



ANNUAL REPORT • 2018/19





This 2018/19 Annual Report of the National Nuclear Regulator (NNR) is presented to the Minister of Energy in accordance with section 7(1)(j) and section 15(6)(d) of the National Nuclear Regulator Act (Act No. 47 of 1999).

The report reflects the activities of the NNR in relation to the health and safety of workers, the public and the environment associated with all sites regulated by the NNR, together with financial aspects in accordance with section 55(1)(d) of the Public Finance Management Act (Act No. 1 of 1999) and Chapter 28 of the Treasury Regulations.



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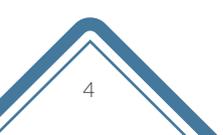


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A

# GENERAL INFORMATION



## A. GENERAL INFORMATION

### Vision

- To be an independent leading nuclear regulator.

### Mission

- To provide and maintain an effective and efficient national regulatory framework for the protection of persons, property and the environment against nuclear radiation.

### Corporate Values

In carrying out its mission, the NNR subscribes to six corporate values as follows:



#### Excellence

We endeavour to deliver of outstanding quality, efficiently, effectively and innovatively.



#### Integrity

We strive for integrity based on non-biased, fair, objective, consistent, honest, reliable, principled attitudes and attributes.



#### Openness and Transparency

We strive for openness and transparency in the regulatory decision-making process and the communication of regulatory decisions.



#### Safety and Security

We endeavour to instil a culture of safety and security within the organisation, with holders of nuclear authorisations and in our interactions with all other stakeholders.



#### Teamwork

We strive to be a cohesive team that works in collaboration to realise common goals in order to deliver exceptional results.



#### Valuing People

We recognise and appreciate our people by valuing their input, showing empathy and creating a conducive and supportive working environment.

## 1. Strategic Goals and Objectives

The following strategic goals and objectives were adopted for 2018 – 2019:

### Goal 1: To provide efficient and effective nuclear regulatory services

- Develop and implement standards with regard to regulatory processes. e.g. inspections, authorisations and enforcement
- Enhance collaboration with strategic partners to strengthen training and capacity development of regulatory staff
- Undertake research and ensure effective technical support to the regulator
- Leverage strategic partnerships through the CNSS to build capacity

### Goal 2: Improve awareness of the NNR and strengthen stakeholder relations

- Fulfil national obligations in terms of international conventions
- Strengthen scientific and technical co-operation
- Profile NNR positively amongst international peers
- Improve information sharing and strengthen corporate image

### Goal 3: Ensure financial viability and sustainability of the organisation

- Develop mechanisms to ensure financial viability and sustainability of the organisation
- Increase price competitiveness in procurement

### Goal 4: Provide robust internal business processes

- Build ICT capacity
- Maintain an effective internal audit program

### Goal 5: Valuing our people

- Enhance staff communication and involvement
- Foster leadership and management proficiency
- Implement productivity standards and measurements
- Ensure skilled, competent employees

### Goal 6: Sustaining governance and effective system of internal controls

- Ensure that governance principles are applied effectively in order to maintain a robust system of internal controls

## 2. Legislative and Other Mandates

The NNR was established in terms of section 3 of the National Nuclear Regulator Act, (Act No. 47 of 1999) (the Act) to:

- Provide for the protection of persons, property and the environment against nuclear damage through the establishment of Safety Standards and Regulatory Practices (SSRP)
- Exercise regulatory control related to safety over:
  - The siting, design, construction, operation, manufacture of component parts and the decontamination, decommissioning and closure of nuclear installations; and
  - Vessels propelled by nuclear power or having radioactive materials on board which are capable of causing nuclear damage (this, through the granting of nuclear authorisations).
- Exercise regulatory control over other actions to which the Act applies, through the granting of nuclear authorisations.
- Provide assurance of compliance with the conditions of nuclear authorisations through the implementation of a system of compliance inspections.
- Fulfil national obligations in respect of international legal instruments concerning nuclear safety.

- Ensure that provisions for nuclear emergency planning are in place.

The NNR is listed as a national public entity in Schedule 3 Part A of the Public Finance Management Act, (Act No. 1 of 1999) (PFMA). The Board is the accounting authority in terms of the PFMA. In terms of section 8 (1) and (2), the NNR is governed and controlled by the Board in accordance with the Act to ensure that the objects of the Act are carried out, and to exercise general control over the performance of the NNR's functions. The Board is accountable for the overall formulation, monitoring and review of the NNR corporate strategy and related affairs, while delegating to management the responsibility for business performance and achievement of the NNR's objectives.

The NNR Board Charter regulates the Board in accordance with the principles of good corporate governance. The charter sets out the specific duties and responsibilities to be discharged by the Board as a unitary working group. The charter ensures that all Board members acting on behalf of the NNR are aware of the legislation and regulations affecting their conduct, and to ensure that the principles of good corporate governance are applied in all their dealings with respect to and on behalf of the NNR. As recommended by the King Code, the charter prescribes the Board's accountability and fiduciary duties in line with standards of best practices within the NNR's unique environment.

### 2.1. Legislative framework

The NNR operates within the following constitutional, legislative and policy frameworks:

- Constitution of the Republic of South Africa of 1996 (Act No. 108 of 1996)
- Nuclear Energy Act (Act No. 46 of 1999) (NEA)
- National Nuclear Regulator Act (Act No. 47 of 1999)
- Public Finance Management Act (Act No. 1 of 1999) (PFMA)
- National Treasury Regulations

- National Environmental Management Act (Act No. 107 of 1998) (NEMA)
- Promotion of Administrative Justice Act (Act No. 3 of 2000) (PAJA)
- Promotion of Access to Information Act (Act No. 2 of 2000) (PAIA)

### 2.2. Policy framework

The NNR is mandated to provide for the protection of persons, property and the environment against nuclear damage in South Africa. This mandate is conferred in a number of policy documents as reflected below:

#### 2.2.1. Nuclear Energy Policy

The Nuclear Energy Policy of the Republic of South Africa was published in June 2008. It presents a framework within which prospecting, mining, milling and the use of nuclear materials, as well as the development and utilisation of nuclear energy for peaceful purposes by South Africa, shall take place.

The Policy covers:

- The prospecting and mining of uranium ore and any other ores containing nuclear properties and materials.
- The nuclear fuel cycle in its entirety, focussing on all applications of nuclear technology for energy generation. One of the 16 principles of this policy is that nuclear energy shall be used as part of South Africa's diversification of primary energy sources to ensure security of energy supply.

#### 2.2.2. Radioactive Waste Management Policy and Strategy for South Africa.

In carrying out its regulatory mandate, the NNR ensures that policy guidelines and principles relating to radioactive waste management are supported for purposes of ensuring safety. The requirements related to the management of radioactive waste are assessed, and compliance of NNR authorisation holders is monitored.

International Atomic Energy Agency (IAEA) Member State.

South Africa has been a member state of the International Atomic Energy Agency (IAEA) since 1957, and has entered into the following multilateral agreements:

- Agreement on the Privileges and Immunities of the IAEA
- Convention on the Physical Protection of Nuclear Material
- Convention on Early Notification of a Nuclear Accident
- Convention on Assistance in the case of a Nuclear Accident or Radiological Emergency
- Convention on Nuclear Safety
- Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management
- Revised Supplementary Agreement concerning the Provision of Technical Assistance by the IAEA
- African Regional Co-operative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA) – Fourth Extension

#### Legally binding nuclear safety conventions

The IAEA facilitates the establishment of international conventions on nuclear safety. These are legally binding international instruments that are required to be ratified by the contracting party or member state before they can be implemented. The conventions place certain obligations on member states to implement measures aimed at ensuring nuclear safety. South Africa ratified the Convention on Nuclear Safety (CNS) in 1996, and its obligations commenced on 24 March 1997.

In November 2006, South Africa acceded to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. The country's obligations under the Joint Convention commenced in February 2007.

As a member state of the IAEA, South Africa is required to fulfil its international obligations and promote international co-operation to enhance global nuclear safety. In terms of section 5(e) of the Act, the NNR is mandated to fulfil national obligations with respect to international instruments concerning nuclear safety, and to act as the national competent authority in connection with the IAEA's Regulations for the Safe Transport of Radioactive Material.

The NNR co-ordinates and implements South Africa's Contracting Party (CP) obligations to the IAEA (CNS), and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.



### 3. Employees Reporting to the CEO



Dr Mzubanzi Bismark  
Tyobeka  
Chief Executive Officer



Mr Orion Phillips  
Executive: Nuclear  
Power Plant



Ms Ditebogo Kgomo  
Executive: Nuclear  
Technology & NORM



Ms Louisa Mpete  
Interim Executive:  
Regulatory  
Improvement &  
Technical Services



Mr Dakalo  
Netshivhazwaulu  
Chief Financial  
Officer



Ms Anita Simon  
Executive: Corporate  
Support Services



Ms Ntsikie Kote  
Senior Manager:  
Strategy, Governance  
& Organisational  
Performance



Ms Phindile Masilo  
Chief Audit Executive



Mr Fulufhelo Ndou  
Senior Manager:  
Legal, Risk &  
Compliance



#### 4. Chairperson's Overview

The NNR has always placed its key focus on the protection of persons, property, and the environment against nuclear damage through focussing the entity's attention on developing world class safety standards and regulatory frameworks for the South African nuclear industry. In fulfilling its fiduciary duties for 2018/2019 the Board is confident that all governance and control frameworks within the NNR are functioning effectively while the organisation continually strives towards improvement. For the 2018/2019 financial year, 18 internal audits were conducted and the results of the audits were discussed with management. The Board Committees made recommendations to address identified weaknesses and management was required to provide action plans and implementation dates to address identified weaknesses.

To ensure the achievement of the highest level of good corporate governance, the Board was assisted by three sub-committees, namely, ARMCOM, the Technical Committee, and the Transformation and Development Committee. These sub-committees ensure that the NNR fully embraces its enabling legislation, the NNR Act, and the PFMA – as well as other organisational

policies, strategies, and procedures to deliver on its outcomes, initiatives and programmes.

The Republic of South Africa acceded to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management on 15 November 2006, and its obligations under the convention entered into force on 13 February 2007. The Joint Convention is a legally binding international agreement that governs all aspects of spent fuel and radioactive waste management. It represents a commitment by Contracting Parties (member countries) to achieve and maintain a consistently high level of safety in the management of spent fuel and radioactive waste. The NNR on behalf of the Government of South Africa, compiles the South African National Report for the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

South Africa presented its 4th report to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention) at the 6th Review Meeting on 21 May 2019 at the IAEA. I am proud to report that the NNR CEO, Dr Bismark



Tyobeka was nominated as the President of the 6th Review Meeting.

Internationally, the NNR fulfilled all its obligations and maintained active participation in the IAEA Safety Standards Committees, as well as several International Regulatory Fora and collaboration activities under the IAEA Global Nuclear Safety and Security Networks (GNSSN). During the reporting period, the NNR continued to actively participate in the IAEA Regulatory Co-operation Forum and the Forum for Nuclear Regulatory Bodies in Africa. During the period under review, the entity collected R200 853 815 in Authorisation Fees. The State Grant collection was R16 510 000, which is considerably less than the previous year.

It is my great honour and privilege to serve as Chairperson of the NNR Board, however, this duty would not be possible to fulfil without the invaluable leadership and judgement of all its non-executive Directors. The NNR benefits immensely from a selection of highly committed and conscientious board members who frequently go beyond the call of duty in exercising their oversight role.

Thank you to all staff and management for their continued diligence, professionalism, and conscientiousness towards realising our shared vision for the future, as well as for achieving the goals of the past year. Finally, thank you to the support from the Department of Energy throughout a period that has seen substantial changes.

**Dr Thapelo Motshudi**  
Chairperson Board of Directors



## 5. Chief Executive's Review

The past five years have been a source of immense pride for me as CEO when I look back on how the NNR has grown and improved in its efforts to assure the safety of all South Africans and the environment from the potential harmful effects of ionising radiation. I am pleased to report the safety performance of regulated entities was satisfactory and there were no nuclear accidents in South Africa during the reporting period.

This review mentions key organisational and nuclear safety regulatory performance highlights for the 2018/19 period whilst more details can be found in the body of the report.

Some of our key noteworthy achievements during the reporting period include:

- The organisation achieved an overall performance rating of 96.52%.
- The strong integration of risk management culture into NNR's day-to-day activities resulted in a risk maturity level of five out of six and the Fraud and Corruption Prevention process yielded a year without any fraud or corruption cases reported.
- Implementation of a new organisational structure designed to improve efficiency and effectiveness.
- Successful hosting of the 2<sup>nd</sup> Nuclear Regulatory Stakeholder information sharing conference.
- Signing of a Practical Arrangement with IAEA designating CNSS as the IAEA Regional Capacity-building Centre for Nuclear Safety and Security.
- Signing of a Memorandum of Co-operation with the International Science Technology Centre to develop and strengthen collaboration in the fields of nuclear safety, security and safeguards in southern Africa.
- Completion of the project to upgrade the NNR's Regulatory Emergency Response Centre which aimed at including more capabilities and related infrastructure in order to fulfil the NNR's mandate in case of nuclear or radiological emergencies.
- Continued implementation and improvement of the National Dose Register (NDR) for South Africa with the support of the IAEA.
- Continued the implementation of corrective actions and initiatives in the Integrated Regulatory Review Action



Plan to address observations contained in the IAEA Integrated Regulatory Review Mission Report.

- Implementation of the IAEA Technical Co-operation National Project SAF9007 to strengthen regulatory infrastructure.
- The NNR Laboratory participated in the IAEA Analytical Laboratories for the Measurement of Environmental Radioactivity proficiency testing scheme, where most of the results for the analysis submitted for various radionuclides by different radio-analytical techniques were found to be acceptable. The accreditation process for Gamma Spectrometry in determination of artificial radionuclides has been initiated, by implementation of the laboratory quality management system in accordance with the ISO17025:2017 standard.

During the reporting period the NNR also convened successful nuclear safety technical cooperation bilateral meetings with the United States Regulatory Commission, Canadian Nuclear Safety Commission, National Nuclear Safety Administration of China, National Atomic Energy Agency of the Republic of Poland and the United Kingdom Office of Nuclear Regulation.

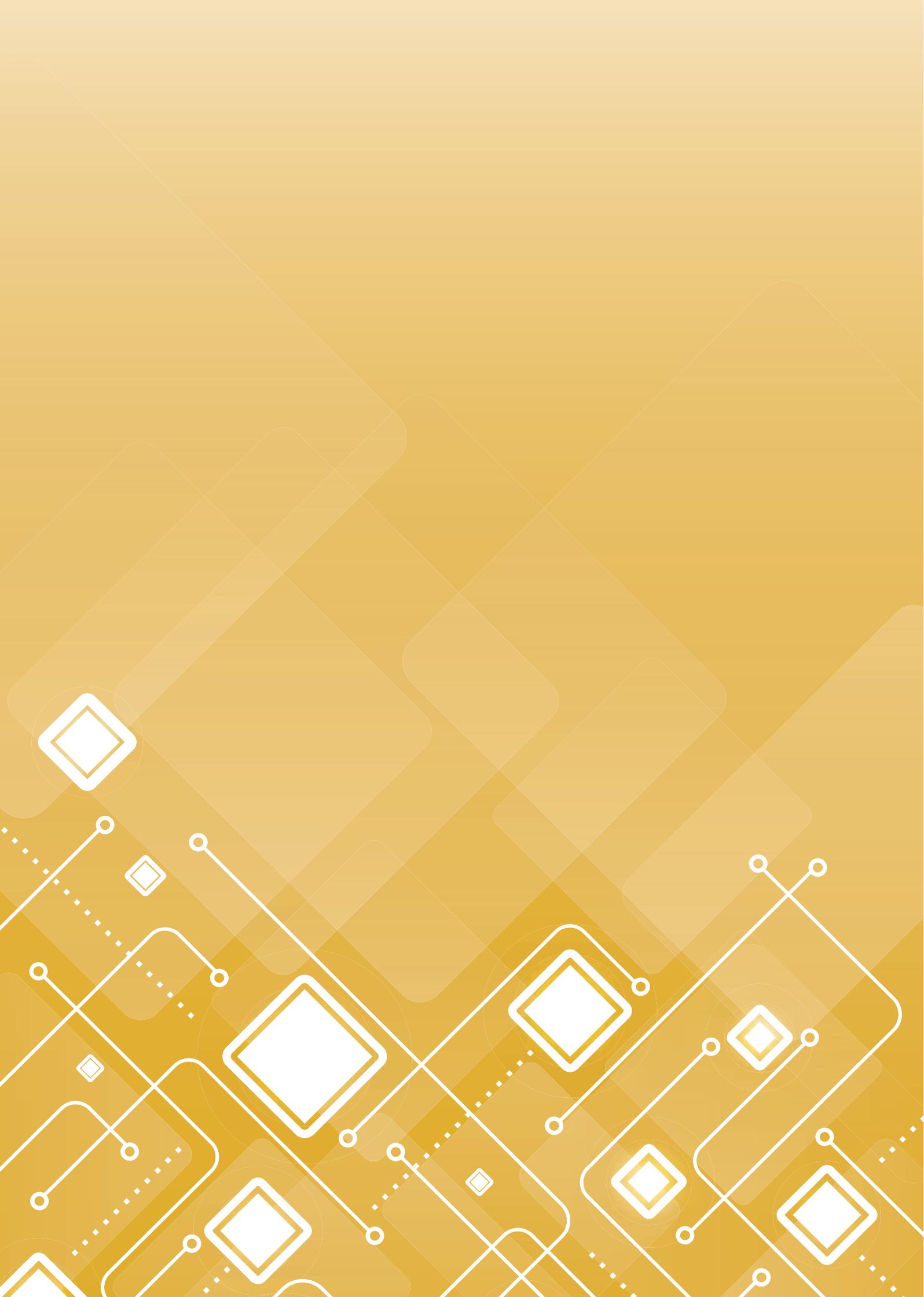
#### Key Challenges

- The effective Management of Safety Culture at Necsa subsidiary, NTP Radioisotopes, remains a concern for the NNR.
- Providing effective continuous nuclear safety regulatory oversight to a financially constrained industry in South Africa remains a challenge to the NNR.

Going forward, the NNR will continue to refine and improve its current governance and regulatory infrastructure, and remain committed to preparing staff for the future through education, training and development opportunities.

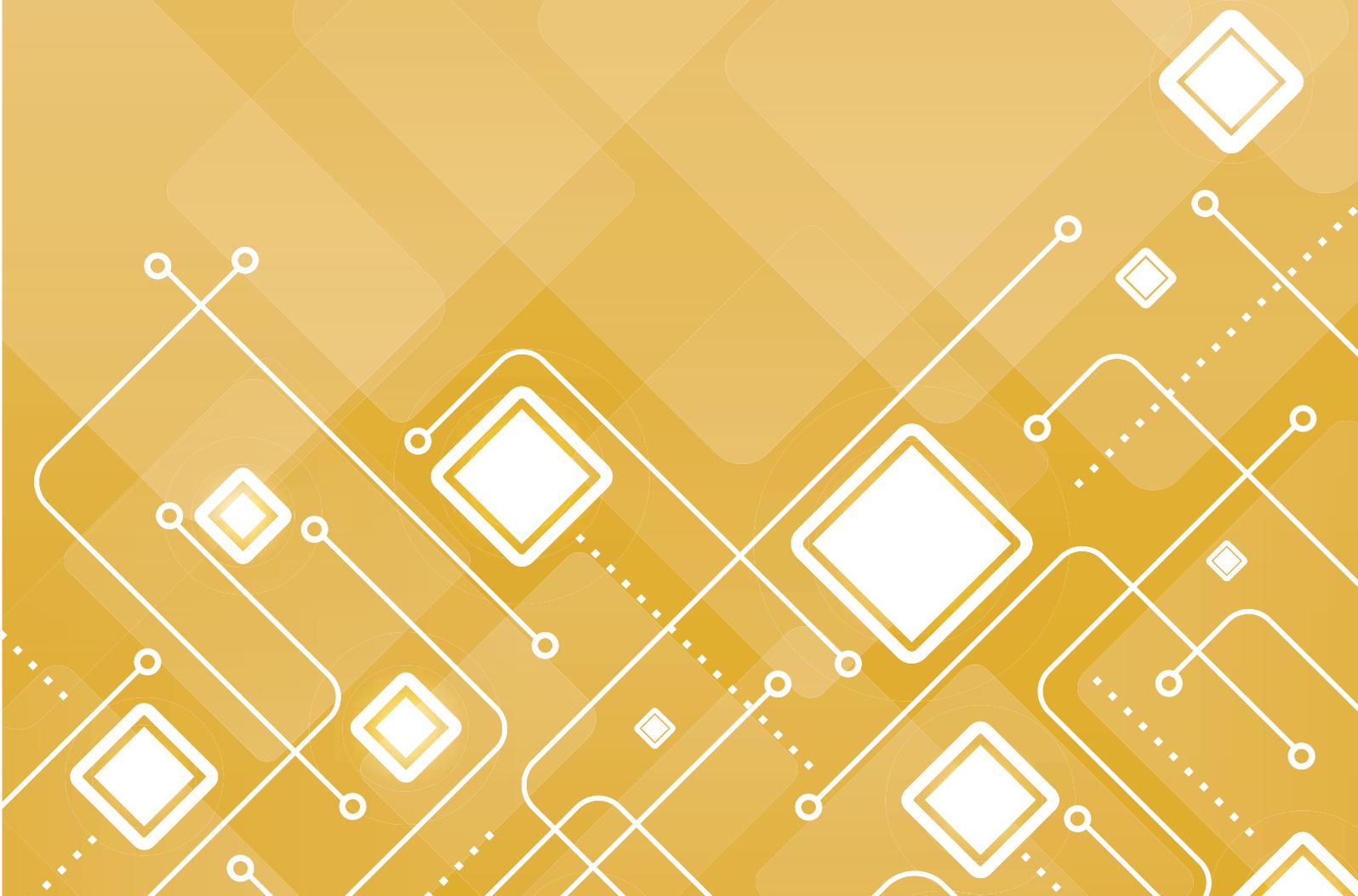
I am exceptionally proud of the dedication and commitment of NNR's employees to nuclear safety regulatory excellence. I would like to express my gratitude to all employees, our Board Chairperson and Board Members, for their ongoing support and guidance during the year under review.

**Dr Bismark Tyobeka**  
Chief Executive Officer



B

CORPORATE GOVERNANCE



## B. CORPORATE GOVERNANCE

### Introduction

The Board reviews the systems and processes of the organisation timeously, and can assure stakeholders that the Regulator was managed and operated in compliance with the principles incorporated in the Code of Corporate Practices and Conduct, as set out in the King IV Report and the precepts of the Public Finance Management Act (PFMA), as appropriate.

### 1. Portfolio Committee

The NNR was not requested to present its 2017 Annual Report to the Portfolio Committee on Energy (PCE).

### 2. Board of Directors

The Board of Directors is the Accounting Authority in terms of the PFMA and is appointed for a renewable period of three years by the Minister of Energy. In terms of Section 8 (1) and (2), the Regulator is governed and controlled, in accordance with the NNR Act, by a Board of Directors to ensure that the objects of the Act are

carried out, and to exercise general control over the performance of the Regulator's functions.

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 the Regulator. The Board sets the precedent in driving the ethics of good governance and the Directors, collectively and individually, acknowledge their responsibilities and duties in terms of the Board Charter and other governance, regulatory and legislative requirements.

#### 2.1. Composition of the Board

The Board comprises 11 non-executive Directors who are independently appointed by the Minister of Energy, an Executive Director (Chief Executive Officer) and one alternate member. Board members, including the Chief Executive Officer, hold office for a maximum of three years, but are eligible for re-appointment.

Table 1: NNR Board Members

NNR BOARD MEMBERS FOR THE PERIOD DECEMBER 2016 – NOVEMBER 2019			
Title	Full Name	Date Appointed	Stakeholder Represented
Dr	Motshudi T	7 Dec 2016	Chairperson of the Board
Dr	Dube P	7 Dec 2016	Deputy Chairperson of the Board
Mr	Leaver J	7 Dec 2016	Board Member
Ms	Bendeman D V	7 Dec 2016	Board Member
Ms	Monale E	7 Dec 2016	Board Member
Mr	Phili P	7 Dec 2016	Board Member
Amb	Seekoe M J	7 Dec 2016	Board Member
Mr	Kakoma KS	7 Dec 2016	Board Member
Dr	Sehlapelo B	7 Dec 2016	Board Member
Mr	Le Roux AP	7 Dec 2016	Board Member
Ms	Mokoetle MB	7 Dec 2016	Board Member
Dr	Tyobeka MB	7 Dec 2016	Chief Executive Officer
Dr	Tshepe T	1 August 2017	Alternate Board Member
Dr	Makgae M	1 September 2017	Independent Member of the Technical Committee
Mr	Fitzsimons P	1 September 2017	Independent Member of the Technical Committee



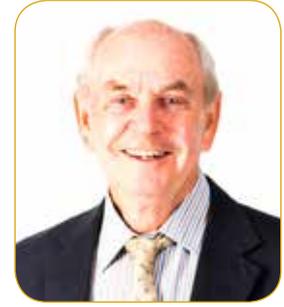
**Dr Thapelo Motshudi**  
Chairperson



**Dr Pamela Z Dube**  
Deputy Chairperson  
and Chairperson of  
the Transformation  
and Development  
Committee



**Dr Bismark Tyobeka**  
Director and Chief  
Executive



**Mr Jeffery Leaver**  
Non-executive Director  
and Chairperson of the  
Technical Committee.  
Member of the Audit  
and Risk Management  
Committee



**Mr Protas Phili**  
Non-executive Director  
and Chairperson  
of the Audit and  
Risk Management  
Committee



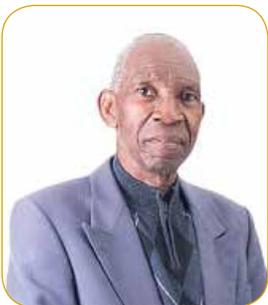
**Ms Devinagie Bendeman**  
Non-executive Director.  
Member of Audit and Risk  
Management Committee



**Ms Bridgette Mokoetle**  
Non-executive Director.  
Member of Technical  
Committee



**Ms Elsie Monale**  
Non-executive Director.  
Member of Technical  
Committee.  
Member of  
Transformation and  
Development Committee



**Mr Kabelo Kakoma**  
Non-executive Director.  
Member of Audit and Risk  
Management Committee.



**Dr Bethuel Sehlapelo**  
Non-executive Director.  
Member of Technical  
Committee



**Mr Abraham Le Roux**  
Non-executive Director  
Member of Technical  
Committee.  
Member of  
Transformation  
and Development  
Committee

## 2.2. Board Meetings

The following meetings were held during the reporting period

Table 2: Board meetings held (April 2018-March 2019)

Names	Date of the meeting April 2018 - March 2019									
	26 April 2018 Board Meeting	14 June 2018 Board Strategic Workshop	15 June 2018 Board Strategic Workshop	Board Workshop 24 July 2018 (IMS & Delegation of Authority)	25 July 2018 Board Meeting	20 September 2018 Delegation of Authority	25 October 2018 Board Meeting	30 January 2019 Board Meeting	25 February 2019 Board Risk Management Workshop	
Dr T Motshudi Chairperson of the Board	P	P	P	A	P	A	A	P	A	
Prof P Dube Deputy	P	P	P	P	P	P	P	P	P	
Ms BM Mokoetle	P	P	P	A	A	A	P	P	P	
Mr J Leaver	P	A	A	A	A	A	P	P	P	
Ms V Bendeman	P	P	P	A	P	P	P	P	P	
Mr P Phili	P	P	P	A	P	P	P	A	P	
Ms E Monale	P	A	A	P	P	P	A	P	A	
Dr M.B Tyobeka	P	A	A	A	A	A	P	P	A	
Dr Sehlapelo B	P	P	P	P	P	A	P	P	A	
Mr K Kakoma	P	P	P	A	P	P	P	P	P	
Mr Le Roux A	P	A	P	P	P	P	P	P	P	
Dr Makgae M	N/A	P	P	N/A	N/A	P	N/A	N/A	P	
Mr P Fitzsimons	N/A	P	P	N/A	N/A	P	N/A	N/A	P	
Dr T Tshepe	N/A	P	P	N/A	N/A	N/A	N/A	N/A	N/A	

P Member present at the meeting.

A Member not present but tendered an apology.

N/A Not applicable refers to member not yet appointed to the Board/Board Committee or member resigned from such.

Amb Seekoe – Member deceased in 2017.

### 2.3. Committees of the Board

The following Board Committees assisted the Board in discharging its mandate over the period under review:

- Audit and Risk Management Committee (ARMCOM)
- Technical Committee; and
- Transformation and Development Committee (TDC).

Board Committees met at least once per quarter and provided feedback to the Board through Committee reports. Board Committees have each adopted formal terms of reference, which are reviewed annually to ensure continued relevance.

#### 2.3.1. ARMCOM

The Audit and Risk Management Committee comprised of five Non-Executive Directors.

A Non-Executive Director who is not the Chairperson of the Board chaired the Committee.

The ARMCOM assisted the Board in overseeing:

- The quality and integrity of the financial statements and the disclosure thereof;
- The scope and effectiveness of the internal audit function, and
- The effectiveness of the organisation's system of internal control.

The members of the ARMCOM were:

- Mr P Phili (Chairperson)
- Mr K Kakoma
- Mr J Leaver
- Ms B Mokoetle
- Ms V Bendeman

ARMCOM convened four times during the review period.

Table 3: ARCOM meetings held (April 2018-March 2019)

Names	Date of the meeting April 2018 - March 2019				
	17 April 2018	18 May 2018	24 July 2018	16 October 2018	22 January 2019
Mr P Phili	P	P	P	P	P
Mr K Kakoma	P	P	P	P	P
Mr J Leaver	P	A	A	P	P
Ms B Mokoetle	P	P	A	P	P
Ms V Bendeman	P	A	P	A	P

P Member present at the meeting.

A Member not present, but tendered an apology.

N/A Not applicable refers to member not yet appointed to the Board/Board Committee or member resigned from the Board/Board Committee.

### 2.3.2. Technical Committee

The Technical Committee comprised of five non-executive Directors and two independent technical advisors, who are experts in the technical/legal or environmental field. The role of the Committee is to, *inter alia*:

- Review the policies and practices on the authorisation of nuclear facilities, licensing processes and compliance assurance, and enforcement procedures; and
- Advise the Board on all technical-related matters pertaining to the discharge of the Regulator’s mandate.

The Members of the Committee were:

- Mr J Leaver (Chairperson)
- Dr B Sehlapelo
- Ms E Monale
- Ms B Mokoetle
- Dr M Makgae
- Mr P Fitzsimons
- Mr A Le Roux

The Committee convened four times during the review period.

Table 4: Technical Committee meetings held (April 2018-March 2019)

Names	Date of the meeting April 2018 - March 2019			
	18 April 2018	12 July 2018	17 October 2018	23 January 2019
Mr J Leaver- Chairperson	P	A	P	P
Dr B Sehlapelo	P	P	A	P
Ms E Monale	A	A	P	P
Ms B Mokoetle	P	A	P	P
Dr M Makgae	P	P	P	P
Mr P Fitzsimons	P	P	P	P
Mr A Le Roux	A	P	P	P

P Member present at the meeting.

A Member not present but tendered an apology.

N/A Not applicable refers to member not yet appointed to the Board/Board Committee or member resigned from the Board/Board Committee.

### 2.3.3. Transformation and Development Committee (TDC)

The committee comprised of four non-executive members during the period under review.

The TDC is responsible for determining human resources strategies and policies, and recommends these to the Board for approval. These include: human resources development and conditions of service; employment equity reports; performance management systems, and any other organisational development initiatives.

The members of the TDC were:

- Prof P Dube (Chairperson)
- Mr A Le Roux
- Mr K Kakoma
- Ms E Monale

The Committee conducted three meetings during the Review Period

Table 5: TDC Committee meetings held (April 2018-March 2019)

Date of the meeting April 2018 - March 2019				
Names	19 April 2018	13 July 2018	18 October 2018	24 January 2019
Prof P Dube(Chairperson)	P	P	P	P
Mr A Le Roux	P	P	P	P
Mr K Kakoma	P	P	P	P
Ms E Monale	A	A	P	P

### 2.3. Remuneration of Directors and Committee Members

The remuneration of Board members is determined by the Minister of Energy with the concurrence of the Minister of Finance and is reviewed annually. Board and Committee members are remunerated for attending meetings and other Board activities e.g. workshops. The details of the remuneration for the year ended 31 March 2019 are stated in "Note to the Annual Financial Statements" on page 127.

## 3. Risk Management

### 3.1. Nature of risk management

The NNR recognises that the total process of risk management, which includes a related system of internal control, is the responsibility of the Board. Management is accountable to the Board for designing, implementing and monitoring the process of risk management, and integrating it into the day-to-day activities of the organisation, as well as providing assurance that it has done so. To implement the above, the NNR developed and implemented a Risk Management Policy, Strategy, Risk Management Appetite and Tolerance Framework and Risk Implementation Plan.

A Risk Maturity Assessment was conducted for the year under review using the National Treasury Financial Management Capability Maturity Model (FMCMM) and it revealed that the NNR risk maturity level is at five out of six. The purpose of the risk maturity assessment was to assess the effectiveness of risk management within the organisation. This assessment assisted in establishing the extent to which the NNR has embedded risk management in its processes.

The outcome of the Risk Maturity Assessment indicated that the NNR has improved in embedding risk management culture into day-to-day activities. This indicates that risk management adds value, management of risks is subjected to close monitoring to ensure adequate risk rating and that the NNR has established risk tolerance parameters for major key risks and the organisation takes risk informed decisions.

Aggregated risk management information was circulated to relevant officials and oversight structures as a matter of routine. Furthermore, risk and fraud awareness training sessions were rolled out to all employees in the NNR. Risk Champions were also trained to enable them to discharge their duties effectively and to assist their respective departments in risk management.

### 3.2. Risk management strategies to identify and manage risk

For the year under review, the strategic risk assessment was conducted to identify risks that could potentially impair the NNR's ability to achieve set objectives and to identify opportunities that risks present which could be channelled back to the organisational strategy.

The risk assessment was conducted following the risk assessment methodology which is embedded in the risk management strategy approved by the Board, and is in line with the National Treasury Public Sector Risk Management Framework.

The identified risks were continuously monitored throughout the financial year to minimise the risk exposure and the impact it would have on achievement of the NNR's objectives, while improving performance and exploiting opportunities.

### 3.3. Progress made in addressing identified risks

The Risk Steering Committee met on a quarterly basis to discuss the current and potential risks facing the organisation. This committee reviewed the risk management policy, strategy, and risk implementation plan on a regular basis to identify areas of improvement.

