Annual Report **2015**









NATIONAL NUCLEAR REGULATOR

For the protection of persons, property and the environment against nuclear damage.



PRESENTATION OF THE NATIONAL NUCLEAR REGULATOR (NNR)

ANNUAL REPORT 2014-2015

This Annual Report 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 National Nuclear Regulator (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)(i) of the Public Finance Management Act (Act No. 1 of 1999) and Chapter 28 of the Treasury Regulations.





CONTENTS

SECTION 1: GENERAL INFORMATION	
Staff reporting to CEO	Page 11
Chairperson's Overview	Page 13
Chief Executive's Review	Page 15
SECTION 2: CORPORATE GOVERNANCE	
Board of Directors	Page 19
Committees of the Board	Page 23
Risk Management	Page 25
Social Responsibility	Page 27
SECTION 3: PERFORMANCE OF THE NNR	
Performance Overview	Page 31
Performance Information	Page 37
Linking Performance with Budgets	Page 42
Summary of Financial Information	Page 43
SECTION 4: HUMAN RESOURCES MANAGEMENT	
Overview	Page 49
HR Oversight Statistics	Page 50
SECTION 5: REGULATION OF NUCLEAR ACTIONS	
Core Business	Page 56
Nuclear Authorisations	Page 58
Regulation of Nuclear Power Plant: KNPS	Page 65
Regulation of Nuclear Facilities and Activities on the Necsa Pelindaba Site	Page 74
Regulation of Vaalputs National Radioactive Waste Disposal Facility	Page 84
Regulation of Mining and Minerals Processing: Norm	Page 89
Nuclear Security	Page 97
Special Projects	Page 98
International Cooperation	Page 101
Stakeholder Relations	Page 102
SECTION 6: ANNUAL FINANCIAL STATEMENTS	
Annual Financial Statements	Page 106
Acronyms/ Abbreviations	Page 158
Glossary	Page 162





SECTION 1

GENERAL INFORMATION



1. General Information

Vision

To be an independent world-class regulatory authority on nuclear safety.

Mission

The mission of the NNR is to provide and maintain an effective and efficient national regulatory framework for the protection of persons, property and the environment against nuclear damage.

Corporate Values

In carrying out its mandate, the NNR adheres to the values of Professionalism, Openness and Transparency, Integrity, Valuing People, Excellence and Teamwork. These values serve as guiding principles on how the NNR reaches regulatory decisions, how it performs administrative tasks and how its employees interact with their fellow employees and other stakeholders.

Professionalism

We hold ourselves accountable to the highest standards of professionalism in everything we do.

Integrity

We demonstrate integrity and ethical conduct in all that we do.

Valuing people

We demonstrate that we value our people in all that we do.

Excellence

We strive for excellence in all that we do.

Teamwork

We demonstrate an approach that pivots around teamwork.

Openness and Transparency

We demonstrate openness and transparency in our interactions with all stakeholders.





1.2. Strategic goals and priorities

The NNR has adopted the following Strategic Priorities and Goals for 2013-2016:

- To provide efficient and effective nuclear regulatory services.
- Enhance public communications and strengthen stakeholder relations.
- Create a high performance culture.
- Ensure the financial viability and sustainability of the organisation.
- Develop and maintain sound organisational infrastructure.
- Enhance good governance.
- Ensure effective human capital management.

1.3 Legislative and other mandates

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

a) Provide for the protection of persons, property and the environment against nuclear damage through the establishment of safety standards and regulatory practices.

b) Exercise regulatory control related to safety over:

i) The siting, design, construction, operation, manufacture of component parts, and the decontamination, decommissioning and closure of nuclear installations; and

ii) Vessels propelled by nuclear power or having radioactive material on board which is capable of causing nuclear damage, through the granting of nuclear authorisations.

c) Exercise regulatory control over other actions to which the Act applies, through the granting of nuclear authorisations;

d) Provide assurance of compliance with the conditions of nuclear authorisations through the implementation of a system of compliance inspections;

e) Fulfil national obligations in respect of international legal instruments concerning nuclear safety; and

f) 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, as amended). The Board of Directors is the Accounting Authority in terms of the Public Finance Management Act. 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.



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

1.4.1 Constitutional

- Constitution of the Republic of South Africa of 1996 (Act No.108 of 1996)
- Nuclear Energy Act (NEA), (Act No. 46 of 1999)
- National Nuclear Regulatory Act (NNRA), (Act No. 47 of 1999)
- Public Finance Management Act (PFMA), (Act No. 1 of 1999)
- National Treasury Regulations
- National Environmental Management Act (NEMA), (Act No. 107 of 1998)
- Promotion of Access to Information Act (PAIA), (Act No. 2 of 2000)
- Promotion of Administrative Justice Act (PAJA), (Act No. 3 of 2000)

1.4.2 Policy

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

a) 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.

Among various things, the Policy covers:

- The prospecting and mining of uranium ore and any other ores containing nuclear properties and materials; and
- The nuclear fuel cycle in its entirety, focusing on all applications of nuclear technology for energy generation.

One of the sixteen principles of this Policy is that, Nuclear Energy shall be used as part of South Africa's diversification of primary energy sources and to ensure security of energy supply.

B) Radioactive Waste Management Policy and Strategy for the Republic

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 relating to the management of radioactive waste are assessed, and compliance of NNR authorisation holders is monitored.



1.5 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 (RSA)
- African Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology (AFRA) – Fourth Extension

1.6 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 NNR 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 Convention on Nuclear Safety, and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

Staff Reporting to the CEO



Dr Mzubanzi Bismark Tyobeka
Chief Executive Officer



Mr Orion Phillips
Senior Manager: Standards, Authorisations, Reviews and Assessments



Ms Ditebogo Kgomo
Senior Manager: Compliance Assurance and Enforcement



Mr Dakalo Netshivhazwaulu
Chief Financial Officer



Ms Anita Simon
Senior Manager: Corporate Support Services



Mr Gino Moonsamy
Manager: Communications and Stakeholder Relations



Ms Ntsikie Kote
Manager: Strategy , Governance and Organisational Performance



Ms Phindile Masilo
Manager: Internal Audit



Ms Hlamarisa Kubayi
Project Management

Legal Counsel Mr Gift Nhlapho resigned on 30th Sept 2014.
The post was occupied by Advocate Tlotliso Polaki on 14th October 2014 for the duration of the reporting period.



Chairperson's Overview



Dr Tracy Cohen
Chairperson Board of Directors

Assuring the safety of the nuclear industry in South Africa is the thrust of the NNR's mandate, and it gives me great pleasure to report that we accomplished this fundamental task with diligence. The NNR provided the required oversight to ensure that activities pertaining to the use and handling of radioactive material in South Africa were executed in a safe manner, and in accordance with international principles and best practices, resulting in a nuclear accident-free year under review.

Governed by the Public Finance Management Act, 1 of 1999 as amended. The Board of Directors in their capacity as the Accounting Authority of the NNR ensured the financial viability and sustainability of the organisation, resulting in a clean audit from the Auditor-General for the reporting period, while discharging their fiduciary duties and exercising control over the performance of the Regulator's functions. Good governance, as outlined in the King III Report, has been the guiding principle of our business best practices in this financial year.

As the oversight authority in nuclear safety, the NNR is required to fulfil South Africa's obligations with respect to international instruments concerning the International Atomic Energy Agency's (IAEA) Regulations for the safe transport of radioactive materials. The Regulator also co-ordinates and implements South Africa's Contracting Party obligations to the IAEA Convention on Nuclear Safety, as well as the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. During the review period the NNR compiled and submitted the South African National Report on the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management to the IAEA.

South Africa celebrated the 50th Anniversary of the South African Fundamental Atomic Research Installation (SAFARI-1) nuclear reactor in March 2015. This reactor has operated to world standards for half a century producing an impressive output of science and of commercial product such as nuclear medicine, exported to some 60 countries.

The Licensing branch of the Atomic Energy Corporation, the predecessor of the NNR, was involved with the regulation of SAFARI-1 since its inception. When the Council for Nuclear Safety was established in 1988, the first official nuclear licence was issued in the form of NL-27, where SAFARI-1 featured as one of the annexures specifying the regulatory conditions for the research reactor.

In 1976, despite a long-standing contract, the export of fuel from the US to SA was terminated as a result of international sanctions and the reactor went through a period of limited use. In 1977, reactor power was reduced to 5MW with alternate weeks of operation. This forced South Africa to start producing its own fuel and in 1982, the first locally produced fuel was loaded into SAFARI-1. The South African manufactured fuel has also been regulated by the NNR.

In July 2005, an announcement was made by the South African government through the then Department of Minerals

and Energy that SAFARI-1 would be converted from using HEU fuel to using LEU (<19.75% enriched in U235). On 20 June 2009, SAFARI-1 went critical with a full load of LEU fuel. The process of converting SAFARI-1 to using LEU fuel was assessed, monitored, reviewed and authorised by the NNR.

The SAR in its current form was approved by the NNR in 2003, with a Safety Assessment Report Improvement Programme (SARIP). The revised SAFARI-1 SAR developed under this SARIP is currently under review by the NNR. The research reactor uses low enriched uranium-silicon-aluminium alloy plate-type fuel assemblies of conventional MTR design, and is licensed to operate at 20MW thermal power. In the past 15 years of operations, the NNR has successfully regulated SAFARI-1 in accordance with the NNR Act.

NNR Strategic goals for 2013 to 2015 have focused on regulatory oversight and assuring effective safety and security, strengthening stakeholder relations and building the regulator's corporate image. The high performance culture envisaged by the regulator is coming to fruition through its competent staff, the implementation of new technology and building a sound organisational structure.

In conclusion, I would like to extend my gratitude to the Honourable Minister of Energy for her confidence in the Regulator, our Chief Executive Officer, Dr. Tyobeka, the Board, the Executives and the employees for their commitment and dedication during the past year, which has ensured that the NNR discharges its mandate diligently and effectively.



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Dr Tracy Cohen

Chairperson: Board of Directors

Chief Executive's Review



Dr Mzubanzi Bismark Tyobeka
NNR Chief Executive Officer

The NNR's performance trend continued steadily on an upward curve for the current year under review and the organisation attained an overall performance rating of 90% – eclipsing its target of 85% – which makes it a pleasure for me to present the annual report for the year under review. I can also report a satisfactory achievement of safety and security in the oversight of the nuclear industry in South Africa.

Strategic leadership was provided in the attainment of pre-determined objectives for the Standards, Authorisations, Reviews and Assessments division. Core regulatory standards were maintained, and the regulatory framework continued to be strengthened over the period under review. Reviews and assessments were conducted with regard to design safety, radiation protection and operational safety. Research and development on emerging issues regarding radiation protection was ongoing.

The NNR executed its responsibilities for effective regulatory oversight in terms of its strategic framework to assure nuclear safety and security. Other strategic objectives included processing applications for nuclear authorisations and assuring that holders have effective emergency preparedness plans in place. The NNR also ensured that regulatory instruments continue to be updated in line with national and international requirements. The organisation responded to initiatives relating to nuclear expansion and strengthening its ability to undertake independent verification through the use of computer codes. The organisation conducted compliance assurance inspections, audits, investigations, surveillance, and environmental monitoring and sampling as per the annual plan. The CAE Division also ensured the establishment of improved systems relating to compliance in nuclear safety and security.

Communication and Stakeholder Relations were strengthened with the Public Outreach initiatives being exceeded, and a new interactive stakeholder website being launched during the reporting period. Enquiries from Parliament received timely responses and the organisation continued to improve its information sharing efforts with the public.

The organisation maintained good international liaison and effective co-ordination with bilateral regulatory counterparts. The NNR signed a new technical bilateral cooperation agreement with the regulatory authority from Finland (STUK) and renewed bilateral cooperation agreements with the USNRC and UK-ONR respectively. During the reporting period the NNR implemented a successful nuclear security bilateral with UK-ONR and a nuclear safety and security bilateral with Rostechnadzor from the Russian Federation.

Corporate support services continued to provide strategic leadership and direction in Human Capital Management, Facilities Management, ICT as well as Occupational Health and Safety, while ensuring efficient processes and resources in support of the organaisation's strategic objectives.

Financial Management and Administration involved financial planning and reporting, and safeguarding of assets, while enforcing adherence to the relevant legislations, effective



supply chain processes and responsible use of public funds. Financial systems that support strict internal control measures were implemented.

The Internal Audit processes assured NNR stakeholders that the Regulator operates in a responsible manner by implementing the functions as per the governing financial regulations and best practice accounting standards. Risk management was instituted to identify, assess, manage and monitor risks in the organisation. The Internal Audit Department assisted Management by co-ordinating and facilitating risk management activities within the NNR.

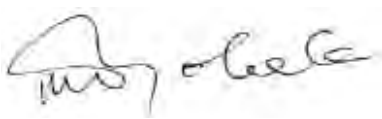
Some challenges were experienced in the year under review. These included delays in the approval of authorisation fees for the replacement of Eskom's Koeberg Power Station's steam generators, which impacted on the Regulator. The installation of radioactivity monitoring facilities on the licences' sites took longer than anticipated and required extra resources. Delays were also experienced in the procurement of service providers for the upgrade and refurbishment of the Cape Town offices.

The NNR is funded through authorisation fees and grants. In the year under review, it collected R132 million in authorisation fees – an increase of 14% on the previous financial year, achieving its target by 100%. The increase is mainly attributed to Eskom's KNPS steam generator's replacement project. The state grant of R33.6 million was in line with the Medium-Term Expenditure Framework.

The Regulator embarked on the following capital projects: the Radioactivity Analysis Laboratory, the procurement and contracting of the Regulatory Emergency Control Centre was completed during the year under review, while R3.9 million disbursements were made.

A new individual performance management system was effectively implemented and the organisation continued to improve and enhance rewards for employees who achieved outstanding individual performance.

The achievements for the financial year under review reported above, could not have been possible without the continued support and guidance of the Chairperson and the Board of Directors. My thanks and appreciation for the support of my colleagues at Exco and the staff, without whose loyalty and dedication the NNR would not have been able to meet its objectives and discharge its mandate. My sincere thanks also to the Minister of Energy, the Office of the Director-General and the Team Nuclear at the Department for their co-operation and support throughout this past year.



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Dr Mzubanzi Bismark Tyobeka

Chief Executive Officer



SECTION 2

CORPORATE GOVERNANCE



BOARD OF DIRECTORS



Dr Tracy Cohen
Chairperson



Mr Tshepo Mofokeng
Deputy Chairperson,
Chairperson of the Audit and Risk Management Committee



Mr Nikisi Wilson Lesufi
Chairperson Transformation and Development Committee, Audit and Risk Management Committee



Dr Thapelo Motshudi
Chairperson
Technical Committee



Mr Jeffrey Leaver
Technical Committee, Transformation and Development Committee, Audit and Risk Management Committee



Mr Kabelo Samuel Kakoma
Audit and Risk Management Committee



Mr Sibusiso Mimi
Transformation and Development Committee



Mr Moegamat Ishaam Abader
Transformation and Development Committee



Mr Katse Maphoto
Transformation and Development Committee



Dr Bethuel Sehlapelo
Technical Committee

Ms Lillian Sedumoeng: Alternate (DoE)
Prof G Sibiya : resigned 30 April 2014
Ms Nolwazi Cobinnah: resigned 30 April 2014



2. Introduction

The Board reviewed 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 III Report and the precepts of the Public Finance Management Act (PFMA), as appropriate.

2.1 Portfolio Committee

The NNR presented its 2014 Annual Report to the Portfolio Committee on Energy (PCE) in October 2014. The PCE requested an additional briefing from the NNR's Audit and Risk Management Committee. The NNR assured the Committee that all nuclear installations and regulated entities under the purview of the NNR did not expose workers to undue harmful levels of ionising radiation or cause nuclear damage to the environment in 2014. The NNR successfully fulfilled its fiduciary duties and continued to discharge its mandate in accordance with best practices in governance whilst complying to regulatory and legislative requirements. The activities and findings of the Audit and Risk Management Committee (ARMCOM) were briefed in detail.

2.2 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 embrace 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.

The Board is accountable for the overall formulation, monitoring and review of the NNR's corporate strategy and related affairs, while delegating to management the responsibility for business performance and achievement of the organisation's objectives.

Board Charter

The 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 Authority, 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 Regulator's unique environment.

2.3 Composition of the Board

The Board comprises 12 non-executive Directors who are independently appointed by the Minister of Energy, an Executive Director (Chief Executive Officer) and three alternate members. 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 April 2014 -March 2015			
Title	Full Name	Date Appointed	Stakeholder Represented
Dr	Tracy Cohen *	1 December 2012	Chairperson – Board
Mr	Tshepo Mofokeng *	1 December 2012	Deputy Chairperson - Board
Mr	Kabelo Samuel Kakoma **	1 December 2012	Civil Society
Mr	Jeffrey Leaver *	1 December 2012	Independent Member
Ms	Lillian Sedumoeng **	30 January 2015	DoE
Mr	Nikisi Wilson Lesufi *	1 December 2012	Organised Business Chairperson: TDC
Prof	Gordon Sibiya **	1 December 2012	Independent Member
Dr	Thapelo Motshudi *	1 December 2012	Independent Member
Mr	Mark Gordon **	6 December 2013	DWEA
Mr	Katse Maphoto *	1 December 2012	DoE
Mr	Moegamat Ishaam Abader *	1 December 2012	DWEA
Mr	Sibusiso Mimi **	1 December 2012	Organised Labour
Dr	Bethuel Sehlapelo **	1 May 2012	Independent Member of the Technical Committee
Ms	Nolwazi Cobinnah**	1 December 2012	DWEA

* Reappointment

** New Appointment



2.3.1 New Appointments

Table: 2 The new members appointed were:

#	Name	Designation	Date Appointed
1.	Mr Mark Gordon	Alternate	6 December 2013
2.	Ms Lillian Sedumoeng	Alternate	30 January 2015

The members who resigned were:

#	Name	Designation	Date Appointed
1	Professor G Sibiya	Non-Executive Director	30 April 2014
2	Ms Nolwazi Cobinnah	Alternate	30 April 2014

2.3.2 Board Meetings

Table 3: The following meetings were held during the reporting period.

Names	24 April 2014	2-3 July 2014 Strategic Planning	30 July 2014	30 October 2014	29 January 2015	17 March 2015 job Evaluation Workshop	18 March 2015 IAEA Director-General visit
Dr T Cohen –	P	P	P	P	P	P	
Mr T Mofokeng – Deputy	P	P	A	P	P		
Mr J Leaver	P	P	A	P	P		
Dr T Motshudi	P	P	P	P	P		
Mr M Lesufi	P	P	P	P	P	P	P
Mr I Abader	P	P	p	P	P		
Ms N Cobinnah	P	N/A	N/A	N/A	N/A		
Mr K Maphoto	P	P	A	A	P		
Dr M.B Tyobeka	P	P	P	P	P		
Mr S Mimi	P	P	P	P	P	P	P
Prof G Sibiya	P	N/A	N/A	N/A	N/A		
Mr S Kakoma	P	P	P	P	P	P	P
Ms E Monale	A	P	A	A	A		
Mr M Gordon	A	A	A	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 such.



2.4 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. The NNR Board Committees have each adopted formal terms of reference, which are reviewed annually to ensure continued relevance.

2.4.1 ARMCOM

The Audit and Risk Management Committee comprised five Non-Executive Directors. One member resigned in April 2014. 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 T Mofokeng (Chairperson)
- Mr N Lesufi
- Mr J Leaver
- Ms N Cobbinah
- Mr S Kakoma

Table 4: ARMCOM convened five times during the review period.

Names	Date of the meeting April 2014 - March 2015				
	15 April 2014	20 May 2014	17 July 2014	16 October 2014	20 January 2015
Mr T Mofokeng	P	P	P	P	P
Mr N Lesufi	P	P	P	P	P
Mr J Leaver	P	P	P	P	P
Ms N Cobinnah	P	N/A	N/A	N/A	N/A
Ms S Kakoma	P	P	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.



2.4.2 Technical Committee

The Technical Committee comprised four non-executive Directors and one external member, 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:

- Dr Motshudi (Chairperson)
- Ms N Cobinnah
- Mr J Leaver
- Dr B Sehlapelo
- Prof G Sibiya

Table 5: The Committee convened nine times during the review period.

	16 April 2014	16 APRIL 2014 Workshop	15 July 2014 Workshop	18 July 2014	21Oct 2014	21 Jan 2015	17 March 2015 Job - Evaluation Workshop
Dr T Motshudi - Chairperson	P	P	P	p	P	P	
Mr J Leaver	P	P	p	A	P	p	
Dr D Sehlapelo	P	P	p	P	P	P	P
Prof G Sibiya	P	P	N/A	N/A	N/A	N/A	
Ms N Cobinnah	P	P	N/A	N/A	N/A	N/A	
Mr K Maphoto	N/A	N/A	p	P	A	P	
Mr M Gordon	N/A	N/A	A	A	A	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 the Board/Board Committee.

2.4.3 TDC

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:

- Mr N Lesufi (Chairperson)
- Mr K Maphoto
- Mr I Abader
- Mr J Leaver
- Mr M Mimi

Table 6: The Committee conducted five meetings during the Review Period

Date of the meetings attended	17 April 2013	22 July 2013	5 August 2013 Special Meeting	18 October 2013	22 January 2014
N Lesufi (Chairperson)	P	P	P	P	P
I Abader	A	A	A	A	A
J Leaver	P	A	A	P	P
S Mimi	P	P	P	P	P
K Maphoto	P	P	A	A	P

2.4.4 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. The details of the remuneration for the year ended 31 March 2015 are stated in Note to the Annual Financial Statements on page151.

2.5 Risk Management

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, and providing assurance that it has done so. To implement the above, the NNR developed and implemented a risk- management manual, which includes the risk management policy, strategy and implementation plan.

Risk Management Strategies to Identify and Manage Risks

The Risk Steering Committee met quarterly to discuss the current and potential risks facing the organisation. The Risk Champions' Forum met quarterly to monitor and ensure that actions to address the identified risks are implemented. A biannual risk assessment was conducted in September 2014 and an annual risk assessment, inclusive of internal and external risk factors, was conducted in the March 2015. The strategic and operational risk registers were updated accordingly. Risk owners were identified and requested to provide action plans to address the identified risks. These were included in the Risk Registers.

Progress Made in Addressing Risks Identified

The risk champions monitored the implementation of actions to address the identified risks on a quarterly basis. Quarterly



progress was reported to the Risk Steering Committee, which considered the progress and reported this to the Executive Committee, ARMCOM and the Board. Identification of new risks is a standing agenda item at the NNR Board. Identified risks were assessed and included in the relevant risk registers.

2.6 Internal Control

Management reviewed internal controls in the respective areas of responsibilities and developed or updated policies and procedures to address identified gaps and weaknesses. The Board reviewed and approved policies and procedures recommended by management, to ensure enhancement and effectiveness of internal controls.

The Internal Audit activity included assisting the organisation in reviewing internal controls and reporting on the salient outcomes to Management and ARMCOM. Internal Audit also reported on the progress made by management in addressing the outstanding findings and non-compliances identified during the audits. During the period under review, the Internal Audit and External Audit findings were reported to the Board on a quarterly basis.

2.7 Internal Audit and ARMCOM

The NNR's Internal Audit is an independent, impartial assurance and consulting function designed to add value and improve NNR operations. It assists the organisation to accomplish its objectives through a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes. This is in compliance with the requirements of the PFMA.

The Manager Internal Audit reports administratively to the CEO and functionally to ARMCOM. The responsibilities of the Internal Audit staff includes the following:

a) Evaluating the organisation's governance processes, including ethics, especially the 'tone at the top;

b) Performing an objective assessment of the effectiveness of risk management and the internal control framework;

c) Systematically analysing and evaluating business processes and associated controls; and

d) Providing a source of information, as appropriate, regarding instances of fraud, corruption, unethical behaviour and irregularities.

2.7.1 The Scope of Internal Audit Activities includes:

i Reviewing the risk management processes and practices;

ii. Reviewing the reliability and integrity of financial and operational information and the means used to identify, measure, classify and report such information;

iii. 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 organisation is in compliance;

iv. Reviewing the means of safeguarding assets and, as appropriate verifying the existence of assets;



v. Appraising the economy and efficiency with which resources are employed;

vi. 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;

vii. Provide a written assessment regarding the effectiveness of the system of internal controls in the organisation; and

viii. Conduct a documented review of the key financial reporting controls in identified financial systems and processes every year and submit a report to ARMCOM to enable it to formulate its comment to financial statement.

The annual allocation of internal audit resources to audit activities is established on the basis of an approved internal audit plan. A certain amount of capacity is reserved in the planning to allow for once-off/special projects, preliminary investigations and requests from management and ARMCOM. ARMCOM is responsible for approving the plan based on the agreed scope of work that needs to be performed.

2.7.2 Summary of Audit Work Done

In the 2014-15 financial year 15 internal audits were conducted. ARMCOM assisted the Board by reviewing the following areas:

- Integrated Reporting
- Combined Assurance
- Finance Function and the Chief Financial Officer
- Internal Audit
- Risk Management
- External Audit
- Compliance with Laws and Regulations
- Ethics

2.8 Fraud and Corruption

The Fraud and Corruption Prevention process was implemented and monitored. The Fraud Risk Register was developed. Actions to address identified risks were agreed to and implemented as planned. No fraud or potential fraud cases were reported during the period under review.

2.9 Social Responsibility

The key focus areas for the NNR during 2014-2015 were:

- Launch of the NNR Bursary Award programme linked to SGR and implemented in conjunction with AREVA.
- In terms of Corporate Social Responsibility, the Women in Nuclear NNR Chapter (WiN-NNR implemented a "Take a boy child to work" initiative.
- National Science Week, Women's Month and Nelson Mandela Day
- Implementation of the NNR Techno Girl Programme










SKILLS



SECTION 3

PERFORMANCE OVERVIEW



3. Performance Overview

The NNR's performance trend continued steadily on an upward curve for the current year under review and the organization attained an overall performance rating of 90% – eclipsing its target of 85%.

