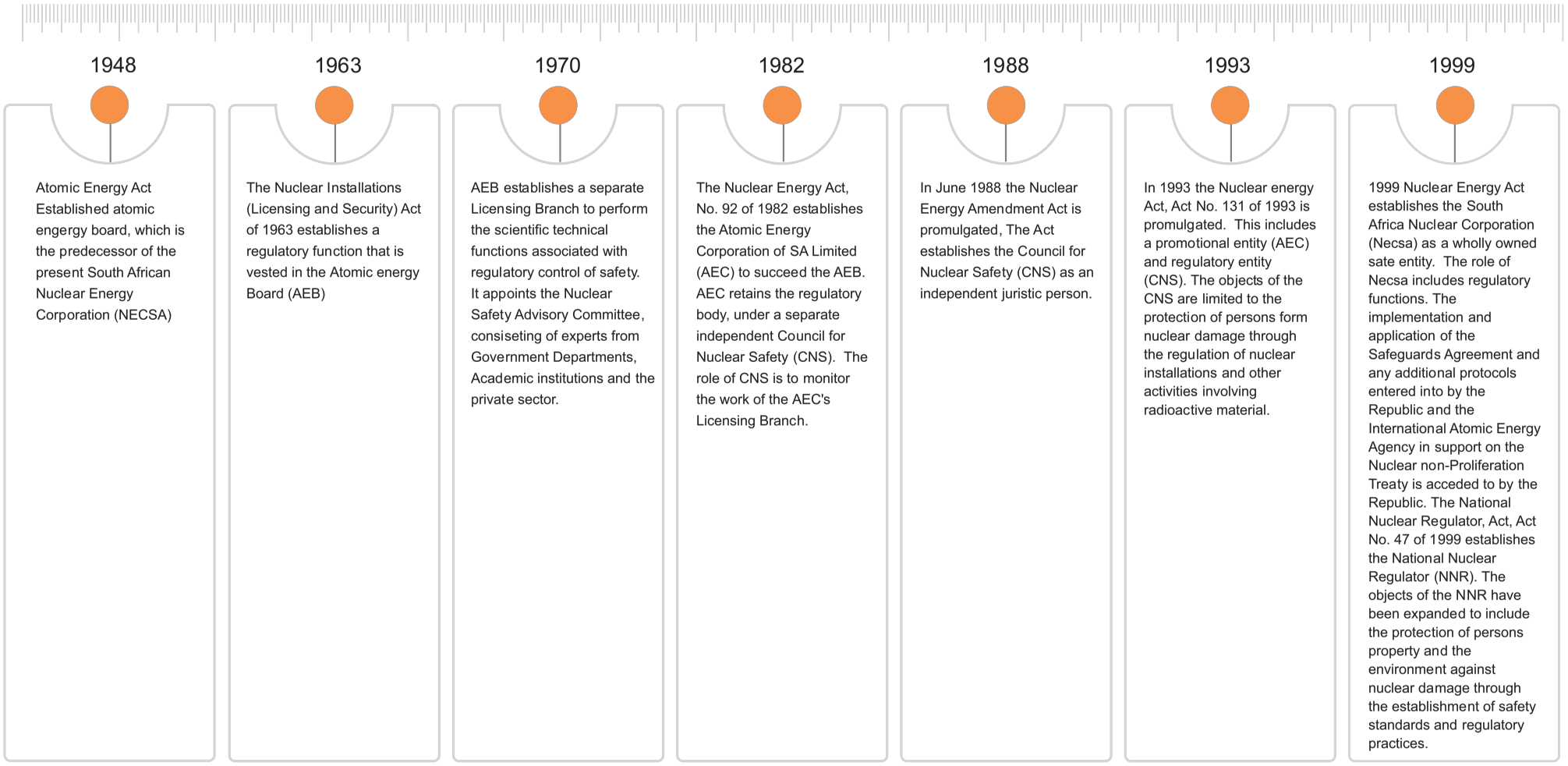
NATIONAL NUCLEAR REGULATOR

Annual Report 2013



HISTORICAL DEVELOPMENT OF THE NATIONAL NUCLEAR REGULATOR (NNR)



PRESENTATION OF THE NATIONAL NUCLEAR REGULATOR (NNR) ANNUAL REPORT

This Annual Report is submitted to the Minister of Energy in accordance with Section 7(1j) 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.