The risk champions also met on a quarterly basis to monitor and to ensure that actions aimed to address the identified risks were implemented during the period under review.

The following activities were carried out for all departments in conjunction with risk champions to monitor the risk profile of individual departments:

- Continuous engagement with both the risk and control owners to assess progress on the implementation of action plans.
- Continuous engagement with the control owners to review the strength of the current controls.

- Continuous engagement with risk owners to ensure that the risk profiles were updated on a regular basis.

The Implementation of risk management action plans were monitored on a regular basis through the utilisation of a risk register and risk monitoring tool. Quarterly progress was reported to the Risk Steering Committee, which considered the progress and reported this to the executive, ARMCOM and the Board. Identification of new/emerging risks was a standing agenda item at the Risk Steering Committee. Identified risks were assessed and included in the relevant risk registers for monitoring purposes.

#### 4. Internal Audit and ARMCOM

In accordance with the definition of internal auditing and the authority to establish and maintain an internal audit function as contained in the Public Finance Management Act (Act No. 1 of 1999 as amended by Act No. 29 of 1999) (PFMA) and its Treasury Regulations, the objective of the NNR's Internal Audit is to provide an independent, objective, assurance and consulting services, designed to add value and improve the NNR's operations. These services help the NNR in accomplishing its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes.

To ensure independence, the Chief Audit Executive reports administratively to the CEO and functionally to ARMCOM.

The responsibilities of the Internal Audit function included the following:

- Evaluating the organisation's governance processes;
- Performing an objective assessment of the effectiveness of risk management and the internal control framework; and,
- Systematically analysing and evaluating business processes and associated controls.

#### 4.1. The scope of Internal Audit function

The scope of the internal audit function included:

- Developing and implementing rolling three-year and annual audit plans based on NNR's key areas of risk, including any risks or control concerns identified by management.
- Reviewing the reliability and integrity of financial and operational information and the means used to identify, measure, classify and report such information.
- Reviewing the systems established by management to ensure compliance with those policies, plans, procedures, laws and regulations, which could have a significant impact on operations and reports, and determining whether the NNR is in compliance.
- Reviewing the means of safeguarding assets and, when appropriate, verifying the existence of assets.
- Appraising the economy and efficiency with which resources are employed.
- Reviewing operations or programmes to ascertain whether results are consistent with established objectives and goals, and whether the operations or programmes are being carried out as planned; and,
- Providing a written assessment regarding the effectiveness of the system of internal and financial controls in the organisation, and submitting a report to ARMCOM to enable it to formulate its comment for the financial statement.

The annual allocation of internal audit resources to audit activities is established on the basis of an approved annual internal audit plan. ARMCOM remained responsible for approving the plan.

#### 4.2. Summary of audit assignments completed:

For the 2018 – 2019 financial year, 18 internal audits were conducted in the following areas: Corporate Support Services (including Information Technology); Finance; Legislative; Compliance Risk Management; Organisational Performance; Communication and Stakeholder Relations; Nuclear Technology and Naturally Occurring Radioactive Material (NORM) and (RITS). The results

of the audits were discussed with management, economic recommendations to address identified weaknesses were provided and management provided action plans and implementation dates to address identified weaknesses.

#### 4.3. ARMCOM

The role of ARMCOM was to assist the Board to ensure that the NNR implemented an effective policy and plan for risk management that would enhance the organisation's ability to achieve its strategic objectives and to ensure that disclosure regarding risk was comprehensive, timely and relevant.

ARMCOM assisted the Board by reviewing the following:

- The effectiveness of the internal control systems.
- The effectiveness of internal audit function.
- The effectiveness of the risk management system.
- The adequacy, reliability and accuracy of financial information.
- Accounting and auditing concerns identified as a result of internal and external audits.

#### 4.4. The NNR's compliance with legal and regulatory provisions

The activities of the internal audit function, including its internal audit charter and methodology, three-year strategic and annual internal audit plans, co-ordination with the external auditors, the reports of significant investigations and the responses of management to specific recommendations, include the following:

- Reviewing operations or programmes to ascertain whether results are consistent with established objectives and goals, and whether the operations or programmes are being carried out as planned; and,
- Providing a written assessment regarding the effectiveness of the system of internal and financial controls in the organisation, and

submitting a report to ARMCOM to enable it to formulate its comment for the financial statement.

The annual allocation of internal audit resources to audit activities is established on the basis of an approved annual internal audit plan. ARMCOM remained responsible for approving the plan.

#### 4.5. Fraud and Corruption

The fraud and corruption prevention process was implemented and monitored in accordance with the approved Risk Implementation Plan which detailed the activities that were undertaken for the year under review. Fraud risk assessment was conducted internally with senior managers participating in identification and reviewing of possible fraud and corruption risks.

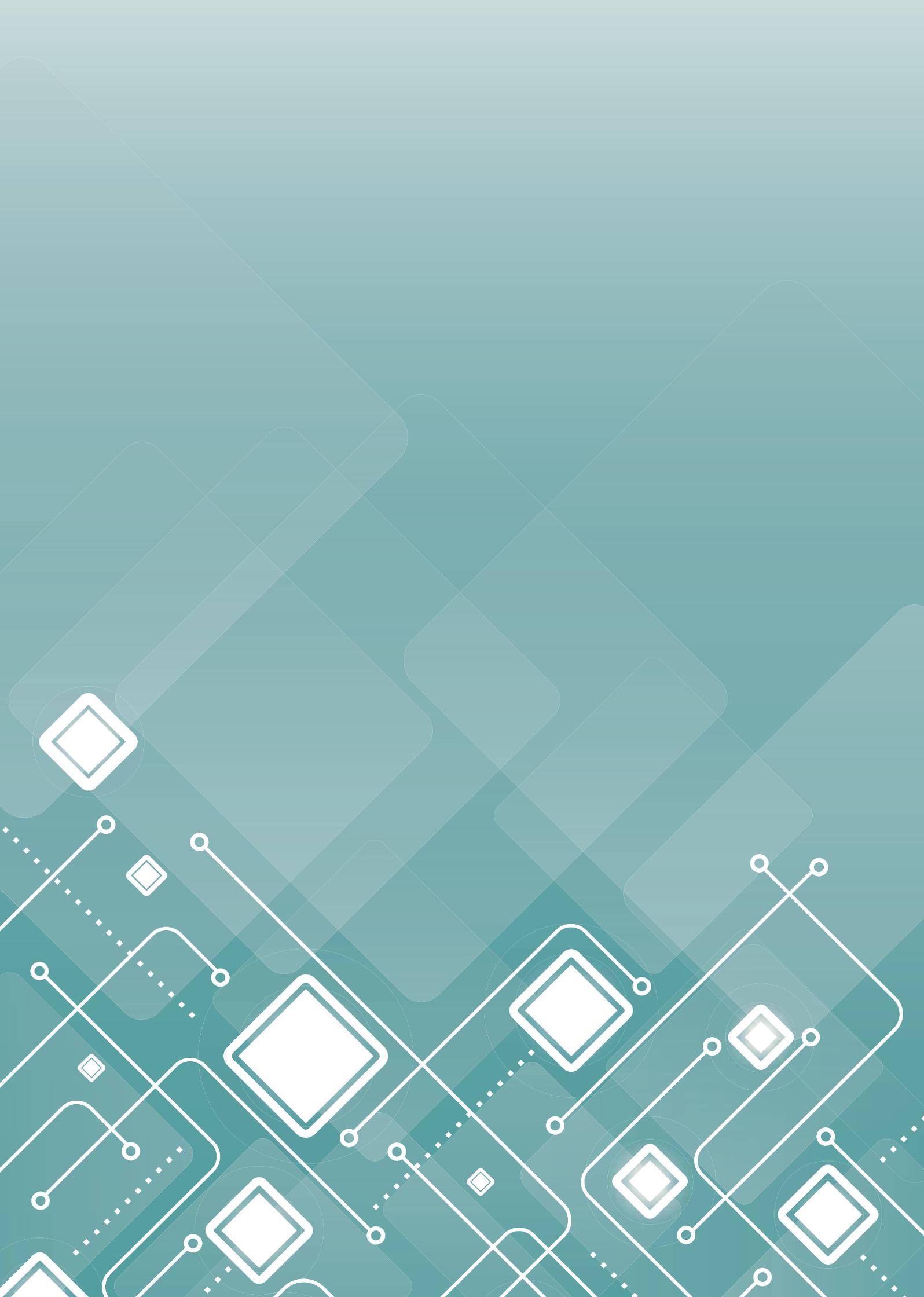
The identified fraud risks were rated according to the risk management matrix of the NNR and the risk owners were requested to provide mitigation plans to address the control deficiencies for all risks that fell outside the risk appetite. A consolidated fraud register was developed and approved by the Board. Identified action plans were allocated a start and due date to monitor progress throughout the financial year.

Monitoring and tracking of the implementation of action plans were conducted on a regular basis to manage identified fraud and corruption risks to an acceptable level within the organisation. Fraud and corruption prevention awareness training sessions were rolled out to employees of the NNR. No fraud or corruption cases were reported during the period under review.

## 5. Social Responsibility

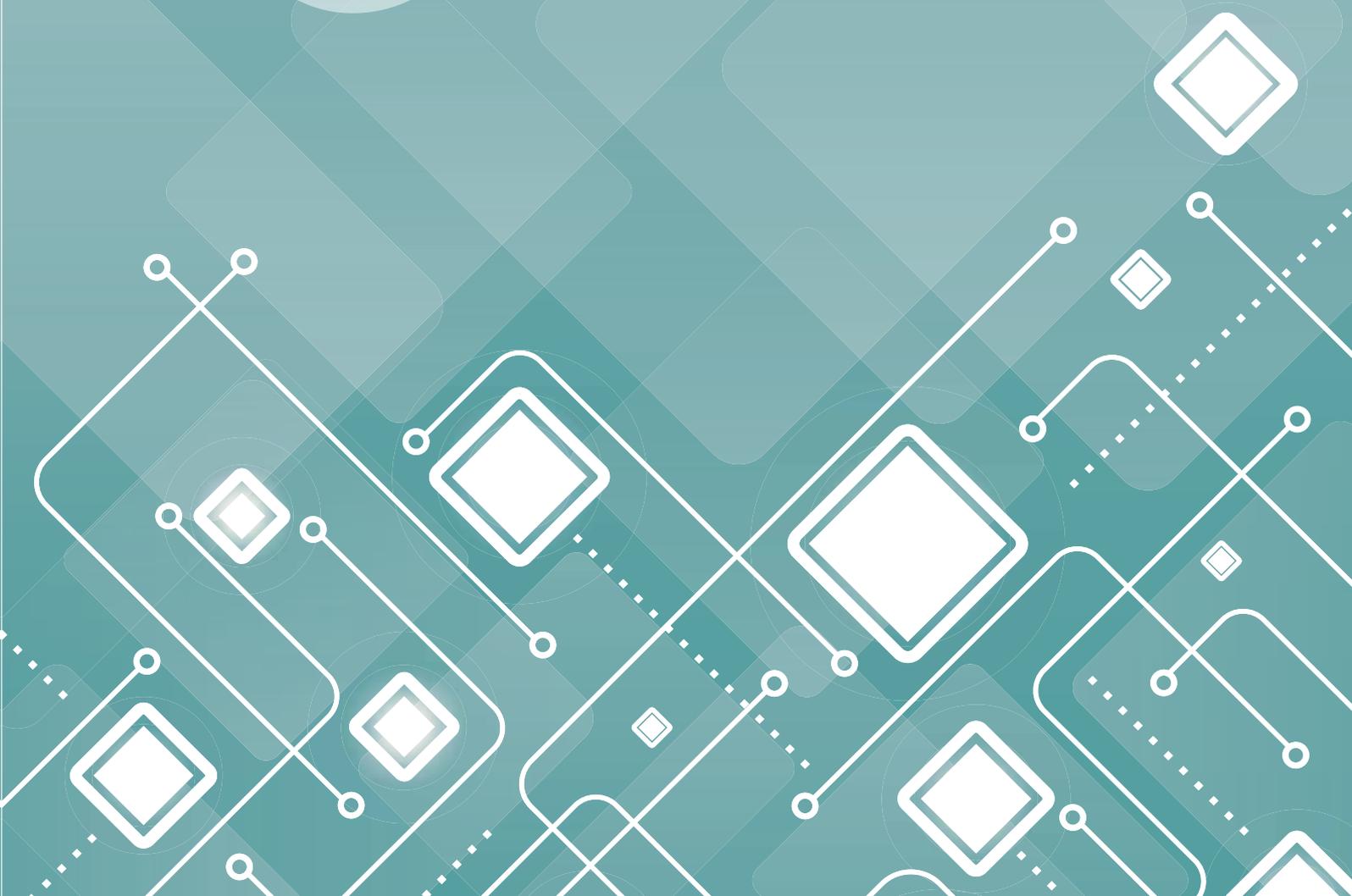
During the year under review, the NNR conducted local community outreach programmes in Gauteng, North West, and Western Cape provinces. These programmes were aimed at creating awareness of nuclear safety and careers in STEM fields.

Recruitment was implemented in terms of the NNR's transformation targets. NNR was compliant with the provisions of the PFMA and remained committed to the principles of social transformation and black economic empowerment. Notable national initiatives supported during the reporting period included: Women in Nuclear, National Women's Day, South African Young Nuclear Professionals Society, 67 Minutes for Mandela Month campaign, DoE's Learner Focus Week and National Science Week.





# PERFORMANCE OVERVIEW



## C. PERFORMANCE OVERVIEW

The NNR's performance continued on an upward path and the organisation achieved an overall performance rating of 96.52 % for the 2018-19 financial year.

### 1. Programmes

#### 1.1. Office of the CEO

As the face of the organisation, the Office of the CEO has the overall responsibility in the following functions:

- Legal Services and Enterprise Risk Management, responsible for the legal, compliance and risk management of the organisation;
- Strategy, Governance and Organisational Performance, responsible for the implementation of the organisation's strategic plan and overseeing the performance of operations including the development of the organisational performance, reporting, as well as the monitoring of strategic projects and maintaining order through governance; and,
- Internal Audit (reporting to the Board's Audit and Risk Management Committee functionally and administratively to the CEO), responsible for conducting risk-based internal audits in all divisions/departments of the NNR.

#### 1.2. Financial Management

Programmes in this portfolio provide organisational support in the area of financial management and administration. This is done through the following key functional streams

- Financial Planning and Management;
- Financial Reporting;
- Asset Management and Supply Chain Management (Procurement);
- Accounts Payable;
- Accounts Receivable and Cash Book Management, and Payroll Management.

#### 1.3. Nuclear Power Plant

The NPP programme focuses on a holistic approach towards regulating safety and security for nuclear power plants technology. In terms of its core functions, it delivers on the Compliance Assurance and Enforcement activities, Reviews and Assessments and general oversight of the KNPS licence. Additionally, the programme focusses on issuing of authorisations for Nuclear Vessel Licences (NVL), licence change request, and management of NPP projects throughout the facility life-cycle.

#### 1.4. Nuclear Technology and NORM (NTN)

The NTN programme provides a holistic approach towards regulating safety and security of the application of nuclear technologies and management of radioactive waste including various nuclear facilities on the Necsa Pelindaba site, Vaalputs National Radioactive Waste Disposal Facility as well as all facilities including mines that engage in activities involving Naturally Occurring Radioactive Material (NORM) and Regulation of public exposure resulting from contaminated and radon.

The programme focuses on the issuing of nuclear authorisations including Nuclear Installation Licences (NIL), Nuclear Vessel Licences (NVL), Certificates of Registration (COR) and Certificates of Exemption (COE) and amendments thereto, as well as conducting reviews and assessments related to the safety of these facilities.

Further, it delivers on the compliance assurance and enforcement activities, which include conducting inspections, investigations, surveillances and environmental monitoring and sampling related to nuclear technology facilities, all identified naturally occurring radiation material (NORM) facilities.

#### 1.5. Regulatory Improvement and Technical Services

The RITS programme provides strategic leadership and management to all the technical programmes of the NNR through its cross-cutting and in-depth review and assessments capabilities.

The division offers technical services in Emergency Preparedness and Response, Laboratory Services, Nuclear Safety and Security Culture, Development of Regulatory Standards and Nuclear projects and the co-ordination of nuclear security activities.

RITS conducts in-depth reviews and assessments in the areas of waste management, environment and radiation protection, transport of radioactive materials and the issuing of nuclear vessel licenses, engineering services and independent verification by computer codes.

A key component of this programme is research and development which is conducted on emerging issues regarding nuclear and radiation safety housed under the flagship of the Centre for Nuclear Safety and Security (CNSS).

## 1.6. Corporate Support Services

This programme provides strategic organisational support through the key functions of Human Capital Management, Knowledge and Information Management, Integrated Management System, Facilities Management, Information Communication and Technology, Security and Occupational Health and Safety and Communication and Stakeholder Relations Management.

## 2. Performance Tables

In the 2018/19 FY the NNR APP contained 17 strategic objectives and 26 KPIs. The performance level for the organisation is registered at 96.52% based on the PoE provided. The RAGG indicators summary is reflected as follows:

Green (100% achievement of target)	20/26 KPIs
Amber ( 85-99% achievement to target)	4/26 KPIs
Red (non-achievement registered below 85% target)	2/26 KPIs
Grey (set aside / not applicable)	0/26 KPIs

On the following page is an account of the detailed performance levels by indicator.

Goal	Strategic Objective	Measure	Key Performance Indicator	Actual Achievement 2017/18	
Goal 1: To provide efficient and effective nuclear regulatory services	1.1 Develop and implement standards with regard to regulatory processes. e.g. inspections, authorisations and enforcement	Compliance assurance activities conducted	RM1a: % of strategic compliance assurance activities	New KPI for 2018/19	
		Implementation of the Compliance Assurance Plan	RM1b: % implementation of the CAP	100%	
		Reviews and assessments (NTWP, NPP, NORM)	RM2a: Reviews and assessments undertaken	100%	
		Reviews and Assessments: SGR	RM2b: Reviews and assessments undertaken	100%	

	Planned Target 2018/19	Actual Achievement 2018/2019	Percentage (%) Performance	Notes on Variance	Notes on Achievement
	Conducting 100% of identified compliance assurance initiatives	100%	100%		4 planned inspections focused on ageing management at NPP completed
					1 inspection on the management of safety at NTP and 1 inspection on ageing management at SAFARI-1 both completed as planned
					2 planned inspections focused on radiation worker protection at 2 special case mines and 2 inspections focused on effluent spillage at NORM facilities were completed as planned
	100% of the CAP	103.8%	100%	NPP 3 and NTWP-9 unplanned inspections	Inspections: NPP: 66/63 NTWP:149/140 NORM: 109/109
100%	122.1%	100%	27 additional reviews and assessments for the NPP due to improved turnaround times	247/220 submissions related to Koeberg NPP were reviewed and assessed	
			73 additional reviews and assessments for the NTWP due to improved turnaround times	407/334 submissions related to Necca Pelindaba Site and Vaalputs were reviewed and assessed	
			90 additional reviews and assessments for the NORM due to improved turnaround times	395/305 submissions for authorisation change requests, applications and general letters were reviewed and assessed	
100%	113.4%	100%	41 additional reviews and assessments for the NPP due to improved turnaround times	346/305 submissions related to the SGR project were reviewed and assessed	

Goal	Strategic Objective	Measure	Key Performance Indicator	Actual Achievement 2017/18
		Completion of planned SER activities	RM3: % completion of planned SER activities	New KPI for 2018/19
	1.2 Enhance collaboration with strategic partners to strengthen training and capacity development of regulatory staff	Develop training curricula	RM4a: No. of training curricula developed	New KPI for 2018/19
		Develop training manuals	RM4b: No. of training manuals developed	New KPI for 2018/19
	1.3 Undertake research and ensure effective technical support to the regulator	Develop scope for identified research projects	RM5a: No. of research projects scoped	New KPI for 2018/19
		Initiate R & D Project	RM5b: No. of R & D projects initiated	New KPI for 2018/19
		Initiate TSS projects	RM6: No. of TSS projects initiated	New KPI for 2018/19

	Planned Target 2018/19	Actual Achievement 2018/2019	Percentage (%) Performance	Notes on Variance	Notes on Achievement
	100%	88%	88%	2 activities for the completion of the draft SER were not completed to finalise the draft SER.	
	2	5	100%	3 additional training curricula developed due to increase in staff capacity (numbers) at the CNSS	5/2 training curricula developed
	2	2	100%		2/2 training manuals developed
	6	7	100%	1 additional project scoped due to improved turnaround times by the CNSS	7/6 research projects scoped
	4	6	100%	2 additional R&D projects developed due to increase in staff capacity (numbers) at the CNSS	6/4 R & D projects initiated
	3	1	33%	1 TSS projects initiated due to revision of the plan by technical divisions and a further delay in the response of the delivery partners (ASN French Regulator)	

Goal	Strategic Objective	Measure	Key Performance Indicator	Actual Achievement 2017/18
	1.4 Leverage strategic partnerships through the CNSS to build capacity	Develop draft MoU/MoA	RM7: No. of developed draft MoU/MoAs	New KPI for 2018/19
	1.5 Fulfil international and national obligations	National Report for the Joint Convention	RM8a: Fulfil obligations for the Joint Convention; Peer review processes	100%
	1.6 Strengthen scientific and technical co-operation	Reviews, inspections & public participation for NISL & SGR	RM8: No. of successful bilateral engagements re: NISL & SGR	New KPI for 2018/19
Goal 2: Improve awareness of the NNR and strengthen stakeholder relations	2.1 Profile NNR positively amongst international peers	Corporate image strengthened externally and knowledge shared internally	RM9: No. of multilateral co-operation fora	New KPI for 2018/19
	2.2 Improve information sharing and strengthen corporate image	NNR Regulatory Information Conference	RM10: Conduct NNR Regulatory Information Conference	New KPI for 2018/19
Goal 3: Ensure financial viability and sustainability of the organisation	3.1. Develop mechanism to ensure financial viability and sustainability of the organisation	Report on the different sustainability mechanisms and recommendations	FM1: Financial Risk Report	New KPI for 2018/19
	3.2. Increase procurement from previously disadvantaged individuals	% Procurement from designated groups as a % of total procurement opportunities	FM2: % of procurement spend on designated groups	New KPI for 2018/19

	Planned Target 2018/19	Actual Achievement 2018/2019	Percentage (%) Performance	Notes on Variance	Notes on Achievement
	4	6	100%	2 additional projects scoped due to improved turnaround times by the CNSS	6/4 MoA/ MoU developed and signed with partners
	Fulfil international obligations for the Joint Convention	100%	100%		The JC Report was issued to all contracting parties as required and all actions from the peer review were attended to
	3 bilateral engagements	5 bilateral engagements	100%		5 regulatory bilateral engagements with US NRC, Canada CNSC, China NNSA, Poland PAA and UK ONR were held during 2018-19
	3 Multilateral co-operation fora	5 Multilateral co-operation fora	100%		4 multilateral co-operation fora were attended during 2018-19
	NNR Regulatory Information Conference	NNR Regulatory Information Conference	100%		The NNR's 2nd Nuclear Regulatory Information Conference was held successfully from 16-18 May 2018 at the Indaba hotel and conference venue in Fourways, Johannesburg
	Financial Risk Report	Financial Risk Report	100%		The regulatory funding model and financial sustainability report was completed and submitted to the Board as planned
	50%	88%	100%		The target of 50%, was attained fully, hence 100% achievement

Goal	Strategic Objective	Measure	Key Performance Indicator	Actual Achievement 2017/18
Goal 4: Provide robust internal business processes	4.1. Build ICT capacity	Implement ICT strategic deliverables	PM1: % of implementation of deliverables	New KPI for 2018/19
	4.2 Maintain an effective internal audit programme	No overdue actions to close out outstanding audit findings	PM2: Reduce number of outstanding audit findings	New KPI for 2018/19
Goal 5: Sustaining governance and effective system of internal controls	5.1 Ensure that governance principles are applied effectively in order to maintain a robust system of internal controls	Implementation of identified critical governance gaps in line with King IV	PM3:% Implementation of identified critical governance gaps in line with King IV	New KPI for 2018/19
		Compliance report with applicable legislation and policy framework	PM4: Compliance with applicable legislation and policy framework	100%
		% implementation of the enterprise risk management programme	PM5: % Implementation of the enterprise risk management program	100%

	Planned Target 2018/19	Actual Achievement 2018/2019	Percentage (%) Performance	Notes on Variance	Notes on Achievement
	100%	100%	100%		The approved ICT Strategy for 2018/2019 was implemented and all deliverables were achieved as planned
	100% close off of audit findings per the action plan	75% close off of audit findings per the action plan	75%	25% of issues were partially resolved at the end of the financial year	
	100%	100%	100%		King IV assessment identified 2 gaps: the adequacy of internal audit & stakeholder engagement with Board. Both have been addressed and implemented
	Annual legislative compliance report	90.3%	90.3%	The variance of 9.7% was attributed to the introduction of new legislation mid-year requiring adjustments in certain processes	Annual legislative compliance level as at March 2019
	100%	100%	100%		100% implementation of the enterprise risk management programme

Goal	Strategic Objective	Measure	Key Performance Indicator	Actual Achievement 2017/18
Goal 6: Valuing our people	6.1. Enhance staff communication and involvement	Development and implementation of an employee relations strategy	LM 1: % Development and implementation of an employee relations strategy	New KPI for 2018/19
	6.2. Leadership and management proficiency	Implementation of management and leadership development plan	LM2: % Implementation of management and leadership development plan	New KPI for 2018/19
	6.3. Implement productivity standards and measurements	Development and implementation of a work study programme	LM3: % Development and implementation of a work study programme	New KPI for 2018/19
	6.4. Ensure skilled competent employees	% implementation of structured approach of training and development	LM4: % implementation of structured approach of training and development	New KPI for 2018/19

	Planned Target 2018/19	Actual Achievement 2018/2019	Percentage (%) Performance	Notes on Variance	Notes on Achievement
	100%	93%	93%	7% delays in finalising the establishment of the NEF	Staff engagement process and ER strategy developed, implementation of initiatives conducted with the establishment of the NNR Employee Forum (NEF) outstanding. It will be implemented in 2019-20.
	100%	100%	100%		The management and leadership development plan has been implemented and will continue in 2019-20
	100%	97%	97%		Work study research completed and work plan developed. Implementation will commence in 2019-20.
	100%	100%	100%		Training plan completed and implemented as planned. Annual Training Report compiled.

**Performance for the financial year 2018/19: 96.52 %**

### 3. Annual Report Financial Information – March 2019

#### Linking Performance with Budgets

The table below indicates the resource allocations and the utilisation for all the key objectives, respectively.

Table 6: 2018-2019 Performance with budgets

Programme	Code	Description	2018/2019			2017/2018		
			Budget	Actual	Variance Under/ (Over)	Budget	Actual	Variance Under/ (Over)
			R'000	R'000	R'000	R'000	R'000	R'000
To process applications for nuclear authorisations in a timely and accurate manner	135, 137, 138, 146, 147, 148 & 149	Personnel	34 341	26 268	8 073	50 904	42 600	8 304
		Goods & Services	15 743	18 860	(3 117)	47 876	27 054	20 822
<b>Total</b>			<b>50 084</b>	<b>45 128</b>	<b>4 956</b>	<b>98 780</b>	<b>69 654</b>	<b>29 126</b>
To ensure effective implementation of nuclear security measures by authorisation holders	139 & 175	Personnel	2 969	1 526	1 443	2 924	2 459	465
		Goods & Services	1 135	67	1 068	1 030	575	455
<b>Total</b>			<b>4 104</b>	<b>1 593</b>	<b>2 511</b>	<b>3 954</b>	<b>3 034</b>	<b>920</b>
To establish an independent verification capability for the NNR	136 & 140	Personnel	20 247	8 520	11 727	19 576	18 677	899
		Goods & Services	5 226	457	4 769	6 788	4 587	2 201
<b>Total</b>			<b>25 473</b>	<b>8 977</b>	<b>16 496</b>	<b>26 364</b>	<b>23 264</b>	<b>3 100</b>
To provide assurance of safety performance of authorisation holders through inspections, audits, investigation and taking enforcement action for identified non-compliance	171, 172, 173, 174, 176, 177, 178 & 179	Personnel	36 702	33 028	3 674	30 108	25 932	4 176
		Goods & Services	4 787	2 995	1 792	4 069	2 422	1 647
<b>Total</b>			<b>41 489</b>	<b>36 023</b>	<b>5 466</b>	<b>34 177</b>	<b>28 354</b>	<b>5 823</b>
Good governance	124, 125, 126, 127 & 128	Personnel	13 941	13 698	243	12 930	11 390	1 540
		Goods & Services	10 046	7 467	2 579	13 185	5 468	7 717
<b>Total</b>			<b>23 987</b>	<b>21 165</b>	<b>2 822</b>	<b>26 115</b>	<b>16 858</b>	<b>9 257</b>
Financial viability and sustainability	155, 156 & 158	Personnel	20 704	23 070	(2 366)	9 645	23 306	(13 661)
		Goods & Services	13 747	26 896	(13 149)	23 518	27 433	(3 915)
<b>Total</b>			<b>34 451</b>	<b>49 966</b>	<b>(15 515)</b>	<b>33 163</b>	<b>50 739</b>	<b>(17 576)</b>

Programme	Code	Description	2018/2019			2017/2018		
			Budget	Actual	Variance Under/ (Over)	Budget	Actual	Variance Under/ (Over)
			R'000	R'000	R'000	R'000	R'000	R'000
High performance culture, effective human capital management	141, 142, 144, & 145	Personnel	11 166	10 737	429	8 390	8 662	(272)
		Goods & Services	15 487	10 202	5 285	17 537	14 808	2 729
	<b>Total</b>	<b>26 653</b>	<b>20 939</b>	<b>5 714</b>	<b>25 927</b>	<b>23 470</b>	<b>2 457</b>	
Sound organisational infrastructure	143	Personnel	5 138	3 155	1 983	2 784	2 849	(65)
		Goods & Services	13 629	12 267	1 362	17 864	10 822	7 042
	<b>Total</b>	<b>18 766</b>	<b>15 422</b>	<b>3 344</b>	<b>20 648</b>	<b>13 671</b>	<b>6 977</b>	
Stakeholder relations and corporate image	129	Personnel	-	-	-	2 734	2 574	160
		Goods & Services	-	-	-	6 371	4 324	2 047
	<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>9 105</b>	<b>6 898</b>	<b>2 207</b>	
To provide an independent analytical verification capability and capacity	160, 161, 162, 163, 164, 165, 166 & 167	Personnel	13 565	30 365	(16 800)	-	-	-
		Goods & Services	13 319	14 198	(879)	-	-	-
	<b>Total</b>	<b>26 884</b>	<b>44 563</b>	<b>(17 679)</b>	<b>-</b>	<b>-</b>	<b>-</b>	

Table 7: Revenue

Sources of revenue	2018/2019			2017/2018		
	Budget	Actual	Variance Under/ (Over)	Budget	Actual	Variance Under/ (Over)
	R'000	R'000	R'000	R'000	R'000	R'000
Authorisation fees	180 339	183 647	(3 308)	170 776	172 549	(1 773)
State grant	16 510	16 510	-	38 573	38 573	-
Other income	54 954	30 674	24 280	27 369	39 606	(12 237)
<b>Total</b>	<b>251 803</b>	<b>230 831</b>	<b>20 972</b>	<b>236 718</b>	<b>250 728</b>	<b>(14 010)</b>

## 4. Summary of financial information

### Revenue Collection

The NNR is mainly funded from Authorisation Fees and State Grants (conditional and unconditional) in the form of transfers. As shown in Table 9 above, the NNR invoiced R184 million in Authorisation Fees, which is 6% more than the previous financial year. This is, however, less than the 7,5% approved for the year due to the reduction in regulated activities. The appropriated funds transferred from the fiscus for the year was R16 million, in line with the Medium Term Expenditure Framework. Other income decreased slightly from the previous financial year to R30 million. This is mainly attributed to a decrease in application fees.

Table 8: 2018-2019 Performance with budgets

Programme	Code	Description	2018/2019			2017/2018		
			Budget	Actual	Variance Under/ (Over)	Budget	Actual	Variance Under/ (Over)
			R'000	R'000	R'000	R'000	R'000	R'000
Administration	101;	Personnel	41 798	50 659	(8 861)	34 105	46 512	(12 407)
	104;	Goods & Services	62 060	57 002	5 058	73 573	55 960	17 613
	105		<b>Total</b>	<b>103 858</b>	<b>107 661</b>	<b>(3 803)</b>	<b>107 678</b>	<b>102 472</b>
Nuclear Power Plants		Personnel	37 310	34 788	2 522	75 785	66 004	9 781
		Goods & Services	16 878	19 317	(2 439)	60 593	39 112	21 481
	<b>Total</b>	<b>54 188</b>	<b>54 105</b>	<b>83</b>	<b>136 378</b>	<b>105 116</b>	<b>31 262</b>	
Nuclear Technology & NORM		Personnel	36 702	34 555	2 147	30 108	25 933	4 175
		Goods & Services	4 787	3 062	1 726	4 069	2 421	1 648
	<b>Total</b>	<b>41 489</b>	<b>37 617</b>	<b>3 873</b>	<b>34 177</b>	<b>28 354</b>	<b>5 823</b>	
Regulatory Improvements and Technical Services		Personnel	33 812	30 365	3 447	-	-	-
		Goods & Services	18 545	14 028	4 517	-	-	-
	<b>Total</b>	<b>52 357</b>	<b>44 393</b>	<b>7 964</b>	<b>-</b>	<b>-</b>	<b>-</b>	

### Support services (Administration)

The support services programme incurred expenditure on compensation of employees of R50 million for the 2018/19 financial year. The increase of 8,9% from the previous financial year can be attributed to the annual cost of living adjustment in terms of the 3 year agreement with the union and increase in capacity in line with the human resources plan. The three-year annual cost of living adjustment agreement with the recognised labour union entered into from the 2015/16 financial year ended in the year under review.

The programme's performance on goods and services was R57 million, which is 1,8% above the previous financial year's spending. The reported expenditure is 8,9% below the target. The under-expenditure in this programme is attributed to savings on operational and administrative expenditure, mainly on consulting and professional fees.

### Nuclear Power Plants (NPP)

The programme's expenditure on compensation of employees decreased significantly from R66 million in the previous financial year to R34 million in the year under review. The decrease is mainly attributed the movements of staff members between the various division, due to changes emanating from the re-organisation of the NNR.