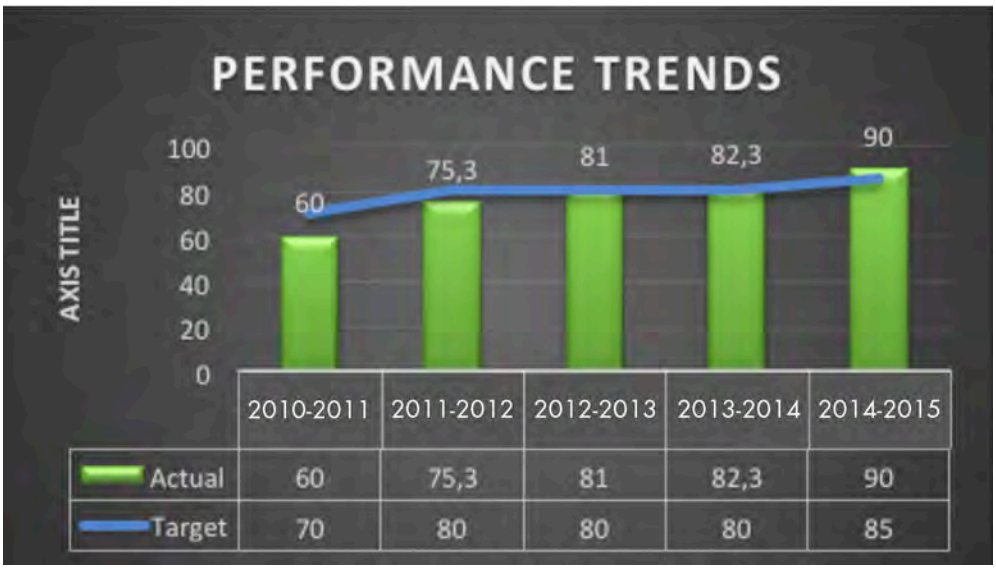


Fig1: Performance trend over five years

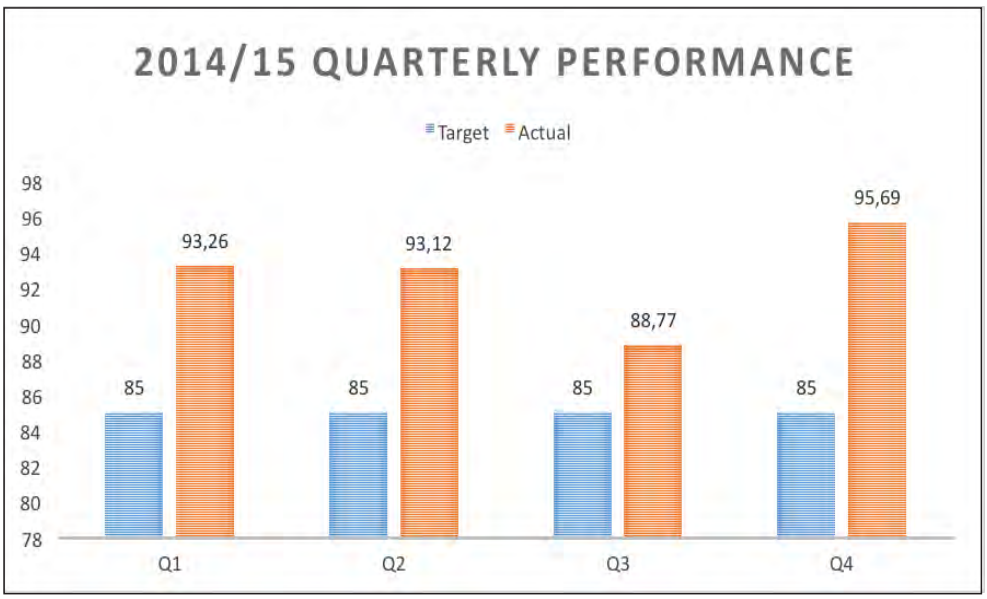


Fig 2: 2014-15 Quarterly Performance



3.1 Programmes: Predetermined Objectives

3.1.1 Standards, Authorisations, Reviews and Assessments (SARA) Division

Programme Purpose

To provide strategic leadership and management in the following areas:

- Authorisations for Nuclear Vessel Licenses (NVL), Nuclear Installations (NIL), Certificate of Registrations (COR) and Certificates of Exemption (COE). The programme produces standards related to the core themes, such as risk analysis, structural analysis, nuclear engineering and structural engineering. The reviews and assessments are conducted with regard to design safety, radiation protection and operational safety.
- Managing of special projects, such as the Fukushima project, radiation protection and nuclear new build.
- Research and development is conducted on emerging issues regarding radiation protection.

Strategic outcome orientated goal aligned to the programme

- Effective Regulatory Oversight and Framework to assure nuclear safety and security.

Strategic objectives

- To process applications for nuclear authorisations in a timely and accurate manner.
- To assure that holders have an effective Emergency Preparedness Plan.
- To benchmark and update safety standards and regulatory practices in line with national and international norms and requirements.
- To establish an independent environmental radio-analytical laboratory.
- To strengthen the NNR's ability to undertake independent verification through the use of computer codes.
- To ensure that the NNR responds to initiatives relating to nuclear expansions.
- To undertake regulatory research that ensures that the regulatory regime is strengthened.

3.1.2 Compliance Assurance and Enforcement (CAE) Division

Programme purpose

The Compliance Assurance and Enforcement (CAE) Division provides strategic leadership and management of the compliance and enforcement activities, processes and programmes for all the regulated nuclear technologies. The CAE Division also ensures the establishment of effective and efficient delivery systems related to the Compliance, Assurance and Enforcement activities in nuclear safety and security.

This includes conducting compliance assurance inspections, audits, investigations, surveillances, environmental monitoring and sampling.



Strategic outcome orientated goal aligned to the programme

- Effective regulatory oversight and framework to assure nuclear safety and security.

Strategic Objectives

- To provide assurance of safety performance of holders through inspections, audits, investigations and taking of enforcement action for identified non-compliance.
- To assure effective implementation of nuclear security measures.

3.1.3 Communications and Stakeholder Relations

Programme Purpose

The Communication and Stakeholder Relations Office provides strategic communications leadership, works with technical experts to develop plain language communications products and maintains various stakeholder communication tools, such as a website, Annual Reports, nuclear safety reports and newsletters. It co-ordinates and manages responses to enquiries from Parliament, the public, media and other key stakeholders. This office focuses on the NNR's commitment to develop and maintain public confidence in the nuclear safety regulatory regime by working openly and transparently with stakeholders to achieve this goal. This office also manages international liaison and the co-ordination of regulatory co-operation with bilateral counterparts.

Strategic outcome orientated goal aligned to the programme

- Strengthen stakeholder relations and enhance corporate image.

Strategic objective

- To strengthen stakeholder engagements and improve public awareness.

3.1.4 Corporate Support Services

Programme Purpose

This Programme provides strategic leadership and direction in the areas of Human Capital Management, Facilities Management, ICT as well as Occupational Health and Safety. The primary focus of the Programme is in ensuring efficient processes and resources in support of the organisation's strategic objectives.

Strategic outcome orientated goals aligned to the programme

- Develop and maintain sound organisational infrastructure.
- Ensure effective Human Capital Management.



Strategic objectives

- To implement and maintain ICT solutions that support business processes.
- To implement adequate physical infrastructure that creates a conducive working environment
- To ensure effective talent management.

3.1.5 Financial Management and Administration

Programme Purpose

This Programme provides strategic financial leadership for the purposes of managing and directing the finances of the NNR. The management includes financial planning, financial reporting, safeguarding of assets and enforcing adherence to applicable legislations, effective supply chain processes and efficient usage of public funds. The Programme also includes an oversight role in implementing financial systems that support robust systems of internal control.

Strategic outcome orientated goal aligned to the programme

- Ensure the financial viability and sustainability of the organisation.

Strategic objectives

- To ensure prudent financial management.
- To ensure that the NNR continues to remain a financially viable entity.

3.1.6 Internal Audit

Programme Purpose

Internal audit provides assurance to the NNR's stakeholders that the organisation operates in a responsible manner by performing, among others, the functions described in Section 2,7 on page 26.

Strategic outcome orientated goal aligned to the programme

- Enhance good governance.

Strategic objectives

- To improve and maintain an effective system of internal controls.
- To improve and maintain an effective internal audit system.

3.1.7 Risk Management

Programme Purpose

Risk management is a systematic and formalised process instituted by the organisation to identify, assess, manage and



monitor risks. The Internal Audit Department assists management by co-ordinating and facilitating the risk management activities within the NNR.

Strategic outcome orientated goal aligned to the programme

- Enhance good governance.

Strategic objective

- To improve and maintain an effective system of risk management.

3.1.8 Strategy, Governance and Organisational Performance

Programme Purpose

The purpose of this function is two-fold. Firstly, to assure the effective and efficient functioning of the Board of Directors, its Committees and all other internal governance structures. This is done by assisting the Board to discharge its roles and responsibilities by providing guidance on good corporate governance principles and practices for the Board and the organisation. This is also implemented through quality, consistent and responsive administrative and logistical support.

The Programme also ensures the formulation, development and planning of the organisation's strategy by the Board and the Executive with a view to enabling execution of its mandate in line with the NNR Act. This is done by utilising a strategic plan that is aligned to the National Planning Framework for SOEs. The function also monitors and evaluates organisational performance at both operational and strategic levels, providing performance-enhancing solutions that address performance gaps that will aid in the attainment of performance targets and intended outcomes. These solutions include the implementation of appropriate quality-management systems and operational excellence tools.

Strategic outcome orientated goal aligned to the programme

- Enhance good governance.
- Create a high performance culture.

Strategic objective

- To ensure continuous development and maintenance of independent and effective governance structures.
- To establish and maintain a high performance culture through effective performance systems and people management.

3.1.9 Legal Counsel

Programme Purpose

The purpose of this function is to provide the organisation with comprehensive legal advice and support on all legal matters.

Strategic outcome orientated goal aligned to the programme

- Enhance good governance.

Strategic objective

- To ensure compliance with applicable legislation and policy frameworks.



3.2 Performance information

●	Achieved	Planned tasks have been completed and approved.
●	Largely Achieved	Planned tasks achieved at 85% and above.
●	Not Achieved	Planned tasks were not achieved.
●	Not Applicable	Tasks were not due for action or implementation in the reporting period under review.

Table 7: Overall performance achieved for 2014-2015 is averaged at 90% based on planned versus actual.

Strategic Objective	Measure	Performance Indicator	Actual Achievement 2013/2014	Planned Target 2014/15	Actual Achievement 2014/2015		Variance from planned target to actual achievement for 2014/15	Comment on variance for over achievement in 2014/15
1.Toprocess applications for nuclear authorisations in a timely and accurate manner	CM1a: Level of responsiveness on various authorisations	CM1a: No. of days (Turn round time (TAT)	100%	CoR:180 days; COE:180 days; NVL:180 days; NIL 40mths (based on specific assumptions), NISL 24 months,	[1]0%	●	-16 CORs. Authorisations issued in this period were within stipulated time frames. However the time lapse in between interaction from regulator to holder has been a challenge to ascertain, thus in the final analysis the computed time frames did not make consideration for slippage from the time the holder receives and responds to the regulatory requirement. These included 16 CORS issues throughout Q1-Q4.	
	CM1b: ratio of work performed against work planned for reviews & assessments	CM1b; 100% of total agreed schedule	89.2%	100%	100%		None	
2. To provide compliance assurance of nuclear safety and security through inspections, audits, investigations and taking of enforcement action for identified non compliance	CM2a: compliance assurance activities conducted	CM2:number of activities conducted	Inspections: 364	Inspections: NORM -196	185/196= 94.3%	●	-11 due to challenges in scheduling time with some operators.	
				Inspections: NTWP-118	126/118= 100%	●	+8 additional inspections (unplanned)	The team was able to recover some time to conduct furthe unplanned inspections. This is also due to availabilit of additional staff due to the implemention of the resource plan as referenced in CM7d.
				Inspections: NPP - 46	48/46 =100%	●	+2 additional inspections	Due to the implementation of the resource plan, there as suffecient capacity to deliver and surpass the target. Reference is made to CM7d.
			Environmental Samples 563	Inspections: NucSec - 29	21/29= 72%	●	-8, the nuclear security unit did not get the envisaged human resources capacity as initially anticipated. Henece the none achivement	
				Environmental Samples: 504	504/504=100%	●	None	
			AUDITS: 12	AUDITS : 20	19/20 = 95%	●	-1 due to challenges in scheduling	
	CM2b: Enforcement actions undertaken	CM2b:% enforcement actions	84.4	As necessary	[2]100%	●	None	



Strategic Objective	Measure	Performance Indicator	Actual Achievement 2013/2014	Planned Target 2014/15	Actual Achievement 2014/2015		Variance from planned target to actual achievement for 2014/15	Comment on variance for over achievement in 2014/15
3.To assure that holders have an effective emergency preparedness plan	CM3:Planning and conducting of regulatory emergency exercise (conducting exercise per agreed schedule)	CM3: conducting regulatory exercises as per schedule	100%	100% of agreed schedule	100% (KNPS exercise)		None	
4.To benchmark and update nuclear safety and security standards and regulatory practices in line with national & international standards and requirements	CM4: % completion of the self-assessment programme of action	CM4: % completion of the self-assessment programme of action	82%	90% implementation	95.4% (85.9/90)		+5.4%	The team was able to recover some time to adress some milestones ahead of schedule.
5.To establish an independent environmental radio analytical laboratory	CM5:Implementat ion of the key project milestones	CM5:% completion of action plan	84.7%	80% implementation	98.36% (71.5/80)		+18.36%	The team was able to recover some time to adress some milestones ahead of schedule.
6. To strengthen the NNR ability to undertake independent verification through the use of computer codes.	CM6: Implementation of the key project milestones	CM6:% completion of action plan	(New KPI for 2014/15)	100%	100%		None	
7.To ensure that the NNR responds to initiatives related to nuclear expansion	CM7a: Action plan from EPREV	CM7a:% Completion of action plan	New KPI for 2014/15)	as per approved plan	100%		None	
	CM7b: Action plan from INIR	CM7b:% Completion of action plan	New KPI for 2014/15)	as per approved plan	[3]0		NNR still awaiting the outcomes of the mission report from the DOE. However it has been calculated as a non perfomance and has ben factored in to the final performance figure.	
	CM7c: Participation in NNEECC structures and international forums	CM7c:%implementation of all initiatives related to nuclear expansion	New KPI for 2014/15)	as per approved plan	100%		None	
	CM7d: Securing of resources related to nuclear expansion	CM7d: implementation of the nuclear expansion resource plan	New KPI for 2014/15)	100%	100%		None	
8.To undertake regulatory research that ensures that the regulatory regime is strengthened	CM8a: Research plan of action, relevant studies covering emerging areas for safety regulations	CM8a: development of the regulatory research framework	(New KPI for 2014/15)	Framework	100%		None	
CM8b:% of regulatory research plan completed	CM8b: Research plan of action, relevant studies covering emerging areas for safety regulations	CM8b:% of regulatory research plan completed	(New KPI for 2014/15)	100%	[4]100%		None	
9. To assure effective implementation of nuclear security measures	CM9:Implementati on of the nuclear security culture	CM9:% implementation of the nuclear security culture	(New KPI for 2014/15)	100%	80%		Delays in the implementation process as key milestones (procdure) were not filised by Q4 a planned.	
10. To strengthen stakeholder relations and improve public awareness	CM10a:Public Awareness index	CM10a:% increase in the level of awareness	(New KPI for 2014/15)	10%	[5]100%		None	The stakholder satifction survey results indicated 12.5% increase , meaning that the target was reached and surpassed by 2.5%



Strategic Objective	Measure	Performance Indicator	Actual Achievement 2013/2014	Planned Target 2014/15	Actual Achievement 2014/2015		Variance from planned target to actual achievement for 2014/15	Comment on variance for over achievement in 2014/15
	CM10b: face-to face stakeholder engagement	CM10b: % implementation of stakeholder engagement plan	96.6%	100%	100%	●	None	
	CM10c: compliance to obligations	CM10c: % implementation of international obligations and bilateral cooperation plan	100%	100%	100%	●	None	CM10c: compliance to obligations
11. To ensure that the NNR continues to remain a financially viable entity i.e. Adequate revenue to meet NNR strategic objectives.	FM1 :Level of funding versus cost of strategic program (alignment of budget to strategic programs)	FM1: % (Regulatory activities are adequately funded)	96.7%	100%	100%	●	None	
12. To ensure prudent financial management in the NNR i.e. Ensure that strategic objectives are executed in accordance with allocated funds	FM2:Variation from budget	FM2: % budget variation (either positive or negative)	94.1%	+/-5%	100% (+5.7%)	●	None	
13. To improve and maintain an effective system of internal controls)	PM1a:Unqualified audit	PM1a: % budget variation (either positive or negative)	100%	Unqualified audit	100% (Unqualified audit)	●	None	
	PM1b: effective implementation of action plan for the close out of audit findings	PM1b:Reduced number of outstanding audit findings	81.6%	100% implementation per schedule	94.1%	●	Slight delays in closing out of some findings before March 31st. However these are now closed out.	
14. To improve and maintain an effective system of risk management	PM2:level of implementation of risk mitigation measures	PM2: Risk mitigation measures implemented	It was previously reported as a joint KPI with PM1a	100%	100%	●	None	
15. To improve and maintain an effective internal audit system	PM3: Effective implementation of the Internal Audit Plan	PM3: % implementation of the Internal Audit Plan	New KPI and objective for 2014/15	100%	91.5%	●	A delay in the closing out of 1 audit within specified timelines.	
16. To ensure continuous development and maintenance of independent and effective governance structures.	PM4: Level of Effectiveness of governance structures	PM4: Compliance to Stipulated governance requirements	95.6%	100%	100%	●	None	
17.To implement ICT solutions that support business processes	PM5a:Infrastructure down time (TAT)	PM5a:Length of time it takes to restore systems	72 %	48hrs	[6]98.5 %	●	A laspe in terms of systems uptime due to the relocation project at the site office (Cape Town)	PM5a:Infrastructure down time (TAT)
	PM5b: ICT infrastructure maintenance plan	PM5b: develop and implement ICT infrastructure maintenance plan	(New KPI for 2014/15)	100%	94.35%	●	A delay in the implementation of online disastor recovery within stipulated time frames.	PM5b: ICT infrastructure maintenance plan
18.To implement adequate physical infrastructure that creates a conducive working environment	PM6:Complete approved infrastructure expansion plan	PM6:Implementation of approved plan	New KPI and objective for 2014/15	100% implementation of approved plan	[7]0%	●	The project suffered a delay as it needed to adequately meet procurement requirements. The service provider was subsequently contracted with on March 23rd 2015, days before the year end.	



Strategic Objective	Measure	Performance Indicator	Actual Achievement 2013/2014	Planned Target 2014/15	Actual Achievement 2014/2015		Variance from planned target to actual achievement for 2014/15	Comment on variance for over achievement in 2014/15
19. To establish and maintain a high performance culture through effective performance systems and people management.	PM7a:Improvement on baseline Organisational Excellence Rating	PM7a: PM7a: Excellence rating	81.5%	500 excellence points	100% (617.4 points)	●	None	
	PM7b: Implementation of strategy management program	PM7b:% implementation	(New KPI for 2014/15)	100%	100%	●	None	
20. To ensure compliance with applicable legislation and policy frameworks	PM8a: % Level of compliance with legislative requirements	PM8a:Legislative compliance index	(New KPI for 2014/15)	100%	[8]93.8%	●	Some corrective actions were not closed out in relation to identifed gaps.	
	PM8b: % Implementation of legislative program	% PM8b:Level of compliance with legislative requirements	0	100%	100%	●	None	
21. To ensure effective talent management	LM1:Average staff performance level	LM1: % Average employee performance	New KPI and objective for 2014/15	80%	[9]100%	●	None	
	LM2: staff retention	LM2: % staff retention	New KPI and objective for 2014/15	90%	[10]0100% (97/90)	●	None	
	LM3: Approved grading and career path model	LM3:% of employee satisfaction	New KPI and objective for 2014/15	80%	=93% (74.4/ 80)	●	A low rating for leadership and management categories of the survey.	
	LM4: Approved succession plan	LM4:% implementation of succession plan	New KPI and objective for 2014/15	100%	[11]100%	●	None	

(Footnotes)

1 Authorisations issued in this period were within stipulated time frames. However the time lapse in between interaction from regulator to holder has been a challenge to ascertain, thus in the final analysis the computed time frames did not make consideration for slippage from the time the holder receives and responds to the regulatory requirement. These included 16 CORS issues throughout Q1-Q4.

2 7 Directives to NORM facilities

3 The INIR action plan was added conditionally as it has dependencies on the release of the report by the Department of Energy. This has not happened as anticipated. It was however relevant to include it in planning as one of the key items in demonstrating readiness for the new build.

4 Regulatory guide on the training and recognition of appointed medical practitioners

5 10.6% averaged out for 2012-14. Cape Town 8.9; North West 13.5% & Gauteng 9.5%

6 This result is due to a delay in the restoring of systems to the Cape Town site office during its relocation project was experienced in Q3. This affected the annual overall.

7 The plan was susceptible a number of procurement challenges throughout the year. It has been reprioritised for the next cycle.

8 Based on a self – assessment exercise done by the organisation. It is important to note that at this stage the legislation has not been categorised into primary and secondary. This categorisation will be done in the next cycle.

9 Average staff performance is 4.11 out of a 5 point scale in which a rate of 3 is equivalent to 100%.

10 There have been only 4 terminations out of 118 staff complement. This is 3% of the staff complement, rendering NNR retention at 97%

11 This is the policy, procedure and actual identification of potential successors for the different roles in the organisation.





3.3 Challenges encountered by the NNR during 2014-2015

Authorisation Fees

Delays in the approval of authorisation fees for Eskom's Koeberg Nuclear Power Station (KNPS) Steam Generators Replacement (SGR) project had a detrimental effect on the Regulator's ability to execute its regulatory plan in terms of preparatory work for the project.

2014 - 2015: R12 million: Regulatory Emergency Response Centre (RERC)

Contracting and execution of technical activities for the project such as installation of radio-activity monitoring facilities around the licenced sites took longer than anticipated and was compounded by the need for extra resources. The facility was refurbished, fully-furnished and equipped. The project is envisaged to reach completion with the facility becoming functional during the 2015-16 financial year.

2014 - 2015: R17 million Cape Town office upgrade

Provisions for adequate accommodation at the NNR's Cape Town office gained momentum during the year and a feasibility study was conducted. The staff were relocated to a leased office facility in preparation for the refurbishment work at the site. Delays have been experienced in the procurement process of the service providers.

Other Challenges

Staff were engaged in resolving issues with regard to the following:

- Integrated regulation of radioactive sources;
- Funding for Nuclear Build early engagement activities – delays in policy implementation had a big impact on planning;
- Funding model for the Regulator;
- Perceived shortcomings in the independence of the Regulator by some stakeholders;
- Low staff capacity – especially with regard to regulating ageing installations; ineffective engagement with other state organs.



3.4 Linking performance with budgets

The NNR had nine key strategic objectives during the year under review. The table below indicates the resources allocations and utilisation for all the key objectives, respectively.

Table 9: 2014 - 2015 Performance

Programme	Code	Description	Budget R	Actual	Variance Under/ (Over) R	Budget R	Actual YTD R	Variance Under/ (Over) R
To process applications for Nuclear authorisations in a timely and accurate manner	135, 137 and 138	Personnel	33 502 134	31 258 930	2 243 204	30 252 501	25 707 591	4 544 910
		Goods & Services	5 142 900	5 775 802	(632 902)	6 939 386	3 362 484	3 576 902
		Total	**38 645 034**	**37 034 732**	**1 610 302**	**37 191 887**	**29 070 075**	**8 121 812**
To ensure effective implementation of Nuclear security measures by holders	175 and 139	Personnel	5 032 664	3 643 658	1 389 006	3 635 730	3 277 064	358 666
		Goods & Services	1 787 500	1 105 537	681 963	2 500 600	839 976	1 660 624
		Total	**6 820 164**	**4 749 194**	**2 070 970**	**6 136 330**	**4 117 040**	**2 019 290**
To establish an independent verification capability for the NNR	136	Personnel	14 020 631	13 150 554	870 077	10 496 662	11 510 292	(1 013 630)
		Goods & Services	4 570 500	5 970 987	(1 400 487)	3 143 210	4 628 376	(1 485 166)
		Total	**18 591 131**	**19 121 541**	**(530 410)**	**13 639 872**	**16 138 668**	**(2 498 796)**
To provide assurance of safety performance of holders through inspections, audits, investigation and taking enforcement action for identified non-compliance.	171, 172, 173 and 174	Personnel	23 120 920	20 535 333	2 585 587	19 058 160	17 915 315	1 142 845
		Goods & Services	4 328 774	2 473 288	1 855 486	4 913 463	2 855 917	2 057 546
		Total	**27 449 694**	**23 008 621**	**4 441 073**	**23 971 623**	**20 771 232**	**3 200 391**
Good governance	124, 125, 126, 127 and 128	Personnel	10 625 966	9 502 141	1 123 825	7 574 741	4 354 715	3 220 026
		Goods & Services	8 284 010	6 385 944	1 898 066	6 214 499	5 266 038	948 461
		Total	**18 909 976**	**15 888 084**	**3 021 892**	**13 789 240**	**9 620 753**	**4 168 487**
Financial viability and sustainability	155 156 and 158	Personnel	7 610 599	18 446 023	(10 835 424)	7 191 492	13 435 111	(6 243 619)

Programme	Code	Description	Budget R	Actual	Variance Under/ (Over) R	Budget R	Actual YTD R	Variance Under/ (Over) R
		Goods & Services	19 080 000	25 685 350	(6 605 350)	26 170 000	20 946 857	5 223 143
		Total	**26 690 599**	**44 131 374**	**(17 440 775)**	**33 361 492**	**34 381 968**	**(1 020 476)**
High performance and culture effective human capital management	141, 142, 144 and 145	Personnel	6 049 464	4 754 524	1 294 940	6 466 111	7 231 329	(765 218)
		Goods & Services	8 110 500	6 300 312	1 810 188	6 836 367	2 705 417	4 130 950
		Total	**14 159 964**	**11 054 836**	**3 105 128**	**13 302 478**	**9 936 746**	**3 365 732**
Sound organisational infrastructure	143	Personnel	2 009 025	2 006 602	2 423	1 828 513	1 742 671	85 842
		Goods & Services	11 201 000	6 295 536	4 905 464	8 045 000	5 860 228	2 184 772
		Total	**13 210 025**	**8 302 138**	**4 907 887**	**9 873 513**	**7 602 899**	**2 270 614**
Stakeholder relations and corporate image	129	Personnel	2 063 479	1 631 637	431 842	1 536 460	1 419 075	117 385
		Goods & Services	4 645 000	4 445 778	199 222	3 002 000	2 366 569	635 431
		Total	**6 708 479**	**6 077 414**	**631 065**	**4 538 460**	**3 785 644**	**752 816**

3.5. Summary of financial information

3.5.1 Revenue collection

The NNR is mainly funded from two sources of income, i.e. Authorisation Fees and State Grants in the form of transfers – both conditional and unconditional grants. During the period under review, the entity collected R132 million in Authorisation Fees – 14% more than the previous financial year. The amount collected was 100% as per target, which is shown in Table 10.

The above increase in Authorisation Fees is attributed to special fees charged for the KNPS SGR project. This project is expected to be completed in the next three years, henceforth only normal regulatory fees for KNPS operations shall apply. During the year, there has been significant growth of applications from the Mining Sector and this speaks to the potential growth of our client base in the medium term. This growth can be attributed to the huge stakeholder engagement drive adopted and implemented in the past two financial years. The NNR will continue to engage aggressively with its stakeholders to ensure that we broaden our reach to communities. The State Grant collection was range bound at R33.6 million in line with the Medium-Term Expenditure Framework. This is, however, forecasted to decline significantly in the next two financial years, decreasing by 50% in the 2016-17 financial year. This will compel the scaling down of operations to a sustainable level considering the available resources.

