(109 098)**	**(391 984)**
Company – 2022					
Non-current liabilities					
Lease liabilities		-	2 584	2 584	2 325
Current liabilities					
Trade and other payables	19	137 076	-	137 076	137 076
Loans from shareholders		15	-	15	-
Lease liabilities		1 461	-	1 461	1 162
Bank overdraft	13	-	-	-	230 084
		(138 552)	**(2 584)**	**(141 136)**	**(370 647)**
Company – 2022					
Non-current liabilities					
Lease liabilities		-	2 584	2 584	2 325
Current liabilities					
Trade and other payables	19	137 076	-	137 076	137 076
Loans from shareholders		15	-	15	-
Lease liabilities		1 461	-	1 461	1 162
Bank overdraft	13	-	-	-	230 084
		(138 552)	**(2 584)**	**(141 136)**	**(370 647)**

Foreign currency risk

The group is exposed to foreign currency risk as a result of certain transactions and borrowings that are denominated in foreign currencies. Exchange rate exposures are managed within approved policy parameters utilising foreign forward exchange contracts where necessary. The foreign currencies in which the group deals primarily are US Dollars, Euros and Yen.

Exposure in Rand

The net carrying amounts, in Rand, of the various exposures are denominated in the following currencies. The amounts have been presented in Rand by converting the foreign currency amounts at the closing rate at the reporting date:

US Dollar exposure:

	Note	Group 2023 R 000	Group 2022 R 000	Company 2023 R 000	Company 2022 R 000
Non-current assets:					
Investments at fair value	25	-	54 326	-	54 326
Current assets:					
Trade and other receivables	12	146 997	96 502	14 119	11 162
Cash and cash equivalents	13	4 254	18 603	-	-
Prepayments		466	-	-	-
Current liabilities:					
Trade and other payables	19	(6 412)	(28 863)	(226)	(1 206)
Net US Dollar exposure		**145 305**	**140 568**	**13 893**	**64 282**
Euro exposure:					
Current assets:					
Trade and other receivables	12	55 739	44 659	(959)	(1 079)
Cash and cash equivalents	13	486	798	-	-
Interest receivable		4 139	3 472	-	-
Current liabilities:					
Trade and other payables	19	4 456	(3 787)	(432)	-
Net Euro exposure		**64 820**	**45 142**	**(1 391)**	**(1 079)**
British Pound exposure:					
Current assets:					
Trade and other receivables	12	1 007	-	-	-
Cash and cash equivalents	13	913	-	-	-
Current liabilities:					
Trade and other payables	19	(3 094)	(66)	(54)	(16)
Net Yen exposure		**(1 174)**	**(66)**	**(54)**	**(16)**
Swiss Franc exposure:					
Current assets:					
Trade and other receivables	12	136	8	136	8
Australian Dollar exposure:					
Current liabilities:					
Trade and other payables	19	(887)	(887)	-	-

		Group		Company	
	Note	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Other exposure:					
Current assets:					
Trade and other receivables		1 899	1 536	-	-
Current liabilities:					
Trade and other payables	19	-	(887)	-	-
Other exposure		**1 899**	**649**	-	-
Net exposure to foreign currency in Rand		**210 099**	**185 414**	**12 584**	**63 195**

Foreign currency sensitivity analysis

The following information presents the sensitivity of the group to an increase or decrease in the respective currencies it is exposed to. The sensitivity rate is the rate used when reporting foreign currency risk internally to key management personnel and represents management's assessment of the reasonably possible change in foreign exchange rates. The sensitivity analysis includes only outstanding foreign currency denominated amounts and adjusts their translation at the reporting date. No changes were made to the methods and assumptions used in the preparation of the sensitivity analysis compared to the previous reporting period.

Group	2023	2023	2022	2022
Increase or decrease in rate	**Increase**	**Decrease**	**Increase**	**Decrease**
Impact on profit or loss:				
US Dollar 10% increase or decrease impact on profit/loss	14 531	(14 531)	14 057	(14 057)
Euro 10% increase or decrease on profit/loss	6 482	(6 482)	4 514	(4 514)
British Pound 10% increase or decrease on profit/loss	(117)	117	(7)	7
Swiss Franc 10% increase or decrease on profit/loss	14	(14)	1	(1)
Australian Dollar 10% increase or decrease on profit/loss	(89)	89	(89)	89
Other 10% increase or decrease on profit/loss	190	(190)	65	(65)
	21 011	**(21 011)**	**18 541**	**(18 541)**