TABLE OF CONTENTS

1.	General Information	P5
1.1	List of Abbreviations / Acronyms	P7
1.2	National Nuclear Regulator	P8
1.3	Strategic Overview	P9
1.4	Legislative and other Mandates	P11
1.5	Organisational Structure	P15
1.6	Foreword by Chairperson	P16
1.7	Chief Executive Officer's Overview	P18
2.	Performance Information	P20
2.1	Overview of NNR Performance	P21
2.2	Performance in Year under Review	P21
2.3	NNR Programmes: Predetermined Objectives	P24
2.4	Performance information by Programme Objective	P27
2.5	Linking Performance with budgets	P33
3.	Governance	P47
3.1	Introduction	P38
3.2	Portfolio Committees	P38
3.3	Board of Directors	P38
3.4	Committees of the Board	P40
3.4.1	Audit and Risk Management Committee	P40
3.4.2	Technical Committee	P41
3.4.3	Transformation and Development Committee	P42
3.5	Remuneration of Directors and Committee Members	P43
3.6	Risk Management	P43
3.7	Internal Control Audit	P43
3.8	Internal Audit and Audit Committee	P43
3.9	Fraud and Corruption	P45
3.10.	Social Responsibility	P45

4.	Human Resource Management	P46
4.1	Introduction and Overview of HR	P47
4.2	Human Resource Oversight Statistics	P48
5.	Regulation of Nuclear Actions	P52
5.1	Core Business	P53
5.2	List of Authorisations granted by the NNR	P55
5.3	Regulation of Nuclear Power Plants: Koeberg Nuclear Power Station	P60
5.4	Regulation of Nuclear Technology and Waste Projects: Necsa Pelindaba	P67
5.5	Regulation of Vaalputs Waste Repository	P73
5.6	Regulation of Mining and Minerals Processing (NORM)	P76
5.7	Special Nuclear Projects	P81
5.8	Nuclear Security	P83
5.9	Stakeholder Relations	P84
6.	Annual Financial Statements	P88
7.	Glossary	

"When it comes to Atoms, language can be used only as in poetry. The Poet, too, is not nearly so concerned with describing facts as with creating images."

Niels Bohr - Physicist



Section 1

GENERAL INFORMATION

1.1 LIST OF 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
FORS	Fundamentals of Reactor Safety
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
LLM	Low Level Waste
LSA	Low Specific Activity
LTAM	Long-Term Asset Management
MDEP	Multinational Design Evaluation Programme
mSv	Millisievert
MWe	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
NEW	Nuclear Executive Workshop
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
NUFCOR	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
RadCon	Radiation Control
RAIS	Regulatory Authority Information System
RASIMS	Radiation Safety Information Management System
RASSC	Radiation Safety Standards Committee
RDD	Radiological Dispensive Device
RED	Radiation Emission Device
RENS	Regulation of Natural Sources
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

1.2 NATIONAL NUCLEAR REGULATOR (NNR)

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.

Country of incorporation and domicile	South Africa
Legal form of entity	Schedule 3A National Public entity
Nature of business and principal activities	To provide protection of persons,property and the environment against nuclear damage
Registered office	Eco Glade Office Park Eco Glade 2,Block 6 Witch Hazel Avenue Highveld Ext 75, Eco Park, Centurion 0046
Business address	Eco Glade Office Park Eco Glade 2,Block G 420 Witch Hazel Avenue Highveld Ext 75, Eco Park, Centurion 0046
Postal address	P.O Box 7106 Pretoria Eco Park, Centurion Highveld Ext 75 0046
Controlling entity	Department of Energy
Bankers	ABSA Bank
Auditors	Auditor-General of South Africa Registered Auditors
Secretary	Ms B Laka (Resigned 31 March 2013)
Attorneys	Geldenhuys Malatjie & Newtons Attorneys

1.3 STRATEGIC OVERVIEW

Vision

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

Mission

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



professionalism integrity value our people excellence teamwork openness & transparency

Corporate Values

Professionalism:	We hold ourselves accountable to the highest standards of professionalism in everything we do.
Integrity:	We demonstrate integrity and ethical conduct in all we do.
Valuing People:	We demonstrate that we value our people in all we do.
Excellence:	We strive for excellence in all we do.
Teamwork:	We demonstrate a team working approach across the NNR.
Openness and transparency:	We demonstrate openness and transparency in our interactions with all stakeholders.