During the financial year, the Regulator implemented its revised financial policies and procedures to strengthen the controls and ensure efficient and effective collection of revenue. The effect of this initiative started to be felt towards the end of the financial year and is expected to improve our collections' turnaround times significantly.



Table 10: Revenue Sources

2014-2015				2013-2014		
Sources of revenue	Estimate	Actual Amount Collected	(Over)/ Under Collection	Estimate	Actual Amount Collected	(Over)/Under Collection
	R'000	R'000	R'000	R'000	R'000	R'000
Authorisation Fees	131 871	132 065	194	120 884	115 411	5 433
State Grant	33 697	33 697	–	48 360	48 360	–
Other Income	4 165	7 411	3 246	1 535	4 680	(3 145)
Total	**169 733**	**17 173**	**3 440**	**170 779**	**168 451**	**2 288**

Table 11: Programme Expenditure

				2014-2015			2013-2014	
			Total	Expenditure	Variance	Total	Expenditure	Variance
Programme	Code	Des-cription	Budget	YTD	Under/ (Over)	Budget	YTD	Under/ (Over)
			R	R	R	R	R	R
Suppport Services	124-129:141-145:155-158	Personnel	28 358 533	36 340 927	(7 982 394)	24 597 317	28 182 901	(3 585 584)
		Goods & Services	51 320 510	49 112 919	2 207 591	50 267 866	37 145 110	13 122 756
		Total	79 679 043	85 453 846	(5 774 803)	74 865 183	65 328 010	9 537 173
SARA Division	135-140	Personnel	49 271 766	46 199 405	3 072 361	44 384 893	40 494 947	3 889 946
		Goods & Services	10 682 900	12 555 717	(1 872 816)	12 583 196	8 830 836	3 752 360
		Total	59 954 666	58 755 122	1 199 545	56 968 089	49 325 783	7 642 306
CAE Division	171-175	Personnel	26 404 583	22 389 071	4 015 512	19 058 160	17 915 315	1 142 845
		Goods & Services	5 146 774	2 769 897	2 376 877	4 913 463	2 855 917	2 057 546
		Total	**31 551 357**	**25 158 968**	**6 392 389**	**23 971 623**	**20 771 232**	**3 200 391**



3.5.2 Support Programme

The over-expenditure of 28% on personnel cost indicated above is attributed to performance bonus payouts made out of the previous year provisions on the balance sheet to the value of R3.8 million and payment of about R800 000 for COIDA that was not budgeted for, and funded through the savings generated in other areas and re-allocated during budget-adjustment process. With the exception of the above, the structure on this division was over 95% populated throughout the year.

The division performance on goods and services was 4% under expenditure during the year, which is within the set norm of 5%. This performance is attributed to the training and development of managers in financial administration and implementation of the revised policies and procedures during the financial year.

3.5.3 Standards, Authorisations, Reviews and Assessment (SARA)

This division's performance of 6% under-expenditure during the financial year is commendable considering the fact that it had to fill a number of new positions approved for the KNPS's SGR project. From these results, it is clear that the recruitment and recruitment strategies deployed currently are starting to bear fruit in stabilising the unit.

The savings generated above were re-directed to other key activities within the unit, such as collection and analysis of samples to monitor the environmental impact of authorisation holders' activities. The costs of this activity went up this year due to the commissioning of our own in-house facility, which requires development of competencies while continuing to monitor using a service provider facility. This process will continue for the next two years, after which all the samples will be analysed in-house. The 17% over-expenditure on goods and services to this effect was defrayed against the aforementioned savings and on average, the division registered an outstanding performance of 2% under-expenditure on the total allocated budget for the year.

3.5.4 Compliance Assurance and Enforcements (CAE)

The under expenditure of 15% on this programme is attributed to the vacancy of the Senior Manager that was filled during the third quarter of the financial year and a number of Inspectors' positions that were filled throughout the year. The staff turnover rate of this division is relatively higher compared to the other two divisions. Management has identified the high staff turnover as a challenge and is implementing various mitigatory initiatives to resolve this over the long term. As such, Management is revamping the inspector training programme, reviewing incentives for inspectors in line with best practices and the establishment of the Centre of Excellence to develop adequate homegrown skills in this regard.

This situation had a negative impact on goods and services expenditure as well for this division, which was 46% under at year end. Most of the unutilised funds within this component were reallocated to the upgrade of the RERC which is currently in progress.



Table 12: The Capital Investment, Maintenance and Asset Management Plan

2014 - 2015			2013-2014			
Infrastructure projects	Budget	Actual Expenditure	(Over)/Under Expenditure	Budget	Actual Expenditure	(Over)/Under Expenditure
	R'000	R'000	R'000	R'000	R'000	R'000
Radio Activity Analysis Laboratory	1 709	1 709	-	17 557	15 848	1 709
Regulatory Emergency Control, Centre Control Centre	16 000	3 900	12 100	12 000	340	11 660
Cape Town Refurbishment	13 000	1 300	11 700	17 000	-	17 000
Total	**30 709**	**6 909**	**23 800**	**46 557**	**16 188**	**30 369**

The NNR embarked on three capital projects over the past three financial years, as indicated in Table 12. The Radioactivity Analysis Laboratory was completed and commissioned during the year and so far 15% of the required competencies have been developed. The facility is expected to be fully accredited and 100% operational with all competencies, in the next two financial years.

Procurement and contracting for the RERC was completed during the year under review and refurbishment of the facility 100% completed. R3.9 million disbursements were made during the year and the remainder of the entire revised budget allocation of R16 million was committed.

The Cape Town office project gained momentum during the year and the feasibility study was completed, paving the way for approval of concepts and designs by the Board.



SECTION 4

Human Resources Management





4. Human Resources Management

4.1 Overview

During the financial year, the HR structure was realigned to provide an improved framework to enable delivery of the organisation's strategic objectives.

4.2 HR priorities for the period under review and the impact of these priorities

The framework for a customised job-evaluation system to address regulatory competencies was developed. The system was benchmarked with international nuclear regulators as well as South African companies that are operating in a technical environment.

4.3 Workforce planning framework and key strategies to attract and recruit a skilled and capable workforce

The NNR expanded its workforce by 20% during the period under review.

The organisation focused on expanding the bursary and scholarship scheme and to increase the number of interns at the NNR. It is envisaged that this approach will assist the NNR to develop the skills required for the long term instead of depending on the availability in the market to recruit externally.

The NNR awarded 12 engineering bursaries and employed eight interns in two-year programmes.

4.4 Employee performance management framework

A newly developed individual performance management system was effectively implemented. Employee performance continued to improve and some employees received rewards for outstanding individual performance.

4.5 Employee wellness programmes

During the review period, the NNR implemented a number of programmes focused on physical and mental well-being of employees.

4.6 Policy Development

Achievement highlights

The NNR developed and rolled out 20 policies in the period under review, including the Conditions of Employment, Remuneration and Reward, Recruitment and Selection, Job Evaluation, Promotions and Training and Development.

Challenges faced by the public entity

The NNR continued to experience difficulty in recruiting personnel particularly in the engineering fields. The NNR strategy to address this is to focus on developing its own skills' pool through funding students in engineering fields.

4.7 Human Resources oversight statistics

Table 13: Personnel cost by salary band

Level	Personnel Expenditure (R'000)	% of personnel Expense to total personnel cost	No. of employees	Average personnel cost per employee (R'000)
Top Management (E2)	2 268	2%	1	2 268
Senior Management (D5)	5 892	6%	4	1 473
Professional Qualified (D)	75 343	72%	78	966
Skilled (C)	20 560	20%	35	587
Semi-skilled (B)	1 222	1%	18	68
Unskilled (A)	-	-	-	-
TOTAL	105 285	100%	136	774

Table 14: Performance Rewards

Category	Performance Rewards	Personnel Expenditure (R'000)	% of Performance Rewards to total Personnel Cost (R'000)
Top Management	70	2 268	3%
Senior Management	242	5 892	4%
Professional qualified	3 929	75 343	5%
Skilled	760	20 560	4%
Semi-skilled	28	1 222	2%
Unskilled	-	-	-
TOTAL	5 029	105 285	5%

Table 15: Employment and Vacancies

Category	2013-2014 No. of Employees	2014-2015 No. of Employees	2014-2015 Vacancies	% Vacancies
Top Management	1	1	0	0
Senior Management		4	0	0
Professional qualified	73	78	7	9%
Skilled	30	35	1	3%
Semi-skilled	10	18	1	5%
Unskilled	0	0	0	0
TOTAL	118	136	9	7%

* Please note that the significant changes in the allocation of numbers in the categories was due to employees being incorrectly classified on the system. Corrections were made in the period under review.

Table 16: Employment changes

Salary Band	Employment at beginning of period	Appointments	Terminations	Employment at the end of the period
Top Management	1	0	0	1
Senior Management	4	1	1	4
Professional Qualified	73	15	4	78
Skilled	30	5	0	35
Semi-skilled	10	1	0	11
Unskilled		0	0	3
Total	118	22	4	136

Table 17: Reasons for staff leaving

Reason	Number	% of total No. of staff leaving
Death	0	0
Resignation	3	2.5%
Dismissal	0	0
Retirement	1	1%
Ill health	0	0
Expiry of contract	0	0
Other	0	0
TOTAL	4	3,5%

Table 18: Employee Relations: Misconduct and Disciplinary Action

Nature of Disciplinary Action	Number
Verbal Warning	1
Written Warning	0
Final Written warning	3
Dismissal	0

Table 19: Equity Target and Employment Equity (as per the EE report filed in December, 2014)

Levels	Male							
	African		Coloured		Indian		White	
	Current	Target	Current	Target	Current	Target	Current	Target
Top Management	0	1	0	0	0	0	0	0
Senior Management	1	2	1	0	0	0	0	0
Professional Qualified	22	22	7	6	4	3	11	11
Skilled	10	6	0	2	0	1	0	0
Semi-Skilled	1	2	0	1	0	0	0	0
Unskilled	0	0	0	0	0	0	0	0
TOTAL	34	33	8	10	4	4	11	11

Table 20: Equity Target and Employment Equity Status (continued)

Levels	Female							
	African		Coloured		Indian		White	
	Current	Target	Current	Target	Current	Target	Current	Target
Top Management	0	0	0	0	0	0	0	0
Senior Management	1	2	0	0	0	0	0	0
Professional Qualified	17	20	0	2	2	2	2	3
Skilled	17	6	1	5	0	1	5	3
Semi-skilled	2	3	0	2	0	0	0	3
Unskilled	0	0	0	0	0	0	0	0
TOTAL	37	31	1	9	2	3	7	9

Table 21: Staff with Disabilities

Levels	Disabled Staff			
	Male		Female	
	Current	Target	Current	Target
Top Management	0	0	0	0
Senior Management	0	0	0	0
Professional Qualified	1	1	0	0
Skilled	0	0	0	0
Semi-skilled	0	0	1	1
Unskilled	0	0	0	0
TOTAL	1	1	1	1

There were no major variances between current figures and the planned targets.


Counting Room



SECTION 5

REGULATION OF NUCLEAR ACTIONS



5. Core business

Nuclear safety regulation by the NNR is performed by two technical divisions, namely, Standards, Authorisations, Reviews and Assessments (SARA), and Compliance Assurance and Enforcement (CAE).

5.1 Standards, Authorisations, Reviews and Assessment (SARA) Division

The SARA Division is primarily responsible for;

- Development of nuclear safety standards related to the core areas, such as radiation, nuclear waste and transport safety.
- Granting authorisations for nuclear installations, nuclear vessels, mining and minerals processing facilities/ activities, and certificates of exemption.
- Conducting safety assessments for all actions, projects, and regulated activities by reviews and assessments.
- Managing special nuclear-related projects of a regulatory nature.

Activities of the SARA Division include:

- Developing and implementing regulatory programmes for the regulation of NPPs, fuel cycle, research reactors, NORM facilities and other actions.
- Regulating the safe operation of existing holders of nuclear authorisations and preparation for applications related to nuclear expansion.
- Conducting regulatory emergency preparedness, response, and security exercises.

5.1.1 Safety case review and assessment

A safety case is a collection of safety arguments and evidence in support of the safety of a facility or action. The safety case provided must identify and characterise all sources of radiation associated with the facility, and all possible exposure pathways that may arise from such sources, under normal operating conditions and under accident situations.

The NNR undertakes an evaluation of the submitted documentation to ensure that the action or facility will meet the standards and requirements for safe operation. From the evaluation, conditions are identified for inclusion in the nuclear authorisation.

5.1.2 Nuclear authorisation process

A nuclear authorisation is the process of granting a written approval by the National Nuclear Regulator to applicants and/ or operating organisations to perform nuclear- related activities, as detailed in the scope of authorisation. The authorisation process involves receiving, reviewing and approval of authorisation requests from applicants.

The NNR Act makes provision for the granting of four categories of nuclear authorisation. These are:



- Nuclear Installation Licences
- Nuclear Vessel Licences
- Certificates of Registration
- Certificates of Exemption

Prior to the granting of an authorisation, the applicant is required to apply to the NNR, in the prescribed format and furnish all such information as required by the Board. The intended activities must be detailed and a demonstration of safety and compliance to the NNR requirements must be submitted. The application must address all aspects relating to safety for the design, manufacturing, construction, commissioning, operating, and maintenance and decommissioning of the nuclear facility.

The authorisation conditions represent a framework within which the applicant or holder of the nuclear authorisation is obliged to comply with particular requirements in respect of design, operation, maintenance and decommissioning. The conditions of authorisation also oblige the holder of the authorisation to provide a demonstration of continuing compliance through the submission of routine and non-routine reports.

5.2 Compliance Assurance and Enforcement (CAE) Division

The CAE Division is primarily responsible for:

- The management of all Compliance Assurance and Enforcement activities, processes and Programmes for regulated nuclear technologies and actions at the NNR.
- Ensuring the establishment of effective and efficient systems related to Compliance Assurance and Enforcement activities, particularly relating to nuclear safety and security. These include conducting compliance assurance inspections, audits, investigations, surveillances, environmental monitoring and sampling activities.

Activities of the CAE Division include:

- Providing assurance of safety performance of holders of a nuclear authorisation through inspections, audits, investigations and taking enforcement action for identified non-compliances.
- Strengthening the independent analytical verification capability and capacity within the NNR.
- Enhancing regulatory programmes and the application of safety-focused research.

5.2.1 Compliance assurance

The NNR conducts compliance assurance activities to determine the extent to which holders of nuclear authorisations comply with the conditions of authorisation. The extent and nature of the NNR's compliance assurance activities is commensurate with the type of authorisation issued and the risk posed by the facility or action. The compliance assurance activities involve a combination of audits, routine inspections, non-routine inspections, review of routine reports and review of occurrence reports.



5.2.2 Enforcement

Where non-compliance with the conditions of authorisation is identified, the NNR may initiate enforcement actions. Enforcement actions are designed to respond to non-compliances with specified conditions and requirements. The enforcement actions are commensurate with the seriousness of the non-compliance and may take the form of written warnings, penalties, curtailment of operations and suspension of the authorisation, or ultimately withdrawal of the authorisation. In all cases, the holder of the authorisation is required to remedy the non-compliance by:

- Performing a thorough investigation in accordance with an agreed timescale.
- Taking all necessary measures to prevent recurrence.
- In certain instances, the NNR has performed its own investigation.

5.3 Nuclear authorisations active for the period under review

Authorisations	Nuclear Installations (NIL)
NIL 01	Koeberg Nuclear Power Station
NIL 02	SAFARI 1 Research Reactor
NIL 03	P2700 Complex
NIL 04	Thaban Complex comprising the following facilities: • Thaban Pipe Store • Thabang Radioactive Waste Storage Facility: Thabang Containerised Radioactive Waste Storage Facility CaF2 Ponds
NIL 05	HEU Vault-K0090
NIL 06	A 8 Decontamination Facility
NIL 07	Building A West Drum Store
NIL 08	ELPROD in Building P 2600
NIL 09	UMET in Building P 2600
NIL 10	Conversion Plant Complex
NIL 11	Area 14 Waste Management Complex
NIL 12	Quarantine Storage Facility
NIL 13	V YB Pelindaba East Bus Shed Complex
NIL 14	Pelindaba East Evaporation Ponds Complex
NIL 15	Oil Purification Facility
NIL 16	Area 21 Storage Facility
NIL 17	BEVA K3 Storage Complex
NIL 18	Area 16 Complex
NIL 19	Area 40 Complex



Authorisations	Nuclear Installations (NIL)
NIL 20	Area 27 De Heeling Facility
NIL 21	J Building
NIL 22	D Building
NIL 23	C Building
NIL 24	Building P 2800
NIL 25	Building XB
NIL 26	BEVA Eva Poration Ponds
NIL 27	Building P 2800
NIL 28	NIL 28 Vaalputs National Radioactive Waste Disposal
NIL 29	Area 26
NIL 30	E Building
NIL 31	Dorbyl Camp
NIL 32	X Building
NIL 33	Building P 1500
NIL 34	YM Vacuum Workshop
NIL 35	V H Building Laboratories
NIL 36	P 1900 Laboratories
NIL 37	P 1600 Laboratories
NIL 38	Fuel Development Laboratories Complex
NIL 39	NTP Radiochemicals Complex
NIL 40	Pelindaba Analytical Laboratories (PAL)
NIL 41	Liquid Effluent Treatment Facility Complex
NIL 42	B1-Building Basement

COR No.	Certificate of Registration	Category
COR-2	Anglogold Ashanti Limited: Vaal River Operations	Mining and Mineral Processing
COR-3	Anglogold Ashanti Limited: West Wits Operations	Mining and Mineral Processing
COR-5	ARMgold/Harmony Freegold Joint Venture Company (Pty) Ltd (Tshepong, Matjhabeng and Bambani Operations)	Mining and Mineral Processing
COR-6	ARMgold/Harmony Freegold Joint Venture Company (Pty) Ltd (Joel operation)	Mining and Mineral Processing
COR-7	African Rainbow Minerals Gold Limited (Welkom Operations)	Mining and Mineral Processing
COR-10	Avgold Limited – Target Division	Mining and Mineral Processing
COR-11	Gravelotte Mines Limited	Mining and Mineral Processing
COR-13	MTC Demolition	Scrap Processor



COR-16	Nuclear Fuels Corporation of SA (Pty) Limited	Mining and Mineral Processing
COR-18	South Deep Join Venture	Mining and Mineral Processing
COR-20	Foskor Limited (Phalaborwa)	Mining and Mineral Processing
COR-22	Fer-Min-Ore (Pty) Limited (Zirtile Milling)	Mining and Mineral Processing
COR-23	Steenkampskraal Monazite Mine (Pty) Limited	Mining and Mineral Processing
COR-25	Eggerding SA (Pty) Limited	Mining and Mineral Processing
COR-26	Richards Bay Iron and Titanium (Pty) Limited	Mining and Mineral Processing
COR-27	Foskor Limited (Richards Bay)	Fertiliser Manufacturer
COR-28	Randfontein Estates Limited-(Kusasaletheu)	Mining and Mineral Processing
COR-30	Mine Waste Solutions (Pty) Limited	Mining and Mineral Processing
COR-31	Ya-Rona Scrap Metals	Scrap Processor
COR-32	CJN Scrap	Scrap Processor
COR-33	Rampete Metal Processors (Pty) Ltd	Scrap Processor
COR-34	DMC Energy (Pty) Limited	Mining and Mineral Processing
COR-37	Harmony Gold Mining Company Limited (Free State Operations)	Mining and Mineral Processing
COR-38	Omnia Phosphates (Pty) Ltd	Fertiliser Manufacturer
COR-40	ARMgold/Harmony Freegold Joint Venture Company (Pty) Ltd (St Helena Operations)	Mining and Mineral Processing
COR-41	Blyvooruitzicht Gold Mining Company Limited	Mining and Mineral Processing
COR-43	Tronox KZN Sands	Mining and Mineral Processing
COR-47	Grootvlei Properties Mines Ltd	Mining and Mineral Processing
COR-48	DRDGOLD Limited	Mining and Mineral Processing
COR-50	Rappa Resources (Pty) Limited	Mining and Mineral Processing
COR-51	Consolidated Modderfontein (Pty) Limited	Mining and Mineral Processing
COR-52	Nigel Gold Mining Company Limited	Mining and Mineral Processing
COR-53	East Rand Proprietary Mines Limited	Mining and Mineral Processing
COR-57	Crown Gold Recoveries Pty) Limited	Mining and Mineral Processing
COR-58	Harmony Gold Mining Company Limited – Randfontein Operations	Mining and Mineral Processing
COR-59	Industrial Zone Limited	Mining and Mineral Processing
COR-61	Sedex Minerals	Mining and Mineral Processing
COR-64	Potchefstroom Plastiek Herwinning BK	Scrap Processor
COR-66	Mintek	Small User
COR-69	Sibanye Gold Limited (Driefontein Operations)	Mining and Mineral Processing
COR-70	Sibanye Gold Limited (Kloof Operation)	Mining and Mineral Processing



COR-71	Sibanye Gold Limited (Beatrix Operation)	Mining and Mineral Processing
COR-76	Blastrite (Pty) Limited	Mining and Mineral Processing
COR-77	Anglo American Research Laboratories (Pty) Limited	Small User
COR-74	Durban Roodepoort Deep Mine	Mining and Mineral Processing
COR-79	Durban Roodepoort Deep Limited	Mining and Mineral Processing
COR-80	Mogale Gold (Pty) Ltd	Mining and Mineral Processing
COR-81	Metrec	Mining and Mineral Processing
COR-84	The Big Bin CC	Scrap Processor
COR-86	Glenover Phosphate Limited (Mining Site) Operation)	Mining and Mineral Processing
COR-87	Rand Refinery Limited	Mining and Mineral Processing
COR-92	The Forensic Science Laboratory, SA Police	Small User
COR-95	Microzone Trading 69 cc	Scrap Processor
COR-97	Geratech Zirconium Beneficiation (Ltd)	Mining and Mineral Processing
COR-98	B G Scrap Metals (Pty) Ltd	Scrap Processor
COR-100	South African Airforce (SAAF),Department of Defence (DoD), RSA	Mining and Mineral Processing
COR-101	The Reclamation Group (Pty) Ltd (Richards Bay)	Scrap Processor
COR-103	Linbeck Metal Trading (Pty) Ltd	Scrap Processor
COR-104	South African Port Operations (Dry Bulk Terminal – Richards Bay, a Division of Transnet Limited)	Mining and Mineral Processing
COR-105	Tantilite Resources	Mining and Mineral Processing
COR-106	Mineral Sands Resources (Pty) Ltd	Mining and Mineral Processing
COR-107	Vesuvius South Africa (Pty) Ltd	Mining and Mineral Processing
COR-109	SM Mining Construction (Pty) Ltd	Mining and Mineral Processing
COR-110	Geotron Systems (Pty) Limited	Small User
COR-111	Bosveld Phosphate	Fertiliser Manufacturer
COR-112	Scaw Metals Group	Scrap Processor
COR-114	Interwaste (Pty) Ltd	Scrap Processor
COR-115	Witswatersrand Consolidated Gold Resources Limited	Mining and Mineral Processing
COR-116	Business Venture Investment 1692 Proprietary Limited	Mining and Mineral Processing
COR-117	Vic Ramos CC	Scrap Processor
COR-118	GoldPlats Recovery Ltd	Mining and Mineral Processing
COR-119	Huntrex 196 (Pty) Ltd (trading as Ceracast)	Mining and Mineral Processing
COR-131	East Rand Beneficiation (Pty) Ltd	Mining and Mineral Processing
COR-132	Grifo Engineering (Pty) Ltd	Service Provider



COR-135	Tioxide SA (Pty) Ltd	Mining and Mineral Processing
COR-136	Thukela Refractories Isithebe (Pty) Ltd	Mining and Mineral Processing
COR-137	Manos Engineering (Pty) Ltd	Scrap Processor
COR-138	Bright Refining (Pty) Ltd	Mining and Mineral Processing
COR-139	The New Reclamation Group (Westonaria operations)	Scrap Processor
COR-140	China African Precious Metals (PTY) Ltd	Mining and Mineral Processing
COR-141	Phalaborwa Copper (Pty) Ltd	Mining and Mineral Processing
COR-142	Pan African Resources - Evander Gold Mining	Mining and Mineral Processing
COR-143	Zirco Roode Heuwel	Mining and Mineral Processing
COR-144	Scamont Engineering (Pty) Ltd	Scrap Processor
COR-145	Re-Process Technology CC	Mining and Mineral Processing
COR-148	Saldanha Dry Bulk Terminal Cc	Service Provider
COR156	Necsa Calibration	Small User
COR-159	North West Reclaiming	Scrap Processor
COR-160	Shiva Uranium One	Mining and Mineral Processing
COR-164	Sulzer Pumps (SA) Limited	Service Provider
COR-165	Uramin Mago Lukisa	Mining and Mineral Processing
COR-167	Western Uranium (Pty) Ltd	Mining and Mineral Processing
COR-178	Durban Container Terminal – Business Unit of SA Port Operations	Mining and Mineral Processing
COR-180	SA Port Operations – Container Terminal Cape Town	Mining and Mineral Processing
COR-181	Transnet Limited (SA Port Operations – Multipurpose Terminal, Saldanha bay)	Mining and Mineral Processing
COR-182	Buffelsfontein Gold Mine Limited	Mining and Mineral Processing
COR-183	Tasman Pacific Minerals (Pty) Limited	Mining and Mineral Processing
COR-184	HVH Gold (Pty) Limited	Mining and Mineral Processing
COR-186	AfriSam (Pty) Limited	Mining and Mineral Processing
COR-190	Ezulwini Mining Company Ltd	Mining and Mineral Processing
COR-194	Exxaro Resources	Mining and Mineral Processing
COR-195	Houlgon Uranium & Power (Pty) Ltd	Mining and Mineral Processing
COR-197	Gold Reef City Theme Park	Mining and Mineral Processing
COR-198	Set Point Industrial Technologies (Pty) Ltd (Isando)	Small User
COR-199	Uramin Mago Lukisa	Mining and Mineral Processing
COR-200	Uramin Mago Lukisa	Mining and Mineral Processing
COR-201	A&S Mining Supplies	Service Provider



COR-203	Cemo Pumps (Pty) Ltd	Service Provider
COR-204	Holgoun Energy (Pty) Ltd	Mining and Mineral Processing
COR-206	Uranium One and Micawber 397 (Pty) Limited	Mining and Mineral Processing
COR-207	Set Point Industrial Technologies (Pty) Ltd (Mokopane)	Small User
COR-210	Tasman Pacific Minerals (Pty) Limited	Mining and Mineral Processing
COR-211	Tasman Pacific Minerals (Pty) Limited	Mining and Mineral Processing
COR-215	Margaret Water Company	Mining and Mineral Processing
COR-216	Paddy's Pad 1183 (Pty) Ltd	Mining and Mineral Processing
COR-217	Cango Caves Oudtshoorn Municipality	Mining and Mineral Processing
COR-218	Grindrod Terminals (Pty) Limited	Mining and Mineral Processing
COR-219	Southgold Exploration (Pty) Limited	Mining and Mineral Processing
COR-220	African Empowered Aggregates CC	Mining and Mineral Processing
COR-221	Tasman Pacific Minerals (Pty) Limited	Mining and Mineral Processing
COR-222	Tasman Pacific Minerals (Pty) Limited	Mining and Mineral Processing
COR-223	Tasman Pacific Minerals (Pty) Limited	Mining and Mineral Processing
COR-225	New Kleinfontein Goldmine (Pty) Limited	Mining and Mineral Processing
COR-226	Rand Uranium (Pty) Limited	Mining and Mineral Processing
COR-227	WG Wearne Limited	Mining and Mineral Processing
COR-228	Ergo Mining (Pty) Limited	Mining and Mineral Processing
COR-229	The New Reclamation Group (Pty) Limited	Scrap Processor
COR-230	ALS Chemex South Africa (Pty) Limited	Small User
COR-232	Central Rand Gold South Africa (Pty) Limited (West)	Mining and Mineral Processing
COR-233	Central Rand Gold South Africa (Pty) Limited (East)	Mining and Mineral Processing
COR-234	Pamodzi Gold Orkney (Pty) Limited	Mining and Mineral Processing
COR-236	Reclaim Invest 101 (Pty) Limited	Scrap Processor
COR-238	Tronox (Namakwa Sands Operations)	Mining and Mineral Processing
COR-239	Aflease Gold Limited	Mining and Mineral Processing
COR-240	Tantus Trading 180 (Pty) Ltd	Mining and Mineral Processing
COR-242	Enviro Mzingazi Gypsum (Pty) Limited	Mining and Mineral Processing
COR_245	Namakwa Uranium (Pty) Limited	Mining and Mineral Processing
COR_246	NTP Logistics (Pty) Limited	Mining and Mineral Processing
COR-247	SGS South Africa (Pty) Ltd	Small User
COR-248	Foskor Zirconia (Pty) Limited	Mining and Mineral Processing
COR-249	Pro Mass Transport (Pty) Ltd	Mining and Mineral Processing



COR-250	JCI Gold Limited	Mining and Mineral Processing
COR-252	Harmony Gold Mining Company Limited (South Operations)	Mining and Mineral Processing
COR-253	Avgold Limited (North Operations)	Mining and Mineral Processing
COR-254	WS Renovations Contractors	Service Provider
COR-255	Genalysis Laboratory Services (SA) (Pty) Limited	Small User
COR-256	Chifley Trading cc	Service provider
COR-257	Samco Investments (Pty) Limited	Scrap Processor
COR-258	SA Metal and Machinery Co (Pty) Limited	Scrap Processor
COR-259	University of Pretoria	Mining and Mineral Processing
COR-260	African Mineral Standards (a division of Set Point Industrial Technology (Pty) Ltd)	Small User
COR-261	North West University	Mining and Mineral Processing
COR-262	UIS Analytical Services (Pty) Ltd	Small User
COR-263	Aklin Carbide (Pty) Ltd	Service Provider

COE Number	Name of COE Holder
COE-1	Hydropower Mining
COE-2	Oranje Mynbou Vervoer – Kynoch Gypsum
COE-3	Kynoch Modderfontein
COE-4	Oranje Mynbou Vervoer – Stilfontein Waste Rock
COE-5	Klahari Gold Ridge Mining Company
COE-6	Neethling Plastics
COE-7	Glencore SA (Pty) Limited
COE-8	Necsa (Shipment of 5 Iso containers)
COE-9	Norcros SA (Pty) Limited
COE-10	Dino Properties
COE-11	South African Roll Company (Pty) Ltd
COE-12	The Maretsel Property Trust
COE-13	CERACAST
COE-14	Landscape Architect Environmental Planner
COE-15	OSRAM
COE-16	JOSHCO
COE-17	Scientific Services
COE-18	Paterson and Cooke (Pty) Ltd

5.4 Regulation of nuclear power plants – Koeberg Nuclear Power Station (KNPS)



KNPS is currently the only nuclear power station in South Africa and on the African continent. It is located in Melkbosstrand on the West Coast of South Africa. Koeberg is owned and operated by South Africa's national electricity supplier Eskom. The two nuclear reactors at the power station form the entirety of the South African Nuclear Power Generation Programme.