Company	2023	2023	2022	2022
Increase or decrease in rate	**Increase**	**Decrease**	**Increase**	**Decrease**
Impact on profit or loss:				
US Dollar 10% increase or decrease impact on profit/loss	13 893	(13 893)	64 282	(64 282)
Euro 10% increase or decrease on profit/loss	(1 391)	1 391	(1 079)	1 079
British Pound 10% increase or decrease on profit/loss	(54)	54	(16)	16
Swiss Franc 10% increase or decrease on profit/loss	8	(8)	8	(8)
	12 456	**(12 456)**	**63 195**	**(63 195)**

Interest rate risk

Interest rate sensitivity analysis

The following sensitivity analysis has been prepared using a sensitivity rate that is used when reporting interest rate risk internally to key management personnel and represents management's assessment of the reasonably possible change in interest rates. All other variables remain constant. The sensitivity analysis includes only financial instruments exposed to interest rate risk that were recognised at the reporting date. No changes were made to the methods and assumptions used in the preparation of the sensitivity analysis compared to the previous reporting period.

Group	2023	2023	2022	2022
Increase or decrease in rate	**Increase**	**Decrease**	**Increase**	**Decrease**
Impact on profit or loss:				
Impact of 2% increase or decrease in interest rate on interest income	1 322	(1 322)	914	(914)
Impact of 2% increase or decrease in interest rate on interest expense	(315)	315	(171)	171
	1 007	**(1 007)**	**743**	**(743)**
Impact on equity:				
Impact of 2% increase or decrease in interest rate on decommissioning and decontaminations-related interest income	-	-	6 560	(6 560)
Impact of 2% increase or decrease in interest rate on decommissioning and decontaminations-related interest expense	-	-	(6 560)	6 560
	-	-	-	-
Total impact on profit or loss and equity	**1 007**	**(1 007)**	**743**	**(743)**

The group policy on financial assets is to invest cash at floating rates of interest and to maintain cash reserves in short-term investments in order to maintain liquidity, while also achieving a satisfactory return for shareholders.

Company	2023	2023	2022	2022
Increase or decrease in rate	**Increase**	**Decrease**	**Increase**	**Decrease**
Impact on profit or loss:				
Impact of 2% increase or decrease in interest rate on interest income	881	(881)	637	(637)
Impact of 2% increase or decrease in interest rate on interest expense	(46)	46	(57)	57
	835	**(835)**	**580**	**(580)**
Impact on equity:				
Impact of 2% increase or decrease in interest rate on decommissioning and decontaminations-related interest income	5 806	(5 806)	6 560	(6 560)
Impact of 2% increase or decrease in interest rate on decommissioning and decontaminations-related interest expense	(5 811)	5 811	(6 560)	6 560
	(5)	**5**	**-**	**-**
Total impact on profit or loss and equity	**830**	**(830)**	**580**	**(580)**

43. Fair-value information

Fair-value hierarchy of financial assets at fair value through profit or loss

This note provides information about how the group determines fair values of various financial assets and financial liabilities. The table below analyses assets and liabilities carried at fair value. The different levels are defined as follows: For financial assets recognised at fair value, disclosure is required of a fair-value hierarchy that reflects the significance of the inputs used to make the measurements.

Level 1: Quoted unadjusted prices in active markets for identical assets or liabilities that the group can access at measurement date.

Level 2: Inputs other than quoted prices included in level 1 that are observable for the asset or liability either directly or indirectly.

Level 3: Unobservable inputs for the asset or liability.

Levels of fair-value measurements

Level 1

Recurring fair-value measurements

		Group		Company	
	Note	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Assets					
Equity investments at fair value through other comprehensive income	9				
Listed shares		27	1 250	-	1 215
Unit trusts		-	298 628	-	298 628
Total equity investments at fair value through other comprehensive income		**27**	**299 878**	**-**	**299 843**

(1) The following classes of financial assets at fair value through profit or loss are measured to fair value using quoted market prices:

- Listed shares
- Unit trusts

Level 2

	Note	Group 2023 R 000	Group 2022 R 000	Company 2023 R 000	Company 2022 R 000
Recurring fair-value measurements					
Assets					
Financial assets mandatorily at fair value through profit or loss					
Unit trusts	9	354 057	-	354 057	-
Non-hedging derivatives	22				
Revaluation of open forward exchange contracts		3 372	2 748	3 372	-
Liabilities					
Non-hedging derivatives	22				
Foreign exchange contracts		1 997	805	-	805
Valued at the counterparty contract value at the reporting date.		-	-	-	-
Total non-hedging derivatives		**1 997**	**805**	**-**	**805**

Highest and best use

All of the assets' current use are the highest and best use.

44. Going concern

The annual financial statements have been prepared on the basis of accounting policies applicable to a going concern. This basis presumes that funds will be available to finance future operations and that the realisation of assets and settlement of liabilities, contingent obligations and commitments will occur in the ordinary course of business.