The NNR has adopted the following strategic priorities and goals:

- **Effective regulatory oversight and framework to assure nuclear safety and security.**
- **Strengthen stakeholder relations and enhance corporate image.**
- **Create a high performance culture.**
- **Ensure financial viability and sustainability of the organisation.**
- **Develop and maintain sound organizational infrastructure.**
- **Enhance good governance.**
- **Ensure effective human capital management.**

1.4 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.

1.4.1 The NNR operates within the following Constitutional, Legislative and Policy framework:

Constitutional

- Constitution of the Republic of South Africa of 1996 (Act No.108 of 1996)
- Nuclear Energy Act (Act No 46 of 1999)
- National Nuclear Regulator Act (Act No.47 of 1999)
- Public Finance Management Act No. 1 of 1999 (PFMA)
- National Treasury Regulations (TR)
- National Environmental Management Act No. 107 0f 1998
- Promotion of Access to Information Act (PAIA) (Act No.2 of 2000)
- Promotion of Administrative Justice Act (PAJA), (Act No. 3 of 2000)

Policy

The National Nuclear Regulator (NNR) is mandated to provide for the protection of persons (the public and workers), property and the environment against nuclear damage as the competent authority for nuclear regulation 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 (16) 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.

1.4.2 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.

1.4.3 Legally Binding Nuclear Safety Conventions

The IAEA facilitates the establishment of international conventions on nuclear safety. These are legally binding international instruments which 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 cooperation 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.



1.5 ORGANISATIONAL STRUCTURE



Adv Boyce Mkhize
Chief Executive Officer
(Resigned in Nov 2012)



Thabo Tselane
Appointed as Interim CEO
(Since Dec 2012)



Bridget Laka
Company Secretary
(Resigned 21 March 2013)



Phindile Masilo
Manager: Internal Audit & Risk Management



Zodwa Mbatha
Snr Manager: Corporate Support Services (CSS)



Dakalo Netshivhazwaulu
Chief Financial Officer (CFO)



Orion Phillps
Snr Manager: Standards, Authorisations, Reviews & Assessments (SARA)



Thabo Tselane
Snr Manager: Compliance Assurance & Enforcement (CAE)



Ntsikie Kote
Manager: Strategy and Organisational Performance



Gino Moonsamy
Manager: Communications and Stakeholder Relations



Mphengoa Phooko
Legal Counsel



Dr Tracy Cohen

Chairperson
Board of Directors

1.6 FOREWORD BY CHAIRPERSON

The mandate of the NNR is to provide for the protection of persons, property and the environment against nuclear damage through the establishment and enforcement of nuclear safety standards and regulatory frameworks. I am pleased to report that all nuclear facilities in the country were inspected and found to be generally compliant with the required safety standards, as stipulated in the NNR conditions of licence. There were no nuclear accidents or incidents reported in South Africa during 2012/13.

The NNR Board successfully met and fulfilled its fiduciary duties during the period under review. The international obligations of the NNR were achieved through its participation at both the 2nd Extraordinary Meeting of Contracting Parties to the Convention on Nuclear Safety, and the 33rd meeting of the Commission on Safety Standards, held at the IAEA in Vienna. All the IAEA Safety Standards Committee meetings were also attended.

At the 56th Annual General Conference of the IAEA, held in Vienna in September 2012, the South African delegation consisted of officials from the Department of International Relations and Cooperation (DIRCO), the Department of Energy (DOE), NNR, Eskom and the South African National Energy Corporation (NECSA). The NNR used this opportunity to set up bilateral meetings as side events to the General Conference. In this regard, the NNR participated in several regulatory discussions and concluded the signing of a co-operation agreement with the Federal Environmental, Industrial and Nuclear Supervision Service of the Russian Federation.

The NNR continued its active participation in the activities of the Multinational Design Evaluation Programme (MDEP) and attended its Policy Group meeting in Washington, DC.

The NNR and the Directorate Radiation Control continued to participate in the IAEA Regional project RAF00938 "Promoting Self-assessment and Networking of Regulatory Bodies for Safety Networking of Regulatory Bodies". The purpose of the project is to ensure regulatory control through the development and sustenance of sound national regulatory infrastructures, which includes national regulatory bodies that are equipped to effectively and efficiently regulate the application of nuclear technology and practices, and by promoting regional cooperation among Regulatory Bodies.