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 current Koeberg Nuclear Installation Licence, NIL-01 variation 18, contains 19 conditions. In accordance with the conditions of licence, Koeberg is required to ensure that arrangements acceptable to the NNR are established and implemented with respect to the following aspects:

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

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, NIL-01. 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.

5.4.1 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 Prescribed by the NNR	
Workforce	Regulatory Criteria
Maximum individual worker dose	An (average) effective dose of 20mSv per annum averaged over five consecutive years. A (maximum) effective dose of 50mSv in any year (maximum) effective dose of 50mSv in any year.
Average individual worker dose	Controlled by application of the ALARA principle. The ALARA target for the annual average individual dose is 4mSv per annum.

The worker doses at KNPS during the reporting period were within regulatory limits. Radiation exposure of personnel working at KNPS 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 As Low As Reasonably Achievable (ALARA).

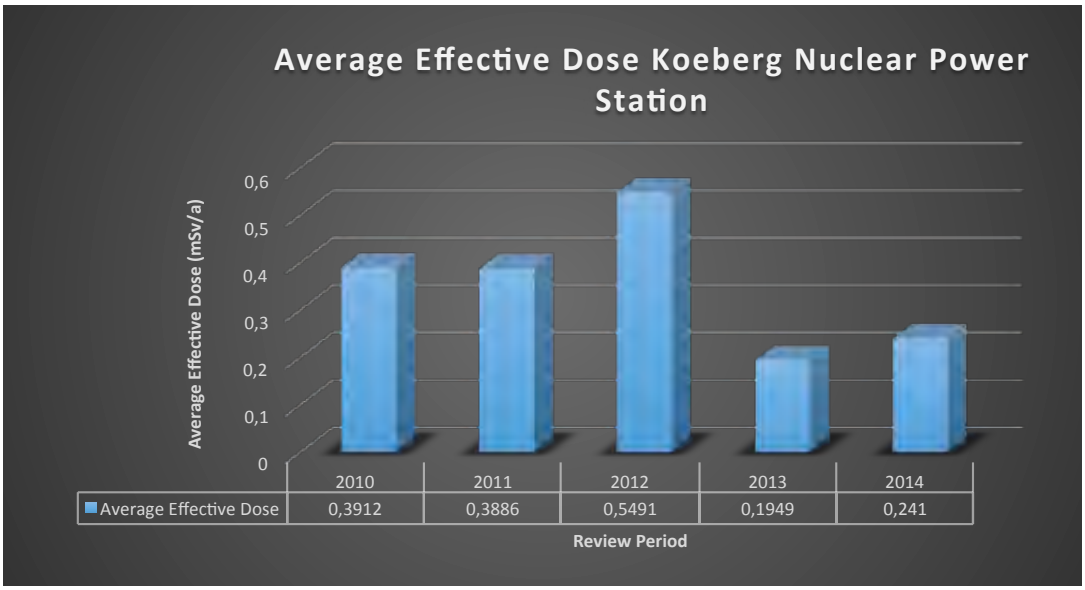


Fig 3: Average effective Dose Koeberg Nuclear Power Station (2010-2014)

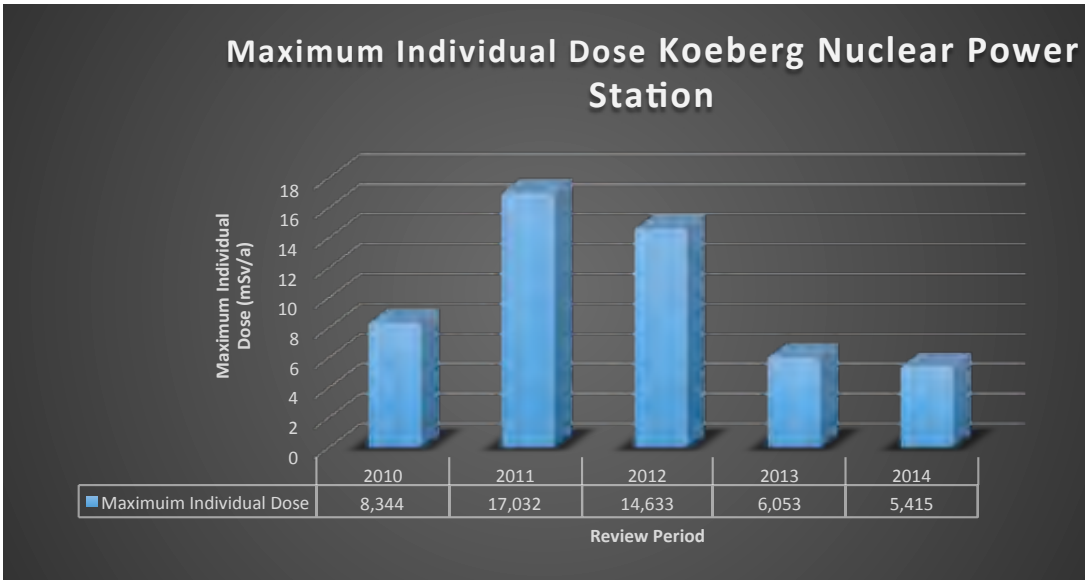


Fig 4: Maximum individual Dose Koeberg Nuclear Power Station (2010-2014)

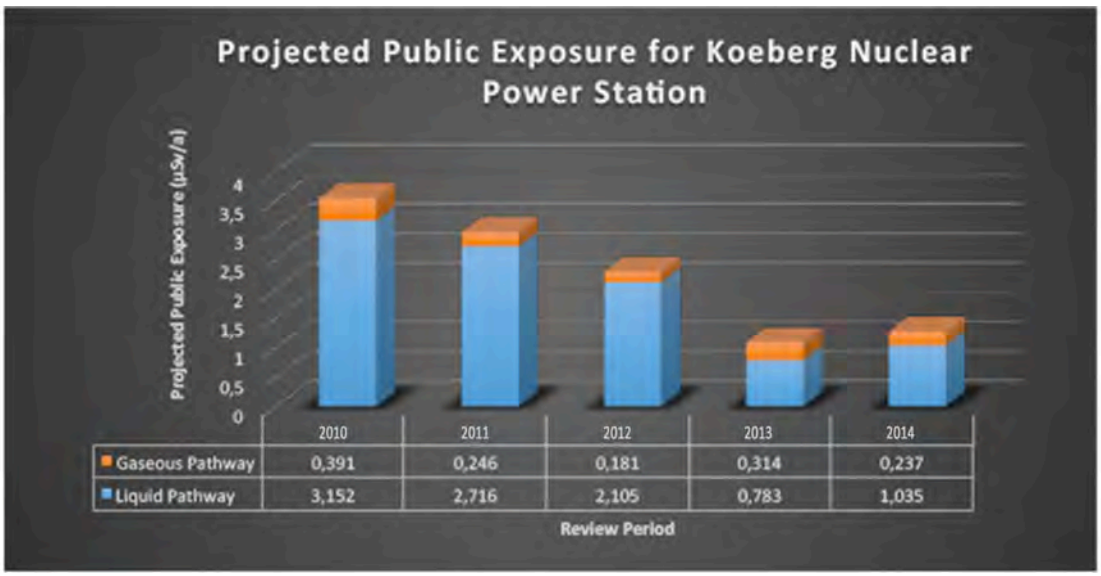


Fig 5: Projected Public Dose (gaseous and liquid) (2010-2014)

5.4.2 Projected public exposure to radiation

The regulatory annual effective dose limit prescribed by the NNR for members of the public from authorised actions is 1mSv. No action may be authorised which would give rise to any member of the public receiving a radiation dose from all authorised actions exceeding 1mSv in a year. There were no safety concerns regarding the safety of the public living around KNPS during the period under review. In accordance with the conditions of licence and the Regulations on Safety Standards and Regulatory Practices (SSRP), published as Regulation No. R 388 dated 28 April 2006, the public doses resulting from effluent discharges from the KNPS must comply with the dose constraint of 0.25mSv/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 2014 calendar year.



5.4.3 Dose from effluent discharged during 2014

Table 22: The projected public dose from effluent discharges for key radionuclides for 2014

Quarter	Liquid pathway dose in µSv/a	Gaseous pathway dose in µSv/a	Total projected dose in µSv/a
1	0.373	0.045	0.418
2	0.46177	0.09361	0.55538
3	0.04176	0.08292	0.12468
4	0.158592	0.015243	0.173835
Total for the calendar year January – December 2014	1.035122	0.236773	1.271895

5.4.4 Nuclear safety

The authorisation holder's commitment to safety of the plant and operations have been confirmed by the inspections carried out. Where it has been observed that areas of weakness have occurred these have been addressed by proper investigation and the implementation of appropriate corrective actions. During the period under review, the NNR focused its safety assessment activities primarily on the areas summarised below:

(i) Fukushima accident follow-up

Following the Fukushima accident on 11 March 2011 the NNR established a task team for the Fukushima accident in April 2011, and in May 2011 directed Eskom to re-assess the capability of KNPS to withstand external hazards, specifically regarding the following:

i. Compliance to the current design basis for external events.

ii. Stress tests (robustness against external events beyond the design basis).

iii. Adequacy of accident management and emergency planning.

Eskom submitted a safety reassessment report to the NNR in December 2011. The scope of the reassessment covered the design basis (reactor and spent fuel storage) in terms of external events and combinations of events, as well as the robustness of the facility and cliff-edge effects for a similar scope of beyond design basis events. These include prolonged total loss of electrical power and ultimate heat sink. Measures or design features to mitigate these effects were identified. The scope included on-site and off-site aspects of accident management and emergency response.

To date, Eskom has submitted the second, third and fourth revisions of the post-Fukushima KNPS Reassessment. The NNR continued to engage internationally on lessons learned from the Fukushima accident and its current position can be summarised as follows:

i. The assessments and follow-up reviews conducted by Eskom conform to the NNR's directive and are in accordance with International practice.

ii. The nuclear installations are adequately designed, maintained and operated to withstand all external events



considered in the design base.

iii. There were no findings to warrant curtailing operations, or to question the design margins of these facilities.

iv. The safety reassessments identified a number of potential improvements to further reduce the risk of accidents, less probable than those covered in the design basis.

v. The NNR continued to improve the Safety Standards and Regulatory Practices, which is addressed as part of the NNR's Regulatory Framework Project.

(ii) Second safety re-assessment

The NNR completed its review of the second KNPS Safety Re-Assessment project.
Eskom is considering incorporating the NNR feedback from the second Safety Reassessment into the third Reassessment project.

(iii) Steam Generator Replacement (SGR)

The SGR Project entails the replacement of the six steam generators (three on each reactor unit at Koeberg), scheduled for completion by 2018. The decision to replace the steam generators was informed by the ageing of the current Steam Generators (SGs), and the rapidly decreasing international expertise for similar SGs. The contract for the manufacturing and replacement of the SGs was awarded to Areva NP in 2014. Areva NP and its suppliers as well as sub-suppliers in the whole contract arrangement, are subjected to quality and safety requirement audits by the NNR. Four suppliers have already been audited in this reporting period.

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

iv) Refuelling water storage tank (PTR) replacement

Each reactor unit at KNPS has one PTR tank, which provides water for cooling the reactors in the event of an accident. Due to their condition, the NNR required the PTR tanks at KNPS be replaced by outages 121 and 221 in 2015. The PTR tanks are manufactured at NECSA by the PTR Consortium companies. The design reports for the new tanks were submitted by Eskom and are currently under review by the NNR

(v) Strategy for long-term operation project

KNPS will be reaching 40 years of operation in 10 years' time. A Long-Term Operation (LTO) Strategy is currently being developed in line with the IAEA guidance on Long-Term Operation which contains three distinct aspects:

- Identify the large component and system replacements that have to be implemented if Koeberg is to be operated beyond 40 years.
- Implement a comprehensive aging management programme to manage all aging mechanisms for safety relevant equipment.
- Update all time limiting analysis and calculations to demonstrate anticipated safe operation beyond 40 years.



The LTO project will focus on Ageing Management and Actual Condition of SSC's important to safety. The IAEA is supporting the NNR and Eskom to ensure that all gaps are identified in the strategy and that personnel are informed about their roles in the assessment. During the reporting period, the NNR in conjunction with the IAEA hosted a workshop to NNR and Eskom aimed at preparing for the IAEA Safety Aspects of Long-term Operation (SALTO) mission.

vi) Spent fuel dry storage

In anticipation of the LTO, adequate capacity to provide for storage of all spent fuel generated during the extended operational phase will need to be demonstrated by means of a relevant strategy from Eskom's KNPS. Eskom submitted reports for the Licensing Strategies for storage of spent fuel for review to the NNR.

vii) Structural integrity and containment structures

Adequate structural capacities/safety margins will need to be demonstrated to ensure safe operation during the extended operational phase. Information has been exchanged between NNR and Eskom pertaining to concerns raised by the NNR, relating to the condition of the containment structures at KNPS.

(viii) Refuelling Outages

Koeberg Unit 2 refuelling outage commenced in March 2014. Approval to commence core reload was granted by the NNR in April 2014 and criticality reached in May 2014. Koeberg Unit 1 refuelling outage commenced in February 2015. Approval to commence reload was granted by the NNR in April 2015 and criticality reached in May 2015.

(ix) Regulation on urban developments

The draft regulations continues to be an ongoing matter with the relevant stakeholders. During the reporting period, the NNR submitted the City of Cape Town's response to the DoE on April 2014.

5.4.5 Competency and sufficiency of the operator workforce to work safely

The overall, staffing and competency levels required for performing nuclear safety related work at Koeberg were found to be satisfactory during the reporting period.

5.4.6 Transport safety

There were no safety concerns involving the transport of radioactive material in 2014. The transport of radioactive and nuclear material to and from the Koeberg site is carried out in accordance with the relevant transport requirements and regulations of the IAEA on the safe transport of radioactive material. Compliance assurance and nuclear security inspections have been conducted. The NNR issued a nuclear vessel licence for the transport of nuclear fuel to Koeberg in October 2014.

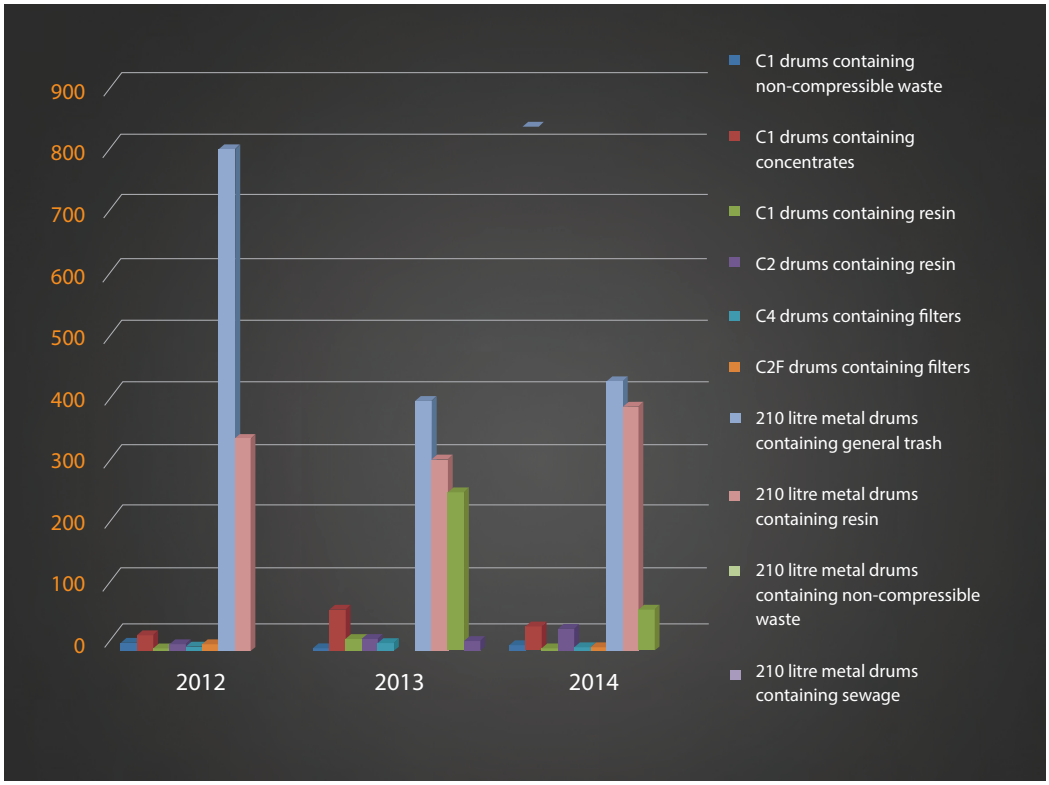


Fig 6. Inventory of solid radioactive waste produced and drummed from 2012-2014.

5.4.7 Radioactive waste safety

There were no safety concerns involving the transport of radioactive material in 2014.

The NNR performed pre-shipment inspections on the radioactive waste packages transported to Vaalputs. These inspections were performed to verify that initiatives implemented, following the previous suspension of radioactive waste packages, were effective in ensuring compliance. The operator demonstrated commitment to ensuring safety of radioactive waste, both in storage and during transportation.

5.4.8 Environmental protection

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

Regulatory independent verification

As part of the independent verification of the Environmental Monitoring Programme, the NNR conducted environmental sampling around the KNPS site. The samples collected were analysed by a radio analytical laboratory and the analysis results verified against those obtained from Eskom.



5.4.9 Nuclear emergency planning and preparedness

There were no safety concerns regarding nuclear emergency planning and preparedness during the review period.

- ### 2014 Regulatory emergency exercise conducted at KNPS

  Section 38 of the NNR Act requires that approved nuclear emergency preparedness response of authorisation holders be effective for the protection of persons and the environment. Effectiveness of an emergency plan is mainly tested by conducting emergency exercises in order to ensure the readiness to implement the plan in cases of nuclear emergency situations arising. The NNR conducted a nuclear emergency exercise at Koeberg Nuclear Power Station (KNPS) on 22 October 2014. The main purpose of the emergency exercise was to test the readiness of the power station and the local authorities to implement the emergency arrangements. A simulated scenario was presented by the Regulator and required the deployment of the on-site and off-site response organisations.

  Although areas of improvements were identified during the exercise, the NNR was satisfied with the overall response. The Regulator continued to follow-up on identified areas to ensure satisfactory implementation of corrective measures.

- ### Koeberg Traffic Evacuation Model (TEM)

  The review of the Koeberg Traffic Evacuation Model (TEM) was resubmitted for approval in 2014 by the City of Cape Town (CoCT). The NNR was satisfied with the resolution of previous findings that were provided to the CoCT and approved the current TEM for approval of developments applications until 2016.

5.4.10 Physical security

There were no concerns with respect to physical security at KNPS during the period under review. Both the NNR and the national key points' security functionaries monitor the physical security requirements at KNPS. As part of its Compliance Assurance Programme, the NNR conducts regular inspections at Koeberg to verify conformance to licensing requirements pertaining to physical security. The inspections conducted indicated compliance with the regulatory requirements. The NNR is a member of the security Joint Planning Committee (JPC) and participates in the security projects initiated. There were no concerns with respect to physical security at the KNPS during the period under review.

5.4.11 Safety of sealed radioactive source

The safety of sealed radioactive sources, which falls under the jurisdiction of the NNR, is included in the Compliance Assurance Programme. The inspection of sealed radioactive sources at the KNPS indicated that the radioactive sources were controlled in accordance with the regulatory requirements. No anomalies were detected by the routine compliance assurance inspections conducted. No safety concerns were raised with regard to the safety of sealed radioactive sources during the review period.



5.4.12 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 Koeberg relating to events/occurrences.

The NNR monitors events /occurrences at Koeberg in the following manner:

- Audits conducted on the Eskom processes relating to occurrences (i.e. plant monitoring, reporting, follow-up and close-out).
- Monitoring of the implementation of these processes.
- Quarterly meetings between Eskom and the NNR at which experience feedback is discussed.
- Review of Eskom reports on experience feedback and safety performance indicators, which reflect occurrences and trends.
- Direct assessment of selected significant occurrences.

5.4.13 Regulatory compliance inspections

In order to verify the degree of compliance with the conditions of authorisation, the NNR undertakes independent inspections and audits. The NNR conducted 48 inspections at the Koeberg Nuclear Power Station as part of its compliance assurance activities for 2014.

5.4.14 Regulatory warnings and directives to stop work

In 2014, there were no regulatory warnings or directives issued. In general, the planned and reactive inspections conducted did not reveal any non-compliance that pose any health and safety risks to the public.

5.4.15 Appeals to the Chief Executive Officer

No appeals were lodged with the Chief Executive Officer during the review period.

5.5 Regulation of nuclear facilities and activities on the NECSA Pelindaba site



Established as a public company in terms of the Nuclear Energy Act, (Act No. 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 North-West Province, approximately 25km west of Pretoria and 55km north-west of Johannesburg. Necsa employs approximately 1 400 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 accordance with the conditions of its licence, Necsa is required to ensure that arrangements, acceptable to the NNR, were established and implemented during the period under review.

The nuclear facilities on the Necsa 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
- 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 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	Safety Assessment
Scope of Activities that may be undertaken	Controls and limitations on Operations
Maintenance and in Service Inspection	Operational Radiation Protection
Effluent Management	Waste Management
Environmental Monitoring	Emergency Planning and Preparedness
Transport	Physical Security
Quality Management	Acceptance and Approval
Decommissioning	Organisational Change
Records Management and Reporting	Plant Modifications
Medical Surveillance	Radioactive Waste Management
Public Safety Information Forums	Financial Liability for Nuclear Damage
Holder Inspection Programme to ensure Compliance to Conditions of Authorisation	

5.5.1 Occupational exposure to radiation

The worker doses at the Pelindaba site over the period under review were within regulatory limits.

Radiation exposure of personnel working at the Pelindaba site are 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 As Low As Reasonably Achievable (ALARA). The occupational exposure of workers on the Pelindaba site was within the NNR regulatory requirements.

General Regulatory Dose Limits prescribed by the NNR	
Workforce	Regulatory criteria
Maximum individual worker dose	An (average) effective dose of 20mSv per annum averaged over five consecutive effective dose of 50mSv in any year.
Average individual worker dose	Controlled by application of the ALARA principle. The ALARA target for the annual dose is 4mSv per annum.

The average effective doses for occupationally exposed persons were within regulatory limits.