Expenditure on goods and services also reduced significantly by from 102% compared to the previous financial year, and is similarly attributed to changes arising from the re-organisation which resulted in establishment of a new division (RITS) to which some responsibilities and concomitant resources were transferred to.

### Nuclear Technology & NORM (NTN)

The NTN division spent R8 million more on expenditure for compensation of employees in the year under review, compared to the previous financial year. This increase is attributed to additional appointment in the year under review, including the annual cost of living adjustments.

Expenditure on goods and services for the year under review was R3 million, against a budget of R4 million. The savings of R1 million is attributed to savings from international travelling, due to cost containment measures the organisation continues to implement.

### Regulatory Improvements and Technical Services (RITS)

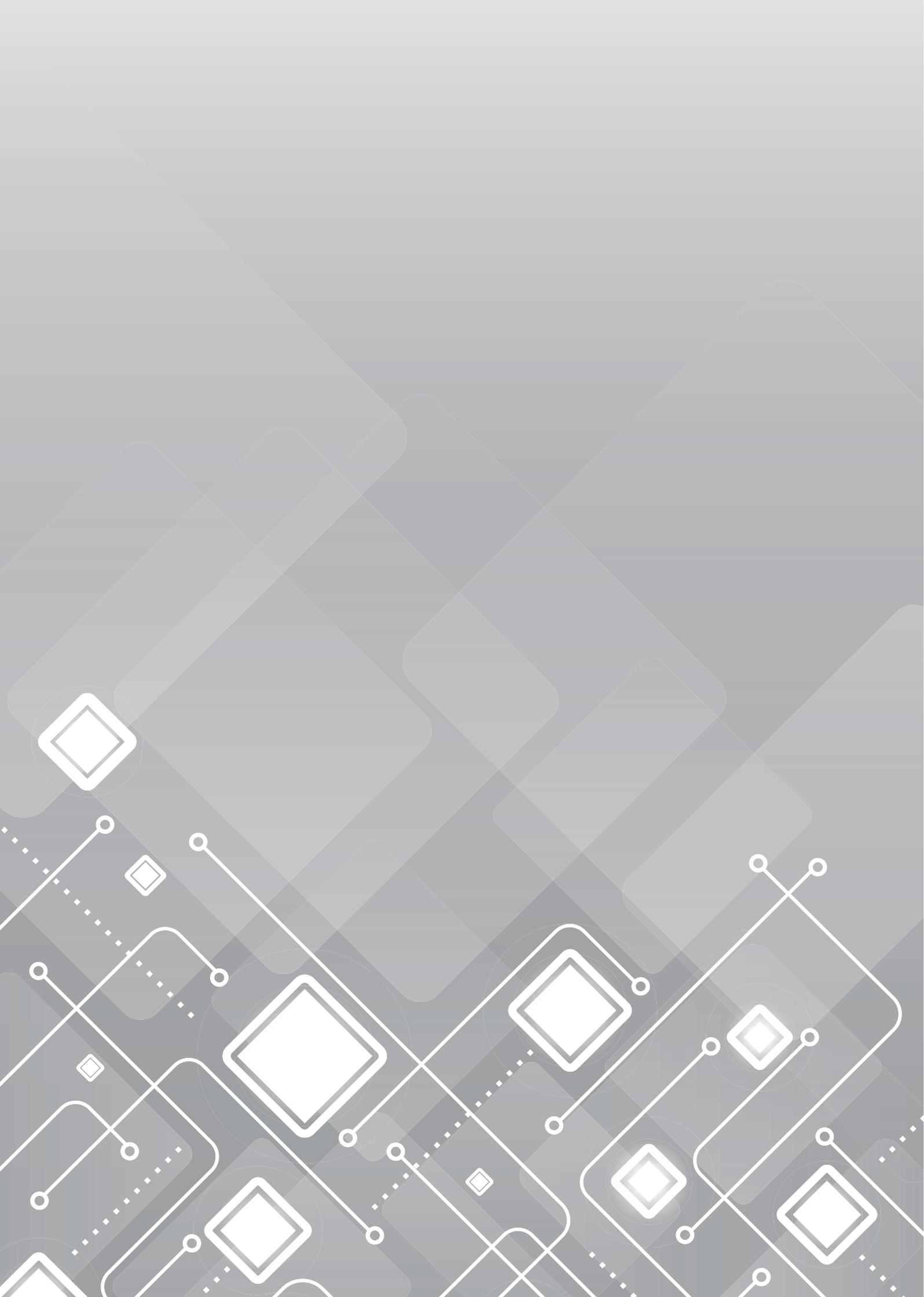
This is a new programme introduced with the re-organisation of the NNR in the year under review. It offers technical services in Emergency Preparedness & Response, Laboratory Services, Nuclear Safety and Security Culture, Development of Regulatory Standards and Nuclear projects and the coordination of nuclear security activities.

For the year under review, this programme incurred expenditure on compensation of employees of R30 million against a target of R33 million. The delay in the filling of some vacant posts attributed to this variance.

The division also underspent on goods and services by 32% against a budget of R18 million. This savings on goods and services is mainly due to delays on on-boarding some key personnel in driving programs, the division however was fully staffed at the end of the financial year.

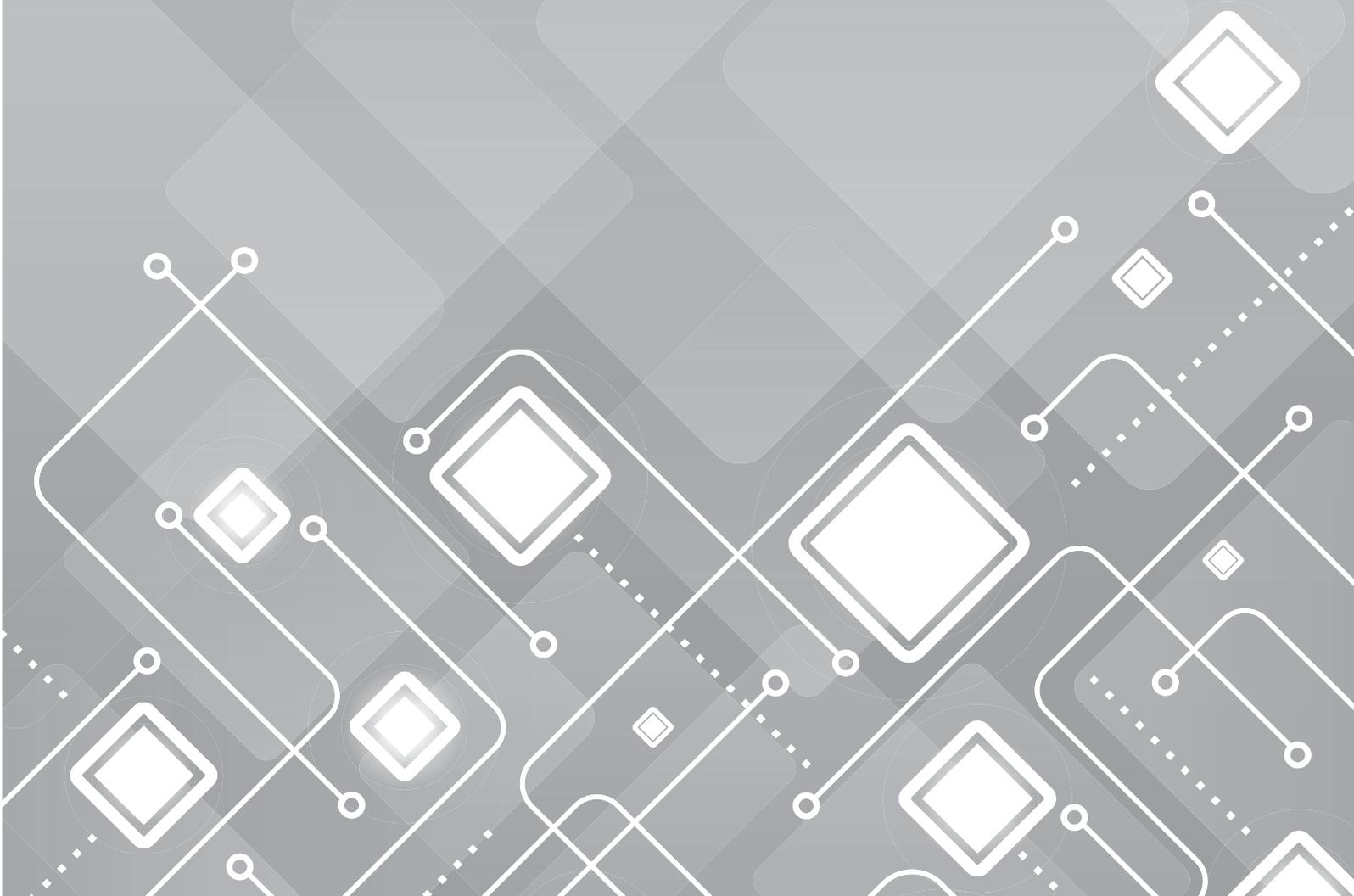
Table 9: The Capital investment, maintenance and asset management plan

Sources of revenue	2018/2019			2017/2018		
	Budget	Actual	Variance Under/ (Over)	Budget	Actual	Variance Under/ (Over)
	R'000	R'000	R'000	R'000	R'000	R'000
Regulatory emergency control centre	3 741	965	2 776	4 282	541	3 741
Cape Town office accommodation	9 384	455	8 929	10 789	1 405	9 384
<b>Total</b>	<b>13 125</b>	<b>1 420</b>	<b>11 705</b>	<b>15 071</b>	<b>1 946</b>	<b>13 125</b>



D

HUMAN RESOURCE  
MANAGEMENT



## D. HUMAN RESOURCE MANAGEMENT

### 1. Overview

During the course of 2018-2019 the NNR focus was on improving effectiveness and efficiencies to enable the regulator to deliver on its mandate. The NNR therefore successfully conducted two high level human resource projects, namely, the Reorganisation project and the Capacity Modelling Project.

The NNR remained committed to meeting its transformation objectives and the reorganisation project created opportunities for black females to progress into executive and management positions. As a result, the NNR can proudly announce that 50% of its executives are black females.

The NNR also embarked on a management and leadership development programme to ensure that new and existing management staff received the necessary training to be effective managers.

### 2. Reorganisation Project

During the course of 2018-2019 the NNR implemented a new approved organisational structure which was designed to improve the

regulator's efficiency and effectiveness. The process commenced in April 2018 and was completed by August 2018. The reorganisation project was extremely successful and created opportunities for the advancement of employees into management positions, particularly black females. The NNR embarked on an intensive consultation process prior to implementing the project and the project was therefore implemented without any disruption to the organisation.

### 3. Capacity Modelling Project

In order to ensure that the NNR is appropriately structured and resourced to fulfil its statutory and strategic mandates and obligations, the NNR commissioned an independent capacity requirements assessment exercise. The exercise took into account all key processes, as well as the volumes, types of work, and standardised times etc.

The result was a comprehensive report on the resource requirements for each division based on the current volumes of work. The outcomes have enabled the NNR to develop a long term resource plan that is aligned to actual work being undertaken by the regulator and is also in line with the staffing of comparable international regulatory bodies.

### 4. HR Oversight Statistics

Table 10: Employee cost by salary band

JEL	Occupational Levels	Personnel Expenditure	% of employees to total personnel cost	Number of employees	Average personnel cost per employee
JE LEVEL 1	Top Management	2 676	1,90%	1	2 676
JE LEVEL 3	Senior Management	17 422	12,34%	10	1 742
JE LEVEL 4,5,6 and 7	Professionally Qualified	109 938	77,87%	114	964
JE LEVEL 8 and 9	Skilled	8 154	5,78%	21	388
JE LEVEL 10	Semi-Skilled	1 968	1,39%	8	246
	Interns & Learners	1 020	0,72%	12	85
<b>Total</b>		<b>141 179</b>	<b>100%</b>	<b>166</b>	<b>6 102</b>

Table 11: Performance rewards

Category	Performance Rewards R'000	% of employee to total personnel cost	Average personnel cost per employee R'000
Top Management (F)	268	141 179	0,19%
Senior Management (E)	1 491	141 179	1,06%
Professionally Qualified (D)	8 263	141 179	5,85%
Skilled (C)	565	141 179	0,40%
Semi-skilled (B)	44	141 179	0,03%
Interns	-	141 179	0,00%
<b>Total</b>	<b>10 631</b>	<b>141 179</b>	<b>7,53%</b>

Table 12: Employment and vacancies at financial year end

Permanent employees	149
Interns and learners	12
Temporary employees	5
Vacant positions	20

Table 13: Employment changes

Ms D Kgomo	Executive: Nuclear Technology and NORM
Mr O Phillips	Executive: Nuclear Power Plant
Ms A Simon	Executive: Corporate Support Services
Ms L Mpete	Interim Executive: Regulatory Improvement and Technical Services (RITS)
Ms P Masilo	Chief Audit Executive
Ms N Kote	Senior Manager: Strategy, Governance and Organisational Performance
Mr F Ndou	Senior Manager: Legal, Risk and Compliance

Table 14: Employee relations: Misconduct and disciplinary action

Nature of Disciplinary action	
Verbal warning	0
Written Warning	0
Final written warning	0
Dismissal	0

Table 15: Employment equity statistics (as per the EE report filed in October 2018)

Occupational Levels	Male				Female				Foreign Nationals		Total
	A	C	I	W	A	C	I	W	Male	Female	
Top management	1	0	0	0	0	0	0	0	0	0	1
Senior management	3	3	1	0	2	0	1	0	0	0	10
Professionally qualified	42	7	4	8	41	0	1	4	3	2	112
Skilled technical	5	0	0	0	12	1	0	3	0	0	21
Semi-skilled	5	0	0	0	3	0	0	0	0	0	8
Unskilled	0	0	0	0	0	0	0	0	0	0	0
TOTAL PERMANENT	56	10	5	8	58	1	2	7	3	2	152
Temporary employees	0	0	0	0	0	0	0	0	0	0	0
<b>GRAND TOTAL</b>	<b>56</b>	<b>10</b>	<b>5</b>	<b>8</b>	<b>58</b>	<b>1</b>	<b>2</b>	<b>7</b>	<b>3</b>	<b>2</b>	<b>152</b>

The Department of Labour conducted an employment equity compliance audit in November 2018 and NNR was found to be compliant with all EE regulations. We were also commended on our achievements regarding gender transformation.

Table 16: Staff with disabilities

Occupational Levels	Male				Female				Foreign Nationals		Total
	A	C	I	W	A	C	I	W	Male	Female	
Top management	0	0	0	0	0	0	0	0	0	0	0
Senior management	0	0	0	0	0	0	0	0	0	0	0
Professionally qualified	1	0	0	1	3	0	0	0	0	0	5
Skilled technical	0	0	0	0	0	0	0	0	0	0	0
Semi-skilled	0	0	0	0	0	0	0	0	0	0	0
Unskilled	0	0	0	0	0	0	0	0	0	0	0
TOTAL PERMANENT	1	0	0	1	3	0	0	0	0	0	5
Temporary employees	0	0	0	0	0	0	0	0	0	0	0
<b>GRAND TOTAL</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>

## Employee Induction

Table 17: Employee induction

Dates	Number of attendees
30 May 2018	18
13 & 14 February 2019	22

## Training and Development

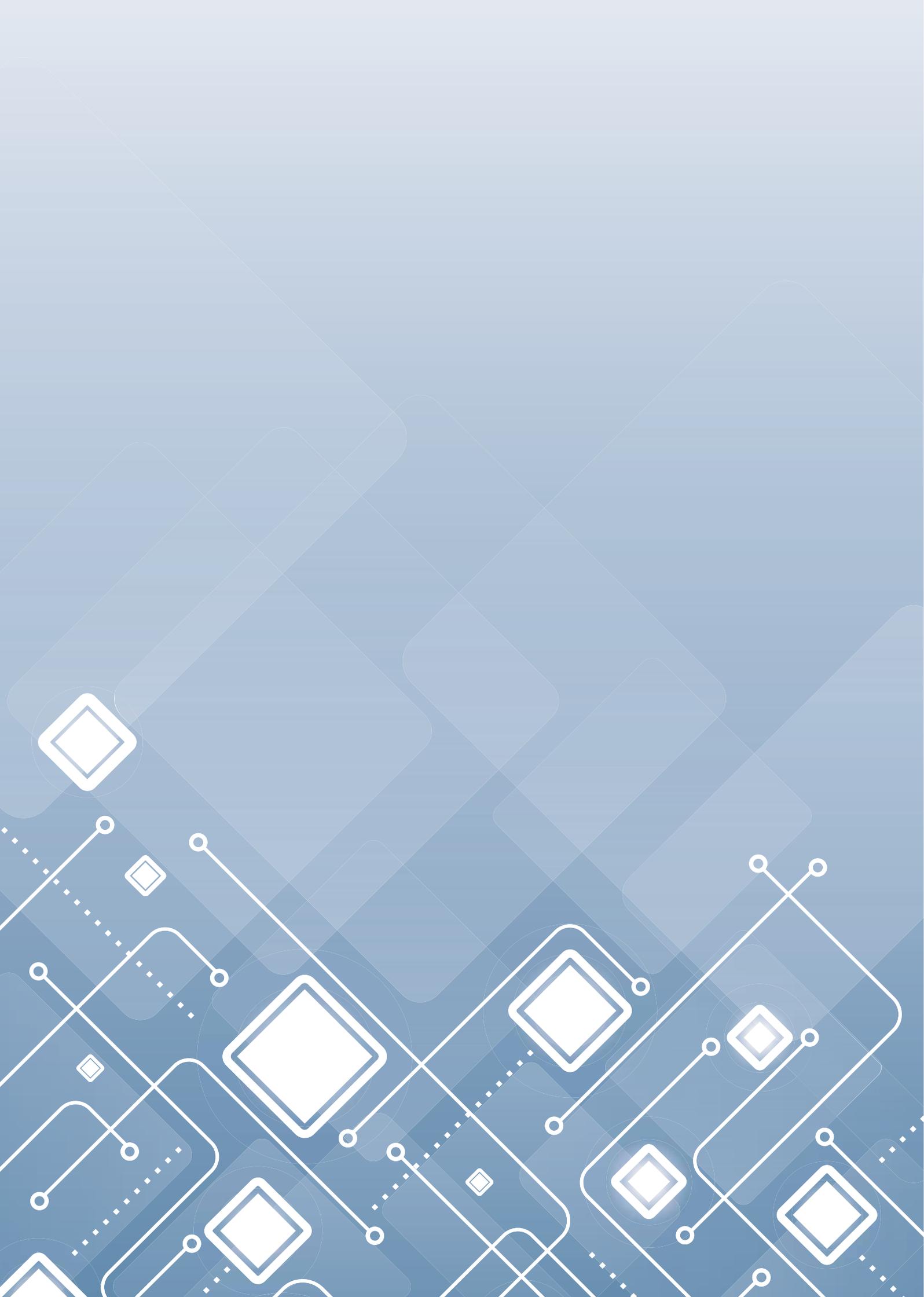
Table 18: Training and development

NNR Bursaries	Competence Training	Funded Training	Bursaries	EWSETA Interns	NNR Interns
10	120	20	8	7	5

## Leadership and Management Development

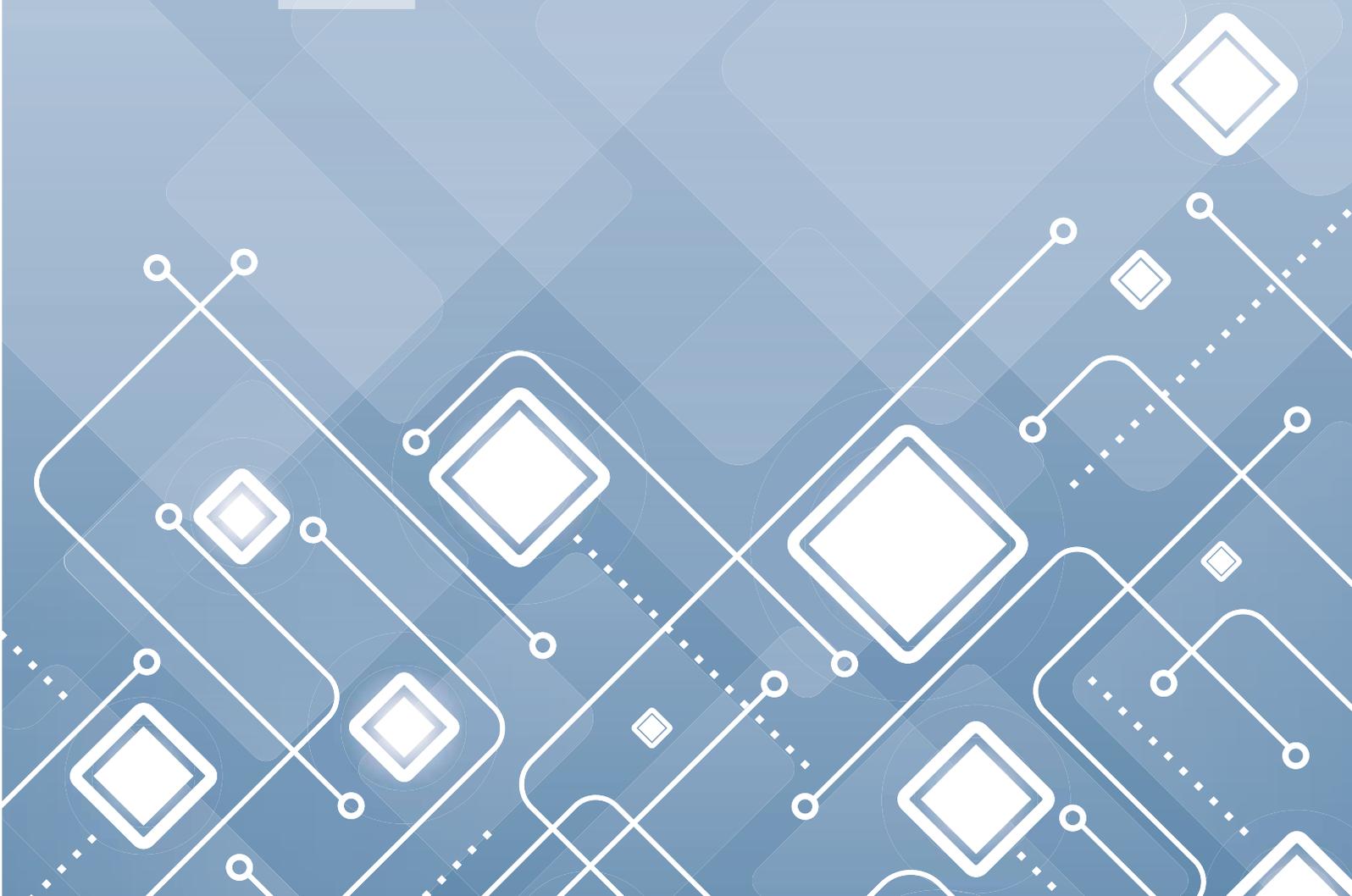
Table 19: Leadership and management development

Interventions	Dates	Number of attendees
Leadership Communication Skills	24 October 2018 and 14 November 2018	21
Effective People Management	29 November and 6 December 2018	23
Human Resources Policies, Procedures and Processes	7 February 2019	16



E

REGULATION OF  
NUCLEAR ACTIONS



## E. REGULATION OF NUCLEAR ACTIONS

### List of Authorisations

Authorisation No.	Var.	Nuclear facilities	Date issued	B #
NIL-01	19	Koeberg Nuclear Power Station	7 March 2019	NA
NIL-02	3	SAFARI – 1 Research Reactor	21 May 2012	NIL02B0296
NIL-03	1	P2700 Complex	4 May 2012	NIL03B0041
NIL-04	0	Thabana Complex comprising the following facilities: <ul style="list-style-type: none"> <li>• Thabana Pipe Store</li> <li>• Thabana Radioactive Waste Storage facility</li> <li>• Thabana Containerised Radioactive Waste Storage facility CaF2 Ponds</li> </ul>	30 October 2009	NIL04B0001
NIL-05	1	HEU Vault – K0090	4 May 2012	NIL05B0004
NIL-06	0	A-8 Decontamination Facility	11 May 2010	NIL06B0001
NIL-07	0	Building A-West Drum Store	9 February 2009	NIL07B0001
NIL-08	1	ELPROD in Building P-2500	4 May 2012	NIL08B0039
NIL-09	1	UMET in Building P2600	28 October 2011	NIL09B0004
NIL-10	0	Conversion Plant Complex	5 August 2010	NIL10B0001
NIL-11	1	Area 14 Waste Management Complex	18 April 2011	NIL11B0009
NIL-12	0	Quarantine Storage Facility	8 October 2009	NIL12B0001
NIL-13	0	V-YB Pelindaba East Bus Shed Complex	30 October 2009	NIL13B0001
NIL-14	0	Pelindaba East Evaporation Ponds Complex	30 October 2009	NIL14B0001
NIL-15	0	Oil Purification Facility	30 October 2009	NIL15B0001
NIL-16	0	Area 21 Storage Facility	11 May 2010	NIL16B0001
NIL-17	0	BEVA K3 Storage Complex	2 November 2009	NIL17B0001
NIL-18	0	Area 16 Complex	11 May 2010	NIL18B0001
NIL-19	1	Area 40 Complex	1 November 2011	NIL19B0012
NIL-20	0	Area 27 De-Heeling Facility	11 May 2010	NIL20B0001
NIL-21	0	J-Building	24 November 2009	NIL21B0001
NIL-22	0	D-Building	5 August 2010	NIL22B0001
NIL-23	0	C-Building	12 May 2010	NIL23B0001
NIL-24	0	Building P-2900	24 November 2009	NIL24B0001
NIL-25	0	Building XB	11 May 2010	NIL25B0001
NIL-26	0	BEVA Evaporation Ponds	11 January 2010	NIL26B0001
NIL-27	0	Building P-2800	11 May 2010	NIL27B0001
NIL-28	1	Vaalputs National Radioactive Waste Disposal Facility	18 April 2011	NIL28B0010

Authorisation No.	Var.	Nuclear facilities	Date issued	B #
NIL-29	1	Area 26	3 July 2013	NIL29B0027
NIL-30	0	E-Building	5 August 2010	NIL30B0001
NIL-31	0	Dorbyl Camp	25 October 2010	NIL31B0001
NIL-32	0	X-Building	25 October 2010	NIL32B0001
NIL-33	0	Building P-1500	25 October 2010	NIL32B0001
NIL-34	0	YM Vacuum Workshop	5 August 2010	NIL34B0001
NIL-35	0	V-H Building Laboratories	25 October 2010	NIL35B0001
NIL-36	0	P-1900 Laboratories	5 August 2010	NIL36B0001
NIL-37	0	P-1600 Laboratories	16 September 2010	NIL37B0001
NIL-38	0	Fuel Development Laboratories Complex	16 September 2010	NIL38B0001
NIL-39	0	NTP Radiochemicals Complex	06 August 2010	NIL39B0001
NIL-40	0	Pelindaba Analytical Laboratories (PAL) in Building BEVA-E1	05 August 2010	NIL40B0001
NIL-41	1	Liquid Effluent Treatment Facility Complex	24 February 2011	NIL41B0006
NIL-42	0	B-1 Building Basement	20 January 2012	NIL42B0001

	COR Number	Name of COR Holder	Category
1	COR-2	Anglogold Ashanti Limited ( Vaal River Operations)	Category 5
2	COR-3	Anglogold Ashanti Limited ( West Wits Operations)	Category 5
3	COR-5	ARMgold/Harmony Freegold Joint Venture Company (Pty) Ltd (Tshepong, Matjhabeng & Bambani Operations)	Category 5
4	COR-6	ARMgold/Harmony Freegold Joint Venture Company (Pty) Ltd (Joel operation)	Category 4
5	COR-7	African Rainbow Minerals Gold Limited (Welkom Operations)	Category 4
6	COR-10	Avgold Limited - Target Division	Category 4
7	COR-11	Gravelotte Mines Limited	Category 4
8	COR-13	MTC Demolition	Category 2
9	COR-16	Nuclear Fuels Corporation of South Africa (Pty) Limited	Category 3
10	COR-18	South Deep Joint Venture	Category 5
11	COR-20	Foskor Limited (Phalaborwa)	Category 4
12	COR-22	Fer-min-ore (Pty) Limited (Zirtile Milling)	Category 2
13	COR-23	Steenkampskraal Monazite Mine (Pty) Limited	Category 4
14	COR-25	Eggerding SA (Pty) Limited	Category 2
15	COR-26	Richards Bay Iron and Titanium (Pty) Limited	Category 4
16	COR-27	Foskor Limited (Richards Bay)	Category 3
17	COR-28	Randfontein Estates Limited-(Kusasaletheu)	Category 4
18	COR-30	Mine Waste Solutions (Pty) Limited	Category 4

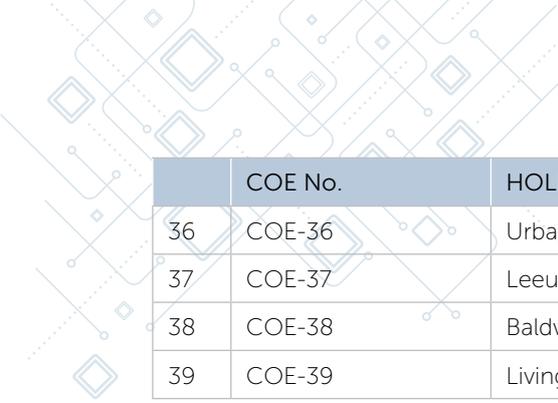
	COR Number	Name of COR Holder	Category
19	COR-31	Ya-Rona Scrap Metals	Category 2
20	COR-33	Rampete Metal Processors (Pty) Ltd	Category 2
21	COR-34	DMC Energy (Pty) Ltd	Category 1
22	COR-37	Harmony Gold Mining Company Limited (Free State Operations)	Category 5
23	COR-38	Omnia Phosphates (Pty) Ltd	Category 3
24	COR-40	ARMgold/Harmony Freegold Joint Venture Company (Pty) Ltd (St Helena Operations)	Category 4
25	COR-43	Tronox KZN Sands	Category 4
26	COR-47	Grootvlei Properties Mines Ltd	Category 4
27	COR-48	DRDGOLD Limited (Mintails)	Category 1
28	COR-50	Rappa Resources (Pty) Limited	Category 1
29	COR-51	Consolidated Modderfontein (Pty) Limited	Category 4
30	COR-52	Nigel Gold Mining Company Limited	Category 4
31	COR-53	East Rand Proprietary Mines Limited	Category 4
32	COR-57	Crown Gold Recoveries (Pty) Limited	Category 4
33	COR-58	Harmony Gold Mining Company Limited - Randfontein Operations	Category 4
34	COR-59	Industrial Zone Limited	Category 4
35	COR-61	Sedex Minerals (Pty) Ltd	Category 1
36	COR-64	Potchefstroom Plastiek Herwinning BK	Category 1
37	COR-66	Mintek	Category 1
38	COR-69	Sibanye Gold Limited (Driefontein Operations)	Category 4
39	COR-70	Sibanye Gold Limited (Kloof Operation)	Category 5
40	COR-71	Sibanye Gold Limited (Beatrix Operation)	Category 5
41	COR-77	Anglo American Research Laboratories (Pty) Limited	Category 1
42	COR-74	Durban Roodepoort Deep Mine Limited	Category 4
43	COR-79	Durban Roodepoort Deep Mine Limited	Category 4
44	COR-80	Mogale Gold (Pty) Ltd	Category 4
45	COR-81	Metrec	Category 1
46	COR-84	The Big Bin CC	Category 2
47	COR-86	Glenover Phosphate Limited (Mining Site) Operation)	Category 4
48	COR-87	Rand Refinery Limited	Category 1
49	COR-92	The Forensic Science Laboratory, SA Police	Category 1
50	CO-97	Geratech Zirconium Beneficiation Ltd -	Category 2
51	COR-98	B G Scrap Metals (Pty) Limited	Category 2
52	COR-100	South African Airforce (SAAF), Department of Defence (DoD), RSA	Category 3
53	COR-101	The Reclamation Group (Pty) Ltd (Richards Bay)	Category 2
54	COR-103	Linbeck Metal (Pty) Ltd	Category 2

	COR Number	Name of COR Holder	Category
55	COR-104	South African Ports Operations-Dry Bulk Terminal Richards Bay A division of Transnet Limited on Sage 300	Category 4
56	COR-105	Tantalite Resources (Pty) Ltd	Category 2
57	COR-106	Mineral Sands Resources Pty Ltd	Category 4
58	COR-107	Vesuvius South Africa (Pty) Ltd	Category 2
59	COR-109	SM Mining Construction Pty Ltd	Category 3
60	COR-110	Geotron Systems (Pty) Limited	Category 1
61	COR-111	Bosveld Phosphate (Pty) Ltd	Category 3
62	COR-112	Scaw Metals Group	Category 2
63	COR-114	Interwaste Pty Ltd	Category 2
64	COR-116	Business Venture Investment 1692 Proprietary Limited	Category 4
65	COR-117	Vic Ramos CC	Category 2
66	COR-118	GoldPlats Recovery Ltd	Category 1
67	COR-119	Huntrex	Category 2
68	COR-131	East Rand Beneficiation (Pty) Ltd	Category 4
69	COR-132	Grifo Engineering (Pty) Limited	Category 2
70	COR-135	Tioxide SA (Pty) Ltd	Category 2
71	COR-136	Thukela Refractories Isithebe (Pty) Limited	Category 2
72	COR-137	Manos Engineering (Pty) Ltd	Category 1
73	COR-138	Bright Refining (Pty) Ltd	Category 1
74	COR-139	The New Reclamation Group (Pty) Limited - West Rand Operations	Category 2
75	COR-140	China African Precious Metals (PTY) Ltd	Category 4
76	COR-141	Palabora Copper (Pty) Ltd	Category 4
77	COR-142	Pan African Resources - Evander Gold Mining	Category 4
78	COR-143	Zirco Roode Heuwel	Category 1
79	COR-144	Scamont Engineering (Pty) Ltd	Category 1
80	COR-145	Re-Process Technologies CC	Category 1
81	COR-148	Saldanha Dry Bulk Terminal Cc	Category 2
82	COR-149	Cronimet RSA (Pty) Ltd	Category 2
83	COR-150	Minrite (Pty) Ltd	Category 2
84	COR-151	Covalent Water Company (Pty) Ltd	Category 4
85	COR-152	SGS South Africa (Pty) Ltd (Cooke operations)	Category 1
86	COR-153	Resource Reference Materials (Pty) Ltd	Category 1
87	COR-159	North West Reclaiming	Category 2
88	COR-160	Shiva Uranium One	Category 5
89	COR-156	Necsa, Calibration Pads	Category 1
90	COR-164	Sulzer Pumps (SA) Limited	Category 1
91	COR-165	Uramin Mago Lukisa	Category 1