Despite Necsa's previous losses, there is a positive trajectory with profits now being realised in the current 2022/23 financial year. The company has a track record of continuing in operation and this resilience is expected to continue into the foreseeable future. Section 12 of the Nuclear Energy Act supports the mandate of the company in support of the going concern. Furthermore, Necsa has the ability to pay its short-term obligations, which it will do through the initiatives documented, including through working capital management, austerity measure implementation, increasing revenue streams and prioritisation of cash-generating projects to name a few.

Management is aware of the material uncertainties as a result of the historic losses and negative ratios, and has embarked on a recovery plan premised on a Necsa turnaround strategy to ensure continued sustainability. This strategy is premised in the main on cost efficiency and diligent cost saving initiatives underway within the organisation as well as growth initiatives to increase revenue streams. Various projects have also been undertaken to remedy the financial situation, including the rehabilitation of the balance sheet situation. All of the various initiatives, including the strategic projects underway, are closely tracked and monitored to ensure their effectiveness. The entity remains resilient with the current success and positive results of the initiatives underway evident in the forecasts to March 2024, and the current performance of the organisation post the March 2023 year-end. Necsa is appreciative of the continuing support from the shareholder, which in addition to the various initiatives underway, is supportive of the Necsa going-concern consideration.

45. Public Finance Management Act

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Fruitless and wasteful expenditure:				
Opening balance	6 900	7 077	77	173
Add fruitless and wasteful expenditure	639	110	639	103
Recoveries made	(62)	(201)	(55)	(113)
Condoned by the Board	(122)	-	-	-
Overpayments for the year	7	-	-	-
Interest and penalties	336	-	-	-
Written off to the statement of comprehensive income	(37)	(86)	-	(86)
Fruitless and wasteful expenditure unresolved	**7 661**	**6 900**	**661**	**77**

Fruitless and wasteful expenditure for Necsa:

- Internal audit conducted an investigation on a contract awarded during the 2021/22 financial year and concluded that the procurement amounted to fruitless and wasteful expenditure of R588 554.54.
- Necsa paid a fine amounting to R50 000 on behalf of its subsidiary for a licence infringement. The fine has been recovered from the subsidiary.

Fruitless and wasteful expenditure for NTP Radiosiotopes SOC Ltd:

- Overpayment – L Gamede left the employ of NTP on 17 June 2022 and payroll was informed at the end of July 2022, which led to the salary overpayment of R1 623. The amount was repaid in full on 02 February 2023.

Fruitless and wasteful expenditure for AEC Amersham SOC Ltd:

- SARS penalties and interest – R61 531 relates to the penalties and interest incurred on late payment of VAT and R60 338 relates to the late submission of EMP201 return. These were presented to the Board and condonement was granted on 12 December 2022. R214 469 relates to the late response to VAT audit, resulting in a modified assessment with interest and penalties. This is currently under investigation.
- Overpayment of professional service provider – R5 548 was overpaid and was recovered from the service provider.

	Group		Company	
	2023 R 000	2022 R 000	2023 R 000	2022 R 000
Irregular expenditure:				
Opening	246 196	210 815	95 191	68 452
Non-adherence to procurement process	-	35 381	-	26 739
	246 196	**246 196**	**95 191**	**95 191**

Irregular expenditure for Necsa company

Irregular expenditure of R26.739 million relates to irregular expenditure raised in the previous year that was under investigation. There were no losses incurred by the company as the services were fully received. Necsa has, however, referred the matter to National Treasury for a third-party review.

Irregular expenditure for Pelchem SOC Ltd:

The irregular expenditure occurred as a result of the following:

1) Procuring essential goods and services without having valid contracts in place. The services and goods exceed R1 million and in terms of the Public Finance Management Act No 1 of 1999 Pelchem is required to go out on tender for these services and goods. The tender is with the Minister for approval. The company suffered no loss as a three-quotation procurement process is followed while approval from the Minister is pending.
2) Relates to repairs and maintenance done on surface fluoronation trolleys. A three-quotation procurement as per policy was not followed. No loss occurred to the company as the repairs were necessary. The employee left the company before this irregular expenditure was discovered.

   Criminal or disciplinary steps: There were no material losses through criminal conduct or unauthorised expenditure. Therefore criminal or disciplinary steps are not applicable

   Gifts, donations or sponsorships received: Employees are allowed to receive gifts and courtesies. Gifts and courtesies received above R300 are approved and recorded in a register. Gifts and courtesies received above R3 000 need written permission from the CEO as appropriate.

   Remissions or payments made as an act of grace: There were no remissions or payments made as an act of grace.

Notes

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