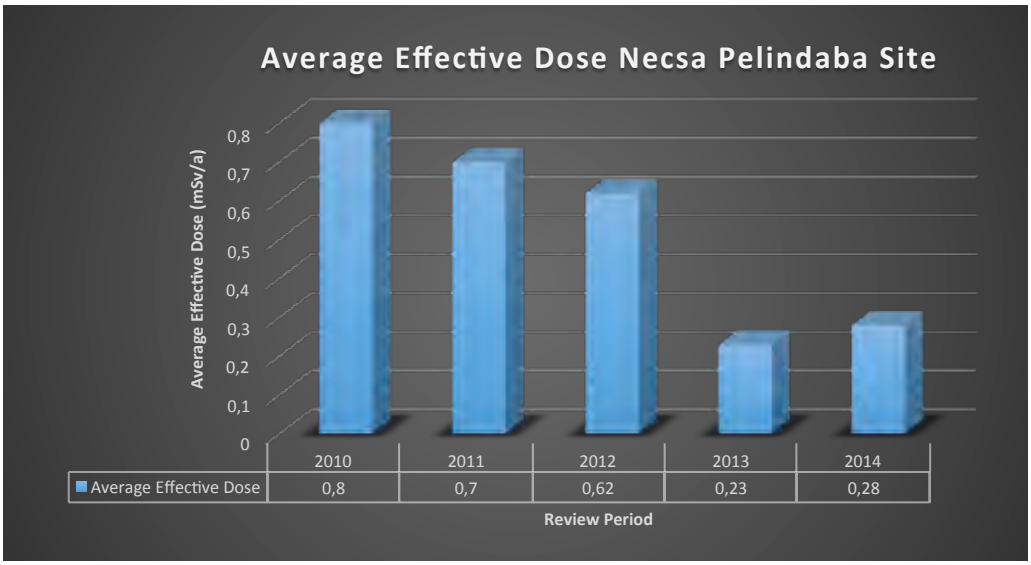


Fig 7: Average Effective Dose Necsa Pelindaba Site (2010-2014)

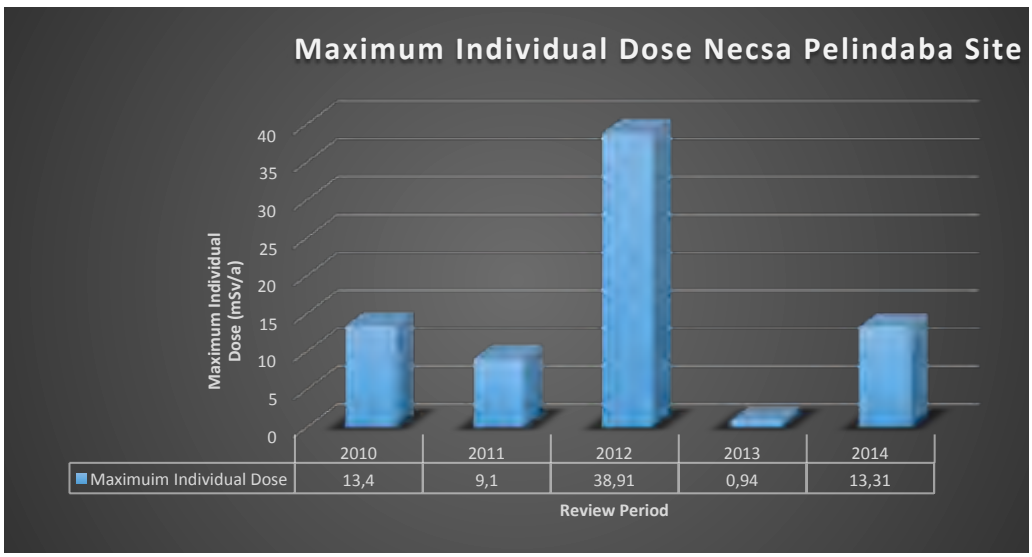


Fig 8: Maximun Individual Dose Necsa Pelindaba Site (2010-2014)

5.5.2 Projected public exposure

Conditions of licence and the Regulations on Safety Standards and Regulatory Practices published as Regulation No. R388 dated 28 April 2006 require that public doses resulting from effluent discharges from the Necsa Pelindaba site must comply with the dose constraint of 0.25 mSv per annum and the system of AADQs applicable to the site. Necsa demonstrated compliance with the AADQs and the projected public doses resulting from the liquid and gaseous effluent releases during the past five years is as shown in the table below:

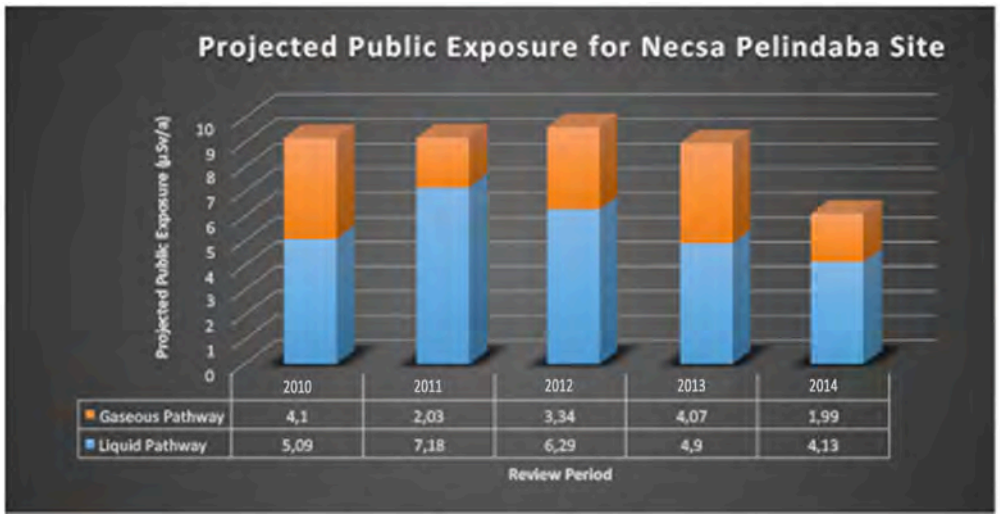


Fig 9: Projected Public Exposure for Necsa Pelindaba Site (2010-2014)

5.5.3 Nuclear safety

i) Safety Analysis Reports

A Safety Analysis Report (SAR) is a comprehensive report containing a complete analysis of a facility. This analysis serves to evaluate the performance of the systems of the facility and to demonstrate the safety of the facility, including risk to the workers and the public.

The NNR reviewed and responded to Necsa on SARs related to the following nuclear facilities on the Pelindaba site:

- Building P-2600 UMET
- Volume Reduction Facility in Pelstore
- Nuclear Forensic laboratory in Building P-1600
- NTP Radiochemicals Facility
- Cell 11 In the NTP Radiochemicals Facility
- Cell 19 In the NTP Radiochemicals Facility
- Cell 20 In the NTP Radiochemicals Facility
- Cell 22 In the NTP Radiochemicals Facility



ii) Operating Technical Specifications (OTS)

An OTS is a specification document to be used by the operators of a facility, which contains the operating limits within which the facility is expected to safely operate. The operational limits in an OTS must link the contents of the SAR of the facility with the operation of the facility (as specified in Paragraph 4.2 of the SSRP).

The NNR reviewed and responded to NECSA on the following OTS submissions:

(i) NTP Radiochemicals Facility

(ii) SAFARI-1 Research Reactor

(iii) UCHEM Facility in Building P-2700

(iv) Calcium Fluoride Ponds on Thabana

(v) Decontamination Facility in A-Building

(vi) Elprod Facility in Building P-2500

(vii) Beva Laboratories in Building E-1

iii) SAFARI-1 ageing management

Noting that the SAFARI-1 Research Reactor was initially commissioned in 1965 and the expected operational life extends to 2030, the NNR required Necsa to develop and implement an Ageing Management Strategy. During the past year, the NNR completed the review of the following:

(i) Ageing Management Strategy for the SAFARIi-1 Research Reactor

(ii) Ageing Management Plan for SAFARI-1 Research Reactor

(iii) Master Management Plan for Ageing Management at SAFARI-1 Research

The development of the Ageing Management Programme for SAFARI-1 is consistent with the guidance provided in the IAEA Safety Guide SSG-10. The overall programme entails in excess of 100 modifications. Specifically Ageing Management of the SAFARI-1 Reactor will entail:

(i) Modifications to the facility relating to replacement or refurbishment of structures, systems and components of the reactor that is important to:

a. Safety of the facility

b. Sustainability of the reactor up to and possibly beyond 2030

(ii) Review and update of the facility design basis, safety documentation and management systems

The following specific modifications were reviewed and commented on in the review period:

(i) Upgrade of the radiological area monitoring system

(ii) Replacement of the primary loop heat exchanger

(iii) Upgrade of the gamma flux monitoring system

(iv) Upgrade of the automatic flux controller

(v) Upgrade of the neutron control channel

iv) Additional reassessment in the light of the Fukushima Daiichi Nuclear Accident.

Following the initial safety reassessment of SAFARI-1 in the light of the Fukushima Daiichi nuclear accident, a number of improvement actions and recommendations have been identified relating to plant modifications, severe accident management procedures and suitability and compatibility of emergency response equipment. Necsa was required to undertake a more detailed reassessment of these issues and to submit these assessments to the NNR.

The NNR reviewed and commented on Necsa's submissions related to the following SAFARI-1 safety systems:

- Emergency water return system
- Safety under severe external events
- Stabilisation of the fuel vault
- Proposed seismic trip system
- Core re-flooding nozzle
- Emergency control room and diverse instrumentation
- Portable external emergency plug in power supplies
- Control Rod drop monitoring system

5.5.4 Transport safety

There were no concerns related to the safety of transport of radioactive material during the period under review. The conditions of licence require that the transportation of radioactive material or any equipment or objects contaminated with radioactive material must be carried out in compliance with the relevant provisions of the International Atomic Energy Agency's Regulations for the Safe Transport of Radioactive Material, 2005 Edition, IAEA Safety Standard Series No. TS-R-1, IAEA in Vienna, 2005.

Transport action undertaken by Necsa during the review period included:

- Transportation of low and intermediate level radioactive waste from the Necsa Pelstore on the Pelindaba site to Vaalputs National Radioactive Waste Disposal Facility.
- Transportation of calibration sources between the Necsa Pelindaba site and the Vaalputs National Radioactive Waste Disposal Facility.
- Transportation of radioactive sources from external waste generators to the Pelindaba site for storage.
- Import, from Cerca in France and transportation from OR Tambo International Airport to Pelindaba of uranium target plates and fuel plates.
- Transportation to safeguard samples from Pelindaba to the IAEA Headquarters in Vienna, Austria.



i) Certificates of package design approval for transport containers

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. In line with this mandate, during the period under review, the NNR reviewed and re-certified the package design approvals for the following transport containers used by Necsa, as having met the regulatory requirements for Type B(U) packages, as described in the International Atomic Energy Agency Safety Standards Series No. TS-R-1, Regulations for the Safe Transport of Radioactive Material, 2005 Edition, Vienna, 2005.

Certificate Number	Name of Transport	Effective Date	Expiry Date
F/313/B(U) F-96 (Revision 06)	TN-BG C1	14 March 2014	30 June 2018
ZA/NNR 100/B(U) – 96 (Revision)	RIA	1 June 2014	31 May 2019

5.5.5 Radioactive waste safety

There were no safety concerns regarding radioactive waste management on the Pelindaba site of Necsa during the period under review. In accordance with the conditions of licence, Necsa is obliged to:

- Establish and implement arrangements for the minimisation and safe management of radioactive waste on the site.
- Establish, implement and maintain a radioactive waste management programme for each facility on the site.
- Ensure the identification, quantification, characterisation and classification of any radioactive waste generated.
- Provide for the necessary steps leading to safe clearance, authorised discharge, disposal, re-use or recycling.
- Provide for the safe storage of radioactive waste between any waste-management processes.

ii) Cold commissioning of the volume reduction plant in Pelstore

The volume reduction plant was originally installed in the Necsa Effluent Treatment Facility in Building P-2400. Following a request by Necsa, the NNR had previously granted approval for the dismantling of the plant and reinstallation in the Pelstore, which is the centralised drum storage facility on the Necsa Pelindaba site.

During the review period, Necsa submitted a request for cold commissioning of the volume reduction plant in the Pelstore. The request was supported by a cold commissioning manual. The NNR considered and accepted the cold commissioning manual, but identified a number of issues that needed to be satisfied prior to the granting of approval to commission the plant. Necsa subsequently responded to the NNR's concerns and following review of the Necsa response, the NNR granted approval for the cold commissioning of the volume reduction facility in February 2015.



iii) Approval of high-density concrete container and NTP liquid waste solidification waste packages for transport to and for disposal at Vaalputs national radioactive waste disposal facility

Necsa had previously requested approval for the disposal of low and intermediate level waste originating from the Necsa Pelindaba site, packaged in high-density concrete drums, at the Vaalputs National Radioactive Waste Disposal Facility. Following a review of the Necsa application, the NNR identified a number of deficiencies in Necsa's submission and submitted these as comments to Necsa.

Following satisfactory addressing of the NNR concerns by Necsa in June 2014, the NNR granted approval for the transport to and disposal of high-density Concrete waste packages containing solidified radioactive alkaline solutions originating from the production of Molybdenum-99 at the Radiochemicals Facility at the Vaalputs National Radioactive Waste Disposal Facility.

The first shipment of the High Density Concrete Containers for disposal at the Vaalputs National Radioactive Waste Disposal Facility took place on 23 June 2014.

5.5.6 Environmental protection

There were no concerns regarding safety to the environment around Pelindaba in the review period. Further to the monitoring and controls of effluent discharges, Necsa is required to institute an environmental -monitoring programme to ensure that discharges do not result in environmental build-up of radioactivity.

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
- Water and fish samples from the Crocodile River and Hartbeespoort Dam.

The NNR employs a system of reporting, investigation and intervention levels to ensure an appropriate level of control and detection of radioactivity in the environment. The system is designed to rapidly detect any increases in environmental radioactivity and to ensure that appropriate action is taken to rectify the situation.

5.5.7 Regulatory independent verification of radiological environmental analysis

The NNR conducts an independent verification of radiological environmental analysis by collecting samples in and around the Necsa Pelindaba site. During the review period, there were no discrepancies identified in this process.

5.5.8 Nuclear emergency planning and preparedness

In accordance with Section 38 of the NNR Act the NNR conducted a nuclear emergency exercise at the Necsa Pelindaba



site on 9 April 2014. The aim of the exercise was primarily to test the readiness of Necsa and the Local Municipality of Madibeng to respond to a simulated radiological scenario that impacted both Necsa and the public. The NNR concluded that the responses were satisfactory to the regulator, however, areas of improvement.

5.5.9 Competency and sufficiency of Necsa's Pelindaba workforce to work safely

In addition to the requirements in the SSRP, the conditions of licence requires that Necsa must 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 is satisfied that Necsa complied with the above requirements during the period under review. However, the sufficiency of staff employed in the areas of safety development and compliance monitoring is an area of concern for the Regulator.

5.5.10 Physical Security

There were no concerns with respect to physical security of the NECSA Pelindaba Site during the period under review.

Safety of sealed radioactive sources

There were no safety concerns regarding sealed radioactive sources at Pelindaba during the review period. In accordance with the conditions of licence, Necsa was required to maintain a register of all radioactive sources on the site. The radioactive source register is submitted to the NNR annually at the end of the calendar year, and Necsa provides a status report twice a year (in March and September).

5.5.11 Nuclear incidents/accidents reported

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

5.5.12 Regulatory compliance inspections

NTWP conducted 115 planned compliance inspections at Necsa's Pelindaba site during the 2014-2015 financial year. The majority of these inspections revealed satisfactory compliance with NNR regulations.

Audits

All of the four (4) planned audits were conducted during the review period. There were some minor deviations from compliance, and all of which have been addressed.

Regulatory investigations

There were no investigations conducted during the review period.



Nuclear event

There were no nuclear events of concern reported during the review period.

5.5.13 Regulatory warnings or directives to stop work

The NNR did not issue any directives to stop work at Necsa during the 2014-2015 financial year.

5.5.14 Regulatory capacity and number of appointed inspectors

There were two (2) additional inspectors appointed in the NTWP Department during the review period.

5.5.15 Appeals to the Chief Executive Officer or the Board

There were no appeals lodged against the NNR during the reporting period.

5.6 Regulation of 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 10 000 ha. The disposal site is situated in the western half and is 99.54 ha (900 m x 1 106 m) in extent, including a 200m exclusion zone along the perimeter, in which waste disposal is not permitted. Vaalputs is currently authorised (Nuclear Installation Licence NIL-28), for the receipt and shallow land disposal of solid low level waste originating from Koeberg Nuclear Power Station (KNPS) and the South African Nuclear Energy Corporation (Necsa).

The operational phase commenced in November 1986 and, under the current nuclear programme, it is estimated to extend for 50 years up to 2036, which is also the estimated end of the operational period for the KNPS.

5.6.1 Occupational exposure to radiation

The worker doses at Vaalputs over the period under review were within regulatory limits. Radiation exposure of personnel working at Vaalputs 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 As Low As Reasonably Achievable (ALARA). Vaalputs demonstrated control over occupational exposure of the workers, in line with the NNR requirements.

The average effective doses for occupationally exposed persons demonstrated that Vaalputs was in compliance with the dose limitation system for individual workers over the review period. The cumulative dose accrued for an individual during the 2014 calendar year, can be found in the graphs below.

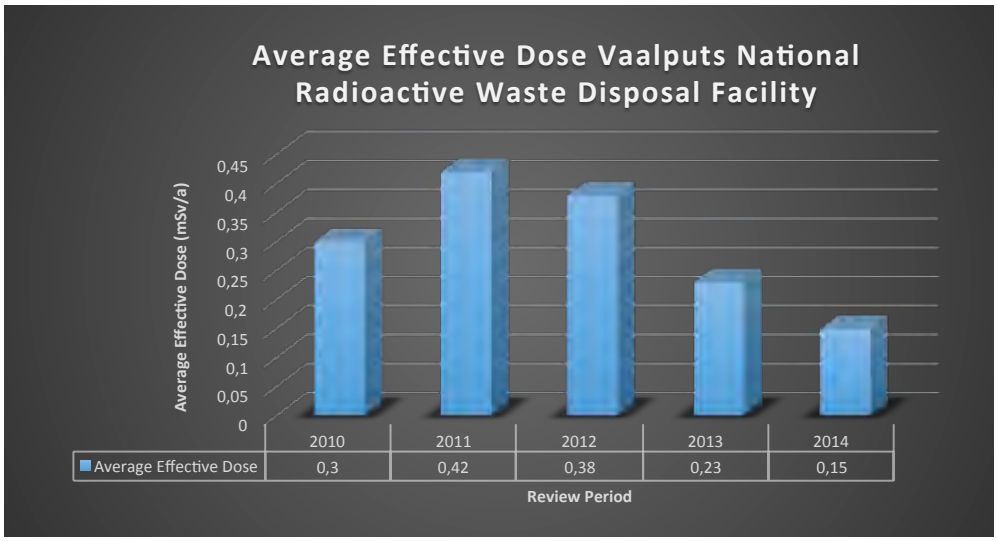


Fig 10: Average Effective Dose Vaalputs National Radioactive Waste Disposal Facility (2010-2014)

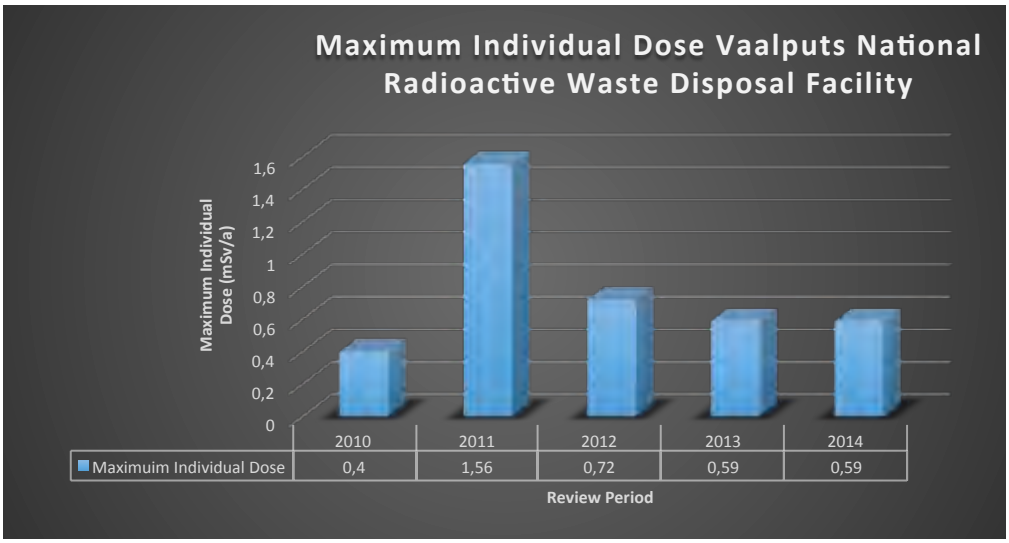


Fig 11: Maximum Individual Dose Vaalputs National Radioactive Waste Disposal Facility (2010-2014)



5.6.2 Projected public exposure to radiation

There were no safety concerns regarding public exposure to radiation. In accordance with the conditions of licence and the Regulations on Safety Standards and Regulatory Practices (SSRP), published as Regulation No. R388 dated 28 April 2006, the public doses resulting from effluent discharges from Vaalputs must comply with the dose constraint of 0.25 mSv. The environmental surveillance programme for Vaalputs has shown no measurable radiological impact on the community living around Vaalputs.

5.6.3 Nuclear safety

During the review period, the NNR completed reviews and commented on the following Vaalputs' safety case documentation:

(i) Control of Radioactive effluents

(ii) Vaalputs meteorological programme

(iii) Vaalputs Waste Acceptance Criteria

(iv) Vaalputs Safety Assessment Report

(v) Vaalputs' maintenance and ISI programmes

Furthermore, the NNR review of the Vaalputs post-closure safety assessment has continued.

5.6.4 Competency and sufficiency of Necsa's Vaalputs workforce to work safely

In addition to the requirements in the SSRP, 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 remained satisfied that Necsa complied with the above requirement during the review period. The NNR, however, does have some concern regarding sufficiency of the Vaalputs radiation protection staff.

5.6.5 Transport safety

Transport of waste to the Vaalputs site is the responsibility of the waste generator and is regulated by the NNR. The Vaalputs waste acceptance criteria requires that such transport be performed in compliance with the relevant provisions of the IAEA regulations for the safe transport of radioactive material. There were no safety concerns regarding the transport safety at Vaalputs during the period under review.

As reported in the section related to Necsa, following satisfactory addressing of the NNR's concerns in June 2014, the NNR granted approval for the transport to and the disposal of High Density Concrete waste packages containing solidified radioactive alkaline solutions originating from the production of Molybdenum-99 at the Radiochemicals Facility at the Vaalputs National Radioactive Waste Disposal Facility.

The first shipment of the High Density Concrete Containers for disposal at the Vaalputs National Radioactive Waste Disposal Facility took place on 23 June 2014.



5.6.6 Radioactive waste safety

Vaalputs received 1 433 (1 00 litre) metal drums from Pelindaba and 1 558 metal drums from KNPS for disposal during the calendar year 2014. The receiving and disposal of radioactive waste at Vaalputs was in conformance with the conditions of authorisation.

Table 23: Metal drums received by Vaalputs

Waste	Type of Waste Package		
Generator			
	Concrete	Metal	Other
Koeberg	89	1 558	0
Necsa	0	1 433	0

Table 24: Total Activity as on 31 December 2014

Trench	Number of waste packages	Total activity as on 31 December 2014	
		Receive	Decayed
A01	1 174	1.92E+0	4.55E+04
A02	840	4.07E+0	6.56E+01
A03	1 639	8.53E+0	4.48E+02
A04	1 079	6.99E+0	4.57E+02
A05	167	6.56E+0	2.05E+03
B01	3 177	1.02E+0	2.31E+04
B02	400	1.87E+0	1.33E+04
B03	321	1.32E+0	1.20E+04
B04	23	7.14E+0	6.27E+03
TOTAL	2 089	3.35E+0	1.03E+05

5.6.7 Environmental protection

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

5.6.8 Regulatory independent verification of radiological environmental analysis

Due to insignificant environmental impact by Vaalputs in the past, the NNR decided not to conduct independent verification.

5.6.9 Nuclear emergency planning and preparedness

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

5.6.10 Physical security

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



5.6.11 Safety of sealed radioactive sources

The control of radioactive sources is managed in accordance with the stipulations of the Necsa PBL document "Control of Radioactive Sources". Necsa is required to maintain a source register of all sources on-site. There were no irregularities relating to sealed radioactive sources at Vaalputs during the period under review.

5.6.12 Nuclear incident/accidents reported

Although several minor occurrences were reported by Vaalputs, there were no nuclear occurrences that fell in the category of nuclear accident or nuclear incident as defined in the NNR Act, during the period under review.

5.6.13 Regulatory compliance inspections

Quarterly inspections are usually scheduled for Vaalputs. However, during the review period, three (3) inspections were conducted and the last one was replaced with an audit. All inspections showed acceptable compliance with regulations.

5.6.14 Regulatory warnings or directives to stop work

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

5.6.15 Appeals to the Chief Executive Officer or the Board

There were no appeals concerning Vaalputs during the review period.

5.7 Brief Description of Norm Processing Facilities Regulated by the NNR



Mining and mineral processing facilities

The activities at these facilities include mining and processing of gold, copper, uranium, heavy minerals and phosphate rock. The process for producing these ores can be divided into six main phases that include, among others, finding the ore body; creating access to the ore body; breaking the ore body or removing the ore by mining; transporting the broken/mined material from the mining face to the surface plants for treatment; processing (this process occurs in multi-stage crushing and milling circuits), and refining. In the case of heavy minerals, the separation of the mined ore body at the treatment plant is through electromagnetic processes and no chemicals are applied on the mined ore.

Fertiliser manufacturing

Most of the fertiliser manufacturing industries authorised by the NNR, use sulphuric acid combined with phosphate rock as raw material, to produce phosphoric acid and finally, fertilisers. The phosphate industry produces fertiliser, animal feed, and phosphoric acid using phosphate rock, which contains Naturally Occurring Radioactive Materials. Before phosphate ore is turned into fertiliser or other products, it is transformed into either phosphoric acid (through the wet process), or elemental phosphorus (through the thermal process). A by-product, calcium sulphate (gypsum), is also produced. This gypsum is called phosphogypsum. There are approximately five tones of phosphogypsum produced for every ton of phosphoric acid product produced. During the production of the above products, radioactive waste is produced in the form of liquid (gypsum slurry), and solid wastes (scrap metal and filter cloths). Gypsum is normally stored on land, in waste heaps at a secluded area, or discharged off to sea, whereas the scrap is either stored on-site or released, to be used for other purposes. Seventy-five percent of the phosphate rock comes from Foskor Limited: Phalaborwa Division in Limpopo Province and the rest (known as Togo rock, i.e. sedimentary phosphate rock with high 238U content), is imported from North African countries.



Scrap processors

A typical recycling process will start with the collection of plastic, ferrous and non- ferrous scrap metal, which is transported to an area under the scope of regulation. This scrap metal is collected underground and has been found to have elevated levels of radiation. Scrap metal collected is recorded, segregated and will be either released to the public or released to authorised scrap smelters, according to the approved NNR procedure for radioactive waste management for smelting and conversion to other products.

Scrap smelters

The process for melting scrap metal involves superheating a quantity of metal to high temperatures in a metal heating furnace until it is molten. A scrap melt is formed by placing the superheated metal in contact with a quantity of scrap metal and submerging the scrap metal therein, removing impurities from the scrap melt. The molten metal is now either exported/ transported to various industries, like foundries, for use in other products, etc.