	COR Number	Name of COR Holder	Category
92	COR-167	Western Uranium (Pty) Ltd	Category 1
93	COR-178	Durban Container Terminal - Business Unit of SA Port Operations	Category 1
94	COR-180	SA Port Operations - Container Terminal Cape Town	Category 1
95	COR-181	Transnet Limited (SA Port Operations - Multipurpose Terminal, Saldanha bay)	Category 1
96	COR-182	Buffelsfontein Gold Mine Limited	Category 5
97	COR-183	Tasman Pacific Minerals (Pty) Limited	Category 1
98	COR-184	HVH Gold (Pty) Limited	Category 4
99	COR-186	AfriSam (Pty) Limited	Category 1
100	COR-190	Sibanye Gold - Ezulwini	Category 4
101	COR-194	Exxaro Resources	Category 1
102	COR-195	Houlogon Uranium & Power (Pty) Ltd	Category 1
103	COR-197	Gold Reef City Theme Park	Category 1
104	COR-198	Set Point Industrial Technologies (Pty) Ltd (Isando)	Category 1
105	COR-199	Uramin Mago Lukisa	Category 1
106	COR-200	Uramin Mago Lukisa	Category 1
107	COR-201	A&S Mining Supplies	Category 1
108	COR-203	Cemo Pumps (Pty) Ltd	Category 1
109	COR-204	Holgoun Energy (Pty) Ltd	Category 1
110	COR-206	Uranium One and Micawber 397 (Proprietary) Limited	Category 1
111	COR-210	Tasman Pacific Minerals (Pty) Limited	Category 1
112	COR-211	Tasman Pacific Minerals (Pty) Limited	Category 1
113	COR-215	Margaret Water Company	Category 4
114	COR-216	Paddy's Pad 1183 (Pty) Ltd	Category 1
115	COR-217	Cango Caves Oudtshoorn Municipality	Category 1
116	COR-218	Grindrod Terminals (Pty) Limited	Category 2
117	COR-219	Sibanye Gold Eastern Operations (Pty) Ltd.	Category 4
118	COR-220	African Empowered Aggregates CC	Category 1
119	COR-221	Tasman Pacific Minerals (Pty) Limited	Category 1
120	COR-225	New Kleinfontein Goldmine (Pty) Limited	Category 4
121	COR-226	Rand Uranium (Pty) Limited	Category 5
122	COR-228	Ergo Mining (Pty) Limited	Category 4
123	COR-229	The New Reclamation Group (Pty) Limited - Welkom Operations	Category 2
124	COR-230	ALS Chemex South Africa (Pty) Limited	Category 1
125	COR-232	Central Rand Gold South Africa (Pty) Limited (West)	Category 4
126	COR-233	Central Rand Gold South Africa (Pty) Limited (East)	Category 4
127	COR-236	Reclaim Invest 101 (Pty) Limited	Category 2
128	COR-238	Tronox (Namakwa Sands Operations)	Category 4

	COR Number	Name of COR Holder	Category
129	COR-239	Aflease Gold Limited	Category 4
130	COR-240	Tantus Trading 180 (Pty) Ltd	Category 2
131	COR-242	Enviro Mzingazi Gypsum (Pty) Limited	Category 1
132	COR-245	Namakwa Uranium (Pty) Limited	Category 1
133	COR-246	NTP Logistics (Pty) Limited	Category 4
134	COR-247	SGS South Africa (Pty) Ltd -	Category 1
135	COR-248	Foskor Zirconia (Pty) Limited	Category 2
136	COR-249	Pro Mass Transport (Pty) Ltd	Category 1
137	COR-250	JCI Gold Limited	Category 1
138	COR-252	Harmony Gold Mining Company Limited (South Operations)	Category 4
139	COR-253	Avgold Limited (North Operations)	Category 4
140	COR-254	WS Renovation Contractors -	Category 1
141	COR-255	Genalysis Laboratory Services SA (Pty) Ltd	Category 1
142	COR-256	Chifley Trading CC	Category 1
143	COR-257	Samco Investments (Pty) Limited	Category 2
144	COR-258	SA Metal and Machinery Co (Pty) Limited	Category 2
145	COR-260	African Mineral Standards (a division of Set Point Industrial Technology (Pty) Ltd)	Category 1
146	COR-261	North West University	Category 1
147	COR-262	UIS Analytical Services (Pty) Ltd	Category 1
148	COR-263	Aklin Carbide (Pty) Ltd	Category 1
149	COR-264	Umhlathuze Imports and Exports	Category 2
150	COR-266	Nicolor (Pty) Ltd	Category 1
151	COR-267	SGS South Africa (Pty) Ltd ( Randburg Operations)	Category 1
152	COR-270	Trans-Med Shipping	Category 2
153	COR-265	Tau Lekoa Gold Mining Company (Pty) Ltd	Category 4
154	COR-268	Far East Gold Special Purposes Vehicle (Pty) Ltd	Category 4
155	COR-269	Newshelf 1186 (Pty) Ltd	Category 4
156	COR-272	Sasol Gas Ltd	Category 1
157	COR-273	Ë&A Belt Sales CC	Category 2
158	COR-274	Freight Facilitators (Pty) Ltd	Category 2
159	COR-275	Vosloo and Lloyd Investments (Pty) Ltd T/A Scrapcore Secunda	Category 2
160	COR-276	Aquatro Investments CC	Category 2
161	COR-277	Donnlee Pump Tech (Pty) Ltd	Category 1
162	COR-278	Phalaborwa Recycling CC	Category 2
163	COR-280	Castle Ultra Trading T/A Nkhona Traders	Category 2

	COE No.	HOLDER
1	COE-1	Hydropower Mining
2	COE-2	Oranje Mynbou Verwoer - Kynoch Gypsum
3	COE-3	Kynoch Modderfontein
4	COE-4	Oranje Mynbou Verwoer - Stilfontein Waste Rock
5	COE-5	KALAHARI GOLD RIDGE MINING COMPANY
6	COE-6	Neethling Plastics
7	COE-7	Glencore SA (pty) Limited
8	COE-8	Necsa (Shipment of 5 iso containers)
9	COE-9	Norcros SA (Pty) Limited
10	COE-10	Dino Properties
11	COE-11	South African Roll Company Pty Ltd
12	COE-12	The Maretsel Property Trust
13	COE-13	CERACAST
14	COE-14	Landscape Architect Environmental Planner
15	COE-15	OSRAM
16	COE-16	JOSHCO
17	COE-17	Scientific Services CC
18	COE-18	Paterson & Cooke (Pty) Ltd
19	COE-19	University of Pretoria: Department of Chemical Engineering
20	COE-20	Denel
21	COE-21	HUNTREX 196 (PTY) LTD T/A CERACAST
22	COE-22	Living Africa Development (Pty) Ltd
23	COE-23	JENCO
24	COE-24	Little Creek
25	COE-25	SCIP
26	COE-26	MGTD Environmental
27	COE-27	Oil for Africa Banzi
28	COE-28	Living Africa (Pty) Ltd
29	COE-29	Aerosud
30	COE-30	South African Roll Company Pty Ltd
31	COE-31	Arch Import and Export CC
32	COE-32	Living Africa
33	COE-33	Chromatech Services
34	COE-34	City of Ekurhuleni
35	COE-35	GeoLabs



	COE No.	HOLDER
36	COE-36	Urban Dynymics City of Ekurhuleni
37	COE-37	Leeuwpoot developments (Pty) Ltd
38	COE-38	Baldwin Properties
39	COE-39	Living Africa 2 (Pty) Ltd

*Koeberg Nuclear  
Power Station (KNPS)*



## 1. Regulation of Nuclear Power Plants – Koeberg Nuclear Power Station (KNPS)

The KNPS is located 35km north of Cape Town on the West Coast of South Africa and is the only nuclear power station on the African continent. KNPS is owned and operated by South Africa's national electricity supplier, Eskom. In terms of the NNR Act, nuclear installation licences contain conditions deemed necessary to ensure the protection of persons, property and the environment against nuclear damage.

The Regulator has also varied the licence, NIL-01, considering international standards and best practices, operational experience feedback and to allow for the possible application for long term operation. The reasons for the changes are primarily to:

- Bring the licence into compliance with current regulations on Safety Standards and Practices, the SSRP, regarding stipulation of the period for periodic safety reassessments;
- Incorporate the latest IAEA Safety Standards for transport, SSR-6, in the licence;
- Include conditions regarding ageing management;
- Specify the 40-year operational life of Koeberg in the licence consistent with the current safety basis;
- Align our regulatory framework regarding long term operation and licence renewal with international practice and recommendations;
- Expand requirements for decommissioning; and
- Include requirements for design and manufacturing of components.

The current Koeberg Nuclear Installation Licence, NIL-01 variation 19, contains 29 conditions, including specific licensing requirements and controls pertaining to:

- General Conditions
- Nuclear Installation Description
- Demarcation of the site
- Scope of activities that may be undertaken
- Radiological Protection
- Environmental Protection and Effluent Management
- Radioactive Waste Management
- Emergency Planning and Preparedness
- Medical Surveillance and Health Register
- Transport
- Safety Assessment
- Modification to design of the plant
- Design and Manufacturing of components
- Limits and Conditions on Operation
- Maintenance and In-Service Inspection
- Ageing Management and Long Term Operation
- Decommissioning
- Physical Security
- Dealing with the Site
- Authorised and Qualified Persons
- Quality and Safety Management
- Documents and Records
- Organisational Changes
- Safety Committees
- Financial Security
- Inspection Programme
- Events on the Site
- Public Safety Information Forum
- Display of Nuclear Licence

In terms of section 26(2) of the NNR Act, Eskom as the nuclear licence holder implements an inspection programme to ensure compliance with the conditions of the Nuclear Installation Licence. The NNR implements an independent system of compliance inspections to provide assurance of compliance with the conditions of the nuclear licence in terms of section 5(d) of the NNR Act.

### 1.1. Occupational exposure to radiation

The NNR prescribes that occupational exposure of any worker should be controlled to ensure that the limits shown in the table below are not exceeded.

#### 1.1.1. General regulatory dose limits

GENERAL REGULATORY DOSE LIMITS	
Workforce	Regulatory Criteria (RD-0022)
Maximum individual worker dose	A (maximum) effective dose of 50mSv in any single year
Average individual worker dose	20mSv per annum averaged over five consecutive years

The worker doses at KNPS during the reporting period were within regulatory limits as depicted in figure 1 below. Radiation exposure of workers at KNPS remained subject to control by the Operational Radiation Protection Programme. This programme ensured that control within the annual individual dose limit was achieved. In addition, the programme also served to ensure that all doses are kept As Low As Reasonably Achievable (ALARA).

Figure 1: Highest individual occupational exposure (2014 – 2018)

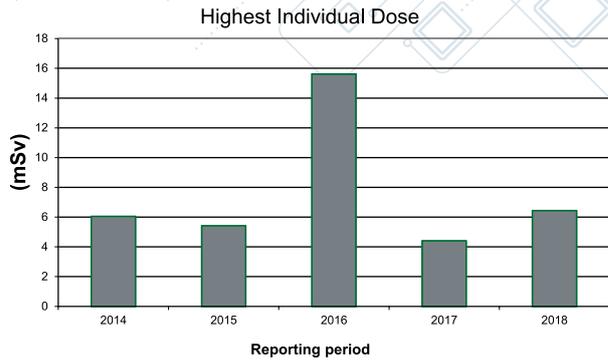
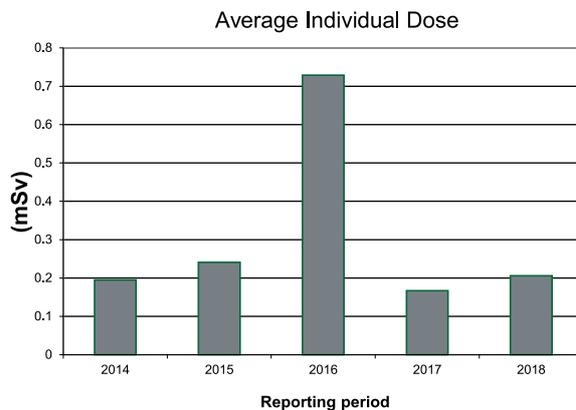


Figure 2: Average individual dose at KNPS (2014 – 2018)

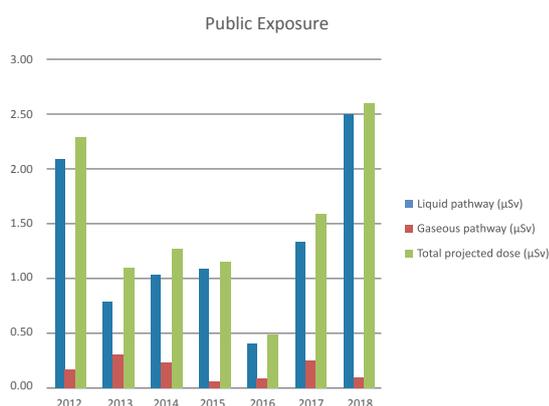


The average individual dose between for 2014 – 2018 was below 20mSv per annum, attesting to the ALARA programme being implemented by the operator. Further, no individual exceeded average individual dose averaged over five consecutive years as prescribed by the SSRP.

#### 1.1.2. Projected public exposure to radiation

In accordance with the conditions of the licence and the SSRP, the public doses resulting from effluent discharges from KNPS must comply with the dose constraint of 250µSv/a and the system of Annual Authorised Discharge Quantities (AADQs) applicable to the site. KNPS complied with the AADQs and the projected public doses resulting from the effluent releases (both liquid and gaseous) were well within the dose constraint for the 2017 calendar year. There were no unauthorised effluent discharges and no safety concerns regarding the safety of the public living around the site during the period under review.

Figure 3: Projected public dose from effluent discharges (2014 – 2018)



The public doses resulting from effluent discharges between 2014 and 2018 were below 250µSv/a and comply with the dose constraints prescribed by the SSRP regulations.

## 1.2. Nuclear safety

The Authorisation Holder’s commitment to safety of the plant and operations has been confirmed by the inspections that have been carried out. Where it has been observed that areas of weakness have occurred, these have been addressed by thorough investigations and the implementation of appropriate corrective actions.

During the year under review, the NNR focussed its safety assessment activities primarily on the areas summarised under the headings that follow.

### 1.2.1. Steam Generator Replacement (SGR)

During the year under review, the manufacturing of Replacement Steam Generators (RSGs) planned for installation in 2021 was progressed at Shanghai Electric Nuclear Power Equipment (SENPEC) in China.

Manufacturing is taking place in compliance with the NNR quality, safety management and manufacturing requirements, RD-0034 and PP-0012. All manufacturing activities are progressing as per schedule at the main manufacturing facility in China, SENPEC. The NNR is monitoring the manufacturing processes as well as the close-out of non-conformances to specifications in accordance with the agreed process.

The review of safety analyses and engineering study documents continue to be received and reviews are in progress. The studies are submitted prior to the safety case in order to ensure a common understanding of safety criteria and analysis methods.

Interfacing between the NNR and Eskom on the project took place through special monthly SGR licensing meetings where outstanding issues are discussed and tracked.

### 1.2.2. Refuelling water storage tank (PTR) replacement

During the year under review, the NNR continued its oversight of the replacement of the PTR tanks with manufacturing for both units being completed. The installation of the Unit 1 tank has, however, been delayed to the 24th Unit 1 outage (2019) due to NNR concerns with the installation safety case. The Unit 2 tank was successfully installed during the 23<sup>rd</sup> Unit 2 outage in 2018.

### 1.2.3. Spent fuel dry storage

The used nuclear fuel is currently stored in the spent fuel pools as well as four dry storage casks located in the Cask Storage Building (CSB) at KNPS. The storage space in both spent fuel pools is almost fully utilised. Eskom had adopted a strategy to load spent fuel in dry storage casks that will be stored in the CSB and a Transient Interim Storage Facility (TISF) on the Koeberg site, subject to NNR licensing. Eskom had obtained a positive record of decision from the Department of Environmental Affairs in 2017 for the construction of the TISF.

Phase 1 of the project entails the procurement of fourteen (14) HI-STAR 100 metal casks from Holtec, a company based in the US. The manufacturing of casks is in progress in accordance with NNR requirements stipulated in RD-0034 and PP-0012. Nine casks have been delivered to KNPS. During the reporting period, NNR continued with the review of Eskom’s safety submissions related to the licensing of the HI-STAR 100 metal casks. The NNR comments on these submissions are being resolved.

The HI-STAR 100 metal casks have been certified for use by the United States Nuclear Regulatory Commission (USNRC) and are being used extensively internationally, albeit in a vertical arrangement. Eskom plans to store the casks horizontally in the CSB and will have to demonstrate to the NNR that this arrangement does not adversely impact on safety.

### 1.3. Long Term Operation (LTO)

The Koeberg safety analysis report assumes a design life of 40 years which limits current operations to July 2024. Eskom has established a programme in preparation for the planned LTO. The LTO programme includes IAEA technical support and expert missions prior to July 2024. An IAEA SALTO support mission took place in September 2018 reviewing the ageing management programmes at KNPS.

The Regulatory Guide on Ageing Management and LTO (RG-0027) has been approved and issued to Eskom. The KNPS Nuclear Installation Licence, NIL-01, has been varied to include specific conditions relating to ageing management and LTO and provides for, in conjunction with RG-0027, the regulatory framework for long term operation for the plant.

### 1.4. RPVH Replacement Project

The Unit 2 Reactor Pressure Vessel Head (RPVH) and Control Rod Drive Mechanisms (CRDMs) are due for replacement in Outage 225 in 2021. The project is progressing as planned and is currently in the manufacturing phase.

The RPVH is being manufactured in accordance with NNR requirements stipulated in RD-0034, PP-0012 and ASME III, Version 2007 code. The NNR continued the review of manufacturing related documents during the reporting period ensuring that the requirements are met during the manufacturing phase.

### 1.5. Competency and sufficiency of the operator workforce to work safely

Based on monitoring of events on the plant, the overall staffing and competency levels required for acceptable performance in work related to

nuclear safety at KNPS were found to be satisfactory during the period under review.

### 1.6. Transport safety

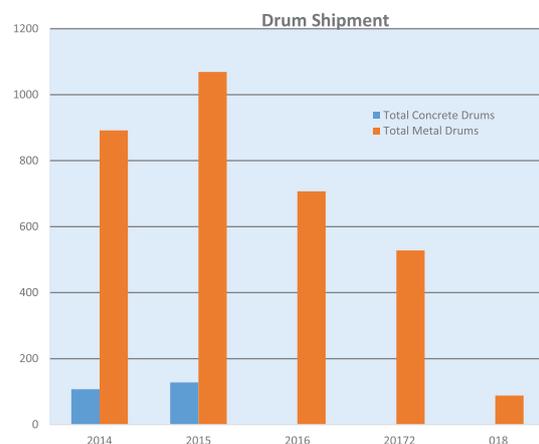
The NNR issued two Nuclear Vessel Licences for the transport of new fuel to KNPS. There were no concerns related to the safety of transport of radioactive material during the period under review.

### 1.7. Radioactive waste safety

Significant progress has been made in resolving the outstanding issues and Eskom is in the process of updating the respective safety reports.

Considering the progress made, the hazard associated with the waste packages and the implementation of a graded approach to regulation, 88 steel drums were sent to Vaalputs during the 2018 calendar year (See figure 4). No concrete containers were transported to Vaalputs.

Figure 4: Inventory of solid radioactive waste produced and drummed for calendar years 2014 – 2018

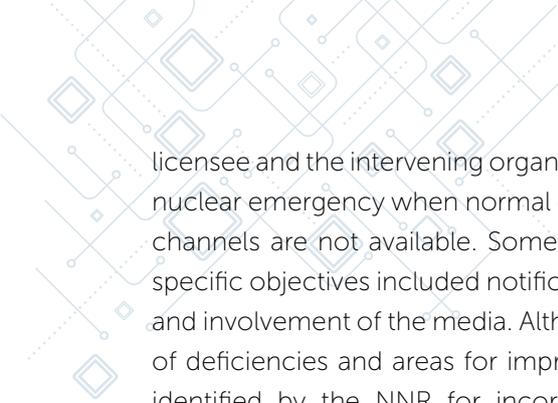


### 1.8. Environmental protection

There were no safety concerns identified regarding the environment around KNPS during the period under review.

### 1.9. Nuclear emergency planning and preparedness

The Regulatory Nuclear Emergency Exercise at Koeberg Nuclear Power Station (KNPS) was conducted on 29 August 2018. The overall objective of the exercise was to evaluate the communication and flow of technical information between the



licensee and the intervening organisations during a nuclear emergency when normal communication channels are not available. Some of the exercise specific objectives included notification, activation and involvement of the media. Although a number of deficiencies and areas for improvements were identified by the NNR for incorporation in the licensee plans and procedures, it was concluded that the KNPS Emergency Plan and Radiological Release Hazard Disaster Risk Management Plan (RRR) remain viable for the protection of persons, property and the environment. An approved corrective action plan that is currently being implemented by licensee and the local authorities is monitored by the NNR.

#### **1.10. Physical security**

Both the NNR and the national key points' security functionalities have responsibilities regarding physical security at KNPS. As part of its Compliance Assurance Programme, the NNR conducted regular compliance activities at KNPS to verify conformance to licensing requirements pertaining to nuclear security. Security related incidents, and the NNR and SAPS National Key Points' security functionalities thereto, are monitoring Eskom's responses. Where necessary, enforcement actions are called for and implemented.

The NNR conducted 10 planned inspections during the reporting period, which covered a wide variety of related activities consisting of staffing, physical security, fitness for duty and compliance with the Federal Aviation Regulation (focussing on drones). Given its complexity, the preparatory work began for a multidiscipline cyber security audit to be conducted, making use of various specialists from different organisations.

#### **1.11. Safety of sealed radioactive sources**

The safety of sealed radioactive sources on the KNPS site was found to be in compliance with regulatory requirements. There were no concerns regarding the safety of the sealed radioactive sources during the review period.

#### **1.12. Nuclear incidents/accidents reported**

There were no nuclear incidents or accidents, as defined in the NNR Act, reported during the period under review. The NNR was satisfied with the processes implemented at KNPS relating to events/ occurrences.

#### **1.13. Regulatory compliance inspections and audits**

In order to verify the degree of compliance with the conditions of authorisation, the NNR undertakes independent inspections and audits. The NNR conducted 69 inspections at the KNPS as part of its compliance assurance activities in the year under review.

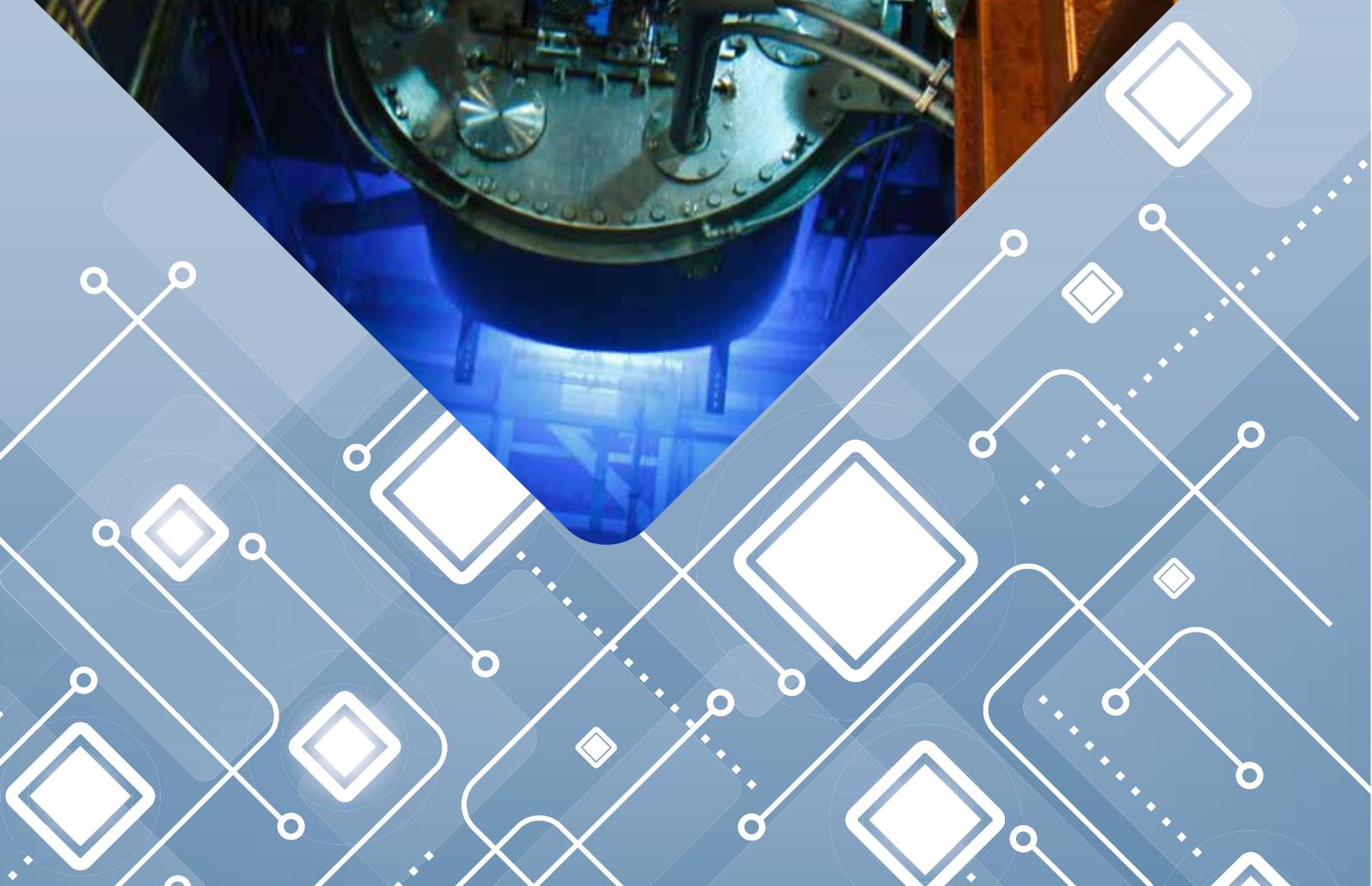
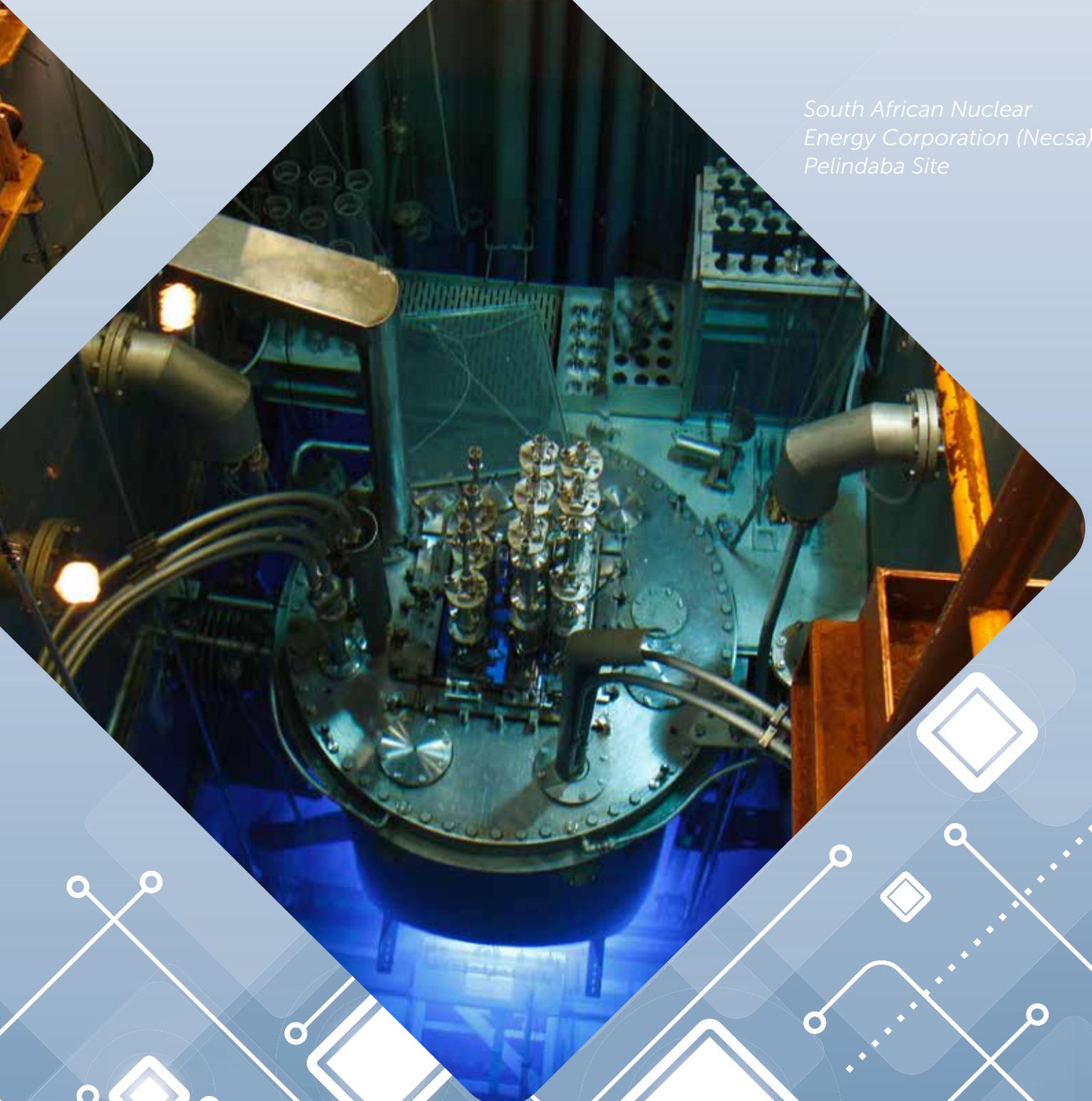
#### **1.14. Regulatory warnings and directives to stop work**

The NNR issued an enforcement action to KNPS during the reporting period relating to satisfactory closing out of corrective actions relating to physical security.

#### **1.15. Appeals to the CEO**

No appeals were lodged with the CEO during the review period.

*South African Nuclear  
Energy Corporation (Necsa)  
Pelindaba Site*



## 2. Regulation of Nuclear Facilities and Activities on the South African Nuclear Energy Corporation (Necsa) Pelindaba Site

Established as a public company in terms of Nuclear Energy Act, Act 46 of 1999, the South African Nuclear Energy Corporation (Necsa), with its headquarters at the Pelindaba site, is wholly-owned by the state. The Pelindaba site, comprising 658ha of land and 54ha of buildings and other improvements, is situated in the magisterial district of Madibeng in the North-West Province, approximately 25km west of Pretoria, and 55km north-west of Johannesburg. Necsa employs approximately 1400 people in diverse technical areas such as physics, engineering, chemistry, radiopharmaceuticals and electronics.

Necsa undertakes and promotes research and development (R&D) in the fields of nuclear energy, radiation science and technology, medical-isotope manufacturing, nuclear liabilities management, radioactive waste management, and decommissioning.

In terms of section 26(2) of the Act, Necsa as the nuclear licence holder implements an inspection programme to ensure compliance with the conditions of the Nuclear Installation Licence. The NNR implements an independent system of compliance inspections to provide assurance of compliance with the conditions of the nuclear licence in terms of section 5(d) of the Act.

The nuclear facilities on the Pelindaba site are diverse and include:

- The SAFARI-1 Research Reactor;
- Various fuel cycle facilities involved in the manufacture of nuclear fuel for the SAFARI-1 Research Reactor;
- Analytical Laboratories;
- A Liquid Effluent Treatment Facility;
- A variety of radioactive waste treatment and storage facilities; and,
- An array of facilities in various stages of decommissioning.

These facilities are authorised in terms of Nuclear Installation Licences NIL-02 through NIL-27 and NIL-29 through NIL-42. In accordance with the conditions of the licence, Necsa is required to ensure that arrangements, acceptable to the NNR, are established and implemented with respect to the following aspects:

- Plant description and configuration
- Scope of Activities that may be undertaken
- Maintenance and in-service inspection
- Effluent Management
- Environmental Monitoring
- Transport
- Quality Management
- Decommissioning
- Records Management and Reporting
- Medical Surveillance
- Public Safety Information Forum
- Financial Liability for Nuclear Damage
- Inspection Programme to ensure compliance with Conditions of Authorisation
- Safety Assessment
- Controls and Limitations on Operation
- Operational Radiation Protection
- Waste Management
- Emergency Planning and Preparedness
- Physical Security
- Acceptance and Approval
- Organisational Change
- Plant Modifications
- Radioactive Waste Management

## 2.1. Occupational Exposure to Radiation

The NNR prescribes that occupational exposure of any worker should be controlled to ensure that the limits shown in the table below are not exceeded.

GENERAL REGULATORY DOSE LIMITS	
Maximum individual worker dose	A (maximum) effective dose of 50mSv in any single year
Average individual worker dose	An (average) effective of 20mSv per annum averaged over five consecutive years

Radiation exposure of workers at the Pelindaba site is subject to control by the Operational Radiation Protection Programme. This programme ensures that control within the annual individual dose limit is achieved. In addition, the programme also serves to ensure that all doses are kept ALARA. For the reporting the Necsa committed ALARA Goa was 4mSv/a. The occupational exposure on the Pelindaba site was within the NNR regulatory requirements.

Figure 5: The average effective dose Pelindaba site (2014-2018)

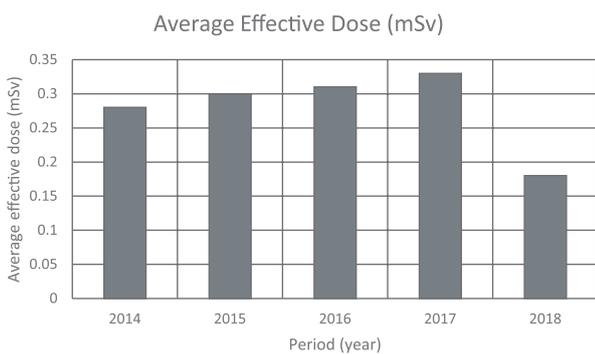
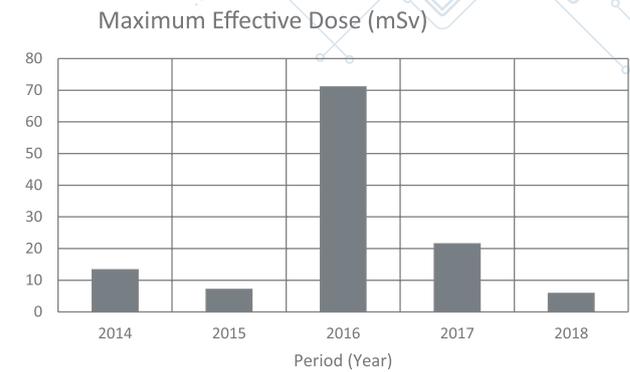


Figure 6: Maximum individual dose Pelindaba site 2014-2018



Average effective dose and maximum individual doses received during the past five years are shown in Figures 5 and 6 respectively. The reason for the high dose in 2016 is due to an individual who accrued 70.05mSv while performing work outside of the country.