Within the regional African context, 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, through the NNR, gets invited to play an increasing role in the strengthening of nuclear and radiation safety regulatory infrastructure throughout the African continent. The NNR continued to represent South Africa in the technical working groups of the Forum for Nuclear Regulatory Bodies in Africa (FNRBA).

In 2010, the Board resolved that the Executive should continue with the Laboratory Project and find suitable partners for the establishment of the (NNR radiological verification capability). This was followed by the Board's approval of the business case for the establishment of the laboratory 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.

During the year under review, we continued to manage the balance sheet conservatively. The total operating revenue for the year was R134, 889 million, of which R99,068 million was derived from Authorisation fees, R447,160 from Application fees, and R30,912 million came by way of a direct Government grant.

In conclusion, I would like to thank the outgoing Board members, the Executive Committee, as well as all NNR staff members for their continued dedication in providing for the protection of persons and the environment against nuclear damage in South Africa. On a more personal note, I wish to thank my colleagues on the NNR Board for their support and guidance during the year under review.



Dr Tracy Cohen
Chairperson Board of Directors



Thabo Tselane

Interim CEO

1.7 CHIEF EXECUTIVE OFFICER'S OVERVIEW

I am pleased to report that during the year under review, the NNR achieved a performance rating of 81% against the set objectives and targets, which is above the 80% threshold set by the NNR Board. The NNR has continued to exercise regulatory oversight as required by its mandate in an effective and efficient manner. All the nuclear authorisation holders have continued to operate safely in compliance with safety standards and regulatory requirements. The NNR will ensure that a high level of nuclear safety, security is being maintained by all the regulated organisations and will also strives for the continuous improvement and optimisation of its legal and regulatory framework.

Summary of Key Highlights

- The NNR continued with the implementation of the concomitant action plan related to the Optimisation of the legal and regulatory framework project using the IAEA Self-Assessment Tool (SAT) and completed most of the required actions as per the action plan and recommendations.

- The Nuclear Installation License for the Necsa Smelter was issued as the technical safety case provided and the public participation process conducted were done in accordance with the safety standards and the regulatory requirements of the NNR.

- The review of the Risk and Fraud Management Manual were completed timeously and the implementation will be continuously rolled out throughout the organization. That will ensure that all the risk based audits are conducted and appropriate controls are put in place.

- Progress was made in the effort to build a stakeholder confidence in South Africa's nuclear safety regime by conducting a regulatory emergency exercise to test the effectiveness of the Koeberg Nuclear Power Station's emergency preparedness and response arrangements.

- The NNR actively participated in the NATJOC (Joint Operation Committee) to establish the national security plan and identify resources required for implementation of Major Public Events, e.g. during AFCON 2013.

- During the reporting period, the NNR successfully hosted and participated at the Regional Meeting on the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, in Cape Town, South Africa.

- Convened information sharing meetings with Civil Society and NGOs in various provinces, i.e. Eastern Cape, Gauteng and Western Cape which promoted the openness and transparency required in dealing with nuclear safety awareness issues. Although still in its infancy stage, the "Building Bridges" concept and initiative continues to be regarded as an effective platform to foster constructive dialogue and information sharing on matters relating to nuclear safety between the NNR and Civil Society and NGOs.

- The NNR managed to ensure recovery and generation of 98% of the projected R135 million revenue for 2012/2013 financial period. The 2% variance realised was well within the 5% set as an acceptable variation and is attributable to the decline of applications for new nuclear authorisations. The under collection of authorisation fees is attributable to surrendered or revoked nuclear authorisations, changing of certain operations categories of nuclear authorisation for mining and mineral processing facilities during the financial year and liquidations and or declaration of bankruptcy of certain operators which leads to their debts being written off in instances where debt collection was unlikely.

Nuclear Safety Compliance Index

One of the core functions of the NNR is to ensure provision of the requisite regulatory oversight in line with the legal and regulatory framework. The NNR ensures that a high level of nuclear safety and security is maintained by all holders of nuclear authorisation through adherence to the safety and security standards and regulation. That has ensured a steady migration from the compliance approach to a nuclear safety culture.

- The NNR developed a comprehensive regulatory policies and procedures for its key regulatory processes and activities.

- The NNR continued to implement its system of compliance assurance inspections and audits of the authorised facilities. Other than the few non-compliances identified and reported appropriately as required, including in this annual report, the NNR issued several directives to enforce compliance as required and to that effect one appeal was lodged to the CEO of the Regulator in line with the NNR Act.