Small users and service providers

These are laboratories or pilot plants for the testing of small quantities of NORM samples to verify the viability of the proposed mining projects. Here, samples are received from clients with detailed instructions. These samples are then reduced to a fine powder by crushing and milling while the radiological content of the samples are determined through chemical analysis.

Refurbishers

Some of the materials collected from underground mining environments, such as pumps, electrical fans, etc., need to be repaired or refurbished for re-use. It has also been found that most of them, when screened have elevated levels of radiation, requiring that they be handled by competent radiation protection personnel. Once removed from underground and screened, they are sent to authorised engineering firms for refurbishment. The equipment may be sandblasted to remove radioactive scales before the refurbishing process.

5.7.1 Occupational exposure to radiation

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

General Regulatory Dose Limits Prescribed by the NNR	
Workforce	Regulatory Criteria
Maximum individual worker dose	An (average) effective dose of 20mSv per annum averaged over five consecutive years. A (maximum) effective dose of 50mSv in any year (maximum) effective dose of 50mSv in any year.
Average individual worker dose	Controlled by application of the ALARA principle. The ALARA target for the annual average individual dose is 4mSv per annum.

Based on these limits, the NNR requires the holders to demonstrate that the average effective doses of 20 mSv per year, averaged over five consecutive years and 50 mSv in any single year, are not exceeded. This requires the holder to have proper dose records of all occupational exposed personnel for a rolling five years, as determined by the SSRP (R388).

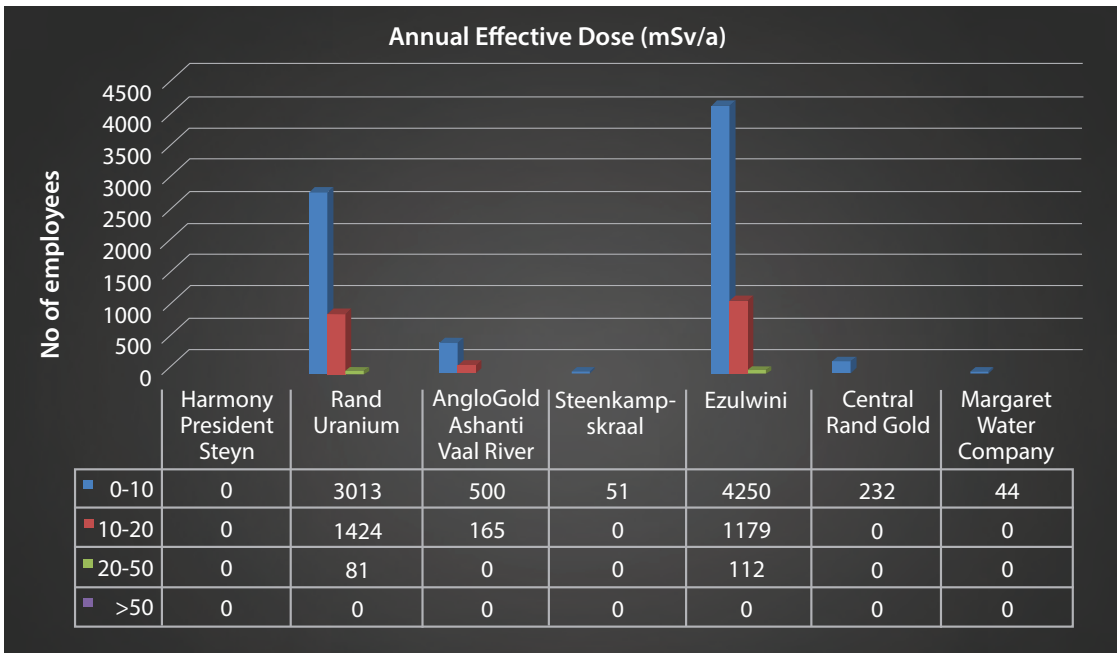
Figure 12, below, demonstrates improvement in exposure levels for the current reporting period compared with the previous period for the areas where the potential for the annual dose limit to be exceeded is very low, commonly known as non-special case mines. The figure also indicates the number of radiation workers per dose range (in mSv) annually over the past five (5) consecutive years. It can be concluded from the figure below, that there has been compliance with the annual dose limit.



	2010	2011	2012	2013	2014
0-10	91025	95138	80190	126491	84251
10-20	29998	1275	1200	336	187
20-50	2107	0	0	2	0
>50	0	0	0	0	0

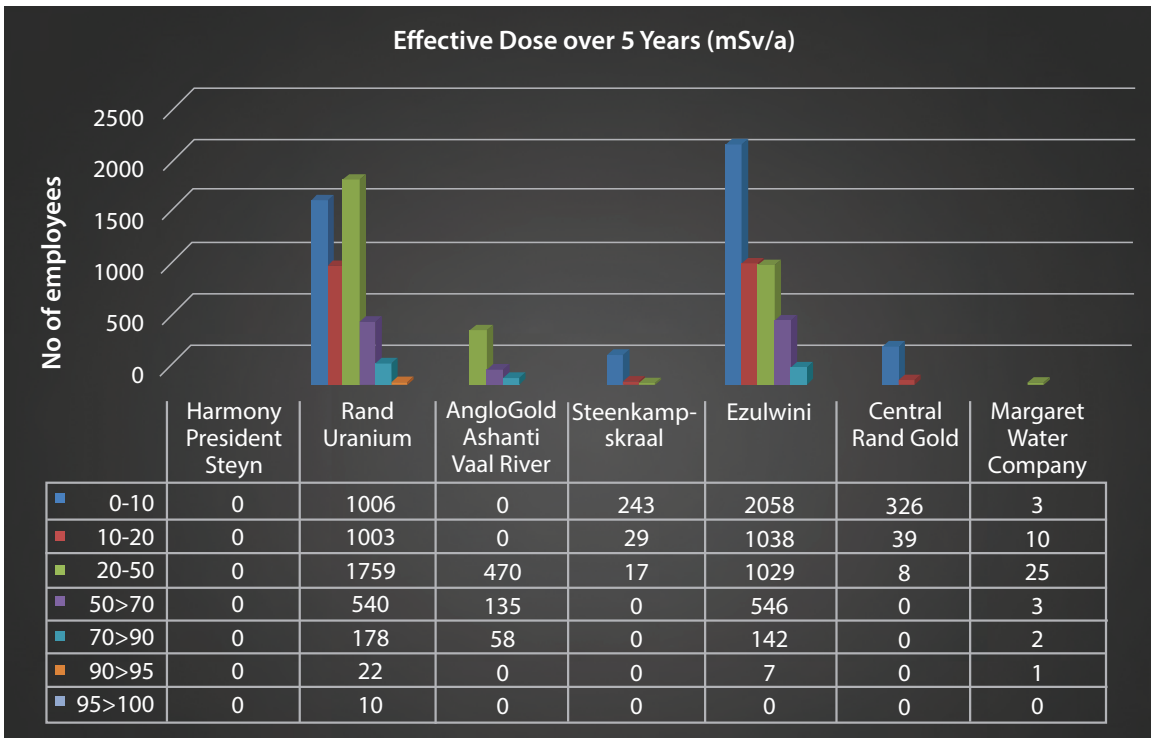
Fig 12: Effective dose summary for non-special case mines over five years

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. Figure 2 demonstrates that no exposures of more than 20 mSv per annum were recorded for 2014 – an improvement from 2013. The figure also indicates the number of radiation workers per dose range of dose (in mSv) over the past five consecutive years.



	Harmony President Steyn	Rand Uranium	AngloGold Ashanti Vaal River	Steenkamp-skraal	Ezulwini	Central Rand Gold	Margaret Water Company
0-10	0	3013	500	51	4250	232	44
10-20	0	1424	165	0	1179	0	0
20-50	0	81	0	0	112	0	0
>50	0	0	0	0	0	0	0

Fig 13: Annual dose summary for SCM (2014) demonstrates that the (average) effective dose averaged over the past five (5) consecutive has not exceeded 20 mSv (average) or total of 100 mSv over the five consecutive years.



	Harmony President Steyn	Rand Uranium	AngloGold Ashanti Vaal River	Steenkamp-skraal	Ezulwini	Central Rand Gold	Margaret Water Company
0-10	0	1006	0	243	2058	326	3
10-20	0	1003	0	29	1038	39	10
20-50	0	1759	470	17	1029	8	25
50>70	0	540	135	0	546	0	3
70>90	0	178	58	0	142	0	2
90>95	0	22	0	0	7	0	1
95>100	0	10	0	0	0	0	0

Fig 14: Five consecutive years' accumulative doses for SCMs i.e. 2010-2014



5.7.2 Special Case Mines (SCM)

For a mine to be classified as a special case by the NNR, the potential monthly dose must be 1.7 mSv and above, or the projected annual dose of 20 mSv should be exceeded. During the period under review, the NNR noted a slight improvement in observed worker doses, which can be attributed to the compliance assurance measures enforced by the NNR on the holders.

5.7.3 Public exposure to radiation

In accordance with the Regulations on Safety Standards and Regulatory Practices, Regulation No. R388, dated 28 April 2006 (SSRP), the doses for members of the public must comply with the action specific dose constraint and a limit of 1 mSva-1 from all authorised actions. The NNR further requires the holders to submit the Public Safety Assessments (PSAs), to ensure that the authorised actions do not pose any undue health risks to members of the public. These documents have been reviewed by the NNR. The projected public exposures from authorised actions were all within the public dose limit.

5.7.4 Transport safety

There were no major safety concerns related to transport during the period under review. There have been incidents of detection of radioactively contaminated scrap material and radiation sources with the scrap material by unauthorised facilities. These incidents were reported, investigated by the NNR and action taken to ensure the safety and security of the material. Some of the actions taken include diverting the scrap consignment to the authorised scrap smelter, to authorised holders for decontamination and disposal or interim storage. Routine transport of low specific activity (LSA-1) scrap materials takes place on a daily basis.

5.7.5 Radioactive waste safety

There was no major safety concern related to radioactive waste safety during the period under review.

Authorisation holders are 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 main aspects of a typical radioactive waste management procedure include:

- Identification of radioactive waste and its sources
- Segregation of radioactive waste into process and non-process waste
- Categorisation of process waste into homogeneous and non-homogeneous waste
- Radioactive waste management options
- Record keeping and reporting
- Quality assurance

Routine and annual waste management reports were submitted to the NNR, summarising and interpreting the above programme and demonstrating compliance with the NNR requirements.



The summary of waste is presented below.

Total	Quantities	No. of consignments
Unrestricted Scrap (tons)	1.57E+06	5906
Restricted Scrap (tons)	1.06E+06	6430
Gaseous Releases (m3/year)	2.85E+11	N/A
Liquid Waste (m3/year)	1.31E+11	N/A
Semi Solid (tons)	8.91E+07	N/A
Solids (tons)	2.62E+07	3 8408
Other Waste (tons)	2.39E+06	4 599

5.7.6 Nuclear emergency planning and preparedness

The NNR requires that an emergency and preparedness plan be established to make provision for any occurrence involving radioactive material which has the potential to give rise to unplanned exposure to radiation in excess of the respective annual dose limits for workers, visitors to the site, or the public.

5.7.7 Physical security

As part of the conditions of a nuclear authorisation, the holders of a nuclear authorisation are required to establish, implement and maintain a physical security system that was approved by the NNR. Such a system would prevent, as far as reasonably possible, unauthorised access to areas containing radioactive material and would also prevent the unauthorised removal, diversion or theft of such material. In general, the holders demonstrated compliance with the physical security requirements

5.7.8 Safety of sealed radioactive sources

There were no sealed radioactive sources regulated by the NNR at holders of certificates of registration. The safety and regulation of the radioactive sealed sources falls within the jurisdiction of the Directorate Radiation Control, under the Department of Health.

5.7.9 Nuclear Events reported

Although there were no nuclear accidents or incidents reported for the period under review, the following occurrences were registered:

a) On 5 June 2014, there was overflow of the Kareer and Tailings Storage Facility (TSF) into the surrounding environment occurred at Mine Waste Solutions (COR-30). This occurred during a planned shutdown to carry out maintenance activities, due to seepage of water from the under-drains and backflow water from return water pipelines into the return water dam.

Outcome

The radio analysis results of the water samples indicated insignificant dose contribution as a result of this occurrence.

b) On 23 June 2014, the spillage of slime material into the surrounding environment occurred at the Sulphur Pay Dam,



AngloGold Ashanti (Vaal River Operations) and holder of COR-02, due to collapse of the trench conveying the residue material to the pump station.

Outcome

Rehabilitation of the affected areas was completed, with a report demonstrating that the area had been cleaned to acceptable levels submitted and the NNR will be conducting a verification exercise to confirm the effectiveness of the corrective action taken.

c) On 12 September 2014, a pipeline failure leading to a spillage of residue material into the surrounding environment occurred at Mine Waste Solutions (COR-30).

Outcome

The rehabilitation of the affected area has taken place and the NNR will conduct a verification exercise to confirm the effectiveness of the corrective action taken.

d) On 10 October 2014, the spillage of residue material into the surrounding environment occurred at AngloGold Ashanti (Vaal River Operations) and holder of COR-02, due to pipe failure.

Outcome

The rehabilitation of the affected area has taken place, and the NNR will conduct a verification exercise to confirm the effectiveness of the corrective action taken.

e) On 2 February 2015, attempted theft of the pipe that conveys residue material occurred at Crown Gold Recoveries (COR-57), leading to slime filling up the culvert into the surrounding environment.

Outcome

The affected area has been rehabilitated with submitted report demonstrating that the site has been cleaned to below acceptable regulatory levels. The effectiveness of the corrective action taken will be verified during the compliance inspection.

The other occurrences were raised as part of regulatory compliance inspections and were verified and closed during the compliance inspections.

5.8 Regulatory compliance

To verify the degree of compliance with the conditions of nuclear authorisation, the NNR undertakes independent inspections and audits at authorised facilities. A total of 186 inspections were conducted during the reporting period. These inspections were conducted to verify the degree of compliance with the various programmes and procedures implemented by the holders. Holders were required to investigate the reasons for, and implement corrective actions related to all non-compliances identified. A total of twelve (12) audits were conducted at various mining facilities to ascertain the degree to which these mines were implementing quality management systems. The audit findings concluded that some of the holders were deficient in terms of the requirements related to quality management systems. The holders were required to submit and implement action plans addressing corrective and preventive actions.



The NNR will continue to monitor the implementation of the corrective and preventive measures during the next reporting period.

Environmental verification samples

There were 381 environmental samples taken around the holders of CORs for verification, the samples were taken to Necsa's SANAS accredited laboratory for analysis.

5.8.1 Regulatory warnings and directives issued

The following regulatory warnings and directives were issued to holders of nuclear authorisations:

a) On 21 May 2014, a directive was issued to Central Rand Gold (COR-232) for failure to submit the monthly dose report as required in terms of Section 2.10 (submission schedule) of the nuclear authorisation.

Outcome

The reports were submitted in full compliance with the directive.

b) On 16 May 2014, a directive was issued to East Rand Proprietary Mine (COR-53), due to reported incidents of slime spillages.

Outcome

The holder has submitted the slime management plan to the NNR. The implementation of the plan was verified during compliance assurance inspections.

c) On 11 July 2014 a directive was issued to Central Rand Gold (COR-232) to address the repeated non-compliances noted during compliance assurance inspections.

Outcome

The holder failed to comply with the directive and was directed to cease operations until full compliance with the conditions of nuclear authorisation is demonstrated (see more on appeals section).

d) On 28 July 2014, Denel Aviation (unauthorised facility) was issued with directive to cease the release of radioactively contaminated aircraft engines and/or parts following detection of radioactivity in The Netherlands en route to Ecuador.

Outcome

Denel has fully complied with the directive and has submitted an application for a nuclear authorisation.

5.9 Appeals to the Chief Executive Officer

An appeal was lodged by Central Rand Gold (COR-232) to the Chief Executive Officer of the NNR against the decision of the Inspector directing the holder to cease operations following the instruction issued to the holder to comply with repeated non-compliance to conditions of the nuclear authorisation.



Outcome

The decision of the inspector was reversed and the holder was required to comply with the conditions of the nuclear authorisation failure, of which the decision of the inspector would be reinstated. Compliance of the holder is being monitored during compliance assurance inspections.

5.10 Nuclear security

During the reporting period, a total of 21 nuclear security inspections and 70 reviews were conducted. The inspections were conducted on procedures, systems and sub-components of nuclear security measures and/or physical protection systems at Eskom's Koeberg Nuclear Power Station, Necsa's Pelindaba site, Vaalputs Waste Repository and several NORM COR holders focusing on facilities associated with Uranium plants.

Additionally, a security investigation was conducted involving the potential possession of a radioactive source around Pretoria. The material was found to be natural ore. The NNR issued directives on cyber security enhancements to nuclear installation holders.

Security upgrades at Necsa: Nuclear occurrence

The NNR continues to oversee and verify the corrective actions at Necsa following the security breach of April 2012. Necsa is required to periodically update the NNR on the upgraded Physical Protection Systems. The upgrade programme is in progress.

Nuclear vessel licence authorisation

The NNR reviewed the security plans contained in the application by Eskom for a Nuclear Vessel License for transporting imported Fresh nuclear Fuel (FF) in August 2014 and November 2014, respectively. Inspections were conducted on the activities in Cape Town.

Table-top nuclear security exercise

A Nuclear Security Table-Top Exercise (TTX) was conducted on 03 June 2014 at Eskom's Koeberg Nuclear Power Station.

- Self-assessment nuclear security exercise

Eskom's Koeberg NPS conducted self-assessment security exercise: The NNR participated as independent regulatory observer. The NNR's observations and recommendations were submitted to Eskom.

Audits (Eskom KNPS and Necsa)

A total of two (2) audits were conducted by the NNR at Eskom KNPS and Necsa. There were only minor non-compliances and correctives approved by the NNR.



Security incidents

One (1) incident was reported by Eskom to the NNR. The incident occurred during the arrival of the Fresh nuclear Fuel (FF) to Eskom's KNPS. The correction action was approved by the NNR and the occurrence has been closed.

- Self-assessment nuclear security exercise

  Eskom's Koeberg NPS conducted self-assessment security exercise: The NNR participated as independent regulatory observer. The NNR's observations and recommendations were submitted to Eskom.

- Joint planning committees and government sector Security Council

  The NNR has participated in the Joint Planning Committee (JPC) and the Government Sector Security Council (GSSC).

  JPC Necsa and JPC Eskom Koeberg: The NNR addressed and exchanged information regarding developments and challenges in relation to assurance of adequate nuclear security measures, in association with the National Key Points (SAPS) and State Security Agency (SSA) in relation to the nuclear installation concerned.

- GSSC is the high level security forum convened by the SAPS (Government Security Regulator) for senior managers in government departments and state agencies responsible for all aspects of organisational security, including nuclear security. The NNR played a key role in sharing various aspects of nuclear security in South Africa and the IAEA nuclear security framework to ensure a common nuclear security doctrine across all state institutions.

5.11 Special projects

During the period under review, the NNR focused primarily on regulatory research and development in the following areas:

- Self-Assessment of Regulatory Infrastructure

The NNR is co-ordinating the national activities relating to the IAEA Regional Project RAF9049 on Enhancing and Sustaining the National Regulatory Bodies for Safety. The conduct of Self-Assessment by the Regulatory Bodies is a prerequisite for an Integrated Regulatory Review Service Mission. Following the approval of the annual Project Plans for the Self-Assessment at both the NNR and Directorate Radiation Control, and the provision of training to regulatory staff on the IAEA tool and methodology, the conduct of the Self-Assessment on selected modules was initiated.

The NNR appointed teams which conducted the assessment of two of the modules in the Self-Assessment of Regulatory Infrastructure for Safety (SARIS), namely Nuclear Power Plant and Nuclear Fuel Cycle. Due to capacity constraints at the Directorate Radiation Control, the NNR facilitated and assisted with the Directorate's evaluation of the Core Modules. Self-Assessment reports were approved at the end of the reporting period, and new Project Plans drafted for the assessment of the remaining modules in SARIS for the 2015-16 period, in anticipation of the IRRS Mission.

- Integrated Regulatory Review Service Mission

The NNR and Directorate Radiation Control (Radcon) in the Department of Health continued to participate in the IAEA Regional Self-Assessment Projects since 2009 with the aim of hosting an IRRS Mission. The conduct of the IRRS has also been included in the South African Nuclear Safety Action Plan.



The IAEA accepted the request from the South African Department of Energy to conduct a review of the governmental and legislative framework for safety against relevant IAEA International Safety Standards. The review, proposed for December 2016, will include the regulatory oversight of all facilities and activities utilising nuclear and radiation technologies.

During the reporting period, preparations for the IRRS Mission have been initiated. A country liaison for the IRRS was appointed, and a meeting conducted with the IAEA to discuss key issues related to the Mission including the scope, funding and logistics. Awareness sessions at both Regulatory Bodies, the appointment of a Project Management Team and the drafting of a Project Plan were achieved.

National Dose Register

The project to establish a National Dose Register (NDR) using the IAEA-developed Regulatory Authority Information System (RAIS), located at the NNR, is being implemented through annual Project Plans in agreement by the National Steering Committee. The second (April 2014) and third IAEA NDR Expert Mission (December 2014) were conducted over the reporting period. The NDR template for uploading Data Provider occupational exposures to RAIS, as well as the NDR User's Manual were updated, reviewed and approved. A six months Pilot Study was conducted, involving organisations serving on the Steering Committee. During the Pilot, Data Providers uploaded occupational exposures data on a monthly basis, and the process, challenges and effectiveness were reviewed during the Missions. A NDR meeting was held with NORM holders and the conduct of a second Pilot Study was agreed to and preparations initiated for the Pilot. NORM holders and Steering Committee organisations will populate the updated template and upload data to the NDR. The legal and regulatory basis for the NDR was drafted, and is undergoing final review by the Steering Committee. Mechanisms for upload data, access to data and types of reports to be generated in the NDR were also agreed to.

Upgrade of the Regulatory Emergency Response Centre (RERC)

The implementation of the six capabilities identified for the RERC continued over the reporting period. The Redesign and Refurbishment of the RERC have been completed. A procedure for the management of portable Radiation Instrumentation to be used during normal and accident situations is being drafted, which will be followed by the relocation of all instruments to a centralised location as part of the RERC. Accident Codes developed by the USNRC have been installed, and for the dispersion code, a database of accidents has been established, code input specification determined, accident scenarios tested, while GIS linked the output of the code. For the code to model plant accidents, the input, output specification, and running of models were delayed due to competing priorities, and an action plan for the remaining deliverables was agreed. For the Plant Data Transfer from Nuclear Installation to the RERC, the service provider was appointed in January 2015 and the contract drafted. With respect to the Audio, Visual and Communications infrastructure for the RERC, the installation of the video wall and various TV screens, video conference and cablings were completed. The VOIP Installation, Cisco Configuration and Recording Solution Installation were also completed. The final testing, training for NNR staff and project closure documentation will be provided to the NNR early in the new financial year. For the on-line Radiation Monitoring System, the design and installation aspects were agreed by technical teams from the NNR and the service provider. Concurrences were obtained from most of the property owners for the installation of the radiation monitoring stations, with Memoranda of Agreement. The contract with the service provider has been drafted and is in the process of being reviewed by both parties.



Establishment of NNR verification laboratory

The Board resolved in 2010, that the Executive should continue with the laboratory project and find suitable partners for the establishment of the NNR radiological verification capability. The Business Case for the establishment of the laboratory was approved by the Board in 2011. The Executive concluded strategic partnerships with the Agricultural Research Council (ARC), and the National Metrology Institute of South Africa (NMISA) Radioactivity Standards Laboratory to establish NNR verification facilities in Pretoria and Cape Town, respectively.

The project implementation has progressed well during the course of the period under review. The refurbishment of both the ARC and NMISA laboratories and the installation, testing and commissioning of all the nuclear analytical equipment have been completed. The focus has now shifted to verify the implementation of all the management system manuals and procedures. The process to validate all the sample preparation and analysis methodologies that have been developed has also started. The project team completed the public and worker safety assessments that will be independently reviewed as part of the authorisation process.
New staff that have been appointed received both theoretical and on-the-job training. The plan is to complete the validation of all the methods in the new financial year and to commence with initial operation of the laboratory. The ARC Laboratory has the capacity to perform gamma, beta, alpha, as well as gross alpha/beta analyses. The NMISA Laboratory will process the Koeberg Power Station samples and will perform gamma and beta analysis.

Regulatory framework project

The NNR sets Safety Standards in the form of regulations. Regulations are mandatory and set down specific requirements to be upheld by the authorisation holder or an applicant for a nuclear authorisation. The NNR is in the process of revising its regulations.

The suite of regulations comprises the General Nuclear Safety Regulations integrating all thematic areas in a coherent and harmonised set of requirements that will be complemented by a series of facilities and/or action Specific Safety Regulations. The General Nuclear Safety Regulations will address all radiation exposure situations (existing, planned and emergency), and will apply to all actions, whereas the Specific Safety Regulations apply to specific facilities and/or actions.

5.12 International co-operation



During the year under review, the NNR fulfilled all its national obligations and maintained active participation in the IAEA Safety Standards Committees, as well as several International Regulatory Fora. The NNR continued to participate in the Multinational Design Evaluation Programme (MDEP) and during the reporting period attended the Steering Technical Committee meetings. The NNRs bilateral co-operation efforts in nuclear safety and security continue to deepen and as such, during the review period, the NNR signed a new bilateral technical co-operation agreement with STUK (Finland). Additionally, the NNR implemented a successful bilateral technical workshop with Rostechnadzor from 7-10 October 2014, in St Petersburg, Russia.

The NNR co-hosted the WINS International Train-the-Trainer workshop on Guard and Response Forces which took place on 23-27 March 2015. The workshop was attended by participants from various regulators and stakeholders associated with nuclear security such as the World Institute for Nuclear Security, the SAPS, Necsa, Eskom, DoE South Africa, France, US, Nigeria, Ghana and Canada. The workshop consisted of presentations given by subject experts, round-table discussions and table-top exercises. NNR experts and Necsa jointly developed scenarios for demonstration as a technical contribution to the workshop.The NNR's Chief Inspector nuclear security attended a nuclear security bilateral with the UKONR during the review period.

Regional co-operation

South Africa is a member of the African Regional Co-operative Agreement (AFRA), which was established by the heads of state of African countries that are members of the IAEA. South Africa and the NNR in particular, are being called upon to play an increasingly bigger role in the strengthening of nuclear and radiation safety regulatory infrastructure throughout the African region. The NNR continued to participate in the technical working groups of the FNRBA.



5.13 Stakeholder relations

The NNR regards dialogue with the public as an important element for increasing awareness of its role for providing for the protection of persons and property against nuclear damage. The NNR's public outreach efforts during the review period were primarily focused on local communities affected by mining and minerals processing activities. The NNR conducted presentations to learners at schools and to residents in the local affected communities. For communities living near nuclear installations, the NNR utilised the Public Safety Information Forums to increase awareness and understanding of its regulatory processes. The NNR also convened an information-sharing meeting with representatives from Civil Society, NGOs and affected parties. Additionally, during the review period, the NNR also responded to stakeholder enquiries and hosted a successful VIP observer programme during the Koeberg regulatory emergency exercise.