### 2.1.1. Projected Public Exposure

Conditions of licence and the SSRP Regulations require that public doses resulting from effluent discharges from the Pelindaba site must comply with the dose constraint of 250µSv per annum and the system of AADQs applicable to the site. Necsa demonstrated compliance with the AADQs. The projected public doses, resulting from the liquid and gaseous effluent releases during the past five years is as shown in Figure 7.

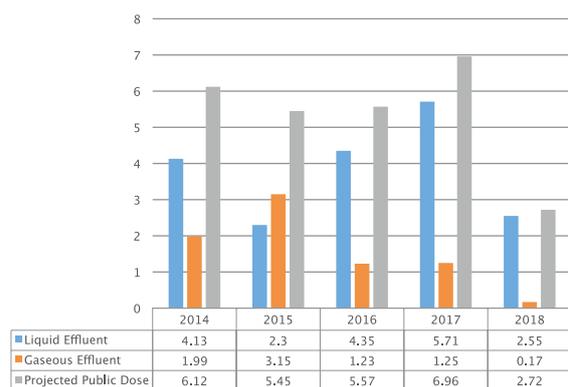


Figure 7: Projected public exposure of liquid and gaseous pathways for Necsa Pelindaba site 2014-2018

## 2.2. Nuclear Safety

### 2.2.1 SAFARI-1 Alternate Fuel Plate Supplier

SAFARI-1 currently makes use of Low Enriched Uranium (LEU) Fuel Assemblies and Control Rod Assemblies assembled by the ELPROD Facility on the Necsa site, using fuel plates that are procured from France. In order to enhance security of fuel supply, Necsa has undertaken to qualify an alternate supplier of fuel plates. During the reporting period the NNR reviewed and commented on submissions related to:

- Licensing strategy for new supplier
- Supplier Qualification Programme and Plan
- Project Management Plan

### 2.2.2 Extended shutdown of SAFARI-1 due to lack of medium active effluent storage capacity at the facility

On 16 August 2018, SAFARI-1 informed the NNR of the intention to shut down the reactor for an extended period until at least 05 October 2018. This was due to limited available capacity to store medium active effluent at the facility resulting in an inability to regenerate the resin filter columns that purify the primary system coolant and reactor pool water, to within the Operational Technical Specifications (OTS).

The medium active effluent capacity problems were due to the fact that the medium active effluent evaporator at the Necsa Liquid Effluent Treatment Facility was not operational for an extended period of time (since April 2018).

SAFARI-1 shut down on 17 August 2018; the NNR monitored the situation at the reactor and no safety concerns except the lack of effluent storage capacity at the facility were noted during the extended shutdown. In this regard Necsa requested approval to temporarily reclassify effluent Tank R4 (a low active effluent tank) to accept medium active effluent. NNR approval for reclassification of R4 to accept medium active effluent on a once-off basis was granted on 13 September 2018.

The repairs were completed at the Liquid Effluent Treatment Facility in early October 2018. The NNR reviewed the request to start up the SAFARI-1 Reactor and granted approval for the restart of the reactor, following the extended shutdown, on 11 October 2018.

### 2.2.4. Review of SAFARI-1 Operating Technical Specifications (OTS)

The OTS of a nuclear facility sets the limits for the facility and outlines the operating envelope for the facility to safely operate within the design limits. The operational limits in an OTS must link the contents of the SAR of the facility with its operation. Necsa submitted an update to the Operating Technical Specifications for the SAFARI-1 Research Reactor. The NNR reviewed the OTS, and sent comments that must be addressed before approval of the revised OTS will be considered.

## 2.3. Transport Safety

There were no major concerns related to the safety of transport of radioactive material during the period under review.

### 2.3.1. Transport actions relate to import of fuel plates for SAFARI-1 from France

During the review period the NNR reviewed Necsa reports confirming compliance to the conditions of approval for the import of fuel plates from France.

### 2.3.2. On-site transfer of LEU Spent Fuel from SAFARI-1 to the Thabana Complex

Spent LEU fuel from the SAFARI-1 Research Reactor is stored in the Pipe Store in the Thabana Complex. The transfers are done in a campaign, under the supervision of Nuclear Safeguards. The NNR previously asked for the Safety Assessment Report to be updated. Upon receiving the revised Safety Assessment Report and addressing of the NNR comments, the NNR approved the campaign for the transfer of 105 spent LEU fuel elements on 15 October 2018.

Several mechanical issues were experienced with the transport vehicle and the trailer which is used for the transfers. The NNR requested that Necsa provide a confirmation of roadworthiness and fitness for purpose. The NNR is currently reviewing

the submissions and is expected to respond in the next reporting period.

### **2.3.3. Safety Assessment of the SAFARI-1 Spent Fuel Transfer Cask**

In the previous reporting period, the NNR reviewed and responded to the Necsa submission related to the update of the safety assessment for the SAFARI-1 Spent Fuel Transfer cask. During this reporting period the NNR completed its review of the Necsa responses to the NNR comments. Based on the review, comments were sent to Necsa.

### **2.3.4. Validation and Re-Validation of Transport Packages**

In accordance with the provisions of Section 7 of the National Nuclear Regulator Act (Act No. 47 of 1999), the NNR acts as the Competent Authority in South Africa in compliance with the International Atomic Energy Agency's Regulations for the Safe Transport of Radioactive Material.

#### **2.3.4.1. French TNBGC-1 Transport Container**

In line with this mandate the NNR, during the reporting period, considered and revalidated the package design approvals for the French TN-BGC-1 transport container, used by Necsa for import of fuel and target plates from France. In view of the fact that the current certificate issued by the French Competent Authority expires on 31 December 2018, the validation issued by the NNR also expires on 31 December 2018.

#### **2.3.4.2. PELSTORE: High Density Concrete Container**

Necsa submitted the revised specifications for the C6 High Density Concrete Container for NNR approval. The C6 High Density Concrete Container is intended to be used for the solidification of active liquid waste from the NTP Radiochemicals Complex. The NNR review found that Necsa had not satisfactorily addressed all the NNR comments raised previously. The NNR awaits Necsa's response addressing the outstanding comments.

#### **2.3.4.3 Approval of Handling Instructions for Transport containers used by NTP Radiochemicals**

The NNR reviewed and approved revised handling instructions for the following transport containers used by NTP Radiochemicals:

- ZA/NNR 1008/B(U)-96 being "Jane" transport container
- ZA/NNR 1006/B(U)-96
- ZA/NNR 1005/B(U)-96, being "Beatrice" transport container
- ZA/NNR 1004/B(U)-96 being the "Ria" transport container

The NNR also considered revised handling instruction for the following:

- ZA/NNR 1003/B(U)-96 and
- ZA/NNR 1009/B(U)-96 being "ERIKA" transport container.

These submissions were not approved and Necsa was required to address the NNR comments prior to the revised handling instructions being approved.

## **2.4. Radioactive Waste Safety**

There were no safety concerns regarding radioactive waste management on the Pelindaba site during the period under review.

### **2.4.1. Thabana Pipe Store Expansion Project**

The Thabana Pipe Store (within the Thabana Complex, authorised under NIL-04) submitted a request to increase the current storage capacity of used fuel elements at the Thabana Pipe Store as well as the long-term storage of uranium residue from the NTP Radiochemicals Complex. During the reporting period the NNR responded on:

- Proposed Licensing Strategy
- Project Management Plan
- Project Quality Plan

The NNR awaits Necsa's resubmissions addressing the comments raised.

### **2.4.2. Uranium Residue Project in the NTP Radiochemical Complex**

As part of the radioactive waste management improvements and rationalisation project within the NTP Radiochemical Complex (Hot Cell Complex), Necsa had previously requested approval for modification of the utilisation of Cell 2, Cell 6A and Cell 6B in the facility. Necsa proposed to use Cell 6A and Cell 6B for the conditioning of the

uranium residue and Cell 2 as an interim store for the storage of the uranium residue from Mo-99 and I-131 radiopharmaceutical manufacturing processes. During the reporting period, the NNR granted approval for the hot commissioning of Cell 2, Cell 6A and Cell 6B and monitored the hot commissioning activities. Necsa experienced a number of challenges during hot commissioning, which led to the suspension of hot commissioning in November 2018. Necsa/NTP has since conducted a review of the hot commissioning activities that have been conducted and identified lessons learnt. NNR approval for restart of hot commissioning is contingent on Necsa addressing the regulatory concerns raised as well as the Necsa submission of the report on the lesson learnt and how these will be applied at the facility.

## 2.5. Environmental Protection

Samples were collected from various media in the environment around the Pelindaba site. The sampling locations were based on the surrounding land use. Samples were analysed and results were submitted to the NNR on a quarterly and annual basis. The sample media included:

- Air filter monitoring on the Pelindaba site;
- Milk from surrounding farms;
- Plant material in the surrounding area; and,
- Water and fish samples from the Crocodile River and Hartbeespoort Dam.

The analyses showed that there were no nuclear safety concerns regarding the environment around the Pelindaba site in the review period.

## 2.6. Regulatory Independent Verification of Radiological Environmental Analysis

The NNR conducted an independent verification of radiological environmental analysis by collecting samples in and around the Necsa Pelindaba site. Analysis of the samples revealed no safety concerns with regard to the environment around the Necsa Pelindaba site.

## 2.7. Nuclear Emergency Planning and Preparedness

During the reporting period the NNR continued to monitor the Necsa progress in addressing the

improvement actions from previous emergency exercises. There were no safety concerns regarding the emergency planning and preparedness at Necsa Pelindaba during the review period.

## 2.8. Competency and Sufficiency of Necsa's Pelindaba Workforce to Work Safely

In addition to the requirements in the SSRP Regulations, the conditions of licence require that Necsa must establish and implement arrangements to ensure that suitably qualified and experienced persons perform any duties that may affect the safety of operations on the site, or any duties assigned by or under the conditions of the licence. Such arrangements must make provision for the appointment, as appropriate, of authorised persons to control and supervise operations that may affect plant or facility safety. The regulatory concerns related to the directives issued to NTP Radiochemicals Complex have highlighted that the sufficiency and competency of the staff at the facility requires attention.

## 2.9. Physical Security

There were no concerns regarding physical security of the Necsa Pelindaba site during the period under review.

## 2.10. Safety of Sealed Radioactive Sources

The NNR conducts inspections on radioactive sources at the Necsa Pelindaba site and receives six-monthly reports on radioactive sources that are used, stored on site or transported to and from the site. There were no safety concerns regarding sealed radioactive sources at Pelindaba site during the review period.

## 2.11. Nuclear Incidents/Accidents Reported

There were no nuclear incidents or accidents reported during the period under review.

## 2.12. Regulatory Compliance Inspections

NNR conducted 134 planned and three (3) unplanned compliance inspections at Necsa's Pelindaba site during the 2018/19 financial year. Overall the inspections revealed satisfactory compliance with NNR regulations except for those inspections related to the NTP facility on the Pelindaba site.

Additionally the NNR conducted two (2) major strategic inspections at the Necsa Pelindaba site during the period under review. The first was related to SAFARI-1 Aging Management and the second related to management of safety at the NTP Radiochemicals Complex.

#### **2.12.1. Aging Management at SAFARI-1**

SAFARI-1 is currently in the process of performing an assessment of all the safety critical SSCs in order to establish the current health of the facility as a basis for ongoing operations. It was noted that the health assessment covers the following SSCs:

- Reactor vessel;
- Concrete biological shield;
- All safety class 1 SSCs; and,
- Safety class 2 and 3 SSCs.

The NNR raised findings during the inspection and continues to monitor the SAFARI-1 progress in addressing these findings.

#### **2.12.2. Management of Safety at NTP Radiochemicals Complex**

The NNR inspection highlighted the following:

- Significant deficiency in the Leadership for Safety at NTP;
- Inadequate assessment of the hazards and the associated risks for NTP operations;
- No co-ordinated/effective approach by the Nuclear Facility Safety Committee and Safe Operations Ambassadors (SOAs) in evaluating effectiveness/adequacy of corrective actions for events and addressing of open Category 2 and 3 events;
- Deficiencies identified by the previous safety culture assessment were not adequately addressed.

NTP is in the process of addressing the matters raised and the NNR continues to monitor the progress with regard the open issues.

#### **2.13. Regulatory investigations**

There were no investigations conducted during the reporting period.

#### **2.14 Regulatory Warnings or Directives to Stop Work**

There were no directives issued to Necsa facilities during the reporting period. The sections below provide an update on the status of Regulatory Concerns at both the NTP Radiochemicals Complex and the Volume Reduction Facility in the Pelstore.

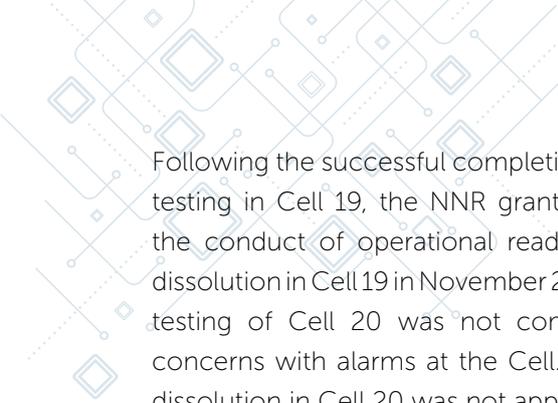
##### **2.14.1. NTP Radiochemicals Complex**

Numerous regulatory concerns at the facility during 2017 resulted in the NNR issuing a directive on 17 November 2017, to suspend all production activities in the plant. In response to the directive and stemming from the various reported events and regulatory concerns, Necsa had proposed a number of corrective and preventive actions in various reports. On the basis of these commitments and actions, limited return to service readiness runs (RSRR) were allowed as from 19 February 2018 with weekly reporting. With effect from 19 April 2018 the number of RSRR to be conducted was left to the discretion of Necsa/NTP and the reporting frequency was reduced to monthly. In the last week of May 2018 Necsa/NTP reported three occurrences relating to violation of the Operational Technical Specifications and conditions of authorisation granted by the NNR. Consequently all production in the facility was again suspended.

In July 2018, three of the four previously suspended NTP executives returned to the facility. In September 2018, Necsa/NTP provided a revised strategy which included:

- Safety Management Strategy;
- Updated responses to previous NNR comments; and
- A Plant Reconstitution Plan

In addition, Necsa has submitted a revised organisational structure and the rationale behind the changes. This rationale also indicated how the management for safety would be achieved, specifically with regard to how the Nuclear Facility Manager (NFM) role is expected to function. Also, The NFM was changed to someone that is more familiar with the facility.



Following the successful completion of functional testing in Cell 19, the NNR granted approval for the conduct of operational readiness runs with dissolution in Cell 19 in November 2018. Functional testing of Cell 20 was not completed due to concerns with alarms at the Cell. Consequently dissolution in Cell 20 was not approved.

Operational readiness runs with dissolution in Cell 19, conducted in December 2018 and January 2019 showed compliance with the conditions of authorisation. However, on 24 February 2019, the facility exceeded the Operating Technical Specifications (OTS) with respect to cell pressures in Cell 16. Further, the facility violated the conditions of authorisation, in that the facility continued to conduct operation following the OTS exceedance on 24 February 2019, without prior NNR approval.

The Necsa/NTP internal investigation into this and other violations at the facility has identified a degraded safety culture at the facility, confirming the concerns raised repeatedly by the NNR. This is evidenced by:

- Repeated failures to adhere to facility specific processes and procedures.
- Delays by facility supervisors and middle management to promptly report the non-adherence to procedures to upper management and the nuclear facility manager (NFM).
- Use of unauthorised/embargoed equipment in the facility.
- Failure by facility management to take prompt action for non-compliances.
- Failure of facility management to fully and timeously implement identified corrective and preventative actions for past occurrences in the facility.

In line with the philosophy that the operator has the prime responsibility for safety, the NNR has required that Necsa/NTP investigate the matter fully and propose appropriate corrective and preventative measures to address the violations and failure to follow facility specific procedures.

Operations at the NTP Radiochemicals facility remain suspended; however the NNR continues to place priority on the NTP submissions to assist with a speedy resolution of the outstanding issues, which will allow resumption of operational readiness runs in the facility.

#### ***2.14.2. PELSTORE: Volume Reduction Facility Hot Commissioning***

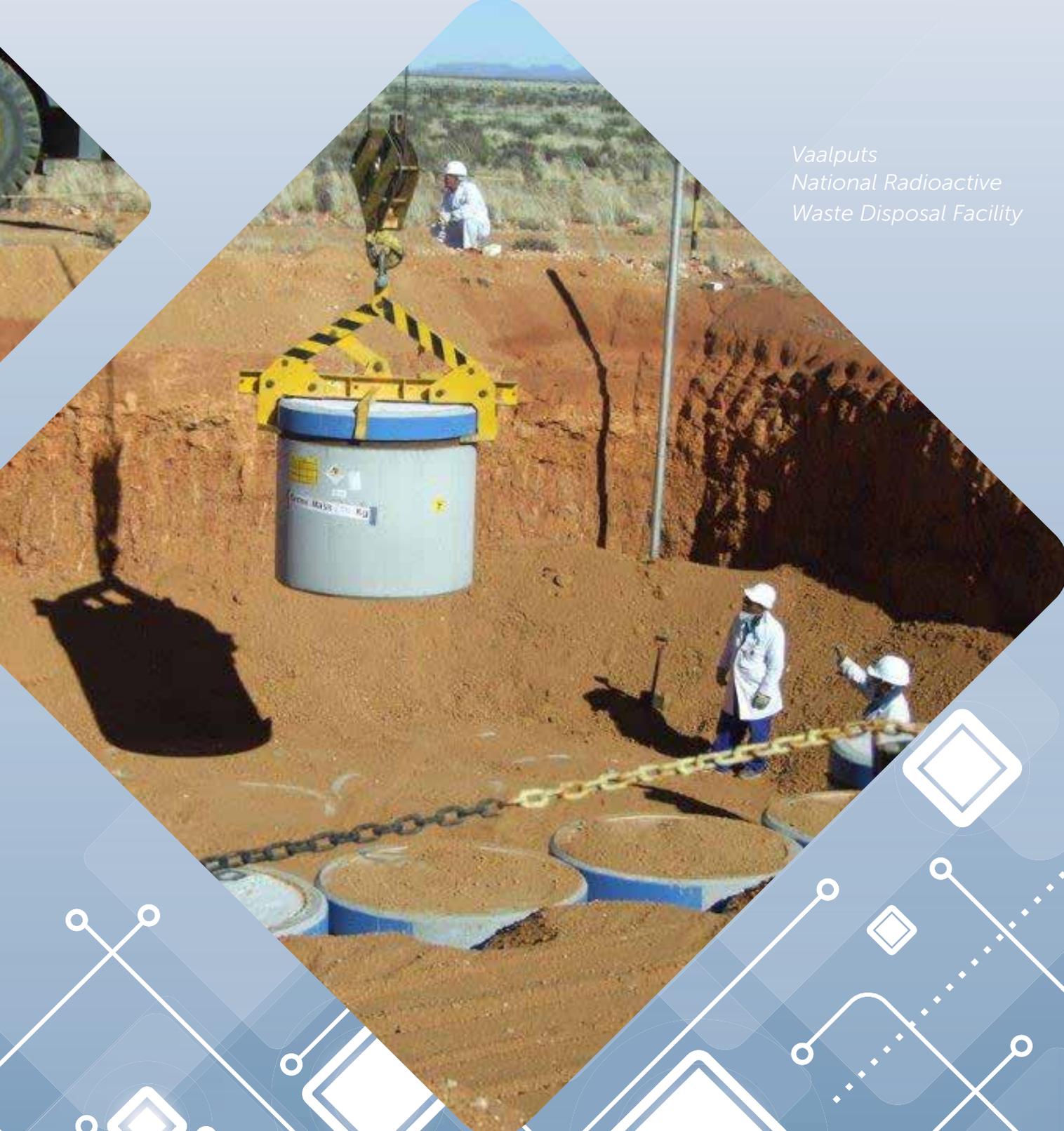
Hot commissioning of the Volume Reduction Facility (VRF) was previously halted on 05 July 2017, following the detection of liquid in waste packages in the Pelstore. Following the implementation of corrective actions and assurances from Necsa, resumption of hot commissioning of the facility was approved at the beginning of May 2018. The hot commissioning was again suspended shortly thereafter due to the further detection of liquid in the waste packages.

In December 2018, Necsa submitted a request to resume Hot Commissioning. Following review of the Necsa submission, the request was refused as Necsa had not satisfactorily addressed the NNR comments nor had Necsa implemented appropriate corrective and preventative measures to prevent drums containing liquids from being processed in the VRF. The NNR still awaits the Necsa response addressing the NNR concerns.

#### **2.15. Appeals to the CEO or the Board**

There were no appeals concerning the Pelindaba site during the period under review.

*Vaalputs  
National Radioactive  
Waste Disposal Facility*



### 3. Regulation of the Vaalputs National Radioactive Waste Disposal Facility

The Vaalputs National Radioactive Waste Disposal Facility is located in the district of Kamiesberg in the Northern Cape Province. The farm, Vaalputs, covers an area of approximately 10 000ha. The disposal site is situated in the western half and is 99.54ha (900m x 1 106m) in extent, including a 200m exclusion zone along the perimeter, in which waste disposal is not permitted.

The Vaalputs buildings include the administrative, operational and maintenance areas. The administrative area consists of a reception/display area, offices, a canteen, a conference room, controlled and uncontrolled area change rooms, toilet facilities and a records room. The operational area consists of a laundry, a sample counting room, a waste reception area, a decontamination area, a shielded storage area and a liquid waste solidification area. The maintenance area consists of a mechanical workshop/vehicle service area; store facilities for components, spares, equipment and flammable liquids; a store facility for site maintenance equipment; and utility sections comprising a standby generator, a compressed air facility, a ventilation facility, fire extinguishing pumps, an electrical sub-station and a liquid effluent containment area.

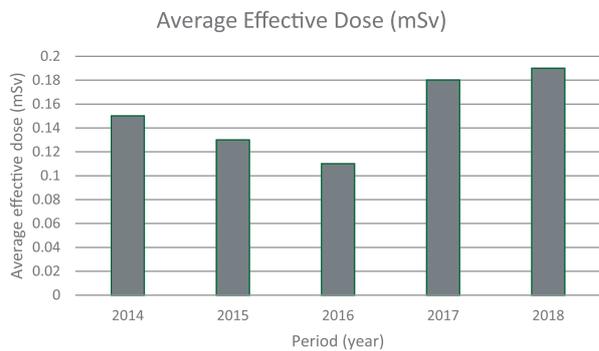
The first revision of the Vaalputs waste acceptance criteria was issued early in 1986 and the first waste shipments from Koeberg were received in November of the same year. Vaalputs is currently authorised for the receipt and shallow land disposal of solid low level radioactive waste (LLW), originating from Koeberg and the Necca.

#### 3.1. Occupational Exposure to Radiation

The NNR prescribes that occupational exposure of any worker should be controlled to ensure that the limits shown in the table below are not exceeded.

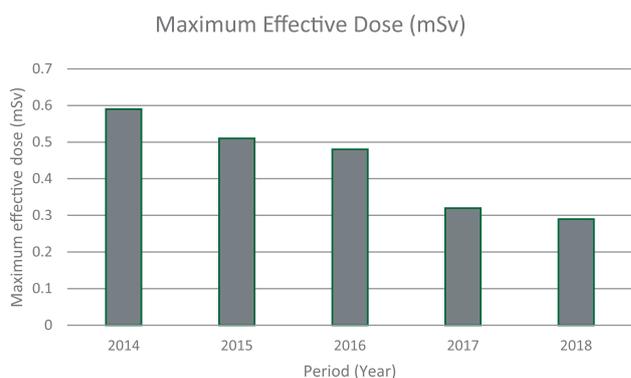
GENERAL REGULATORY DOSE LIMITS	
Maximum individual worker dose	A (maximum) effective dose of 50mSv in any single year
Average individual worker dose	An (average) effective of 20mSv per annum averaged over five consecutive years

Figure 8: Average Effective Dose at Vaalputs site (2014-2018)



The worker doses at Vaalputs over the past five years were within regulatory limits (Figure 8). Radiation exposure of workers at Vaalputs remained subject to control by the Operational Radiation Protection Programme. This programme ensured that control within the annual individual dose limit was achieved. In addition, the programme also served to ensure that all doses are kept ALARA. The maximum effective doses accrued for an individual during releases during the past five years are set out in Figure 9.

Figure 9: Maximum Effective Dose at the Vaalputs site (2014-2018)



### **3.1.1. Projected public exposure to radiation**

There were no safety concerns regarding public exposure to radiation. In accordance with the conditions of licence and the SSRP Regulations, the public doses resulting from effluent discharges from Vaalputs must comply with the dose constraint of 0.25mSv. The environmental surveillance programme for Vaalputs has shown no measurable radiological impact on the community living around Vaalputs.

### **3.2. Nuclear Safety**

During the review period, the NNR reviewed and commented on the following Vaalputs safety case documentation:

- Vaalputs control of radioactive effluents;
- Vaalputs procedure for handling of non-conforming waste packages;
- Vaalputs meteorological programme; and,
- Vaalputs in-service inspection and maintenance process.

### **3.3. Competency and Sufficiency of Necsa's Vaalputs Workforce to Work Safely**

In addition to the requirements in the SSRP Regulations, the conditions of licence require that Necsa establish and implement arrangements to ensure that suitably qualified and experienced persons perform any duties, which may affect the safety of operations on the site, or any duties assigned by or under the conditions of licence. Such arrangements must make provision for the appointment, as appropriate, of authorised persons to control and supervise operations, which may affect plant or facility safety. The NNR was satisfied that Necsa complied with the above requirement during the review period.

### **3.4. Transport Safety**

There were no concerns related to the safety of transport of radioactive material during the period under review.

### **3.5. Radioactive Waste Safety**

The receiving and disposal of radioactive waste at Vaalputs was in conformance with the conditions of authorisation and the Vaalputs Waste Acceptance Criteria (WAC). During the reporting

period Vaalputs received a total of seventeen radioactive waste shipments comprising:

- Eleven (11) shipments of concrete waste packages from Necsa; and,
- Six (6) shipments of metal waste packages from Koeberg Nuclear Power Station.

### **3.6. Environmental Protection**

There were no concerns regarding the safety of the environment at Vaalputs during the period under review.

### **3.7. Nuclear Emergency Planning and Preparedness**

There were no safety concerns regarding the emergency planning and preparedness at Vaalputs during the period under review.

### **3.8. Physical Security**

There were no safety concerns regarding the physical security at Vaalputs during the period under review.

### **3.9. Safety of Sealed Radioactive Sources**

The NNR conducts inspections on radioactive sources at the Vaalputs site and receives six-monthly reports on radioactive sources that are used, stored on site or transported to and from the site. There were no safety concerns regarding sealed radioactive sources at Vaalputs site during the review period.

### **3.10. Nuclear Incident/Accidents Reported**

There were no nuclear incidents or accidents reported during the period under review.

### **3.11. Regulatory Compliance Inspections**

During the review period, four (4) inspections were conducted at Vaalputs. The NNR inspections provided assurance that there was generally satisfactory compliance with regulations and conditions of authorisation. Nevertheless, some minor non-compliance issues were raised during these inspections, and the NNR continues to monitor the corrective actions against these.

### 3.12. Regulatory Warnings or Directives to Stop Work

There were no directives issued to stop work at Vaalputs during the period under review.

### 3.13. Appeals to the CEO or the Board

There were no appeals concerning Vaalputs during the review period.

### 3.14. Request for the Existing Vaalputs Nuclear Installation Licence (NIL-28) to be Issued in the Name of the National Radioactive Waste Disposal Institute (NRWDI)

During the reporting period the NNR held meetings with the management of NRWDI to discuss the NNR comments on their submission requesting the existing Vaalputs Nuclear Installation Licence (NIL-28) be issued in the name of NRWDI.

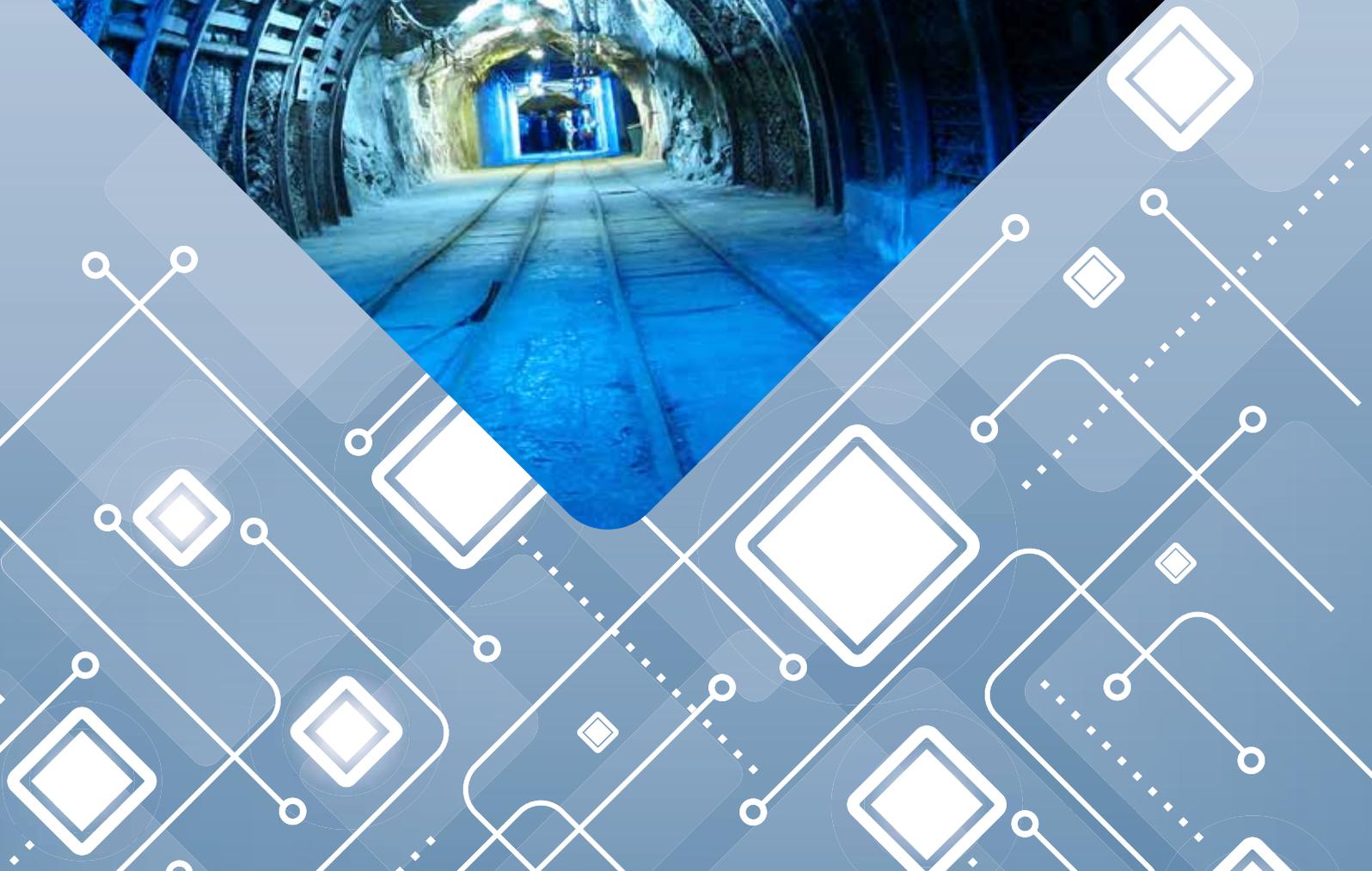
NRWDI was required to furnish the following information in support of the application to reissue the licence that was previously issued to Necsca regarding management and operation of the Vaalputs National Radioactive Waste Disposal Facility:

- An appropriate safety case that has been reviewed and accepted by the applicant, as an intelligent customer.
- Details of the organisational structure showing roles and responsibilities for the safe operation of a nuclear facility and the maintaining and updating of the facility safety case documentation. The required detail must include the following:
  - An evaluation of the technical resources required;
  - Demonstration that the said resources are available under the applicant's organisational control; and
  - Confirmation of the technical resources that are to be outsourced.
- Detail of the management system employed by the applicant. The said management system must:

- Provide for an overriding priority to nuclear and radiation safety; and,
- Detail the various processes and arrangements for compliance with the conditions of authorisation, requirements of the NNR Act and associated regulations.

The NRWDI application for the issue of Vaalputs licence in the name of NRWDI was received in February 2019. The application was supported by a licensing strategy and schedule of submissions to be made to the NNR. The supporting safety case documentation was received on 29 March 2019. These are currently under NNR review and will be responded to in the next reporting period.

*Naturally Occurring  
Radioactive Material  
(NORM)*



## 4. Regulation of NORM

Radionuclides are present in all minerals and raw materials of natural origin, the most important of which, for the purposes of radiation protection, are those in the U238 and Th232 decay series and K40. These materials are commonly referred to as NORM. In some materials, the levels of NORM are significantly higher, to the extent that regulatory control may be required for radiation protection purposes.

In terms of the NNR Act, the NNR is responsible for exercising regulatory control over facilities and activities handling NORM. Facilities and activities which handle NORM require authorisation in terms of the Act. In terms of section 22 (1) of the Act, such facilities and activities are authorised by means of a nuclear authorisation in a form of a certificate of registration (COR) or certificate of exemption (COE).

The nuclear authorisation (i.e. COR or COE) is issued with certain conditions of authorisation with which all holders are required to comply. A system of compliance assurance exercises (inspections, audits and investigation actions) are conducted upon these various holders to assure compliance with the conditions of authorisation and the SSRP Regulations.

The NNR currently grants nuclear authorisations for the following categories of NORM:

- Mining and mineral processing facilities;
- Scrap smelters;
- Fertiliser manufacturers;
- Scrap processors;
- Small users; and,
- Service providers.

The activities at these facilities include actions such as:

- Mining and processing of gold, copper, uranium, heavy minerals and phosphate rock.
- Recycling of scrap material (i.e. ferrous and non-ferrous metal, plastic, stainless steel, etc.) that is contaminated by NORM.

- Small users (i.e. laboratories) conducting tests of small quantities of NORM samples for verification of proposed and existing actions, including samples from prospecting activities.
- Service providers (i.e. storage warehouse), supplying clean-up services of radiologically contaminated sites.

### 4.1. Occupational Exposure to Radiation

The primary radiation exposure pathway to workers in the underground mining environment is via the inhalation of radon progeny. The regulatory limits that are applicable for all workers classified as occupationally exposed are:

GENERAL REGULATORY DOSE LIMITS	
Workforce	Regulatory Criteria (SSRP R388)
Maximum individual worker dose	A (maximum) effective dose of 50mSv in any single year
Average individual worker dose	20mSv per annum averaged over five consecutive years

Based on these limits, the NNR requires the authorisation holders to demonstrate that the average effective dose of 20mSv per year, averaged over five consecutive years, is not exceeded. This requires the authorisation holders to have proper dose records of all occupational exposed workers for a rolling five years as determined by the SSRP Regulations.

The NNR continued to focus much of its regulatory efforts on those mines where the potential exists for workers to be exposed to radiation levels in excess of the annual dose limit. During the period under review, no workers exceeded the annual dose limit.

### 4.2. Special Case Mines (SCM)

For a mine to be classified as a special case by the NNR, the potential monthly dose rate should be 1.7mSv and above, or the projected annual dose of 20mSv is exceeded. During the period under review, the NNR noted a slight improvement attributable

to the compliance assurance measures enforced by the NNR in relation to the observed worker doses and efforts by authorisation holders to continuously improve on their systems (see Figure 10 and 11).

Figure 10: Annual (2018) effective dose for SCMs

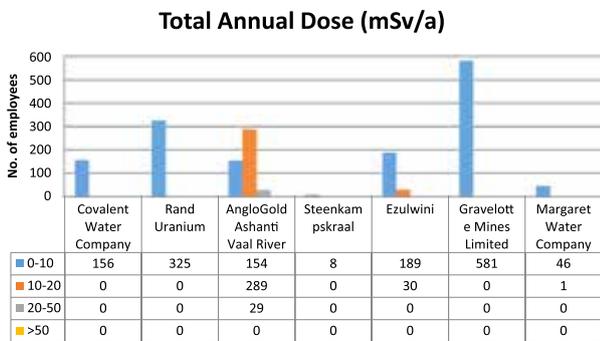
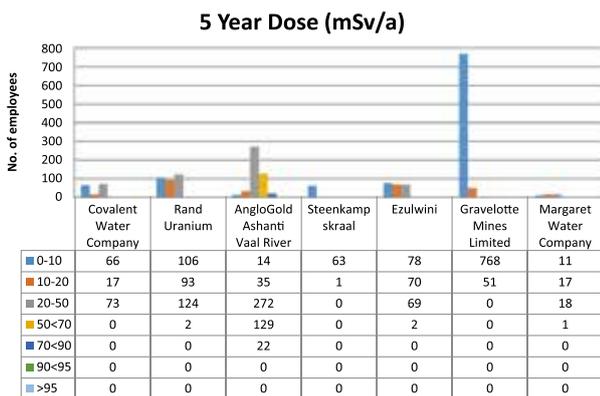


Figure 11: Five-year (2014 – 2018) cumulative dose for SCMs



#### Non-Special Case Mines (SCMs)

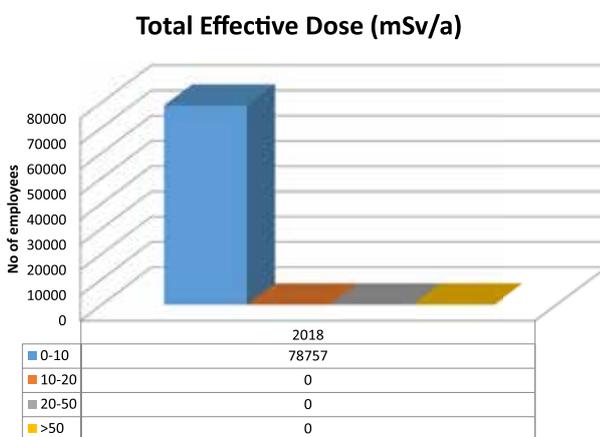


Figure 12: Annual (2018) effective dose for Non-SCMs

#### 4.3. Public Exposure to Radiation

In accordance with the SSRP, the doses for members of the public must comply with the action specific dose constraint of 0.25mSv per annum and a dose limit of 1mSv/a from all authorised actions. The NNR further required the holders on a five year frequency to submit the Public Safety Assessments to ensure that the authorised actions did not pose any undue health risks to members of the public and the environment. These reports were reviewed by the NNR and the projected public exposures from these authorised actions were all within the public dose limit of 1mSv.

#### 4.4. Transport Safety

There were no safety concerns regarding transport of NORM during the period under review. The transportation of NORM and NORM contaminated scrap was carried out in accordance with the requirements of the NNR. Routine transport of surface contaminated objects (SCO-1) scrap materials takes place on a daily basis between authorised facilities. The NNR continued to receive notifications of consignments triggering alarms at gamma drive-through monitors of facilities that are not authorised to handle radioactive materials. The NNR responded to all incidents reported.

#### 4.5. Radioactive Waste Safety

There were no safety concerns related to radioactive waste during the period under review. Authorisation holders were required to manage their radioactive waste and associated waste products. Accordingly, section 1.5 of the COR requires that a waste management procedure be submitted to demonstrate compliance with NNR requirements.

The routine and annual waste management reports submitted to the NNR demonstrated compliance with the NNR requirements. The summary of waste is presented below.

Table 20: Total waste reported from all holders of operations

Type of waste	Quantities	Units	No. of consignments
Restricted Scrap	1.45E+09	Tons	84661
Unrestricted Scrap	8.26E+05	Tons	6658
Gaseous Releases	1.15E+11	m <sup>3</sup>	n/a
Liquid Waste	3.92E+06	m <sup>3</sup>	n/a
Semi-solids (tons)	8.89E+07	Tons	n/a
Solids	9.30E+07	Tons	48254
Other Waste	3.62E+05	Tons	1859

#### 4.6. Safety of Sealed Radioactive Sources

The safety and regulation of radioactive sealed sources at NORM facilities falls outside the scope of the NNR Act but is regulated under the Directorate: Radiation Control of the South African Health Products Regulatory Authority (SAHPRA).

#### 4.7. Nuclear Incidents/Accidents/ Occurrences Reported

There were nine (9) registered occurrences during the reporting period. Most of these occurrences were related to the failure of the pipelines to contain the slime and leading to spillage into the environment, and car accidents leading to spillage of the material.

Two (2) occurrences were closed and seven (7) are in the process of being closed. The NNR will continue to follow up on these incidents during compliance assurance inspections to ensure that they are closed.

#### 4.8. Regulatory Compliance

In order to verify the degree of compliance with the conditions of nuclear authorisation, the NNR undertakes independent inspections (announced and unannounced), investigations, environmental verification and review of compliance reports submitted by authorisation holders.

##### 4.8.1. Inspections

A total of 112 inspections were conducted during the reporting period. These inspections were conducted to verify compliance of the authorised holders with provisions of the NNR Act, regulations

articulated in Safety Standards and Regulatory Practices (R388), NNR requirements, various NNR approved programmes and procedures implemented by the holders.

Holders were required to investigate the root causes of the non-compliances and implementation of commensurate corrective and preventive actions. The corrective and preventive actions implemented by the authorised holders are confirmed during the NNR compliance inspections.

##### 4.8.2. Investigations

The NNR conducted four (4) regulatory investigations during the reporting period. Two (2) of these investigations were conducted at Rhythm of the Nation (Pty) Limited and Darya Investment (Pty) Limited, and led to the NNR taking an enforcement action against these entities. The other investigation related to allegations on unauthorised handling of radioactive material but no radioactivity or contamination was detected on the site in question. The last investigation related to the allegations on unauthorised access of radiative material and contamination of the environment. The matter has been brought to the attention of liquidators to ensure security and safety of all sources of radiation as per conditions of the nuclear authorisation.

##### 4.8.3. Environmental verification samples

There were 339 environmental samples taken up and down stream of the authorised facilities and activities for independent verification purposes. Based on the radio analysis results, the NNR enforces compliance in the interest of protection

of the public and the environment, and to inform future environmental sampling programmes.

#### 4.9. Regulatory Warnings and Directives Issued

The NNR issued directives to two facilities for operating without a nuclear authorisation to cease all activities pertaining to mining and transportation of radioactive material activities and implement corrective measures. The details are summarised as follows:

- A directive was issued on 30 May 2018 to Rhythm of the Nation (Pty) Limited located in Klerksdorp, North West Province for mining and transportation of radioactive material without a nuclear authorisation issued, which is a contravention of section 20(3) of the NNR Act (Act No. 47 of 1999). The facility was directed to immediately cease all activities pertaining to the radioactive material in question and to lodge an application for a nuclear authorisation in terms of section 22(1) of the NNR Act.
- A directive was issued on 30 May 2018 to Darya Investment (Pty) Limited located in Klerksdorp, North West Province for mining and transportation of radioactive material without a nuclear authorisation issued, which is a contravention of section 20(3) of the NNR Act (Act 47 of 1999). The facility was directed to immediately cease all activities pertaining to the radioactive material in question and to lodge an application for a nuclear authorisation in terms of section 22(1) of the NNR Act (Act 47 of 1999).

##### 4.9.1. Outcome

Both facilities acquired the services of the Radiation Protection Specialist (RPS) who assisted with the compilation and submission of applications for a nuclear authorisation with a screening safety assessment. The commitment was for a detailed safety assessment to be submitted once adequate data is available for a decision to be taken on the status of the lodged application.

#### 4.10. Appeals to the CEO

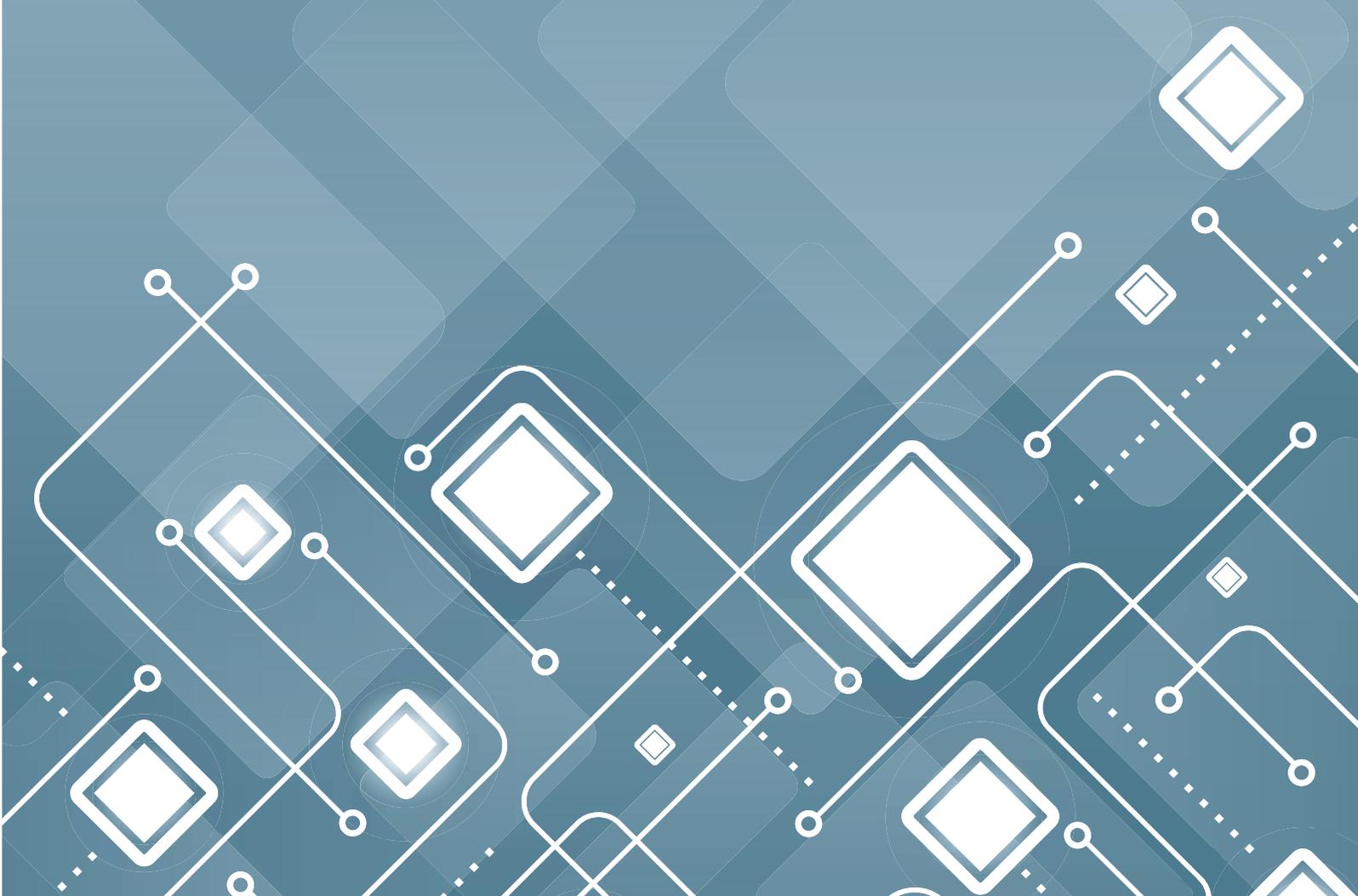
A letter challenging the decision of NNR Inspectors was received by the office of the CEO on 12 June 2018 from the attorneys representing Rhythm of the Nation (Pty) Ltd. The grounds for challenging the decision of NNR Inspectors were advanced and request made for the CEO to review the decision of the NNR Inspectors, and to withdraw the directive.

##### 4.10.1. Outcome

The response to the letter received by the CEO in terms of section 43(3) of the NNR Act (Act 47 of 1999) was provided to the attorneys on 14 June 2018. The directives issued to Rhythm of the Nation (Pty) Ltd and Darya Investments (Pty) Ltd were amended by the CEO allowing both entities to resume operations with conditions that would ensure safety of workers, public and the environment until such time that a detailed safety assessment is completed to inform the status of the applications.

F

ANNUAL FINANCIAL  
STATEMENTS



# REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON THE NATIONAL NUCLEAR REGULATOR

## Report on the audit of the financial statements

### Opinion

1. I have audited the financial statements of the National Nuclear Regulator set out on pages 98 to 132, which comprise the statement of financial position as at 31 March 2019, the statement of financial performance, statement of changes in net assets, cash flow statement and the statement of comparison of budget and actual amounts for the year then ended, as well as the notes to the financial statements, including a summary of significant accounting policies.
2. In my opinion, the financial statements present fairly, in all material respects, the financial position of the National Nuclear Regulator as at 31 March 2019, and its financial performance and cash flows for the year then ended in accordance with the South African Standards of Generally Recognised Accounting Practise (SA Standards of GRAP) and the requirements of the Public Finance Management Act of South Africa (Act No. 1 of 1999) (PFMA).

### Basis for opinion

3. I conducted my audit in accordance with the International Standards on Auditing (ISAs). My responsibilities under those standards are further described in the auditor-general's responsibilities for the audit of the financial statements section of this auditor's report.
4. I am independent of the public entity in accordance with sections 290 and 291 of the International Ethics Standards Board for Accountants' Code of ethics for professional accountants (IESBA code), parts 1 and 3 of the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (including International Independence Standards) and the 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 codes.
5. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

### Responsibilities of accounting authority for the financial statements

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

7. In preparing the financial statements, the accounting authority is responsible for assessing the National Nuclear Regulator'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 public entity or to cease operations, or has no realistic alternative but to do so.

#### Auditor-general's responsibilities for the audit of the financial statements

8. My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes 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 financial statements.
9. A further description of my responsibilities for the audit of the financial statements is included in the annexure to this auditor's report.

#### Report on the audit of the annual performance report

##### Introduction and scope

10. In accordance with the Public Audit Act of South Africa, 2004 (Act No. 25 of 2004) (PAA) and the general notice issued in terms thereof, I have a responsibility to report material findings on the reported performance information against predetermined objectives for the selected goals presented in the annual performance report. I performed procedures to identify findings but not to gather evidence to express assurance.
11. My procedures address the reported performance information, which must be based on the approved performance planning documents of the public entity. I have not evaluated the completeness and appropriateness of the performance indicators included in the planning documents. My procedures also did not extend to any disclosures or assertions relating to planned performance strategies and information in respect of future periods that may be included as part of the reported performance information. Accordingly, my findings do not extend to these matters.
12. I evaluated the usefulness and reliability of the reported performance information in accordance with the criteria developed from the performance management and reporting framework, as defined in the general notice, for the following selected goal presented in the annual performance report of the public entity for the year ended 31 March 2019:

Selected goal	Pages in the annual performance report
Goal 1 - to provide efficient and effective nuclear regulatory services	32-36

13. I performed procedures to determine whether the reported performance information was properly presented and whether performance was consistent with the approved performance planning documents. I performed further procedures to determine whether the indicators and related targets were measurable and relevant, and assessed the reliability of the reported performance information to determine whether it was valid, accurate and complete.
14. I did not raise any material findings on the usefulness and reliability of the reported performance information for this goal.

#### Other matters

15. I draw attention to the matters below.

#### Achievement of planned targets

16. Refer to the annual performance report on pages 32 to 41 for information on the achievement of planned targets for the year and explanations provided for the under/over achievement of a number of targets.

#### Adjustment of material misstatements

17. I identified material misstatements in the annual performance report submitted for auditing. These material misstatements were on the reported performance information of goal 1 - to provide efficient and effective nuclear regulatory services. As management subsequently corrected the misstatements, I did not raise any material findings on the usefulness and reliability of the reported performance information.

### Report on the audit of compliance with legislation

#### Introduction and scope

18. In accordance with the PAA and the general notice issued in terms thereof, I have a responsibility to report material findings on the compliance of the public entity with specific matters in key legislation. I performed procedures to identify findings but not to gather evidence to express assurance.
19. The material finding on compliance with specific matters in key legislations is as follows:

#### Annual financial statements

20. The financial statements submitted for auditing were not prepared in accordance with the prescribed financial reporting framework as required by section 55(1) (b) of the PFMA. Material misstatements of related parties identified by the auditors in the submitted financial statement were corrected, resulting in the financial statements receiving an unqualified audit opinion.

## Other information

21. The accounting authority is responsible for the other information. The other information comprises the information included in the annual report which includes the director's report. The other information does not include the financial statements, the auditor's report and the selected goal presented in the annual performance report that has been specifically reported in this auditor's report.
22. My opinion on the financial statements and findings on the reported performance information and compliance with legislation do not cover the other information and I do not express an audit opinion or any form of assurance conclusion thereon.
23. In connection with my audit, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements and the selected goal presented in the annual performance report, or my knowledge obtained in the audit, or otherwise appears to be materially misstated.
24. 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.

## Internal control deficiencies

25. I considered internal control relevant to my audit of the financial statements, reported performance information and compliance with applicable legislation; however, my objective was not to express any form of assurance on it. The matters reported below are limited to the significant internal control deficiencies that resulted in the basis for the the findings on the annual financial statements and annual performance.
26. Senior management did not prepare accurate annual financial statements that were supported and evidenced by reliable evidence. The annual financial statements were subject to material amendments resulting from the audit.

*Auditor - General*

Johannesburg  
31 July 2019



**AUDITOR - GENERAL**  
**SOUTH AFRICA**

*Auditing to build public confidence*

## ANNEXURE – AUDITOR-GENERAL’S RESPONSIBILITY FOR THE AUDIT

1. As part of an audit in accordance with the ISAs, I exercise professional judgement and maintain professional scepticism throughout my audit of the financial statements, and the procedures performed on reported performance information for selected goal and on the public entity’s compliance with respect to the selected subject matters.

### Financial statements

2. In addition to my responsibility for the audit of the financial statements as described in this auditor’s report, I also:
  - identify and assess the risks of material misstatement of the financial statements whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control
  - obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the public entity’s internal control
  - evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the accounting authority.
  - conclude on the appropriateness of the accounting authority’s use of the going concern basis of accounting in the preparation of the financial statements. I also conclude, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the National Nuclear Regulator’s ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor’s report to the related disclosures in the financial statements about the material uncertainty or, if such disclosures are inadequate, to modify the opinion on the 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 continuing as a going concern
  - evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation

## Communication with those charged with governance

3. I communicate with the accounting authority 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.
4. I also confirm to the accounting authority that I have complied with relevant ethical requirements regarding independence, and communicate all relationships and other matters that may reasonably be thought to have a bearing on my independence and, where applicable, related safeguards.

## GENERAL INFORMATION

Country of incorporation and domicile	South Africa
Nature of business and principal activities	To provide protection for persons, property and the environment against nuclear damage, through the establishment of safety standards and regulatory practices.
Directors	Dr T Motshudi (Chairperson) Dr P Dube (Deputy Chairperson) Dr B Tyobeka (CEO) Mr J Leaver Mr A Le Roux Ms E Monale Ms B Mokoetle Dr B Sehlapelo Mrs D Bendeman Mr P Phili Mr KS Kakoma
Registered office	Eco Glades Office Park Eco Glades 2, Block 6 Witch Hazel Avenue Highveld Ext 75, Eco Park, Centurion 0046
Business address	Eco Glades Office Park Eco Glades 2, Block G 420 Witch Hazel Avenue Eco Park, Centurion, Highveld Ext 75, 0046
Postal address	P.O. Box 7106 Centurion, Eco Park Highveld Ext 75 Pretoria, 0046
Executive Authority	Minister of Energy
Bankers	ABSA Bank
Auditors	Auditor-General South Africa (AGSA) Registered Auditors
Secretary	Ms N Kote

## STATEMENT OF DIRECTORS' RESPONSIBILITIES AND APPROVAL

The directors are required by the Public Finance Management Act (Act 1 of 1999), 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 the responsibility of the members to ensure that the annual financial statements fairly present the state of affairs of the entity as at the end of the financial year and the results of its operations and cash flows for the period then ended. The external auditors are engaged to express an independent opinion on the annual financial statements and were given unrestricted access to all financial records and related data.

The annual financial statements have been prepared in accordance with Standards of Generally Recognised Accounting Practice (GRAP) including any interpretations, guidelines and directives issued by the Accounting Standards Board.

The annual financial statements are based upon appropriate accounting policies consistently applied and supported by reasonable and prudent judgements and estimates.

The directors acknowledge that they are ultimately responsible for the system of internal financial control established by the entity and place considerable importance on maintaining a strong control environment. To enable the members to meet these responsibilities, the accounting authority sets standards for internal control aimed at reducing the risk of error or deficit 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 entity and all employees are required to maintain the highest ethical standards in ensuring the entity's business is conducted in a manner that in all reasonable circumstances is above reproach. The focus of risk management in the entity is on identifying, assessing, managing and monitoring all known forms of risk across the entity. While operating risk cannot be fully eliminated, the entity 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 deficit.

The directors have reviewed the entity's cash flow forecast for the year to 31 March 2020 and, in the light of this review and the current financial position, they are satisfied that the entity has access to adequate resources to continue in operational existence for the foreseeable future.

The entity is significantly dependent on the authorisation holders for continued funding of operations. The annual financial statements are prepared on the basis that the entity is a going concern and that parliament has neither the intention nor the need to liquidate or curtail materially the scale of the entity or to invoke section 19 of the NNR act.

Although the accounting authority is primarily responsible for the financial affairs of the entity, it is supported by the entity's internal auditors.

The external auditors are responsible for independently reviewing and reporting on the entity's annual financial statements. The annual financial statements have been examined by the entity's external auditors and their report is presented on page 82.

The annual financial statements set out on pages 98 - 132, which have been prepared on the going concern basis, were approved by the accounting authority on 31 March 2019 and were signed on its behalf by:



Dr. T Motshudi  
Chairperson of Board



Dr B Tyobeka  
Chief Executive Officer

## AUDIT AND RISK MANAGEMENT COMMITTEE REPORT

The Audit and Risk Management Committee is pleased to present its report for the financial year ended 31 March 2019.

### Membership and Attendance

The membership and attendance of the Audit and Risk Management Committee are as reflected in the Corporate Governance Section of the Annual Report. The committee is required to meet at least four times per annum as per its approved terms of reference.

### Audit and Risk Management Committee Responsibility

The Audit and Risk Management Committee reports that it has adopted appropriate formal terms of reference in its charter in line with the requirements of sections 51(1) (a)(ii) of the Public Finance Management Act ("PFMA") and Treasury Regulation 27.1. It further reports that it has conducted its affairs in compliance with its charter.

### The Quality of InYear Quarterly Reports Submitted in Terms of the PFMA

The Audit and Risk Management Committee reviewed the inyear quarterly reports submitted by management during the period under review and it is satisfied with the quality of these reports.

### The Effectiveness of Internal Control

In line with the PFMA and the King Report on Corporate Governance requirements, Internal Audit provides the Audit and Risk Management Committee and Management with assurance whether or not the system of internal controls is adequate and effective. This is achieved by means of adopting transparent risk management processes and risk based internal audit plans that are reviewed regularly.

From the various reports of the Internal Audit, the Audit Report on the annual financial statements and the management letter of the AuditorGeneral South Africa, it was noted that there were no matters reported that indicate any material deficiencies in the system of internal controls or any material deviations therefrom. Management is continuously putting in place corrective action plans to address weaknesses identified and reported by the Internal Audit. The Audit and Risk Management Committee regularly reviews action plans implemented by management to address the reported weaknesses

Accordingly, the Audit and Risk Management Committee is satisfied that the system of internal controls over the financial reporting for the period under review was transparent, adequate and effective.

### The Review of Risk Management Processes

The Audit and Risk Management Committee is responsible for the oversight of the risk management function. Management reports to the Audit and Risk Management Committee on the organisation's risk management processes. The Audit and Risk Management Committee reviewed the risk management policy, risk management strategy and enterprise risk management plan. The Audit and Risk Management Committee has monitored the implementation of the risk management plan and is generally satisfied with how the risk management processes are being managed.

### Internal Audit

The Audit and Risk Management Committee is satisfied that the internal audit function is operating effectively and that it has addressed the risks pertinent to the entity in its audits.

The Audit and Risk Management Committee has met separately with the Internal Audit to ensure that the function is executed effectively and objectively.

### Evaluation of Annual Financial Statements

The Audit and Risk Management Committee has:

- Reviewed and discussed the audited annual financial statements to be included in the annual report with the AuditorGeneral South Africa and management.
- Reviewed the management letter issued by AuditorGeneral South Africa and management's response thereto.
- Reviewed changes in accounting policies and practices, where applicable.
- Reviewed the entity's compliance with legal and regulatory provisions; and
- Reviewed significant adjustments resulting from the audit.

The Audit and Risk Management Committee concurs and accepts the report of the AuditorGeneral South Africa on the audited annual financial statements.

The Audit and Risk Management Committee recommended the approval of the audited annual financial statements by the Board.

### Auditor-General South Africa

The Audit and Risk Management Committee has met with the Auditor-General South Africa to ensure that there are no unresolved issues of concern.

A handwritten signature in black ink, appearing to be 'P. Phili', enclosed within a hand-drawn oval shape.

Protas Phili CA (SA)

Chairperson of the Audit and Risk Management Committee

31 July 2019

## DIRECTORS' REPORT

The directors have pleasure in submitting their report and the annual financial statements of the NNR for the year ended 31 March 2019.

### 1. Incorporation

The National Nuclear Regulator is listed as a national public entity in Schedule 3 Part A of the Public Finance Management Act, (Act 1. of 1999, as amended). It was established in terms of Section 3 of the National Nuclear Regulator Act, (Act No 47 of 1999). It is engaged in activities at the highest professional level to provide for the protection of persons, property and the environment against nuclear damage, through the establishment of safety standards and regulatory practices.

### 2. Review of activities

#### Main business and operations

The NNR is engaged in activities aimed at protecting persons, property and the environment against nuclear damage in South Africa.

### 3. 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.

### 4. Subsequent events

The members are not aware of any significant matter or circumstances affecting financial statements arising since the end of the financial year.

### 5. Directors' interest in contracts

All directors have given general declarations of interest in terms of the NNR's Code of Conduct. These declarations indicate the nature of interest a director, spouse, partner or close family member holds in a Company, including any directorship in a company classified as a related party to the NNR. No material contracts in which the directors have an interest were entered into in the current financial year.

### 6. Accounting policies

The annual financial statements are prepared in accordance with the South African Standards of the Generally Recognised Accounting Practice (GRAP), including any interpretations of such statements issued by the Accounting Practices Board, and in accordance with the prescribed Standards of Generally Recognised Accounting Practices (GRAP) issued by the Accounting Standards Board and the National Treasury.



## STATEMENT OF FINANCIAL POSITION AS AT 31 MARCH 2019

Figures in Rand	Note(s)	2019	2018
<b>Assets</b>			
<b>Current Assets</b>			
Receivables from exchange transactions	7	22 640 242	33 307 665
Receivables from nonexchange transactions	8	933 862	79 729
Cash and cash equivalents	9	71 605 671	83 355 831
		<b>95 179 775</b>	<b>116 743 225</b>
<b>Non-Current Assets</b>			
Property, plant and equipment	3	111 162 547	119 207 635
Intangible assets	4	1 160 304	98 615
		<b>112 322 851</b>	<b>119 306 250</b>
<b>Total Assets</b>		<b>207 502 626</b>	<b>236 049 475</b>
<b>Liabilities</b>			
<b>Current Liabilities</b>			
Other financial liabilities	11	9 074 209	8 199 680
Operating lease accrual	5	433 966	312 506
Payables from exchange transactions	13	10 688 594	13 522 436
Other payables from nonexchange transaction		169 284	229 240
Provisions	12	15 840 667	18 099 641
		<b>36 206 720</b>	<b>40 363 503</b>
<b>NonCurrent Liabilities</b>			
Other financial liabilities	11	24 385 345	33 602 694
Employee benefit obligation	6	8 708 245	10 529 198
Unspent conditional grants and receipts	10	13 057 153	13 462 798
		<b>46 150 743</b>	<b>57 594 690</b>
<b>Total Liabilities</b>		<b>82 357 463</b>	<b>97 958 193</b>
<b>Net Assets</b>		<b>125 145 163</b>	<b>138 091 282</b>
Accumulated surplus		125 145 165	138 091 284

## STATEMENT OF FINANCIAL PERFORMANCE

Figures in Rand	Note(s)	2019	2018
<b>Revenue</b>			
<b>Revenue from exchange transactions</b>			
Authorisation fees		183 647 433	172 548 910
Application fees		22 198 560	31 193 815
Actuarial gain		1 820 953	-
Other income		661 944	697 069
Deferred Income		405 645	1 945 674
Interest received	21	5 585 548	5 769 381
<b>Total revenue from exchange transactions</b>		<b>214 320 083</b>	<b>212 154 849</b>
<b>Revenue from nonexchange transactions</b>			
<b>Transfer revenue</b>			
Government grants	15	16 510 000	38 573 000
<b>Total revenue</b>	14	<b>230 830 083</b>	<b>250 727 849</b>
<b>Expenditure</b>			
Compensation of employees	19	(150 367 296)	(138 449 187)
Depreciation and amortisation		(10 854 279)	(10 443 184)
Finance costs	22	(3 909 064)	(4 831 381)
Lease rentals on operating lease	24	(3 702 070)	(2 703 485)
Debt Impairment	20	(3 055 219)	(2 377 854)
Actuarial losses		-	(1 167 521)
Goods and services	17	(71 888 273)	(75 969 797)
<b>Total expenditure</b>		<b>(243 776 201)</b>	<b>(235 942 409)</b>
<b>(Deficit) surplus for the year</b>		<b>(12 946 118)</b>	<b>14 785 440</b>

## STATEMENT OF CHANGES IN NET ASSETS

Figures in Rand	Accumulated surplus	Total net assets
<b>Balance at 01 April 2017</b>	<b>123 305 844</b>	<b>123 305 844</b>
Changes in net assets		
Surplus (Deficit) for the year	14 785 440	14 785 440
Total changes	14 785 440	14 785 440
<b>Balance at 01 April 2018</b>	<b>138 091 283</b>	<b>138 091 283</b>
Changes in net assets		
Surplus/(Deficit) for the year	(12 946 118)	(12 946 118)
Total changes	(12 946 118)	(12 946 118)
<b>Balance at 31 March 2019</b>	<b>125 145 165</b>	<b>125 145 165</b>

## CASH FLOW STATEMENT

Figures in Rand	Note(s)	2019	2018
<b>Cash flows from operating activities</b>			
<b>Receipts</b>			
Authorisation fees		200 853 815	176 836 972
Government grants		16 510 000	38 573 000
Interest income		4 831 412	5 700 539
Application fees		13 788 431	36 547 871
Other Income		577 761	697 069
		236 561 419	258 355 451
<b>Payments</b>			
Compensation of employees		(152 307 163)	(137 749 053)
Goods & services		(79 781 323)	(72 510 148)
Finance costs		(3 909 064)	(4 831 381)
		(235 997 550)	(215 090 582)
<b>Net cash flows from operating activities</b>	25	<b>563 869</b>	<b>43 264 869</b>
<b>Cash flows from investing activities</b>			
Purchase of property, plant and equipment	3	(2 969 284)	(11 804 129)
Proceeds from sale of property, plant and equipment	3	84 183	-
Purchase of other intangible assets	4	(1 086 103)	-
<b>Net cash flows from investing activities</b>		<b>(3 971 204)</b>	<b>(11 804 129)</b>
<b>Cash flows from financing activities</b>			
(Decrease)/Increase on other financial liabilities		(8 342 821)	(7 493 518)
<b>Net cash flows from financing activities</b>		<b>(8 342 821)</b>	<b>(7 493 518)</b>
<b>Net increase/(decrease) in cash and cash equivalents</b>		<b>(11 750 160)</b>	<b>23 967 222</b>
Cash and cash equivalents at the beginning of the year		83 355 831	59 388 609
<b>Cash and cash equivalents at the end of the year</b>	9	<b>71 605 671</b>	<b>83 355 831</b>

## STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS

Budget on Accrual Basis

Figures in Rand	Approved budget	Adjustments	Final Budget	Actual amounts on comparable basis	Difference between final budget and actual
<b>Statement of Financial Performance</b>					
<b>Revenue</b>					
<b>Revenue from exchange transactions</b>					
Authorisation fees	180 339 000	-	<b>180 339 000</b>	183 647 433	<b>3 308 433</b>
Application fees	28 540 618	-	<b>28 540 618</b>	22 198 560	<b>(6 342 058)</b>
Actuarial gain	-	-	-	1 820 953	<b>1 820 953</b>
Other income	24 954 000	-	<b>24 954 000</b>	661 944	<b>(24 292 056)</b>
Deferred income	-	-	-	405 645	<b>405 645</b>
Interest received	1 549 000	-	<b>1 549 000</b>	5 585 548	<b>4 036 548</b>
<b>Total revenue from exchange transactions</b>	<b>235 382 618</b>	<b>-</b>	<b>235 382 618</b>	<b>214 320 083</b>	<b>(21 062 535)</b>
<b>Revenue from nonexchange transactions</b>					
<b>Transfer revenue</b>					
Government grants	16 510 000	-	<b>16 510 000</b>	16 510 000	-
<b>Total revenue</b>	<b>251 892 618</b>	<b>-</b>	<b>251 892 618</b>	<b>230 830 083</b>	<b>(21 062 535)</b>
<b>Expenditure</b>					
Compensation of employees	(149 623 366)	-	<b>(149 623 366)</b>	(150 367 296)	<b>(743 930)</b>
Depreciation and amortisation	(10 468 862)	-	<b>(10 468 862)</b>	(10 854 279)	<b>(385 417)</b>
Finance costs	(4 500 000)	-	<b>(4 500 000)</b>	(3 909 064)	<b>590 936</b>
Lease rentals on operating lease	(4 310 339)	-	<b>(4 310 339)</b>	(3 702 070)	<b>608 269</b>
Debt impairment	-	-	-	(3 055 219)	<b>(3 055 219)</b>
Goods & Services	(82 990 051)	-	<b>(82 990 051)</b>	(71 888 273)	<b>11 101 778</b>
<b>Total expenditure</b>	<b>(251 892 618)</b>	<b>-</b>	<b>(251 892 618)</b>	<b>(243 776 201)</b>	<b>8 116 417</b>
<b>Surplus/(Deficit) for the year</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(12 946 118)</b>	<b>(12 946 118)</b>
<b>Actual Amount on Comparable Basis as Presented in the Budget and Actual Comparative Statement</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(12 946 118)</b>	<b>(12 946 118)</b>

## ACCOUNTING POLICIES

### 1. Presentation of annual financial statements

The following are the principal accounting policies of the entity which are, in all material respects, consistent with those of the previous year.