Engagement with civil society NGOs in Gauteng

In the spirit of openness and transparency, the NNR convened stakeholder information sharing meetings to encourage bi-directional information sharing with Civil Society NGOs in Gauteng and the Western Cape. In attendance were representatives from Earthlife Africa, Off the Ground, PRISK/Pelindaba Working Group, Greenpeace, CANE, Community representatives and NNR staff.

Public Safety Information Forum (PSIF)

In accordance with the NNR Act, the holder of a Nuclear Installation Licence must establish a Public Safety Information Forum (PSIF), to inform people living in the relevant municipal area in respect of which an emergency plan has been established, in terms of Section 38(1) of the Act on Nuclear Safety and Radiation Safety matters related to the relevant nuclear installation.

In accordance with the provisions of Government Notice No. 299, dated 12 March 2004, and Section 26(4) of the NNR Act, Public Safety Information Forums have been established by:

- Eskom for the Koeberg Nuclear Power Station.
- Necsa for Pelindaba and Vaalputs, respectively.

In terms of Section 4 of the updated Regulations No. 968 dated 12 September 2008, on the establishment of the Public Safety Information Forum, the Board of the NNR is responsible for appointing chairpersons and deputy chairpersons for the respective Public Safety Information Forums.

During the period under review, NNR officials attended PSIF meetings and made presentations related to emergency planning and preparedness. The PSIF Chairpersons and Deputy Chairpersons were duly appointed by the NNR's Board of Directors during the period under review.

Schools Outreach

NNR public awareness communications was concentrated on previously disadvantaged learners from local mining communities located in close proximity to a NNR Authorisation holder. The NNR's schools outreach message reached approximately 1 000 learners from the 18 schools targeted during the reporting period.











SECTION 6

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2015



Report of the Auditor-General to Parliament:

National Nuclear Regulator

Report on the financial statements

Introduction

1. I have audited the financial statements of the National Nuclear Regulator set out on pages 117 to 156, which comprise the statement of financial position as at 31 March 2015, the statement of financial performance, statement of changes in net assets, and cash flow statement and reconciliation between budget and statement of financial performance for the year then ended, as well as the notes, comprising a summary of significant accounting policies and other explanatory information.

Accounting authority's responsibility for the financial statements

2. The board of directors, which constitutes the accounting authority, is responsible for the preparation and fair presentation of these financial statements in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act of South Africa, 1999 (Act No. 1 of 1999) (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.

Auditor-general's responsibility

3. My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with International Standards on Auditing. Those standards require that I comply with ethical requirements, and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

4. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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



Opinion

6. In my opinion, the financial statements present fairly, in all material respects, the financial position of the National Nuclear Regulator as at 31 March 2015 and its financial performance and cash flows for the year then ended, in accordance with SA Standards of GRAP and the requirements of the PFMA.

Report on other legal and regulatory requirements

7. 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 findings on the reported performance information against predetermined objectives for selected programmes presented in the annual performance report, compliance with legislation and internal control. The objective of my tests was to identify reportable findings as described under each subheading but not to gather evidence to express assurance on these matters. Accordingly, I do not express an opinion or conclusion on these matters.

Predetermined objectives

8. I performed procedures to obtain evidence about the usefulness and reliability of the reported performance information for the following selected programme presented in the annual performance report of the public entity for the year ended 31 March 2015:

- Service delivery to customers and stakeholders

9. I evaluated the reported performance information against the overall criteria of usefulness and reliability.

10. I evaluated the usefulness of the reported performance information to determine whether it was presented in accordance with the National Treasury's annual reporting principles and whether the reported performance was consistent with the planned objectives. I further performed tests to determine whether indicators and targets were well defined, verifiable, specific, measurable, time bound and relevant, as required by the National Treasury's Framework for managing programme performance information (FMPPI).

11. I assessed the reliability of the reported performance information to determine whether it was valid, accurate and complete.

12. I did not identify any material findings on the usefulness and reliability of the reported performance information for the following programme:

- Service delivery to customers and stakeholders

Additional matter

13. I draw attention to the following matters:

Achievement of planned targets

14. Refer to the annual performance report on pages 31 to 46 for information on the achievement of the planned targets for the year.

Adjustment of material misstatements

15. I identified material misstatements in the annual performance report submitted for auditing on the reported performance information of service delivery to customers and stakeholders programme. As management subsequently corrected the misstatements I did not raise any material findings on the usefulness and reliability of the reported performance information.

Compliance with legislation

16. I performed procedures to obtain evidence that the public entity had complied with applicable legislation regarding financial matters, financial management and other related matters. I did not identify any instances of material non-compliance with specific matters in key legislation, as set out in the general notice issued in terms of the PAA.

Internal control

17. I considered internal control relevant to my audit of the financial statements, annual performance report and compliance with legislation. I did not identify any significant deficiencies in internal control.

Auditor General

Sign as Auditor - General

AUDITOR-GENERAL
SOUTH AFRICA

Auditing to build public confidence

Pretoria
31 July 2015



National Nuclear Regulator

Annual Financial Statements for the year ended March 31, 2015

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 Cohen Mr. T Mofokeng, Mr. A Abader Ms. N Cobinnah (alternative to Mr. A Abader) Mr. S Kakoma, Mr. J Leaver Mr. N Lesufi Mr. K Maphoto, Mr. S Mimi Mr. K Maphoto (alternative to Ms. E Monale) Dr. T Motshudi, Prof. G Sibiya Dr. M Tyobeka, Mr r. M Gordon Ms. L Sedumoeng
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 Centurion 0046 Postal address P.O Box 7106 Centurion, Eco Park Highveld Ext 75 Pretoria 0046
Controlling entity:	Department of Energy
Bankers:	ABSA Bank
Registered Auditors:	Auditor-General of South Africa
Board Secretariat:	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 directors to ensure that the annual financial statements fairly present the state of affairs of the NNR 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 Directors 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 NNR is on identifying, assessing, managing and monitoring all known forms of risk across the entity. While operating risk cannot be fully eliminated, the NNR 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 NNR's cash-flow forecast for the year to March 31, 2016 and, in the light of this review and the current financial position, they are satisfied that the NNR has access to adequate resources to continue in operational existence for the foreseeable future.

The NNR is significantly dependent on the revenue from authorisation holders for continued funding of operations. The annual financial statements are prepared on the basis that the NNR is a going concern and that the Department of Energy has neither the intention nor the need to liquidate or curtail materially the scale of the NNR. Although the Accounting Authority is primarily responsible for the financial affairs of the entity, it is supported by the entity's internal auditors.

Statement of Directors' Responsibilities and Approval

The external auditors are responsible for independently reviewing and reporting on the NNR's annual financial statements. The annual financial statements have been examined by the NNR's external auditors and their report is presented on page 106.

The annual financial statements set out on pages 117 to 156, which have been prepared on the going concern basis, were approved by the accounting authority on May 31, 2015 and were signed on its behalf by:



Dr. T Cohen
Chairperson of the Board



Dr M.B Tyobeka
Chief Executive Officer



Audit and Risk-Management Committee Report

We are pleased to present our report for the financial year ended March 31, 2015.

Audit committee responsibility

The audit committee reports that it has complied with its responsibilities arising from Section 38(10) (1) of the PFMA and Treasury Regulation 3.1.

The audit committee also reports that it has adopted appropriate formal terms of reference, as its audit committee charter, has regulated its affairs in compliance with this charter and has discharged all its responsibilities as contained therein.

The effectiveness of internal control

The system of internal controls applied by the NNR over financial and risk management is effective, efficient and transparent. In line with the PFMA and the King III Report on Corporate Governance requirements, Internal Audit provides the audit committee and management with assurance that the internal controls are appropriate and effective. This is achieved by means of the risk-management process, as well as the identification of corrective actions and suggested enhancements to the controls and processes. From the various reports of the Internal Auditors, the Audit Report on the annual financial statements, and the management report of the Auditor-General South Africa, it was noted that no matters were reported that indicate any material deficiencies in the system of internal control or any deviations there from. Accordingly, we can report that the system of internal control over financial reporting for the period under review was efficient and effective.

The quality of in year management and monthly/quarterly reports submitted in terms of the PFMA.

The audit committee is satisfied with the content and quality of monthly and quarterly reports prepared and issued by the Accounting Authority of the entity during the year under review.

Evaluation of annual financial statements

The audit committee has:

Reviewed and discussed the audited annual financial statements to be included in the annual report, with the Auditor-General and the board of directors.
Reviewed the Auditor-General of South Africa's management report and management's response thereto.
Reviewed changes in accounting policies and practices.
Reviewed the entity''s compliance with legal and regulatory provisions.
Reviewed significant adjustments resulting from the audit.

The audit committee concurs with and accepts the Auditor-General of South Africa's report on the annual financial statements, and are of the opinion that the audited annual financial statements should be accepted and read together with the report of the Auditor-General of South Africa.

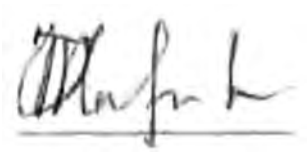
Audit and Risk-Management Committee Report

Internal audit

The audit committee is satisfied that the internal audit function is operating effectively and that it has addressed the risks pertinent to the entity and its audits.

Auditor-General of South Africa

The audit committee has met with the Auditor-General of South Africa to ensure that there are no unresolved issues.



Mr. T Mofokeng CA (SA)

Chairperson of the Audit Committee



Directors' Report

The Directors have pleasure in submitting their report and the annual financial statements of the NNR for the year ended 31 March 2015.

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 directors 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.

7. Accounting Authority

The directors of the NNR during the year and to the date of this report are as follows:

Name	Nationality	Changes
Dr. T Cohen	South African	
Mr. T Mofokeng	South African	
Mr. A Abader	South African	
Ms. N Cobinnah (alternative to Mr. A Abader)	South African	Resigned 30 April 2014
Mr. S Kakoma	South African	
Mr. J Leaver	South African	
Mr. N Lesufi	South African	
Mr. K Maphoto	South African	
Mr. S Mimi	South African	
Mr. K Maphoto (alternative to Ms. E Monale)	South African	
Dr. T Motshudi	South African	
Prof. G Sibiya	South African	Resigned 30 April 2014
Dr. M Tyobeka	South African	
Mr. M Gordon	South African	
Ms. L Sedumoeng	South African	

8. Secretary

The board secretary of the NNR is Ms. N Kote of:

Business address: Eco Glades Office Park, Eco Glades 2, Block 6 Witch Hazel Avenue Highveld Ext 75, Eco Park, Centurion 0046

Postal address: P.O. Box 7106 Centurion, Eco Park Highveld Ext 75 Pretoria 0046



9. Corporate Governance

Board of Directors Meetings

The Accounting Authority has met on seven (7) separate occasions during the financial year. The Accounting Authority schedules to meet at least four (4) times per annum, see page 22 for details of the annual report for schedule of meetings. Directors have access to all members of management of the NNR.

10. Controlling entity

The NNR's controlling entity is the Department of Energy

11. Bankers

ABSA Bank

12. Auditors

Auditor-General of South Africa is the permanent auditor of National Nuclear Regulator.



National Nuclear Regulator

Annual Financial Statements for the year ended March 31, 2015

Statement of Financial Position as at March 31, 2015

Figures in Rand	Note(s)	2015	2014
Assets			
Current Assets			
Receivables from exchange transactions	7	4,970,315	8,884,764
Receivables from non-exchange transactions		107,045	236,975
Cash and cash equivalents	8	94,010,483	83,752,391
		99,087,843	**92,874,130**
Non-Current Assets			
Property, plant and equipment			
	3	124,380,961	128,183,997
Intangible assets	4	947,780	1,581,339
		125,328,741	**129,765,336**
Total Assets		**224,416,584**	**222,639,466**
Liabilities			
Current Liabilities			
Other financial liabilities	10	7,457,644	7,118,915
Operating lease liability	5	106,857	67,561
Payables from exchange transactions	12	10,191,836	6,278,920
Provisions	11	14,391,097	11,236,275
		32,147,434	**24,701,671**
Non-Current Liabilities			
Other financial liabilities	10	57,360,179	65,000,359
Employee benefit obligation	6	10,741,139	12,204,845
Unspent conditional grants and receipts	9	24,231,917	31,057,374
		92,333,235	**108,262,578**
Total Liabilities		**124,480,669**	**132,964,249**
Net Assets		**99,935,915**	**89,675,217**
Accumulated surplus		99,935,915	89,675,217



National Nuclear Regulator

Annual Financial Statements for the year ended March 31, 2015

Statement of Financial Performance

Figures in Rand	Note(s)	2015	2014
Revenue			
Authorisation fees	13	132,065,343	115,411,261
Application fees		1,214,026	376,424
Actuarial gain	6	1,463,706	-
Other income	15	535,529	735,108
Gain-Other financial liability	10	264,051	-
Deferred Income		6,936,779	15,847,947
Interest received	20	4,199,525	3,569,251
Government grants	14	33,697,000	31,012,000
Total revenue		180,375,959	166,951,991
Expenditure			
Compensation of employees	18	(105,284,765)	(87,890,857)
Depreciation and amortisation		(12,315,512)	(9,762,611)
Finance costs	21	(6,069,235)	(6,166,524)
Bad debts	19	(896,678)	-
Goods and services	16	(45,549,071)	(36,867,475)
Total expenditure		(170,115,261)	(140,687,467)
Operating surplus	17	10,260,698	26,264,524
Surplus for the year		10,260,698	26,264,524



National Nuclear Regulator

Annual Financial Statements for the year ended March 31, 2015

Statement of Changes in Net Assets

Figures in Rand	Accumulated surplus	Total net assets
Balance at April 01, 2013	**63,410,693**	**63,410,693**
Changes in net assets		
Surplus for the year restated	26,264,524	26,264,524
Total changes	26,264,524	26,264,524
Balance at April 01, 2014	**89,675,217**	**89,675,217**
Changes in net assets		
Surplus for the year	10,260,698	10,260,698
Total changes	10,260,698	10,260,698
Balance at March 31, 2015	**99,935,915**	**99,935,915**

Note(s)



Cash Flow Statement

Figures in Rand	Note(s)	2015	2014
Cash flows from operating activities			
Receipts			
Authorisation fees		134,673,599	116,886,008
Government grants		33,697,000	48,360,000
Interest income		4,199,525	3,569,251
Application fees		1,057,858	376,424
Other Income		517,585	257,119
		174,145,567	169,448,802
Payments			
Compensation of employees		(102,594,512)	(84,554,734)
Goods & Services		(40,289,470)	(33,775,237)
Finance costs		(6,069,235)	(6,166,524)
		(148,953,217)	(124,496,495)
Net cash flows from operating activities	23	25,192,350	44,952,307
Cash flows from investing activities			
Purchase of property, plant and equipment	3	(7,931,984)	(17,014,941)
Proceeds from sale of property, plant and equipment	3	35,135	53,388
Purchase of other intangible assets	4	-	(560,399)
Net cash flows from investing activities		(7,896,849)	(17,521,952)
Cash flows from financing activities			
(Decrease)/Increase on other financial liabilities		(7,301,451)	(6,922,230)
Net cash flows from financing activities		(7,301,451)	(6,922,230)
Net increase/(decrease) in cash and cash equivalents		9,994,050	20,508,125
Cash and cash equivalents at the beginning of the year		83,752,391	63,244,266
Cash and cash equivalents at the end of the year	8	93,746,441	83,752,391



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.

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:

Post-employment medical benefits

The costs and liabilities of the post-employment 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.



Accounting Policies

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 judgements in the process of applying the entity's accounting policies

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 licensed holders. Revenue from special projects is recognised in accordance with arrangements with authorisation holders.

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 grant.

Property, plant and equipment

Property, plant and equipment (owned and leased) is stated at historical cost less accumulated depreciation and adjustment for any impairments. Costs include those incurred initially to acquire an item of property, plant and equipment and costs incurred subsequently to add to, replace part of, or service it if it is probable that future economic benefits associated with the replacement will flow to the NNR and the cost can be measured reliably. 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. Estimates are mainly based on historical information relating to use of the asset.

The depreciation charge for each period is recognisзed in surplus or deficit. The assets' residual values, useful lives and depreciation methods are reviewed, and adjusted if appropriate, at each reporting date. An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount.



Accounting Policies

The gains or losses arising from 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 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

Depreciation is calculated on the straight-line method to write off the cost, less residual value, of each asset over their estimated useful lives as follows:

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

Item	Average useful life
Land	Not depreciated
Buildings	20 years
Furniture and fixtures	10-25 years
Motor vehicles	8 years
Office equipment	5-25 years
IT equipment	3-5 years
Leasehold improvements	over lease period
Scientific equipments	5-20 years

Intangible assets Research and Development

Expenditure on research activities, undertaken with the prospect of gaining new scientific or technical knowledge and understanding, is recognized in the Statement of Financial Performance as an expense in the period incurred.

Expenditure on development activities, whereby research findings are applied to a plan or design for the production of new or substantially improved products and processes, is capitalised if the development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the entity has sufficient resources to complete development, and to use or sell the asset. The expenditure capitalised includes the cost of materials, direct labour and an appropriate proportion of overheads. Capitalised development expenditure is stated at cost less accumulated amortisation and impairment losses.

Computer software

Acquired computer software licenses are capitalised on the basis of the costs incurred to acquire and bring to use the specific software. Estimates are mainly based on historical information relating to use of the asset and all residual values are nil.



Computer software ... continued

Amortisation is charged to the Statement of Financial Performance on a straight-line basis over the estimated useful lives of intangible assets.

Item	Useful life
Computer software, other	1-3 years

The gains or losses arising from derecognition of an item of intangible asset is included in surplus or deficit when the item is derecognised. The gain or loss arising from 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.

Subsequent expenditure

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

Impairment of non-financial assets

Assets are assessed at the end of each reporting period for any indication that they may be impaired. If indications exist, the recoverable amount of the asset 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 increased carrying amount of an asset attributable to a reversal of an impairment loss does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset in prior years. A reversal of an impairment loss of assets carried at cost less accumulated depreciation or amortisation is recognised immediately in Statement of Financial Performance.

Financial instruments

Recognition and initial measurement

All financial instruments are initially recogniszed 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

Derecognition

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 non-derivative 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



Loans and receivables ... continued

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 recogniszed at fair value net of any transaction costs directly attributable to the issue of the instrument. Such interest-bearing 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 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 recognisized 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.



Accounting Policies

Operating leases – lessee

Operating lease payments are recognised as an expense on a straight-line basis over the lease term.

The difference between the amounts recognised as an expense and the contractual payments are recognised as an operating lease liability. This liability is not discounted. Any contingent rents are expensed in the period in which they are incurred.

Employee benefits

The NNR provides defined benefit plans for certain post-retirement benefits. 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 post-retirement 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 long-term 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 post-retirement benefits may be affected materially.

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.

Post-employment benefits

The NNR provides defined benefit and defined contribution plans for employees' retirement benefit. These plans are funded by the employees and the entity, taking into account recommendations of the independent actuaries. The post-retirement 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 post-retirement 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.



Defined benefit plans... continued

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 surplus recognised and reflected as deferred expenses is limited to unrecognised actuarial losses 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 straight-line basis over the average period the benefits become vested.

Short-term Employee benefit

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 the NNR has to pay as a result of the employee's services provided to the reporting date. Annual leave is provided for over the period that the leave accrues.

Provisions and contingencies

Management judgement is required when recognising and measuring provisions and when measuring contingent liabilities as set out in Notes 11 and 25, respectively. 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 judgements 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.

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.



Accounting Policies

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.

Comparative figures

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

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.

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.

Interest Received

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

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.



Figures in Rand	Note(s)	2015	2014

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

	2015			2014		
	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	112,283,493	(17,480,118)	94,803,375	112,283,493	(11,945,602)	100,337,891
Furniture and fixtures	5,102,538	(946,468)	4,156,070	4,283,122	(730,794)	3,552,328
Motor vehicles	836,809	(220,474)	616,335	210,848	(186,947)	23,901
Office equipment	8,466,401	(4,878,970)	3,587,431	8,180,120	(3,769,188)	4,410,932
IT equipment	12,337,263	(7,495,607)	4,841,656	9,561,468	(5,971,049)	3,590,419
Leasehold improvements	5,343,134	(1,662,922)	3,680,212	4,526,839	(49,609)	4,477,230
Laboratory equipment	16,411,984	(3,929,852)	12,482,132	13,909,310	(2,331,764)	11,577,546
Total	160,995,372	(36,614,411)	124,380,961	153,168,950	(24,984,953)	128,183,997

Reconciliation of property, plant and equipment –2015

	Opening balance	Additions	Disposals	Depreciation	Total
Land	213,750	-	-	-	213,750
Buildings	100,337,891	-	-	(5,534,516)	94,803,375
Furniture and fixtures	3,552,328	843,459	(15,269)	(224,448)	4,156,070
Motor vehicles	23,901	625,961	-	(33,527)	616,335
Office equipment	4,410,932	367,800	(37,799)	(1,153,502)	3,587,431
IT equipment	3,590,419	2,775,794	-	(1,524,557)	4,841,656
Leasehold improvements	4,477,230	816,295	-	(1,613,313)	3,680,212
Laboratory equipment	11,577,546	2,502,675	-	(1,598,089)	12,482,132
	128,183,997	7,931,984	(53,068)	(11,681,952)	124,380,961



Figures in Rand	Note(s)	2015	2014

Reconciliation of property, plant and equipment – 2014

	Opening balance	Additions	Disposals	Depreciation	Total
Land	213,750	-	-	-	213,750
Buildings	105,872,407	-	-	(5,534,516)	100,337,891
Furniture and fixtures	3,618,407	121,056	-	(187,135)	3,552,328
Motor vehicles	47,801	-	-	(23,900)	23,901
Office equipment	5,399,675	137,456	-	(1,126,199)	4,410,932
IT equipment	3,274,735	1,782,190	(30,526)	(1,435,980)	3,590,419
Leasehold improvements	442,680	4,084,159	-	(49,609)	4,477,230
Laboratory equipment	1,127,421	10,890,080	-	(439,955)	11,577,546
	119,996,876	17,014,941	(30,526)	(8,797,294)	128,183,997

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 Melkbosstrandch Strand in the Blaauberg Municipality, Western Cape.

4. Intangible assets

	2015			2014		
	Cost/ Valuation	Accumulated depreciation and accumulated impairment	Carrying value	Cost/ Valuation	Accumulated depreciation and accumulated impairment	Carrying value
Computer software, other	4,451,060	(3,503,280)	947,780	4,451,060	(2,869,721)	1,581,339

Reconciliation of intangible assets – 2015

	Opening balance	Amortisation	Total
Computer software, other	1,581,339	(633,559)	947,780

Reconciliation of intangible assets –- 2014

	Opening balance	Additons	Amortisation	Total
Computer software, other	1,986,254	560,399	(965,314)	1,581,339



5. Operating lease liability

Current liabilities	106,857	67,561

The National Nuclear Regulator rents a laboratory space for independent environmental sample analysis at Agriculture Research Council for a period of three years with renewal option. A lease agreement was entered into between the National Nuclear Regulator and Agriculture Research Council effective April 1, 2013 and will be expiring on March 31, 2016. Monthly rental amounts to R52 782 and allows for annual escalation of 10% per annum, total lease expense for the year amounts to R698 834. Equalisation of operating lease expense resulted in lease liability amounting to R2 111 during the current year.

The National Nuclear Regulator rents an office building in Cape Town for temporary office accommodation while the NNR office building is being refurbished. A lease agreement was entered into between the National Nuclear Regulator and Delprop Investment (Pty) Ltd effective December 1, 2014 and will be expiring on November 31, 2016. Monthly rental amounts to R55 062 and allows for annual escalation of 8% per annum, total lease expense for the year amounts to R229 058. Equalisation of operating lease expense resulted in lease liability amounting to R8 810.

A lease agreement was entered into between the National Nuclear Regulator and National Metrology Institute of South Africa on May 11, 2012. The agreement come into effect on April 1, 2014 and will be expiring on March 31, 2021. Monthly rental amounts to R6 388 and allows for annual escalation of 11% per annum, total lease expense for the year amounts to R107 129. The National Nuclear Regulator rents alaboratory space for independent environmental sample analysis at the National Metrology Institute of South Africa. Equalisation of operating lease expense resulted in lease liability amounting to R30 484.

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



Figures in Rand		2015	2014
6. Employee benefit obligations (continued)			
The amounts recognised in the statement of financial position are as follows:			
Carrying value			
Present value of the defined benefit obligation-wholly unfunded		(10,741,139)	(12,204,845)
Present value of the defined benefit obligation-partly or wholly funded		(65,020,000)	(63,306,000)
Fair value of plan assets		66,723,000	64,732,000
Asset not recognised		(1,703,000)	(1,426,000)
		(10,741,139)	**(12,204,845)**
The major categories of plan assets as a percentage of total plan assets are as follows:			
	Equity	70.00 %	70.00 %
	Bonds	30.00 %	30.00 %
		-	-
Net expense (gain) recognised in the statement of financial performance			
Current service cost		64,643	126,418
Interest cost		1,117,314	819,143
Actuarial (gains) losses		(2,033,301)	580,145
Benefits paid		(612,362)	(586,410)
		(1,463,706)	**939,296**
Actual return on planned assets			
Expected return on planned assets		6,947,000	6,357,000
Actuarial gains (loss) on planned assets		(1,492,000)	720,000
		5,455,000	**7,077,000**
Calculation of actuarial gains and losses			
Actuarial (gains) losses – Obligation		(684,000)	(1,705,000)
Actuarial gains (losses) on Planned assets		(1,492,000)	720,000
		(2,176,000)	**(985,000)**



Notes to the Annual Financial Statements

Figures in Rand	2015	2014

6. Employee benefit obligations (continued)

6.1 Post Retirement Pension Benefit Plan

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

Changes in present value of the defined benefit obligations are as follows:		
Opening balance	63,306,000	63,977,000
Interest cost	5,666,000	5,208,000
Current service cost	718,000	486,000
Benefits paid	(3,986,000)	(4,660,000)
Actuarial (gain) losses	(684,000)	(1,705,000)
Closing balance	**65,020,000**	**63,306,000**

Changes in fair value of planned assets are as follows:		
Opening fair value of planned assets	64,732,000	65,757,000
Expected return on planned assets	6,947,000	6,357,000
Contributions by employers	362,000	349,000
Contributions by participants	160,000	154,000
Benefits paid	(3,986,000)	(4,660,000)
Actuarial gain (losses)	(1,492,000)	720,000
Adjustment to opening balance	-	(3,945,000)
	66,723,000	**64,732,000**

Key assumptions used

Assumptions used at the reporting date:

Discount rates used	8.40 %	9.20 %
Expected rate of return on assets	10.00 %	11.00 %
General inflation	6.00 %	7.00 %
Salary inflation	7.00 %	8.00 %
Pension increase	4.00 %	4.00 %
Funding levels	102.6%	102.3%



Notes to the Annual Financial Statements

Figures in Rand	2015	2014
Sensitivity Analysis	**One percentage point increase**	**One percentage point decrease**
Effect on defined benefit obligation-Discount rate	(5,560,000)	6,569,000
Percentage change effect on defined benefit obligation-Discount rate	(9)	10
Effect on defined benefit obligation-Salary inflation	286,000	(280,000)
	-	-
	PA (90)	**PA (90)**
Effect on defined benefit obligation-Discount rate-Post-retirement mortality	(2,040,000)	2,053,000
Percentage change effect on defined benefit obligation-Post-retirement mortality	(3)	3
	-	-

Figures in Rand	2015	2014

6. Employee benefit obligations (continued)

6.2 Post-retirement medical aid benefit obligation

The NNR has made provision for post-employment medical benefit covering 11 employees in 2015. The actuarial valuation was determined by Independent Actuarial Consultants (Pty) Ltd, who are registered with Actuary Society of South Africa. Valuation has been performed in accordance with GRAP 25 on the 30th April 2015.