The annual financial statements are prepared under the historical cost basis, except where otherwise specified. The annual financial statements are prepared in accordance with the South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) issued by the Accounting Standard Board, and in the manner required by the Public Finance Management Act, Act No.1 of 1999. These annual financial statements are presented in South African Rand. Assets and liabilities or income and expenditure will not be offset, unless it is required or permitted by a standard.

#### 1.1 Significant judgements and sources of estimation uncertainty

In preparing the annual financial statements, management is required to make estimates and assumptions that affect the amounts represented in the annual financial statements and related disclosures. Use of available information and the application of judgement is inherent in the formation of estimates. Actual results in the future could differ from these estimates which may be material to the annual financial statements. Significant judgements include:

##### Postemployment medical benefits

The costs and liabilities of the postemployment medical care benefits are determined using methods relying on actuarial estimates and assumptions. Advice is taken from the independent actuaries relating to the appropriateness of the assumptions. Changes in the assumptions used may have a significant effect on the statement of comprehensive income and statement of financial position.

##### Provision for impairment of receivables

A provision for impairment of trade receivables is established when there is objective evidence that the NNR will not be able to collect all amounts due according to the original terms of receivables. The calculation of the amount to be provided for impairment of receivables requires the use of estimates and judgments, refer to note 7.

##### Annual evaluation of property, plant and equipment and intangibles

In order to review property, plant and equipment and intangibles for possible impairment, changes in useful life and changes in residual values at the end of each financial year in accordance with notes 3 and 4, reference is made to historical information and intended use of assets.

The preparation of financial statements requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods. Although these estimates are based on management's best knowledge of current events and actions that the entity may undertake in the future, actual results may ultimately differ from those estimates.

The presentation of the results of operations, financial position and cash flows in the financial statements of the entity is dependent upon and is sensitive to the accounting policies, assumptions and estimates that are used as a basis for the preparation of these financial statements. Management has made certain judgments in the process of applying the entity's accounting policies

## ACCOUNTING POLICIES

### 1.2 Revenue recognition

Revenue comprises authorisation fees and revenue from special projects. Revenue arising from authorisation fees which are published in the Gazette by the Minister on an annual basis is recognised on an accrual basis in accordance with the substance of the relevant arrangement with the holders of authorisation.

### 1.3 Government Grants

Government grants are recognised in profit and loss when there is reasonable assurance that they will be received and that the entity will comply with the conditions associated with the grants.

### 1.4 Property, plant and equipment

Property, plant and equipment is initially measured at cost.

The cost of an item of property, plant and equipment is the purchase price and other costs attributable to bring the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Trade discounts and rebates are deducted in arriving at the cost.

Where an asset is acquired through a nonexchange transaction, its cost is its fair value as at date of acquisition.

Where an item of property, plant and equipment is acquired in exchange for a nonmonetary asset or monetary assets, or a combination of monetary and nonmonetary assets, the asset acquired is initially measured at fair value (the cost). If the acquired item's fair value was not determinable, its deemed cost is the carrying amount of the asset(s) given up.

When significant components of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

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 the item and restoring the site on which it is located is also included in the cost of property, plant and equipment, where the entity 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.

Recognition of costs in the carrying amount of an item of property, plant and equipment ceases when the item is in the location and condition necessary for it to be capable of operating in the manner intended by management.

Items such as spare parts, standby equipment and servicing equipment are recognised when they meet the definition of property, plant and equipment.

Major inspection costs which are a condition of continuing use of an item of property, plant and equipment and which meet the recognition criteria above are included as a replacement in the cost of the item of property, plant and equipment. Any remaining inspection costs from the previous inspection are derecognised.

Property, plant and equipment is carried at cost less accumulated depreciation and any impairment losses.

Property, plant and equipment are depreciated on the straight line basis over their expected useful lives to their estimated residual value.

## ACCOUNTING POLICIES

The useful life of items of property, plant and equipment have been assessed as follows:

Item	Depreciation method	Average useful life
Land	Straight line	Not depreciated
Buildings	Straight line	20- 25 Years
Furniture and fixtures	Straight line	10 - 25 Years
Motor vehicles	Straight line	8 Years
Office equipment	Straight line	5 - 25 Years
IT equipment	Straight line	3 - 10 Years
Leasehold improvements	Straight line	Over the lease period
Scientific equipment	Straight line	5 - 20 Years

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.

The depreciation charge for each period is recognised in surplus or deficit unless it is included in the carrying amount of another asset.

Items of property, plant and equipment are derecognised when the asset is disposed of or when there are no further economic benefits or service potential expected from the use of the asset.

The gain or loss arising from the derecognition of an item of property, plant and equipment is included in surplus or deficit 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.

### 1.5 Intangible assets

An asset is identifiable if it either:

- Is separable, i.e. is capable of being separated or divided from an entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable assets or liability, regardless of whether the entity intends to do so; or
- Arises from binding arrangements (including rights from contracts), regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

An intangible asset is recognised when:

- It is probable that the expected future economic benefits or service potential that are attributable to the asset will flow to the entity; and
- The cost or fair value of the asset can be measured reliably.

The entity assesses the probability of expected future economic benefits or service potential using reasonable and supportable assumptions that represent management's best estimate of the set of economic conditions that will exist over the useful life of the asset.

Where an intangible asset is acquired through a nonexchange transaction, its initial cost at the date of acquisition is measured at its fair value as at that date.

## ACCOUNTING POLICIES

### 1.5 Intangible assets (continued)

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

An intangible asset is regarded as having an indefinite useful life when, based on all relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash inflows or service potential. Amortisation is not provided for these intangible assets, but they are tested for impairment annually and whenever there is an indication that the asset may be impaired. For all other intangible assets amortisation is provided on a straight line basis over their useful life.

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

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.

Internally generated goodwill is not recognised as an intangible asset.

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

Item	Useful life
Computer software, other	1 - 10 years

### 1.6 Subsequent expenditure

Subsequent expenditure on item of property plant and equipment and intangible assets is capitalized only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure is recognized in the Statement of Financial Performance as an expense when incurred.

### 1.7 Impairment of nonfinancial assets

Assets are assessed at the end of each reporting period for any indication that they may be impaired. If indication exists, the recoverable amount of the assets is estimated. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. The NNR assesses at each reporting date whether there is any indication that an impairment loss recognised in prior periods for assets may no longer exist or may have decreased. If any such indication exists, the recoverable amounts of those assets are estimated. The increase in carrying amount of assets 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 assets in prior years. A reversal of an impairment loss of assets carried at cost less accumulated depreciation or amortisation is recognised immediately in the statement of financial performance.

### 1.8 Financial instruments

#### Recognition and initial measurement

All financial instruments are initially recognised at fair value, plus, in the case of financial assets and liabilities not at fair value through surplus or deficit, transaction costs that are directly attributable to the acquisition or issue. Financial instruments are recognised when the entity becomes a party to their contractual arrangements. All regular way transactions are accounted for on settlement date. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the period generally established by regulation or convention in the market place.

## ACCOUNTING POLICIES

### De-recognition

Financial assets are derecognised when the contractual rights to receive cash flows have been transferred or have expired or when substantially all the risks and rewards of ownership have passed. All other assets are derecognised on disposal or when no future economic benefits are expected from their use.

Financial liabilities are derecognised when the relevant obligation has either been discharged or cancelled or has expired.

### Subsequent measurement

Subsequent to initial recognition, the entity classifies financial assets as 'at fair value through surplus or deficit', 'held to maturity investments', 'loans and receivables', or 'available for sale'.

### Gains and losses

Gains or losses arising from changes in financial assets or financial liabilities carried at amortised cost are recognised in Statement of Financial Performance when the financial asset or financial liability is derecognised or impaired, and through the amortisation process.

### Financial assets

The NNR classifies its financial assets into one of the categories discussed below, depending on the purpose for which the asset was acquired. The NNR has not classified any of its financial assets as held to maturity, fair value through profit and loss or available for sale.

The accounting policy for each category is as follows:

#### Loans and receivables

These assets are nonderivative financial assets with fixed or determinable payments that are not quoted in an active market. They arise principally through the provision of services to licensed holders. They are initially recognised at fair value plus transaction costs that are directly attributable to their acquisition or issue, and are subsequently carried at amortised cost less provision for impairment.

Impairment provisions are recognised when there is objective evidence (such as significant financial difficulties on the part of the counterpart or default or significant delay in payment) that the NNR will be unable to collect all of the amounts due under the terms receivable. Trade receivables, which are reported net of such provisions, are recorded in a separate allowance account with the loss being recognised within operational expenditure in the Statement of Financial Performance. On confirmation that the trade receivable will not be collectable, the gross carrying value of the asset is written off against the associated provision. The loans and receivables comprise trade and other receivables at reporting date.

#### Cash and cash equivalents.

Cash and cash equivalents comprise cash on hand and other short term highly liquid investments that are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value. Cash and cash equivalents include cash on hand and deposits held at call.

#### Financial liabilities

Bank borrowings are initially recognized at fair value net of any transaction costs directly attributable to the issue of the instrument. Such interestbearing liabilities are subsequently measured at amortised cost using the effective interest rate method, which ensures that any interest expense over the period to repayment is at a constant rate on the balance of the liability carried in the statement of financial position. Trade payables are initially recognised at fair value and subsequently carried at amortised cost using the effective interest method.

## ACCOUNTING POLICIES

### 1.9 Accounting for leases

A lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership to the lessee. A lease is classified as an operating lease if it does not transfer substantially all the risks and rewards incidental to ownership to the lessee.

#### Finance leases – lessee

Finance leases are recognised as assets and liabilities in the statement of financial position at amounts equal to the fair value of the leased property or, if lower, the present value of the minimum lease payments. The corresponding liability to the lessor is included in the statement of financial position as a finance lease obligation.

The discount rate used in calculating the present value of the minimum lease payments is the interest rate implicit in the lease. The lease payments are apportioned between the finance charge and reduction of the outstanding liability. The finance charge is allocated to each period during the lease term so as to produce a constant periodic rate on the remaining balance of the liability.

#### Operating leases – lessee

Operating lease payments are recognised as an expense on a straightline basis over the lease term. The difference between the amounts recognised as an expense and the contractual payments are recognized as an operating lease liability. This liability is not discounted. Any contingent rents are expensed in the period in which they are incurred.

### 1.10 Employee benefits

#### Postemployment benefits

The NNR provides defined pension benefit and medical plan to certain qualifying employees. The entity's net obligation in respect of defined benefits is calculated by estimating the amount of future benefits earned in return for services rendered. The obligation and assets related to each of the postretirement benefits are determined through an actuarial valuation. The assumptions determined by management make use of information obtained from the entity's employment agreements with staff and pensioners, market related returns on similar investments, and market related discount rates and other available information. The assumptions concerning the expected return on asset and expected change in liabilities are determined on a uniform basis, considering longterm historical returns and future estimates of returns and medical inflation expectations. In the event that further changes in assumptions are required, the future amounts of postretirement benefits may be affected materially. The postretirement medical liability is unfunded.

The overall expected rate of return on asset is determined based on the market prices prevailing at that date, applicable to the period over which the obligation is to be settled.

The NNR provides a defined contribution plans for all other employees. The postretirement medical liability is unfunded.

#### Defined contribution plans

The entity's funding of the defined contribution plans is charged to employee expenses in the same year as the related service is provided.

#### Defined benefit plans

The entity provides defined benefit plans for retirement and postretirement medical aid benefits to qualifying employees. The entity's net obligation in respect of defined benefits is calculated separately for each plan by estimating the amount of future benefits earned in return for services rendered.

## ACCOUNTING POLICIES

The amount recognised in the statement of financial position represents the present value of the defined benefit obligations, calculated by using the projected unit credit method, as adjusted for unrecognised actuarial gains and losses, unrecognised past service costs, if any, and reduced by the fair value of the related plan assets.

The amount of any gain or loss recognised and reflected as expenses is limited to actuarial losses or gain and past service costs plus the present value of available refunds and reductions in future contributions to the plan. To the extent that there is uncertainty as to the entitlement to the surplus, no asset is recognised. No gain is recognised solely as a result of an actuarial loss or past service cost in the current period and no loss is recognised solely as a result of an actuarial gain or past service cost in the current period. The entity recognises actuarial gains and losses for all its defined plans in the period in which they occur.

Past service costs are recognised immediately to the extent that the benefits are vested, otherwise they are recognised on a straightline basis over the average period the benefits become vested.

### Short term employee benefits

The cost of all short term employee benefits is recognised during the period in which the employee renders the related service. Provision for employee's entitlement to annual leave represents a present obligation which NNR has to pay as a result of employee's services provided to the reporting date. Annual leave is provided for over the period that the leave accrues.

### 1.11 Provisions And contingencies

Management judgment is required when recognising and measuring provisions and when measuring contingent liabilities as set out in Notes 12. The probability that an outflow of economic resources will be required to settle the obligation must be assessed and a reliable estimate must be made of the amount of the obligation.

The entity is required to recognise provisions for claims arising from litigation when the occurrence of the claim is probable and the amount of the loss can be reasonably estimated. Liabilities provided for legal matters require judgments regarding projected outcomes and ranges of losses based on historical experience and recommendations of legal counsel.

Litigation is however unpredictable and actual costs incurred could differ materially from those estimated at the reporting date.

### 1.12 Going concern assumption

The financial statements have been prepared on a going concern assumption that the entity will continue in operation for the foreseeable future.

### 1.13 Related parties

Parties are considered to be related if one party has the ability to control the other party or to exercise significant influence or joint control over the other party in making financial and operating decisions.

### 1.14 Comparative figures

Comparative figures are restated in the event of a change in accounting policy or prior period error.

## ACCOUNTING POLICIES

### **1.15 Irregular, fruitless and wasteful expenditure**

Irregular expenditure means expenditure incurred in contravention of, or not in accordance with, a requirement of any applicable legislation, including the PFMA. Fruitless and wasteful expenditure means expenditure that was made in vain and would have been avoided had reasonable care been exercised. All irregular, and fruitless and wasteful expenditure is charged against income in the period in which it is incurred.

### **1.16 Foreign currencies**

Transactions in foreign currencies are accounted for at the rates of exchange ruling on the date of the transactions. Gains and losses arising from the settlement of such transactions are recognised in the income statement.

### **1.17 Interest received**

Interest is recognised on a time proportionate basis taking into account the principal amount outstanding and the effective interest rate.

### **1.18 Budget information**

GRAP 1, Presentation of Financial Statements, requires entities to provide information on their actual performance against the entity's approved budget. A reconciliation to ensure full compliance with GRAP1 is included as a disclosure note to the financial statements.

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

### 2. Basis of preparation

The annual financial statements have been prepared in accordance with Standards of Generally Recognised Accounting Practice on a basis consistent with the prior year.

### 3. Property, plant and equipment

	2019			2018		
	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value
Land	213 750	-	213 750	213 750	-	213 750
Buildings	122 381 558	(40 347 177)	82 034 381	122 381 558	(34 312 917)	88 068 641
Buildings improvements (WIP)	2 567 803	-	2 567 803	2 113 241	-	2 113 241
Furniture and fixtures	5 450 240	(1 997 034)	3 453 206	5 347 968	(1 744 115)	3 603 853
Motor vehicles	906 438	(409 621)	496 817	906 438	(296 316)	610 122
Office equipment	5 448 273	(3 811 586)	1 636 687	8 677 818	(6 936 320)	1 741 498
Office equipment improvements (WIP)	-	-	-	136 037	-	136 037
IT equipment	17 642 506	(9 067 501)	8 575 005	16 022 896	(11 495 726)	4 527 170
IT equipment Improvements (WIP)	3 065 359	-	3 065 359	7 511 476	-	7 511 476
Leasehold improvements	5 343 134	(4 583 467)	759 667	5 343 134	(4 203 634)	1 139 500
Laboratory equipment	18 007 009	(9 647 137)	8 359 872	17 920 828	(8 378 481)	9 542 347
<b>Total</b>	<b>181 026 070</b>	<b>(69 863 523)</b>	<b>111 162 547</b>	<b>186 575 144</b>	<b>(67 367 509)</b>	<b>119 207 635</b>

#### Reconciliation of property, plant and equipment 2019

	Opening balance	Additions	Additions through transfer of functions / mergers	Disposals	Depreciation	Total
Land	213 750	-	-	-	-	213 750
Buildings	88 068 641	-	-	-	(6 034 260)	82 034 381
Buildings improvements (WIP)	2 113 241	454 562	-	-	-	2 567 803
Furniture and fixtures	3 603 853	239 555	-	(62 023)	(328 179)	3 453 206
Motor vehicles	610 122	-	-	-	(113 305)	496 817
Office equipment	1 741 498	379 508	136 037	(27 871)	(592 485)	1 636 687
Office equipment improvements (WIP)	136 037	-	(136 037)	-	-	-
IT equipment	4 527 170	1 926 462	4 329 133	(90 793)	(2 116 967)	8 575 005
IT equipment improvements (WIP)	7 511 476	965 300	(5 411 417)	-	-	3 065 359
Leasehold improvements	1 139 500	-	-	-	(379 833)	759 667
Laboratory equipment	9 542 347	86 181	-	-	(1 268 656)	8 359 872
	<b>119 207 635</b>	<b>4 051 568</b>	<b>(1 082 284)</b>	<b>(180 687)</b>	<b>(10 833 685)</b>	<b>111 162 547</b>

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

## Reconciliation of property, plant and equipment 2018

	Opening balance	Additions	Additions through transfer of functions / mergers	Depreciation	Total
Land	213 750	-	-	-	213 750
Buildings	84 185 260	-	9 607 637	(5 724 256)	88 068 641
Buildings improvements (WIP)	3 048 709	8 672 169	(9 607 637)	-	2 113 241
Furniture and fixtures	3 681 132	209 770	-	(287 049)	3 603 853
Motor vehicles	723 427	-	-	(113 305)	610 122
Office equipment	2 020 626	273 432	-	(552 560)	1 741 498
Office equipment improvements (WIP)	-	136 037	-	-	136 037
IT equipment	4 636 106	1 773 219	-	(1 882 155)	4 527 170
IT equipment improvements (WIP)	6 970 334	541 142	-	-	7 511 476
Leasehold improvements	1 519 334	-	-	(379 834)	1 139 500
Laboratory equipment	10 777 141	198 360	-	(1 433 154)	9 542 347
	<b>117 775 819</b>	<b>11 804 129</b>	<b>-</b>	<b>(10 372 313)</b>	<b>119 207 635</b>

The cumulative expenditure recognised in the carrying value of property, plant and equipment as Work In Progress (WIP) is disclosed per class of asset, in aggregate, as follows:

Buildings improvements (WIP)	2 567 803
IT Equipment improvements (WIP)	3 065 359
	<b>5 633 162</b>

Included in the value of property, plant and equipment are the following properties:

The NNR owns an Office building located at Erf 3078 in Highveld, Centurion, Gauteng (pledged as a security for ABSA mortgage bond) and Land & Building located at Erf 3187 in Melkbosch Strand in the Blaauwberg Municipality, Western Cape.

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

## 4. Intangible assets

	2019			2018		
	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value
Computer software, other	3 827 348	(2 667 044)	1 160 304	3 817 494	(3 718 879)	98 615

## Reconciliation of intangible assets 2019

	Opening balance	Additions	Disposals	Amortisation	Total
Computer software, other	98 615	1 086 103	(3 820)	(20 594)	1 160 304

## Reconciliation of intangible assets 2018

	Opening balance	Amortisation	Total
Computer software, other	169 488	(70 873)	98 615

## Change in accounting estimate: useful life of assets review

A review of the useful economic life of property, plant and equipment and intangible assets was performed during the year. These changes (refer to accounting policies 1.4 and 1.5), resulted in a change in depreciation for the year. The NNR discloses the nature and the amount resulting from the change in an accounting estimate that has an effect in the current period and is expected to have an effect in future. This change in estimate is applied prospectively.

Effect of change in accounting estimate on current and future periods:

	2019	2018
<b>Statement of financial performance</b>		
Decrease in surplus	(159 860)	-
Increase in depreciation and amortisation expense	159 860	-
<b>Statement of financial position</b>		
Increase in noncurrent assets	190 863	-
Increase in accumulated surplus	190 863	-
<b>5. Operating lease liability</b>		
Current liabilities	(433 966)	(312 506)

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

### 6. Employee benefit obligations

The National Nuclear Regulator has retirement employee benefit obligations which consists of:

- Post-retirement pension benefit plan
- Post-retirement medical benefit plan
- Defined pension contribution

The amounts recognised in the statement of financial position are as follows:

	2019	2018
<b>Carrying value</b>		
Present value of the defined benefit obligation - wholly unfunded	(8 708 245)	(10 529 198)
Present value of the defined benefit obligation - partly or wholly funded	(59 990 000)	(69 306 000)
Fair value of plan assets	62 213 000	69 226 000
Assets not recognised	(2 223 000)	80 000
	<b>(8 708 245)</b>	<b>(10 529 198)</b>

The major categories of plan assets as a percentage of total plan assets are as follows:

South African equities	70,00%	70,00%
Bonds	30,00%	30,00%

Net expense (gain) recognised in the statement of financial performance

Current service cost	903 323	39 450
Interest cost	44 071	881 476
Actuarial (gains) losses	(1 996 993)	924 093
Expected return on plan assets	(771 354)	(677 498)
	<b>(1 820 953)</b>	<b>1 167 521</b>

Actual return on plan assets

Expected return on plan assets	6 430 000	6 682 000
Actuarial gain/(loss) on plan assets	(3 357 000)	(2 207 000)
	<b>3 073 000</b>	<b>4 475 000</b>

Calculation of actuarial gains and losses

Actuarial (gains) losses – Obligation	5 214 000	(4 719 000)
Actuarial (gains) losses – Plan assets	3 357 000	2 207 000
	<b>8 571 000</b>	<b>(2 512 000)</b>

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

### 6.1 Post-retirement pension benefit plan

The NNR makes contributions towards post retirement pension benefits for certain eligible employees.

	2019	2018
Opening balance	69 306 000	62 480 000
Interest cost	5 752 000	5 939 000
Current service cost	554 000	762 000
Benefits paid	(10 408 000)	(4 594 000)
Actuarial (gain) losses	(5 214 000)	4 719 000
<b>Closing balance</b>	<b>59 990 000</b>	<b>69 306 000</b>
<b>Changes in fair value of plan assets are as follows:</b>		
Opening balance fair value of plan assets	69 226 000	68 795 000
Expected return on plan assets	6 430 000	6 682 000
Contribution by employer	221 000	378 000
Contribution by participants	101 000	172 000
Benefits paid	(10 408 000)	(4 594 000)
Actuarial gain/(losses)	(3 357 000)	(2 207 000)
	<b>62 213 000</b>	<b>69 226 000</b>
<b>Key assumptions used</b>		
Assumptions used at the reporting date:	8,70%	8,90%
Discount rates used	9,30%	10,00%
Expected rate of return on assets	5,30%	6,00%
Expected rate of return on reimbursement rights	6,30%	7,00%
Actual return on reimbursement rights		
Funding level	103,7	99,9%
<b>Sensitivity Analysis</b>		
One percentage point increase		
Effect on defined benefit obligation – discount rate	(4 364 000)	(5 420 000)
Percentage change effect on defined benefit obligation – discount rate	(7)	(8)
Effect on defined benefit obligation – salary inflation	116 000	155 000
	PA (90)	PA (90)
Effect on defined benefit obligation – postretirement mortality	(1 907 000)	(2 247 000)
Percentage change effect on defined benefit obligation – postretirement mortality	(3)	(3)

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

### 6.2 Post retirement medical aid benefit obligation

The NNR has made provision for postemployment medical benefit covering three (3) employees in active employment and six (6) pensioners. The actuarial valuation was determined by One Pangaea Expertise & Solutions (Pty) Ltd, an independent actuary registered with Actuary Society of South Africa. Valuation has been performed in accordance with GRAP 25.

The NNR makes certain contributions to medical funds in respect of current and retired employees. The NNR has terminated future postretirement medical aid benefits in respect of employees joining after 31 December 1995. The NNR has an obligation to pay 100% of the membership subscriptions for staff members who had retired from the services of the NNR or then (The Council for Nuclear Safety) on or before 30 July 1990 and also for those staff members retiring from the services of the NNR on or after 01 July 1990, who were in the continuous employment of the NNR before 01 July 1990 to the date of retirement.

The NNR introduced a sliding scale for membership subscriptions for staff joining after 01 July 1990. Subsidy reduced step wise from 100% to a minimum of 60% for employees that joined the NNR after 01 July 1990 and 31 December 1995. Eligible employees must be employed by the NNR until retirement age to qualify for the postretirement medical aid benefit. The most recent actuarial valuation of the benefit was performed as at 31 March 2019.

	2019	2018
<b>Changes in present value of the defined benefits are as follows:</b>		
Opening defined benefit obligation	10 529 198	9 361 677
Interest cost	44 071	881 476
Current service cost	903 323	39 450
Benefits paid	(771 354)	(677 498)
Actuarial (gain) losses recognised in statement of financial performance	(1 996 993)	924 093
	<b>8 708 245</b>	<b>10 529 198</b>
<b>Actuarial principal assumption used at the reporting date</b>		
Discount rate used	10%	9%
Medical inflation rate	8%	8%
General inflation rate	7%	6%
Postretirement interest rate	2%	1%
Proportion of continuing membership at retirement	100%	100%
Proportion of retiring members who are married	90%	30%

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

	2019	2018
<b>In service members</b>		
Age of spouse (Husbands: three years older than wives)	65	65
Mortality of inservice members	SA SA8590 (L)	SA SA8590 (L)
Mortality of continuation members post retirement	PA (90)2 Years	PA (90)2 Years
Annual rate of withdrawal – from age 55+	4,00%	4,00%
<b>Number of members</b>		
Number of members in active employment	3	3
Number of pensioners	6	7
	<b>9</b>	<b>10</b>
Average retirement age	60	60

The most significant assumptions are those relating to the discount rate and medical inflation. It is the relationship between these assumptions that is important for the purpose of the calculations rather than their absolute values. Assumed healthcare cost trends rates have a significant effect on the amounts recognised in surplus or deficit. A one percentage point change in assumed healthcare cost trends rates would have the following effects:

**Sensitivity analysis**

One percentage point increase

Effect on the aggregate of the service cost and interest cost	351 845	475 126
Effect on defined benefit obligation	9 060 091	11 004 325
Effect on the aggregate of the service cost and interest cost discount rate	(663 747)	449 277
Defined benefit obligation discount rate	8 044 498	10 978 475
Percentage change effect on defined obligation discount rate	1	9

Amounts for the current and previous four years are as follows:

	2019	2018	2017	2016	2015
	R	R	R	R	R
Defined benefit obligation	8 708 245	10 529 198	9 361 667	10 124 054	10 741 139
Experience adjustments on plan liabilities	298 570	699 802	(36 395)	(916 549)	2 033 301

**6.3 Defined contribution plan**

It is the policy of the entity to provide retirement benefits to all its employees. A defined contribution pension fund, which is subject to the rules of the fund and to the Pensions Fund Act exists for this purpose.

The entity is under no obligation to cover any unfunded benefits.

The amount recognised as an expense for defined contribution plans is	17 619 478	16 232 235
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## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

	2019	2018
<b>7. Receivables from exchange transactions</b>		
Trade debtors	21 484 573	32 340 635
Staff advance	82 436	114 541
Deposits and prepayments	319 098	783 648
Other receivables	754 135	68 841
	<b>22 640 242</b>	<b>33 307 665</b>

During the year the NNR disbursed R741 601 recoverable from AREVA. The amount is paid for providing funding to external bursary holders who intend pursuing a career in nuclear science and engineering.

**Trade and other receivables past due but not impaired**

Trade and other receivables which are less than 12 months past due are not considered to be impaired. At 31 March 2019, R21 180 604 (2018: R32 340 635) were past due but not impaired.

The ageing of amounts past due but not impaired is as follows:

1 month past due	6 321 923	29 604 955
2 months past due	8 061 315	-
5 months past due	6 797 367	2 735 681

**Trade and other receivables impaired**

As of 31 March 2019, trade and other receivables of R10 992 895 (2018: R7 937 676) were impaired and provided for.

The ageing of these loans is as follows:

Over 12 months	10 992 895	7 937 676
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**Reconciliation of provision for impairment of trade and other receivables**

Opening balance	7 937 766	6 044 526
Provision for impairment	3 055 129	1 893 240
	<b>10 992 895</b>	<b>7 937 766</b>

The creation and release of provision for impaired receivables have been included in operating expenses in surplus or deficit (refer to note 20). Amounts charged to the allowance account are generally written off when there is no expectation of recovering the amount. The NNR's policy is to provide for impairment on receivables which are more than a year outstanding.

**8. Receivables from nonexchange transactions**

Other receivables from nonexchange revenue	933 862	79 729
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## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

	2019	2018
<b>9. Cash and cash equivalents</b>		
Cash and cash equivalents consist of:		
Cash on hand	15 000	11 263
Bank balances	2 127 484	30 442 887
Short-term deposits	69 463 187	52 901 681
	<b>71 605 671</b>	<b>83 355 831</b>
Included in the cash balance above is R13million unspent conditional grant relating to establishment of Regulatory Emergency Control Centre and refurbishment of Cape Town office, refer to note 10 for more details.		
<b>10. Unspent conditional grants and receipts</b>		
<b>Unspent conditional grants and receipts comprises of:</b>		
<b>Unspent conditional grants and receipts</b>		
Government grant	13 057 153	13 462 798
<b>Movement during the year</b>		
Balance at the beginning of the year	13 462 798	15 408 472
Income recognition during the year	(405 645)	(1 945 674)
	<b>13 057 153</b>	<b>13 462 798</b>
<ul style="list-style-type: none"> <li>• The refurbishment of Emergency Control Centre has been completed and commissioned.</li> <li>• The design of the Cape Town office building is complete. Areas necessary to accommodate emergency security risks are being adjusted. The total amount spent to date on this project amounts to R2,5million.</li> </ul>		
<b>11. Other financial liabilities</b>		
<b>At amortised cost</b>		
Mortgage bond		
ABSA mortgage bond over head office building, effective 22 June 2012 over the 10 years and final settlement due on 07 June 2022. The loan bears interest at a variable rate of 10,5% per annum. The loan has a remaining period of 39 months as at 31 March 2019. The loan is currently payable at a monthly instalment of R1 022 025. The loan is secured over head office building with carrying value of R82million.	33 459 554	41 802 374
<b>Noncurrent liabilities</b>		
At amortised cost	24 385 345	33 602 694
<b>Current liabilities</b>		
At amortised cost	9 074 209	8 199 680

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

**12. Provisions****Reconciliation of provisions – 2019**

	Opening Balance	Additions	Utilised during the year	Reversed during the year	Total
Annual Leave	7 141 052	3 447 807	(3 854 735)	-	6 734 124
Annual performance bonus	10 958 589	9 106 543	(9 131 721)	(1 826 868)	9 106 543
	<b>18 099 641</b>	<b>12 554 350</b>	<b>(12 986 456)</b>	<b>(1 826 868)</b>	<b>15 840 667</b>

**Reconciliation of provisions – 2018**

	Opening Balance	Additions	Utilised during the year	Reversed during the year	Total
Annual Leave	7 764 954	3 061 380	(3 685 282)	-	7 141 052
Performance Bonus	9 729 823	10 958 589	(9 367 478)	(362 345)	10 958 589
	<b>17 494 777</b>	<b>14 019 969</b>	<b>(13 052 760)</b>	<b>(362 345)</b>	<b>18 099 641</b>

**Provision for annual leave**

The leave provision represents management's best estimate of the NNR's liability for leave based on the NNR's approved leave policy. Leave provision represents the amount due to employees for unutilised leave days accrued for services rendered to the NNR as of 31 March 2019.

**Performance bonus**

Performance bonus represents management's best estimate of bonus potentially payable to qualifying NNR employees who signed the performance agreement with the NNR for financial year ending 31 March 2019. Performance target is set by the board at the beginning of each financial year, and employees' performance scores are linked to the overall performance of the NNR. Management has reasonably provided for a bonus in accordance with bonus payment of the 2017/18 financial year at an average individual pay out rate of 7% of total cost to company. The payment of bonus is discretionary in terms of the NNR policy and is only due and payable after declaration and approval by the board.