The NNR makes certain contributions to medical funds in respect of current and retired employees. The NNR has terminated future post-retirement medical aid benefits in respect of employees joining after 31 December 1995.The NNR pays 100% of the membership subscriptions for staff members who had retired from the services of the NNR (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 continous 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 post-retirement medical aid benefit. The most recent actuarial valuation of the benefit was performed as at 31 March 2015.

Changes in present value of the defined benefits are as follows:		
Opening defined benefit obligation	12,204,845	11,265,549
Interest cost	1,117,314	819,143
Current service cost	64,643	126,418
Benefits paid	(612,362)	(586,410)
Actual (gain) losses recognised in statement of financial performance	(2,033,301)	580,145
	10,741,139	12,204,845

Actuarial principal assumption used at the reporting date		
Discount rate used	8 %	9 %
Medical inflation rate	7 %	8 %
General inflation	6 %	7 %
Post-retirement interest rate	1 %	1 %
Proportion of continuing membership at retirement	100 %	100 %
Proportion of retiring members who are married	90 %	90 %
	-	-



Figures in Rand	2015	2014

6. Employee benefit obligations (continued)

	In service members:	In service members:
Age of spouse	Husbands 3 years older than wives	Husbands 3 years older than wives
	Retirement age of members	Retirement age of members
	65	65
Mortality of in-service members	SA SA85-90 (L)	SA SA85-90 (L)
Mortality of continuation members	PA (90)-2 Years	PA (90)-2 Years

Annual rate of withdrawal - from age 55+	4.00 %	4.00 %
Number of members		
Number of members in active employment	3	4
Number of pensioners	8	8
	11	12

Figures in Rand	2015	2014

6. Employee benefit obligations (continued)

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 NNR 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	One percentage point decrease
Effect on the aggregate of the service cost and interest cost-medical inflation	556,786	(479,094)
Percentage change effect on aggregate of service and interest cost-medical inflation	8	9
Effect on defined benefit obligation-medical inflation	11,297,925	10,262,044
Percentage change effect on defined benefit obligation-medical inflation	1	1
Effect on the aggregate of the service cost and interest cost-discount rate	(471,549)	557,617
Percentage change effect on aggregate of service and interest cost-discount rate	9	7
Effect on defined benefit obligation-discount rate	10,269,590	11,298,756
Percentage change effect on defined benefit obligation-discount rate	1	1

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

	2015	2014	2013	2012	2011
	R	R	R	R	R
Defined benefit obligation	10,741,139	12,204,845	11,265,549	13,055,000	5,877,654
Experience adjustments on plan liabilities	2,202,701	580,145	(213,879)	6,960,000	(4,773,000)

6.3 Defined contribution plan

It is the policy of the NNR to provide retirement benefits to all it's 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 NNR is under no obligation to cover any unfunded benefits.

The amount recognised as an expense for defined contribution plans is	10,969,355	8,641,932



Figures in Rand	2015	2014

7. Receivables from exchange transactions

Trade debtors	4,726,600	8,066,019
Staff advance	16,283	214,187
Deposits & Prepayments	227,432	604,558
	4,970,315	**8,884,764**

Trade and other receivables past due but not impaired

Trade and other receivables which are less than a year past due are not considered to be impaired. At March 31, 2015, R5,154,044 (2014: R8,066,027) were past due date but not impaired.

The ageing of amounts past due date, but not impaired is as follows:		
1 month past due	1,685,233	6,064,212
2 months past due	78,443	-
3 months past due	-	17,956
4 months past due	467,603	1,939,087
5 months past due	-	44,772
9 months past due	2,722,463	-
10 months past due	200,303	-

Trade and other receivables impaired

As of March 31, 2015 , trade and other receivables of R2,126,171 (2014: R1,366,348) were impaired and provided for. The ageing of these receivables is as follows:

Over 12 Months	2,126,171	1,366,348
Reconciliation of provision for impairment of trade and other receivables		
Opening balance	1,366,348	1,812,302
Provision for impairment	897,035	-
Amounts written-off as uncollectible	(137,212)	-
Unused amounts reversed	-	(445,954)
	2,126,171	**1,366,348**

The creation and release of provision for impaired receivables have been included in the NNR surplus or deficit (refer to note 19). 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 ofn receivables which are more than a year outstanding.

Figures in Rand	2015	2014

8. Cash and cash equivalents

Cash and cash equivalents consist of:		
Cash on hand	12,765	2,859
Bank balances	9,377,712	772,708
Short-term deposits	84,620,006	82,976,824
	94,010,483	**83,752,391**

Included in the cash balance above is R24.2 million unspent conditional grant relating to Establishment of Regulatory Emergency Control Center and refurbishment of Cape Town office, refer to note 9 for more details.

During the year the NNR received R1.4 million conditional receipts from AREVA, the amount is earmarked for providing funding to external bursary holders for students who intend pursuing careers in nuclear science and engineering. The unspent receipts included on the cash balance above amount to R111,000.

9. Unspent conditional grants and receipts

Unspent conditional grants and receipts comprises of:		
Unspent conditional grants and receipts		
Government grant	24,231,917	31,057,374
Movement during the year		
Balance at the beginning of the year	31,057,374	29,557,320
Additions during the year	111,322	17,348,000
Income recognition during the year	(6,936,779)	(15,847,946)
	24,231,917	**31,057,374**

- The refurbishment of Emergency Control Centre has been completed and all the equipment necessary for the operation of the centre has been installed but not yet commissioned. The total amount disbursed to date relating to the project amount to R3.9 Million. The amount included in unspent conditional relating to the projects amount to R12.1 Million.

- The feasibility study for providing adequate office accommodation in Cape Town has been completed and a decision has been made to redesign and refurbish the Cape Town office. The total amount disbursed to date relating to the project amount to R1.3 Million. The amount included in unspent conditional grant relating to the projects amount to R11.9 Million.



Notes to the Annual Financial Statements

Figures in Rand	2015	2014
10. Other financial liabilities		
At amortised cost		
Re-imbursement agreement	2,435,949	3,900,000
An agreement between NNR & Faerie Glen Waterpark (Pty) Ltd exists for re-imbursement of tenant installation costs incurred by Faerie Glen Waterpark (Pty). The re-imbursement is repayable on monthly instalment of R100 000 over the period of five years effective from 22 June 2012 and final settlement due on the 07 June 2017. The liability bears no interest.		
Mortgage bond	62,381,874	68,219,274
ABSA mortgage bond over head office building, the loan is repayable on monthly instalments of R 991 101 effective 22 June 2012 over the next 10 years and final settlement due 07 June 2022. The loan bears interest at a variable rate of 8.5% per annum. Monthly bond repayment increased to R995 008 during the current year as a result of increase in variable interest rate which increased from 9% to 9.25% in August 2014. The loan has a remaining period of 86 months as at 31 March 2015. The loan is a secured overhead of office building with carrying of R94 771 312.		
	64,817,823	72,119,274
Total other financial liabilities	**64,817,823**	**72,119,274**
Non-current liabilities		
At amortised cost	57,360,179	65,000,359
Current liabilities		
At amortised cost	7,457,644	7,118,915



Notes to the Annual Financial Statements

Figures in Rand	2015	2014

11. Provisions

Reconciliation of provisions –2015

	Opening Balance	Additions	Utilised during the year	Total
Annual Leave	6,050,281	813,934	-	6,864,215
Annual performance bonus	5,185,994	7,369,711	(5,028,823)	7,526,882
	11,236,275	**8,183,645**	**(5,028,823)**	**14,391,097**

Reconciliation of provisions –2014

	Opening Balance	Additions	Utilised during the year	Total
Annual Leave	4,943,482	1,106,799	-	6,050,281
Performance bonus	3,895,966	5,152,931	(3,862,903)	5,185,994
	8,839,448	**6,259,730**	**(3,862,903)**	**11,236,275**

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 2015. The NNR cannot determine the number of leave days to be utilised or forfeited by its employees during the next financial year with certainty, hence management of the NNR has reasonably estimated the leave provision based on the employee's daily payout rate and leave balance which are due to employees as at 31 March 2015.

Performance bonus

Performance bonus represents management's best estimate of bonus payable to qualifying NNR employees who signed the performance agreement with the NNR for financial year ending 31 March 2015. Performance target is set by the board at the beginning of each financial year, employees' performance score is linked to overall performance of the NNR. Management has reasonably provided for a bonus in accordance with bonus payment of 2013/14 financial year at an average individual score of 4 achieved during prior year.



Notes to the Annual Financial Statements

Figures in Rand	2015	2014

12. Payables from exchange transactions

Trade payables	3,418,057	2,392,424
Payments received in advance	4,639,850	101,298
Accruals	1,068,773	2,932,995
13th Cheque accrual	1,065,156	852,203
	10,191,836	**6,278,920**

13. Revenue

Authorisation fees	132,065,343	115,411,261
Application fees	1,214,026	376,424
Actuarial gain	1,463,706	-
Other income	535,529	735,108
Gain - other financial liabilities	264,051	-
Deferred iIncome	6,936,779	15,847,947
Interest received	4,199,525	3,569,251
Government grants	33,697,000	31,012,000
	180,375,959	**166,951,991**

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

Authorisation fees	132,065,343	115,411,261
Application fees	1,214,026	376,424
Interest received	4,199,525	3,569,251
	137,478,894	**119,356,936**

The amount included in revenue arising from non-exchange transactions is as follows:

Transfer revenue

Government grants	33,697,000	31,012,000



Notes to the Annual Financial Statements

Figures in Rand	2015	2014

14. Government grants

Government grant	33,697,000	31,012,000

Unconditional

Unconditional grants received	33,697,000	31,012,000

Conditional grant

Balance unspent at beginning of year	31,057,374	29,557,320
Current-year receipts	111,322	48,360,000
Conditions met - transferred to revenue	-	(31,012,000)
Conditional grant disbursed	(6,936,779)	(15,847,946)
	24,231,917	**31,057,374**

The NNR has an obligation to establish ana Regulatory Emergency Control Centre and refurbish Cape Town site office (see note 9) for details.

15. Other income

Other sundry income	535,529	188,810
Provision for bad debts adjustment	-	445,597
Bad debts recovered	-	4,500
Proceeds from sale of assets	-	63,810
Profit on sale of assets	-	32,391
	535,529	**735,108**



Notes to the Annual Financial Statements

Figures in Rand	2015	2014
16. Goods and services		
Advertising	1,848,026	1,020,722
Property rates & municipal charges	1,108,647	683,602
Auditor's fees	1,166,583	1,270,452
Cleaning	543,926	443,038
Consulting and professional fees	8,143,142	6,998,595
Consumables	860,143	350,674
Insurance	722,232	761,757
Community development and training	526,012	174,077
Conferences and seminars	621,315	1,241,953
IT expenses	1,681,197	1,969,106
Operating lease expense	1,411,431	943,239
Marketing	223,204	226,642
Magazines, books and periodicals	132,164	45,192
Medical expenses	134,825	60,187
Postage and courier	134,496	111,649
Printing and stationery	1,380,292	1,127,770
Security	1,299,974	1,127,972
Software expenses	1,990,339	2,121,766
Subscriptions and membership fees	1,319,817	942,043
Telephone and fax	1,322,636	1,682,714
Training	1,582,381	925,165
Travel - local	5,138,926	4,371,617
Travel - overseas	5,848,539	4,553,815
Electricity	905,560	979,142
Repairs & maintenance	2,870,123	765,562
Board fees	814,982	893,860
Bursaries	577,783	374,169
Other expenses	1,240,375	700,995
	45,549,070	36,867,475



Notes to the Annual Financial Statements

Figures in Rand	2015	2014

17. Operating surplus

Operating surplus for the year is stated after accounting for the following:

Operating lease charges		
Premises		
• Contractual amounts	1,047,243	700,945
Equipment		
• Contractual amounts	364,188	242,294
	1,411,431	**943,239**
Depreciation on property, plant and equipment	12,315,512	9,762,611
Employee costs	105,284,765	87,890,857
Amount expensed in respect of retirement benefit plans:	10,531,014	8,641,932
Defined contribution funds	10,531,014	8,641,932
Pension- defined benefit funds	479,211	484,409
Post medical-defined benefit plan	-	939,296
Bad debts written-off	137,212	-
Profit (loss) on sale of assets	(17,944)	22,870

18. Employee related costs

Basic	55,394,414	46,422,251
Performance Bonus	5,028,823	3,862,903
Medical aid - company contributions	4,419,440	2,661,703
UIF	407,887	355,786
SDL	880,200	741,214
PAYE	25,123,741	21,158,439
Post retirement medical-defined benefits plan	-	939,296
Pension fund-defined benefit plan	479,211	484,409
Pension fund-defined contribution plan	10,531,014	8,641,932
13th Cheques	3,020,035	2,622,924
	105,284,765	**87,890,857**



Notes to the Annual Financial Statements

Figures in Rand	2015	2014
19. Bad debts		
Contributions to debt impairment provision	759,466	-
Debts impaired	137,212	-
	896,678	-
20. Investment revenue		
Interest revenue		
Short-term deposits	4,199,525	3,569,251
21. Finance costs		
Non-current borrowings	6,069,235	6,166,524
22. Auditors'' fees		
Fees	1,166,583	1,270,452
23. Cash generated from operations		
Surplus	10,260,699	26,264,524
Adjustments for:		
Depreciation and amortisation	12,315,512	9,762,611
Credit loss written-off	137,212	-
Movements in operating lease assets and accruals	39,296	67,561
Movements in retirement benefit assets and liabilities	(1,463,706)	939,296
Movements in provisions	3,154,822	2,396,827
(Profit) Loss on assets written-off	17,944	(22,870)
Gain-other financial liability	(264,051)	-
Changes in working capital:		
Receivables from exchange transactions	3,777,233	582,021
Other receivables from non-exchange transactions	129,930	(152,081)
Payables from exchange transactions	3,912,916	3,614,364
Unspent conditional grants and receipts	(6,825,457)	1,500,054
	25,192,350	**44,952,307**



Notes to the Annual Financial Statements

Figures in Rand	2015	2014

24. Commitments

Authorised capital expenditure

Already contracted for but not provided for

• Property, plant and equipment	432,128	2,018,531
• Commitments and contractual amount	10,446,163	9,319,035
• Operating leases	3,377,190	2,525,332
	14,255,481	13,862,898

This committed expenditure relates to plant and equipment and other contractual amount to be financed by available retained surpluses plus internal generated funds.

Operating leases – as lessee (expense)		
Minimum lease payments due		
- within one year	1,894,030	1,060,910
- in second to fifth year inclusive	1,483,160	1,464,422
	3,377,190	**2,525,332**

The NNR rents eleven (11) photocopiers under operating lease for a period of three years effective from 01 March 2014, expiring on 28 February 2017 from Seartec (Pty) Ltd. The lease allows for no escalation on rental of photocopiers. Lease expense for the year amounts to R364 188.

NNR rents a laboratory space for the radioactivity analysis at the Agriculture Research Council for period of three years with renewal option. A lease agreement was entered into between the NNR and Agriculture Research Council effective 01 April 2013 and will be expiring on 31 March 2016. Monthly rental amounts to R 52 782 and allows for annual escalation of 10% per annum, total lease expense for the year amounts to R 698 834.

The National Nuclear Regulator rents an office building in Cape Town for temporary office accommodation while the NNR office building is being refurbished. A lease agreement was entered into between the National Nuclear Regulator and Delprop Investment (Pty) Ltd effective 01 December 2015 and will be expiring on 30 November 2016. Monthly rental amounts to R55 062 and allows for annual escalation of 8% per annum, total lease expense for the year amounts to R229 058.

A lease agreement was entered into between the National Nuclear Regulator and National Metrology Institute of South Africa on 11 May 2012. The agreement come into effect on 01 April 2014 and will be expiring on 31 March 2021. Monthly rental amounts to R6 388 and allows for annual escalation of 11% per annum, total lease expense for the year amounts to R76 645. The National Nuclear Regulator rents a laboratory space for independent environmental sample analysis at the National Metrology Institute of South Africa total lease expense for the year amounts to R107 129.



Notes to the Annual Financial Statements

Figures in Rand	2015	2014
25. Contingencies		
Matter Application has been made to National Treasury under Section 53(3) of the PFMA to retain cash surpluses reported in the current financial year ending 31 March 2015. Should permission to retain this cash surplus not be granted then the NNR may be required to surrender surplus to the National Treasury through its Executive Authority.	Case S 53(3) of the PFMA to retain cash surpluses	25,192,350
MNS Dawson/NNR	MNS Dawson instituted a claim against NNR relating to payment of service not completed.	100,000
Mike Blumenthal – Mr. Blumenthal instituted proceedings in the CCMA against the NNR for unfair dismissal.	Mike Blumenthal – Mr. Blumenthal instituted proceedings in the CCMA against the NNR for unfair dismissal.	1,500,000
	-	-
Property rates	Property rates account in dispute with City of Tshwane	608,962
	-	27,401,312

Figures in Rand	2015	2014

26. Related parties

Relationships	
Directors'	Refer to note 27 on directors' fees
Controlling entity	Department of Energy
Entities ultimately under common control	National Nuclear Energy Corporation of South Africa (NECSA) National Energy Regulator of South Africa (NERSA) National Energy Development Institute of South Africa (SANEDI) National Radioactive-Waste Disposal Institute (NRWDI) The Petroleum, Oil and Gas Corporation of South Africa (PetroSA) Electricity Distribution Industry Holding (EDI Holdings (Pty) Ltd Central Energy Group Fund (CEF) (Pty) Ltd
Post-retirement pension for employees	NNR Pension Fund
Key Management personnel	Dr. M Tyobeka (CEO) Mr. D Netshivhazwaulu (CFO) Mr. O Phillips (SARA Senior Manager) Ms. A Simon (CSS Senior Manager) Ms. D Kgomo (CAE Senior Manager)

Related party balances

Amounts included in Trade receivable (Trade Payable) regarding related parties		
Heading		
NECSA	(345,397)	(100,824)
NECSA	24,204	24,204
Related party transactions		
Services rendered to related party		
NECSA	36,408,398	33,439,400
Government transfer		
Department of Energy	33,697,000	48,360,000
Purchase from related party		
NECSA	(2,944,277)	(1,859,535)
Other		
NNR Pension Fund	11,581,718	8,641,932



Notes to the Annual Financial Statements

Figures in Rand	2015	2014

27. Directors' emoluments

Executive

2015

	Basic Salary	Performance Bonus	Contributions	Total
Dr. M B Tyobeka (CEO)	2,063,226	70,000	204,977	2,338,203
Mr. D Netshivhazwaulu (CFO)	1,347,230	136,996	162,579	1,646,805
Ms. A Simon CCS Senior Manager	1,168,305	-	69,272	1,237,577
Ms. D Kgomo (CAE Senior Manager)	1,074,721	-	107,903	1,182,624
Mr. O Phillips (SARA Senior Manager)	1,400,314	105,090	179,207	1,684,611
	7,053,796	312,086	723,938	8,089,820

2014

	Basic Salary	Performance Bonus	Acting allowance	Contributions	Total
Dr. M B Tyobeka (CEO)	893,782	-	-	106,238	1,000,020
Mr. T Tselane (Acting CEO until 31 September 2013)	1,279,851	107,324	177,039	243,804	1,808,018
Mr. D Netshivhazwaulu (CFO)	1,324,436	66,288	-	98,210	1,488,934
Ms. Z Mbatha CCS Senior Manager (resigned 31November-2013)	916,336	79,420	-	27,973	1,023,729
Ms. A Simon (CSS Senior Manager 01 May 2014)	293,657	-	-	-	293,657
Mr. O Phillips (SARA Senior Manager)	1,344,662	92,245	-	207,296	1,644,203
	6,052,724	345,277	177,039	683,521	7,258,561

Directors

2015

	Directors' fees	Total
Dr. T Cohen (Chairperson)	64,862	64,862
Mr. T Mofokeng	106,094	106,094
Mr. S Kakoma	100,069	100,069
Mr. J Leaver	132,350	132,350
Mr. N Lesufi	112,192	112,192
Mr. S Mimi	96,841	96,841
Dr. T Motshudi	118,646	118,646
Prof. G Sibiya	16,140	16,140
	747,194	747,194

Figures in Rand	2015	2014

27. Directors' emoluments (continued)

Independent Technical Commitee	Fees	Total
Dr B Sehlapelo	67,788	67,788

2014

	Directors' fees	Total
Dr. T Cohen (Chairperson)	81,679	81,679
Mr. T Mofokeng	102,038	102,038
Mr. S Kakoma	88,565	88,565
Mr. J Leaver	161,698	161,698
Mr. N Lesufi	107,192	107,192
Mr . S Mimi	109,942	109,942
Dr. T Motshudi	94,128	94,128
Prof. G Sibiya	100,780	100,780
	846,022	**846,022**

Independent Technical Commitee member	Fees	Total
Dr. B Sehlapelo	58,025	58,025

28. Change in estimate

Property, plant and equipment

- Management has reasonably extended the useful lifespan of motor vehicle from five to eight years this is as a result of the afact that after a thecar has been assessed and inspected it was found to be in good working conditions and management intend to continue to use the vehicles in ordinary cause of the NNR''s business. The effect of this revision is decrease on depreciation by R23 237 on the current financial year and an increase on depreciation of by R23 237 on future periods.

- Management has reasonably extended the useful lifespan of scientific equipment from five to 20 years. It is management's view that time has come to review and extend the useful life of this category to be between 5 and 20 years having considered that most recent equipment which the NNR has recently acquired is expected to have long usefull life stretching over 5 years, management considers use life of 5-20 years to be a reasonable period over which these assets can depreciated. The effect of this revision in current and future depreciation is zero, because all new equipment is capitalised in line with the revised estimated useful life, while existing assets are assessed and found to have depreciated on rate as was originally anticipated of five years.

Figures in Rand	2015	2014

29. Risk management

Financial risk management

The NNR'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 and liquidity risk.

The NNR's overall risk-management programme focuses on the unpredictability of liquid cash and seeks to minimise potential adverse effects on the NNR's financial performance. Risk management is carried out by executive commitee of the NNR under policies approved by the Accounting Authority. The NNR's finance division identifies, evaluates and hedges financial risks in close co-operation with the entity's audit and risk-management commitee. 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 pre-approved budget.

Credit risk

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

Trade receivables comprise license and certificate holders by major reputable mining and scrap metal companies. Management evaluates credit risk relating to each licencse or certificate holder on an ongoing basis. There is no independent crediting ratings, risk control assesses the credit quality of customers, taking into account their financial position, past experience and other factors before a licence or certificate can be granted.

Market risk

Interest rate risk

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



Figures in Rand	2015	2014

29. Risk management ... continued

The NNR 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 NNR calculates the impact on NNR surplus or deficit of a defined interest rate shift.

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
Mortgage Bond over head office building	9.50 %	11,839,694	11,839,694	11,839,694	11,839,694	25,652,670

Fair value interest rate risk

Price risk

The NNR''s exposure to price risk is minimal as the 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 28 of the National Nuclear Act ,1999, (Act No. 47 of 1999)

30. 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.

The ability of the NNR to continue as a going concern is dependent on a number of factors. The most significant of these is that the authorisation holders continue to promptly settle their accounts. The directors have reviewed the financial performance of the NNR for the year ending 31March 31, 2014, and the new financial year ending 31March 31, 2015 as well as the budget over MTEF. In the light of this review and the current financial position, they are satisfied that the entity has access to resources to continue in operational existence for the foreseeable future.

31. Fruitless and wasteful expenditure

The NNR incurred no fruitless and wasteful expenditure during the financial year under review.



Figures in Rand	2015	2014

32. Irregular expenditure

The NNR incurred no irregular expenditure during the financial year under review.

33. Payment and remission as an act of Grace

Tuition fees	74,899	-
Food, travel and accommodation	5,018	-
	79,917	-

The NNR has paid R74 899 as an act of grace in terms Section 22.1 of Treasury Regulation and Section 76(1) (j) of the PFMA towards settlement of tuition fees of one of the external bursary holders, who owed the University of the Western Cape and was unable to continue with his studies due to financial constraints. The student was awarded a bursary by the NNR in conjunction with AREVA to further his studies in BSc (Mechanical or Electrical Engineering).

An external bursary holder was paid R5018 as an act of grace in terms Section 22.1 of Treasury Regulation and Section 76(1) (j) of the PFMA for food, travel and accommodation after the NNR heard of the financial difficulty of the student who was unable to pay for his food, travel and accomodation while finalising his bursary agreement with the Department of Higher Education and Training to further his master's degree in Nuclear Science in Russia.

Figures in Rand	2015	2014

34. Reconciliation between budget and statement of financial performance

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

Net surplus per the statement of financial performance	10,260,699	26,264,524
Adjusted for:		
Loss on assets written-off	17,944	9,521
Credit loss written-off	137,212	-
Provision for doubtful debts	759,466	(445,954)
Provision for leave pay	813,934	2,396,827
Actuarial gain/loss	(1,463,706)	939,296
Gain-Other financial liability	(264,051)	-
Variance on government grant	-	17,348,000
Variance on authorisation fees	4,515,657	5,432,739
Variance on other income	(1,364,555)	(1,111,532)
Variance on investment income	(416,525)	(1,994,251)
Variance on compensation	(912,168)	(10,229,316)
Variance on goods and services	526,125	(18,072,737)
Variance on depreciation	(306,488)	(2,773,881)
Variance on finance cost	148,235	(184,476)
Variance on capital expenditure	(12,451,779)	(17,578,760)
Net surplus per approved budget	-	-

ACRONYMS



ABBREVIATIONS/ACRONYMS

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 Co-ordinating 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 N
UFCOR:	Nuclear Fuels Cooperation of South Africa
NUSSC:	Nuclear Safety Standards Committee
NVL:	Nuclear Vessel Licence
PSM:	Power Station Manager
QMS:	Quality Management System
OTS:	Operating Technical Specification
PFMA:	Public Finance Management Act
PLEX:	Plant Life Extension
PPC:	Parliamentary Portfolio Committee
PSA:	Public Safety Assessor
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
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
WCA:	Wonderfonteinspruit Catchment Area

GLOSSARY



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 nu clear 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.
Exposure:	The act or condition of being subjected to radiation.
Exposure pathways:	A route by which radioactive material can reach or irradiate humans.
Inspector:	The person appointed as such in terms of Section 41(1) of the NNR Act.
Minister:	The Minister of Minerals and 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 off-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 off-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 fission 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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