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

	2019	2018
<b>13. Payables from exchange transactions</b>		
Trade payables	7 107 394	9 552 341
Accruals – Trade Creditors	1 891 107	2 599 108
Accruals – Staff Accounts	139 807	-
13th Cheque accrual	1 550 286	1 370 987
	<b>10 688 594</b>	<b>13 522 436</b>

<b>14. Revenue</b>		
Authorisation fees	183 647 433	172 548 910
Application fees	22 198 560	31 193 815
Actuarial gain	1 820 953	-
Other income	661 944	697 069
Deferred Income	405 645	1 945 674
Interest received	5 585 548	5 769 381
Government grants	16 510 000	38 573 000
	<b>230 830 083</b>	<b>250 727 849</b>

**The amount included in revenue arising from exchanges of goods or services are as follows:**

Authorisation fees	183 647 433	172 548 910
Application fees	22 198 560	31 193 815
Actuarial gain	1 820 953	-
Interest received	5 585 548	5 769 381
	<b>213 252 494</b>	<b>209 512 106</b>

**The amount included in revenue arising from nonexchange transactions is as follows:****Transfer revenue**

Government grants	16 510 000	38 573 000
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**15. Government grants**

Government grant	16 510 000	38 573 000
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**Unconditional**

Unconditional grants received	16 510 000	38 573 000
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**Conditional grant**

Balance unspent at beginning of year	13 462 798	15 408 472
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Conditions met – transferred to revenue	(405 645)	(1 945 674)
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	<b>13 057 153</b>	<b>13 462 798</b>
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The NNR has an obligation to establish Regulatory Emergency Control Centre and refurbish Cape Town site office (see note 10) for details.

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

	<b>2019</b>	<b>2018</b>
<b>16. Other income</b>		
Other sundry income	637 165	697 069
<b>17. Goods and services</b>		
Advertising	613 519	735 463
Property rates & municipal charges	2 115 760	1 995 986
Auditor's fees	1 295 551	1 550 981
Cleaning	741 356	703 727
Consulting and professional fees	19 539 888	26 386 026
Consumables	552 124	796 627
Insurance	737 291	660 059
Community development and training	1 144 998	775 656
Conferences and seminars	891 288	808 922
IT expenses	4 979 593	4 128 437
Marketing	395 502	533 751
Magazines, books and periodicals	37 362	41 048
Medical expenses	91 536	117 192
Postage and courier	556 415	432 295
Printing and stationery	975 120	1 645 221
Security	1 653 772	2 136 396
Software expenses	3 769 601	3 276 285
Subscriptions and membership fees	2 141 568	1 730 824
Telephone and fax	1 620 366	1 283 945
Training	1 230 150	1 296 940
Travel – local	5 166 825	6 130 397
Travel – overseas	6 495 321	4 274 247
Electricity	1 499 125	1 165 738
Repairs & Maintenance	2 145 274	2 650 143
Board fees	1 066 408	1 039 348
Bursaries	334 633	744 000
Other expenses	10 097 927	8 930 143
	<b>71 888 273</b>	<b>75 969 797</b>

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

	2019	2018
<b>18. Operating (deficit) surplus</b>		
Operating (deficit) surplus for the year is stated after accounting for the following:		
<b>Operating lease charges</b>		
Premises		
• Contractual amounts	2 769 664	1 962 459
Equipment		
• Contractual amounts	932 406	720 652
Other		
• Contractual amounts	-	20 374
	<b>3 702 070</b>	<b>2 703 485</b>
Depreciation on property, plant and equipment	10 854 279	10 443 184
Employee costs	150 367 296	138 449 187
Defined contribution funds	17 302 288	15 578 561
Defined benefit funds	317 189	642 536
<b>19. Employee-related costs</b>		
Basic	76 989 183	68 213 824
Performance Bonus	9 106 543	10 958 589
Medical aid	5 035 870	5 729 466
UIF	554 767	513 648
Workmen's compensation fund	179 589	153 234
SDL	1 322 268	1 193 496
PAYE	39 559 599	35 465 833
Pension fund – defined benefit plan	317 189	642 536
Pension fund – defined contribution plan	17 302 288	15 578 561
	<b>150 367 296</b>	<b>138 449 187</b>

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

	2019	2018
<b>20. Bad debts</b>		
Contributions to debt impairment provision	3 055 129	1 893 240
Bad debts written off	90	484 614
	<b>3 055 219</b>	<b>2 377 854</b>
<b>21. Investment revenue</b>		
<b>Interest revenue</b>		
Short-term deposits	5 585 548	5 769 381
<b>22. Finance costs</b>		
Non-current borrowings	3 909 064	4 831 381
<b>23. Auditors' fees</b>		
Fees	1 295 551	1 550 981
<b>24. Lease rentals on operating lease</b>		
<b>Premises</b>		
Contractual amounts	2 769 664	1 962 459
<b>Equipment</b>		
Contractual amounts	932 406	720 652
<b>Lease rentals on operating lease Other</b>		
Contractual amounts	-	20 374
	<b>3 702 070</b>	<b>2 703 485</b>
<b>25. Cash generated from operations</b>		
(Deficit) surplus	(12 946 118)	14 785 440
<b>Adjustments for:</b>		
Depreciation and amortisation	10 854 279	10 443 184
Movements in operating lease assets and accruals	121 460	111 050
Movements in post-retirement obligation	(1 820 953)	1 167 521
Movements in provisions	(2 258 974)	604 864
(Profit) Loss on assets written off	170 371	-
Proceeds on disposal of assets	(84 183)	-
<b>Changes in working capital:</b>		
Receivables from exchange transactions	10 681 562	11 751 983
Other receivables from nonexchange transactions	(854 133)	680 595
Payables from exchange transactions	(2 833 841)	5 496 622
Other payable from non-exchange transaction	(59 956)	169 284
Unspent conditional grants and receipts	(405 645)	(1 945 674)
	<b>563 869</b>	<b>43 264 869</b>

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

	2019	2018
<b>26. Commitments</b>		
<b>Capital commitments</b>		
Approved and contracted for:		
• Property, plant and equipment	945 111	2 170 838
<b>Total capital commitments</b>		
Already approved and contracted for but not provided for:	945 111	2 170 838
<b>Operational commitments</b>		
Approved and contracted for:		
• Leases	6 898 886	11 065 262
• Other	36 945 752	20 189 298
	<b>43 844 638</b>	<b>31 254 560</b>
<b>Total operational commitments</b>		
Already approved and contracted for but not provided for:	43 844 638	31 254 560
<b>Total commitments</b>		
Capital commitments	945 111	2 170 838
Operational commitments	43 844 638	31 254 560
	<b>44 789 749</b>	<b>33 425 398</b>

This committed expenditure relates to property, plant and equipment and operational expenditure commitments mainly for technical support organisation that will be financed by available retained cash surpluses and existing cash resources.

<b>Operating leases – as lessee (expense)</b>		
<b>Minimum lease payments due</b>		
within one year	3 798 963	3 778 365
in second to fifth year inclusive	3 099 923	7 286 897
	<b>6 898 886</b>	<b>11 065 262</b>

**27. Contingencies**

The National Nuclear Regulator expects to settle an estimated amount of R60 000, relating to services rendered by external attorneys for the collection of outstanding debts on behalf of the NNR.

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

### 28. Related parties

Directors	Refer to directors' report note
Executive Authority	Minister of Energy
Entities ultimately under common control	South African Nuclear Energy Corporation (NECSA) National Energy Regulator of South Africa (NERSA) South African National Energy Development Institute (SANEDI) National Radioactive Waste Disposal Institute (NRWD) The Petroleum, Oil, Gas Corporation of South Africa (PetroSA) Central Energy Group Fund (CEF) (Pty) Ltd
Post-retirement pension for employees	NNR Pension Fund
Members of key management	Dr M Tyobeka (CEO) Mr D Netshivhazwaulu (CFO) Ms A Simon (Executive: CSS) Ms D Kgomo (Executive: NTN) Mr O Phillips (Executive: NPP) Ms L Mpete (Interim Executive: RITS)

	2019	2018
<b>Related party transactions</b>		
<b>Amounts included in trade receivable (trade payable) regarding related parties</b>		
NECSA	(208 503)	(350 076)
NECSA	-	13 293 238
<b>Services rendered to related party</b>		
NECSA	48 962 989	45 141 066
<b>Government transfer</b>		
Department of Energy	16 510 000	38 573 000
<b>Services from related party</b>		
NECSA	(1 268 879)	(1 057 230)
<b>Other</b>		
NNR Pension Fund	17 941 798	16 221 097

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

**29.Executive and directors' emoluments****Executive****2019**

	<b>Basic Salary</b>	<b>Performance Bonus</b>	<b>Contributions</b>	<b>Allowances</b>	<b>Total</b>
Dr B. Tyobeka (CEO)	2 644 346	229 389	-	-	2 873 735
Mr D. Netshivhazwaulu (CFO)	1 783 163	122 210	28 166	-	1 933 539
Ms A. Simon (Executive: CCS)	1 674 130	145 226	-	-	1 819 356
Ms D. Kgomo (Executive: NTN)	1 769 579	121 159	26 172	-	1 916 910
Mr O. Phillips (Executive: NPP)	1 878 010	172 189	67 882	-	2 118 081
Ms L. Mpete (Acting Executive: RITS)	1 269 664	123 940	85 644	372 137	1 851 385
	<b>11 018 892</b>	<b>914 113</b>	<b>207 864</b>	<b>372 137</b>	<b>12 513 006</b>

**2018**

	<b>Basic Salary</b>	<b>Performance Bonus</b>	<b>Contributions</b>	<b>Total</b>
Dr B. Tyobeka (CEO)	2 509 316	286 916	36 336	2 832 568
Mr D. Netshivhazwaulu (CFO)	1 692 790	147 399	51 262	1 891 451
Ms A. Simon (CSS Senior Manager)	1 588 643	90 823	22 867	1 702 333
Ms D. Kgomo (CAE Senior Manager)	1 681 490	146 131	48 174	1 875 795
Mr O. Phillips (SARA Senior Manager)	1 733 336	161 528	100 935	1 995 799
	<b>9 205 575</b>	<b>832 797</b>	<b>259 574</b>	<b>10 297 946</b>

Performance bonuses are for provided during the year of actual performance, and paid on the subsequent period if so declared in line with NNR approved remuneration and rewards policy.

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

**29.Executive and directors' emoluments (continued)****Directors**

<b>2019</b>	<b>Directors' fees</b>	<b>Total</b>
Dr M.T. Motshudi (Chairperson)	146 440	146 440
Dr P. Dube (Deputy Chairperson)	118 541	118 541
Mr J. Leaver	72 720	72 720
Ms B. Mokoetle	120 797	120 797
Mr P. Phili	148 999	148 999
Mr A. Le Roux	103 950	103 950
Dr B. Sehlapelo	89 586	89 586
Mr K.S. Kakoma	109 350	109 350
	<b>910 383</b>	<b>910 383</b>
<b>Independent Technical Committee Advisors</b>	<b>Fees</b>	<b>Total</b>
Mr P. Fitzsimons	41 904	41 904
Dr M.E. Makgae	54 999	54 999
	<b>96 903</b>	<b>96 903</b>

<b>2018</b>	<b>Members' fees</b>	<b>Total</b>
Mr J. Leaver	184 519	184 519
Dr M.T. Motshudi (Chairperson)	110 239	110 239
Ms B. Mokoetle	126 259	126 259
Dr P. Dube(Deputy Chairperson)	125 750	125 750
Mr P. Phili	69 455	69 455
Mr A. Le Roux	98 242	98 242
Mr A.J. Seekoe	39 709	39 709
Dr B. Sehlapelo	79 418	79 418
Mr K.S. Kakoma	93 609	93 609
	<b>927 200</b>	<b>927 200</b>
<b>Independent Technical Committee Advisor</b>	<b>Fees</b>	<b>Total</b>
Mr P. Fitzsimons	16 471	16 471
Dr M.E. Makgae	21 177	21 177
	<b>37 648</b>	<b>37 648</b>

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

### 30. Risk Management

#### Financial risk management

The entity's activities expose it to a variety of financial risks: fair value interest rate risk, cash flow interest rate risk and price risk, credit risk.

The entity's overall risk management program focusses on the unpredictability of liquid cash and seeks to minimise potential adverse effects on the entity's financial performance. Risk management is carried out by executive committee of the NNR under policies approved by the accounting authority. Entity finance division identifies, evaluates and hedges financial risks in close cooperation with the entity's audit and risk management committee. The accounting authority provides written principles for overall risk management, as well as written policies covering specific areas, such as, interest rate risk, credit risk.

#### Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash. The NNR's primary source of funding is authorisation fee which are gazetted in terms of section 28 of the National Nuclear Act, 1999, (Act No. 47 of 1999). The NNR maintains liquidity by collecting and paying within 30 days and by limiting capital and operational expenditure within the preapproved budget. Impairment rate for the year as reported on Note 7 was 4,9% (4,6% - 2017/18) against the total Authorisation Fees recognised on the Statement of Financial Performance. Payables for the year was 3,37% (5,73% - 2017/18) against the total expenditure. The NNR maintained a positive cash balance of R70,224, compared to R83,355 831 of the previous financial year.

#### Credit risk

Credit risk consists mainly of cash deposits, cash equivalents, and trade debtors.

Trade receivables comprises of license and certificate holders by major reputable mining and scrap metal companies. Management evaluates credit risk relating to each license or certificate holder on an ongoing basis and continuously implement a strict collection terms. There is no independent crediting ratings, risk control assesses the credit quality of customers, taking into account financial position, past experience and other factors before a license or certificate can be granted. Impairment rate for the year as reported on Note 7 was 6,0% (4,6% - 2017/18) against the total Authorisation Fees recognised on the Statement of Financial Performance.

#### Market risk

##### *Interest Rate Risk*

The entity's interest rate risk arises from longterm borrowings. Borrowings issued at variable rates expose the NNR to cash flow interest rate risk.

The entity analyses its interest rate exposure on a dynamic basis. Various scenarios are simulated taking into consideration refinancing, renewal of existing positions, alternative financing. Based on these scenarios, the entity calculates the impact on surplus or deficit of a defined interest rate shift.

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

### Cash flow interest rate risk

Financial instrument	Current interest rate	Due in less than a year	Due in one to two years	Due in two to three years	Due in three to four years	Due after five years
Bond over property floating rate	10,25%	12 264 300	12 264 300	12 264 300	3 066 075	-

### Price risk

NNR's exposure to price risk is minimal as NNR determines authorisation fees based on cost recovery principle, time spent and effort required for each of the authorisations holders which are gazetted in terms of section 28 of the National Nuclear Act, 1999, (Act No. 47 of 1999).

### 31. 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.

	2019	2018
<b>32. Fruitless and wasteful expenditure</b>		
Opening balance	1 119	-
add: Fruitless and wasteful expenditure – current year	14 083	1 119
less: Amount recovered	(1 119)	-
less: Amount condoned	(14 083)	-
	<b>-</b>	<b>1 119</b>

During the year under review, fruitless and wasteful expenditure of R1 119 was recovered. Additional fruitless and wasteful expenditure of R14 083, for interest charged on an overdue account due to late payment. Disciplinary action against the implicated official was completed, and the official given a written warning.

<b>33. Irregular expenditure</b>		
Opening balance	864 899	-
Add: Irregular Expenditure – current year	1 487 549	864 899
Less: Amounts condoned	(1 752 210)	-
	<b>600 238</b>	<b>864 899</b>

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

### Details of irregular expenditure – current year

During the year under review:

33.1 An application by the National Nuclear Regulator to National Treasury for the condonation of irregular expenditure incurred in the 2017/18 financial year, was submitted and subsequently approved. The total amount condoned is R5 268 218. This amount relates to irregular expenditure discovered in the 2017/18 financial year, wherein a contract was found to have been irregularly awarded.

33.2 National Treasury subsequently approved the condonation of irregular expenditure amounting to R264 661. The outcome on the balance of R600 238 is expected before the end of the 2019/20 financial year.

33.3 Irregular expenditure of R1 487 549, incurred in the 2018/19 financial year relates to the 2017/18 contract awarded to a security services provider, whose tax matters had not been declared by the South African Revenue Services to be in order. This expenditure has since been condoned by National Treasury (see 33.1 above).

### 34. Reconciliation between budget and statement of financial performance

Reconciliation of budget surplus/deficit with the surplus/deficit in the statement of financial performance:

	2019	2018
Net (deficit) surplus per the statement of financial performance	(12 946 118)	14 785 440
<b>Adjusted for:</b>		
Provision for doubtful debts	3 055 219	2 377 854
Provision for leave pay	-	(623 902)
Actuarial gain/loss	(1 820 953)	1 167 521
Variance on authorisation fees	(3 466 032)	(1 772 910)
Variance on other income	(4 036 548)	(7 455 884)
Variance on other investment income	30 701 713	(2 835 381)
Variance on compensation	743 930	917 088
Variance on goods and services	(11 620 046)	(2 642)
Variance on depreciation	385 417	(5 356 892)
Variance on finance cost	(590 936)	745 381
Variance on capital expenditure	(405 646)	(1 945 673)
<b>Net surplus per approved budget</b>	<b>-</b>	<b>-</b>

## NOTES TO THE ANNUAL FINANCIAL STATEMENTS

### 35. Budget differences

#### Material differences between budget and actual amounts

##### 35.1 Authorisation fees

Authorisation fees revenue exceeded the annual budget by 2%, with a total revenue of R183,8million against total budget of R180,3million. The total revenue realized, at the end of the financial year is consistent with the approval of 7,5% on fees, for 2018/19 financial year.

##### 35.2 Application fees

Application fees for the year amounted to R22million, with a negative variance of R6,4million against the budget. This revenue stream remains unpredictable, and fluctuates year-on-year based on applications received and additional work agreed upon with applicants on ongoing projects.

##### 35.3 Actuarial gain

Actuarial gain is comprised of the difference between the amount of pension paid by the National Nuclear Regulator and the amount that was expected to be paid. This income occurs when the amount paid is less than what was expected. During the 2018/2019 financial year, actuarial gain of R1,8million was realised.

##### 35.4 Interest received

Interest income was substantially higher than was budgeted for. This can be attributed to the continuous positive cash balances on our investment accounts, enhanced by the retentions of surplus funds at the end of the 2017/18 financial year.

##### 35.5 Depreciation and amortisation

Depreciation is budgeted for in line with the CAPEX annual acquisition provision and has increased in line with new assets procured in the current financial year. Total depreciation of R10,8million was realised, inclusive of amortisation for computer software.

##### 35.6 Debt impairment

The National Nuclear Regulator provides for debt impairment when there is some evidence that outstanding debts over 365 days may not be collected. Although there have been some improvements in the collection of outstanding debts, this figure has continued to increase, from R2,3million in the 2017/18 financial year to R3million in the current financial year.

##### 35.7 Goods and services

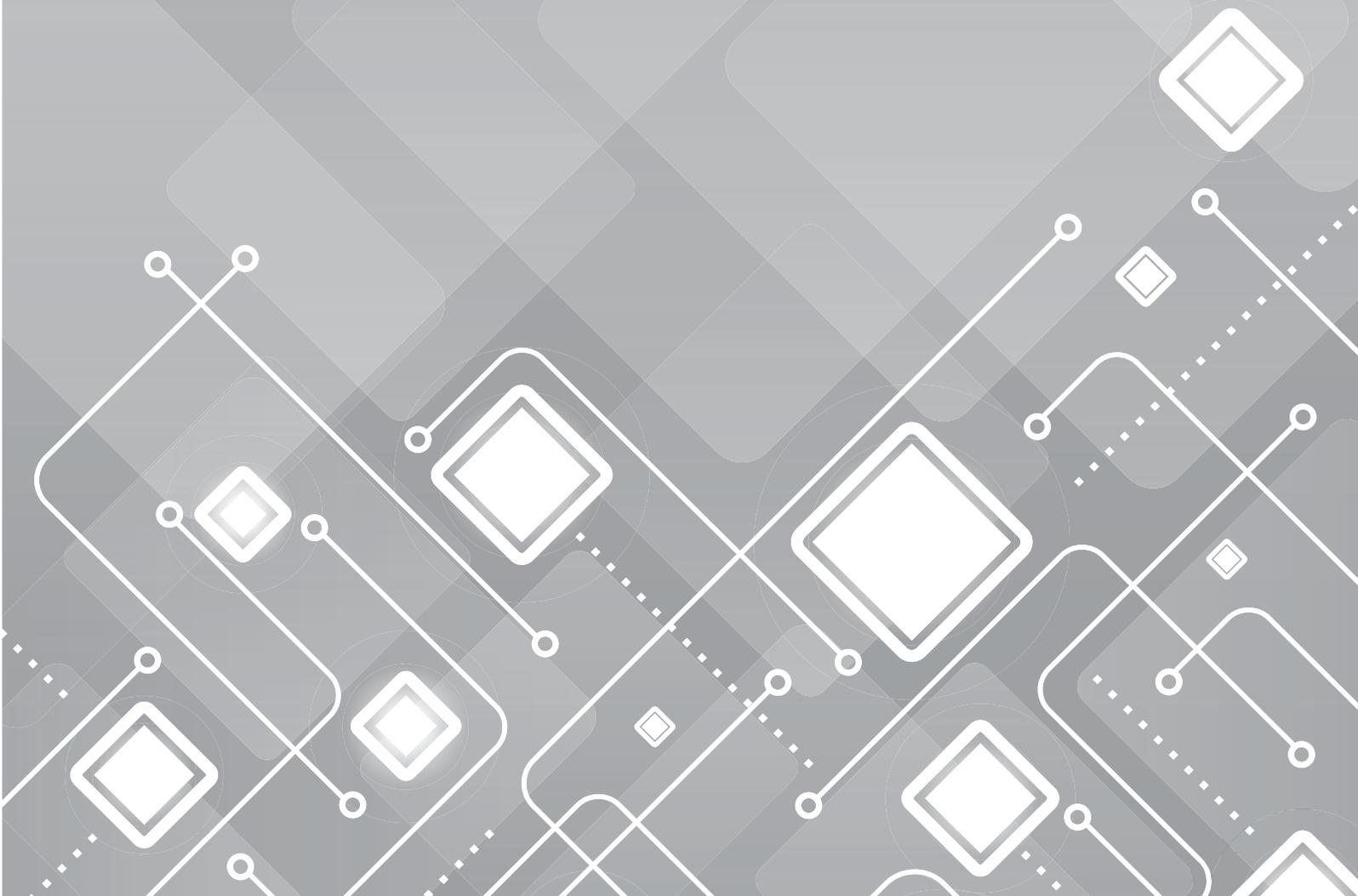
Included in the amount of goods and services is spending on lease rentals on operating leases. Spending on this item was below budget by R11million. This savings can be attributed to strict financial discipline maintained by the organisation, in line with the National Treasury Instruction on the cost containment.

##### 35.8 Other income

Other income earned for the year amounted to R661 000, against a budget of R24,9million. The major portion of this budget relates to CNSS project in partnership with ISTC which was estimated at R17million. The variance of 97% is caused mainly by the decision, during contracting, to transfer funds directly to the University of Pretoria and not to the NNR.

G

ACRONYMS, ABBREVIATIONS  
AND DEFINITIONS



# G. ACRONYMS, ABBREVIATIONS AND DEFINITIONS

## 1. Acronyms, Abbreviations and Definitions

AA	Accounting Authority
ARMCOM	Audit and Risk Management Committee
AADQ	Annual Authorised Discharge Quantity
AFRA	African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology
AFS	Annual Financial Statements
ACR	Authorisation Change Request
AGSA	Auditor-General of South Africa
ALARA	As Low As Reasonably Achievable
ARPC	Assistant Radiation Protection Controller
ASDPL	Aerodynamic Separation Process
ASME	American Society of Mechanical Engineers
ASN	French Nuclear Regulatory Authority
CAA	Civil Aviation Authority
CAE	Compliance Assurance and Enforcement
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CNS	Convention on Nuclear Safety
COE	Certificate of Exemption
COM	Chamber of Mines
COR	Certificate of Registration
CPI	Consumer Price Index
CSS	Commission on Safety Standards
DIPR	Dedicated Isotope Production Reactor
DSP	Dosimetry Service Providers

ECC	Emergency Control Centre
EPD	Electronic Personal Dosimeter
DoE	Department of Energy
ENIQ	European Network for Inspection and Qualification
EPSOC	Emergency Planning, Steering and Oversight Committee
FET	Further Education and Training
FNRBA	Forum for Nuclear Regulatory Bodies in Africa
GRAP	Generally Recognised Accounting Practice
HEU	Highly Enriched Uranium
HR	Human Resources
IAEA	International Atomic Energy Agency
ICRP	International Commission on Radiation Protection
ICT	Information Communication Technology
ILT	Initial Licence Training
INES	International Nuclear Event Scale
INPO	Institute of International Nuclear Power Operations
INSAG	International Nuclear Safety Advisory Group
ISI	In-Service Inspection
IT	Information Technology
JCC	Joint Coordinating Committee
KNPS	Koeberg Nuclear Power Station
KPI	Key Performance Indicator
LETf	Liquid-Effluent Treatment Facility
LEU	Low Enriched Uranium
LG	Licensing Guide
LLW	Low-Level Waste

LSA	Low Specific Activity
LTAM	Long-Term Asset Management
MDEP	Multinational Design Evaluation Programme
mSv	Millisievert
MW	Megawatt Electrical
NDR	National Dose Register
Necsa	South African Nuclear Energy Corporation
Nehawu	National Education, Health and Allied Workers' Union
NEPROC	Nuclear Emergency Preparedness Regulatory Oversight Committee
NERS	Network of Regulators of Countries with Small Nuclear Programmes
NGO	Non-Governmental Organisation
NIL	Nuclear Installation Licence
NNR	National Nuclear Regulator
NNRA	National Nuclear Regulator Act
NORM	Naturally Occurring Radioactive Material
NTWP	Nuclear Technology and Waste Projects
NUSSC	Nuclear Safety Standards Committee
NVL	Nuclear Vessel Licence
OTS	Operating Technical Specification
PFMA	Public Finance Management Act
PLEX	Plant Life Extension
PPC	Parliamentary Portfolio Committee
PSA	Public Safety Assessor
PSM	Power Station Manager
QMS	Quality Management System
RAIS	Regulatory Authority Information System
RASIMS	Radiation Safety Information Management System

RASSC	Radiation Safety Standards Committee
RDD	Radiological Dispensive Device
RED	Radiation Emission Device
RPO	Radiation Protection Officer
RTMC	Road Traffic Management Corporation
RSR	Railway Safety Regulator
SALTO	Safety Assessment of Long-Term Operation
SAMSA	South African Maritime Safety Authority
SAPS	South African Police Service
SARA	Standards, Authorisations, Reviews and Assessments
SARS	South African Revenue Service
SAT	Self-Assessment Tool
SCM	Special Case Mines
SGR	Steam Generator Replacement
SHEQ	Safety, Health, Environment and Quality Management
SHEQD	Safety, Health, Environment and Quality Management Department
SSRP	Safety Standards and Regulatory Practices
SQEP	Suitably Qualified and Experienced Person
TPU	Thermal Power Uprate
TRANSSC	Transport Safety Standards Committee
TSO	Technical Support Organisation
UFCOR	Nuclear Fuels Cooperation of South Africa
USNRC	United States Nuclear Regulatory Commission
WAC	Waste Acceptance Criteria
WASSC	Waste Safety Standards Committee
WiNSA	Women in Nuclear South Africa
WiN-NNR	Women in Nuclear National Nuclear Regulator

## 2. Glossary of Terms

**Action:** The use, possession, production, storage, enrichment, processing, reprocessing, conveying or disposal, or causing to be conveyed of radioactive material. Any action, the performance of which may result in persons accumulating a radiation dose resulting from exposure to ionising radiation. Any other action involving radioactive material.

**Assessment:** The process and the result of systematically analysing the hazards associated with sources and actions, and associated protection and safety measures aimed at quantifying performance measures for comparison with criteria.

**Becquerel (Bq):** The unit of radioactivity in nuclear transformations (or disintegrations) per second. **Clearance:** The removal of radioactive materials or radioactive objects within actions authorised by a nuclear installation licence, nuclear vessel licence, or certificate of registration, from any further control by the Regulator.

**Collective dose:** An expression of the total radiation dose incurred by a population, defined as the product of the number of individuals exposed to a source and their average radiation dose. The collective dose is expressed in person-sievert (person.sv).

**Critical group:** A group of members of the public that is reasonably homogeneous with respect to its exposure to a given radiation source and given exposure pathway, and is typical of individuals receiving the highest effective dose or equivalent dose (as applicable) by the given exposure pathway, from the given source.

**Decommissioning:** Administrative and technical actions taken to allow the removal of all of the regulatory controls from a facility (except for a repository which is closed and not decommissioned).

**Defence in-depth:** The application of more than a single protective measure for a given radiation or nuclear safety objective, so that the objective is achieved, even if one of the protective measures fails.

**Discharge:** A planned and controlled release of radioactive nuclides into the environment.

**Disposal:** The emplacement of radioactive waste in an approved, specified facility without the intention of retrieval. The term "dispose of" has a corresponding meaning.

**Disused sealed source:** A radioactive source, comprising radioactive material that is permanently sealed in a capsule or closely bonded and in a solid form (excluding reactor fuel elements) that is no longer used and is not intended to be used for the action for which an authorisation had been granted.

**Dose:** The amount of radiation received, where the use of a more specific term, such as "effective dose" or "equivalent dose" is not necessary for defining the quantity of interest.

**Dose constraint:** A prospective and source-related restriction on the individual dose arising from the predicted operation of the authorised action, which serves exclusively as a bound on the optimisation of radiation protection and nuclear safety.

**Dose limit:** The value of the effective dose or equivalent dose to individuals from actions authorised by a nuclear installation licence, nuclear vessel licence or certificate of registration, which must not be exceeded.

**Emergency planning:** The process of developing and maintaining the capability to take action that will reduce the impact of an emergency on persons, property or the environment. The capability to promptly take action that will effectively reduce the impact of an emergency on persons, property or the environment.

**Emergency response:** The performance of action to reduce the impact of an emergency on persons, property or the environment.

**Environmental monitoring:** The measurement of external dose rates, due to sources in the environment, and of radioactive nuclide concentrations in environmental media.

## 2. Glossary of Terms

**Exposure:** The act or condition of being subjected to radiation.

**Exposure pathways:** A route by which radioactive material can reach or irradiate humans

**WCA:** Wonderfonteinspruit Catchment Area

**Inspector:** The person appointed as such in terms of Section 41(1) of the NNR Act.

**Minister:** The Minister of Energy.

**Monitoring:** The continuous or periodic measurement of radiological and other parameters, or the determination of the status of a system.

**Nuclear accident:** Any event or succession of events having the same origin and resulting in an unintended/ exposure to radiation or the release of radioactive material, which is capable of giving rise to an effective dose in excess of 1msv to the public on-site within a year, or in excess of 50msv to a worker on-site, essentially received at the time of the event.

**Nuclear authorisation:** A nuclear installation licence, nuclear vessel licence, certificate of registration or certificate of exemption.

**Nuclear damage:** Any injury to or the death or any sickness or disease of a person; or other damage, including any damage to or any loss of use of property or damage to the environment, which arises out of, or from, or is attributable to, the ionising radiation associated with a nuclear installation, nuclear vessel or action.

**Nuclear incident:** Any unintended event that is reasonably capable of giving rise to an effective dose equal to, or in excess of 0.1msv to the public on-site received essentially at the time of the event, or the unintended spread of radioactive contamination or exposure to radiation, which could reasonably give rise to an effective dose in excess of 20msv to a worker on-site, received essentially at the time of the event, or significant failure of safety provisions.

**Nuclear installation:** A facility, installation, plant or structure, designed or adapted for, or which may involve the conducting of any process, other than the mining and processing of ore within the nuclear fuel cycle involving radioactive material, including, but not limited to:

- A uranium or thorium refinement or conversion facility;
- A uranium enrichment facility; A nuclear fuel fabrication facility;
- A nuclear reactor, including a nuclear fusion reactor or any other facility intended to create nuclear fusion;
- A spent nuclear fuel reprocessing facility;
- A spent nuclear fuel storage facility;
- An enriched uranium processing and storage facility; and
- A facility specifically designed to handle, treat, condition, temporarily store or permanently dispose of any radioactive material that is intended to be disposed of as waste material; or
- Any facility, installation, plant or structure declared to be a nuclear installation, in terms of section 2(3) of the NNR Act.

**Nuclear safety:** The achievement of safe operating conditions, the prevention of nuclear accidents or the limiting of nuclear accident consequences resulting in the protection of workers, the public and the environment against the potential harmful effects of ionising radiation or radioactive material. Radiation protection of people from the effects of exposure to ionising radiation, and the means of achieving this.

**Radiation protection monitor:** A person, technically competent in radiation protection matters relevant to a given type of action, who is designated by the holder of a nuclear authorisation to perform radiation measurements.

**Radiation protection officer:** A person, technically competent in radiation protection matters relevant for a given type of who is designated by the holder of a nuclear authorisation to oversee the application of relevant requirements.



**Radiation protection specialist:** A person trained in radiation protection and other areas of specialisation necessary to be able to assess radiological conditions, to limit radiological consequences or to control doses.

**Radioactive material:** Any substance consisting of or containing any radioactive nuclide whether natural or artificial, including, but not limited to, radioactive waste and spent nuclear fuel.

**Radioactive nuclide:** Any unstable atomic nucleus, which decays spontaneously with the accompanying emission of ionising radiation.

**Radioactive waste:** Any material, whatever its physical form, remaining from an action requiring a nuclear installation licence, nuclear vessel, licence or certificate of registration and for which no further use is foreseen, and that contains or is contaminated with radioactive material and does not comply with the requirements for clearance. The quantitative or qualitative criteria specified by the operator and approved by the regulator, for radioactive waste to be accepted by the operator of a repository for disposal, or by the operator of a storage facility for storage.

**Risk:** (Qualitatively expressed), the probability of a specified health effect occurring in a person or a group of persons, as a result of exposure to radiation or (quantitatively expressed), a multi-attribute quantity expressing hazard, danger or chance of harmful or injurious consequences associated with actual or potential exposure relating to quantities, such as the probability that specific deleterious consequences may arise, as well as the magnitude and character of such consequences.

**Safety assessment:** An analysis to evaluate the performance of an overall system and its impact, where the performance measure is radiological impact or some other global measure of impact on safety.

**Safety case:** A collection of arguments and evidence in support of the safety of a facility or action. This normally includes the findings of a safety assessment and a statement of confidence in these findings.







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