- The NNR compliance and enforcement regime also recorded a satisfactory level of compliance with the conditions of nuclear authorisation as well as the safety standards and regulatory practises.

International Co-operation

During the reporting period the NNR continued to participate actively in all the international nuclear safety and security standards committees of the IAEA including all other bilateral cooperation, i.e. NERS, MDEP, RCF etc. The NNR continued its active participation in the activities of the Multinational Design Evaluation Programme (MDEP) and attended its Policy Group meetings as well as the various technical working group related thereto. Notably is the participation in the Forum for Nuclear Regulatory Bodies in Africa (FNRBA) through the various working groups.
Challenges

- The finalization of the regulations related to urban developments around Nuclear Installations has been delayed once more and will be prioritized in the next reporting period. The comments raised will be addressed through an established working group and a workshop is planned for this purpose in the next reporting period. The main issues to be discussed are the status of the Traffic Evacuation Model (TEM) and the proposed new wording and definitions in regulations.

- Issues related to the regulatory supervision of legacy sites, in particular ownerless legacy sites which might be contaminated with radioactive residues.

Appreciation

I also wish to convey my sincere appreciation to the Minster of Energy, The NNR Board of Directors, the entire NNR team affectionately known as "Team Orange" for their unwavering commitment to the principles of nuclear safety and security.

We have continued to execute our mandate without fear, favour and prejudice and to fulfil the Republic of South Africa's international obligations with respect to the safe and peaceful use of nuclear and radioactive material for nuclear energy.



Mr Thabo Tselane
Interim CEO



Section 2

PERFORMANCE INFORMATION

2. PERFORMANCE INFORMATION

2.1 OVERVIEW OF NNR PERFORMANCE

This performance report is informed by the NNR's Strategic Plan for the 2012 - 2017 planning cycle, as approved by the NNR Board of Directors and the Minister of Energy.

In line with the National Treasury guidelines, the NNR uses the Balanced Scorecard methodology to develop and monitor the implementation of its strategy. Strategic goals have been set in the following four areas:

- Service delivery to Customers and Stakeholders;
- Financial Management;
- Internal Business Processes Management; and
- Learning and Growth.

The Balanced Scorecard of the NNR reflects strategic programmes, initiatives, measures and performance to targets. A commentary is provided on this section on progress attained against each strategic programme.

Performance trends

The performance of the NNR over the past four performance cycles since 2009-2012 is predicted below in Fig1. The performance trend was positive.

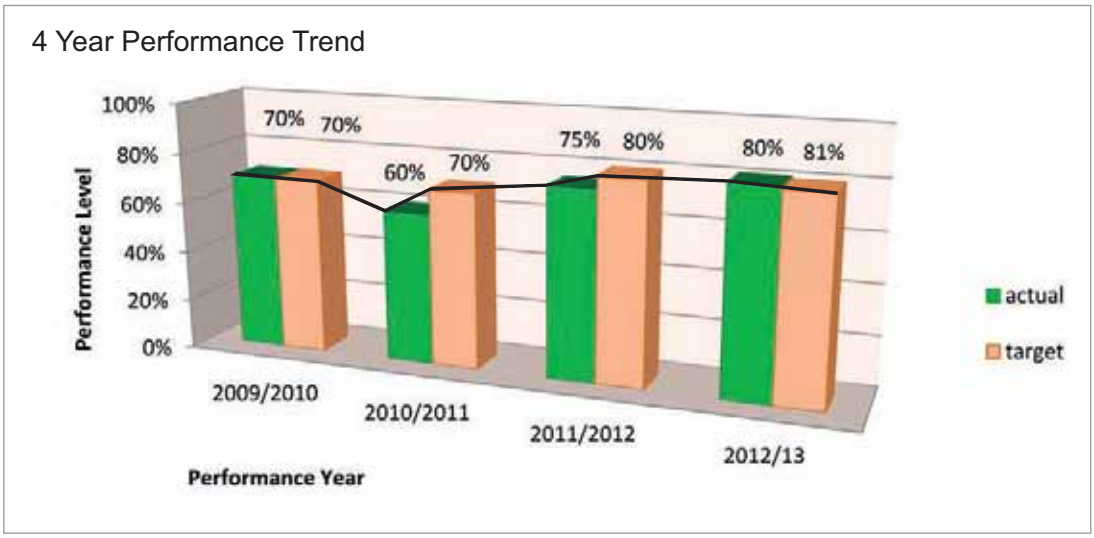
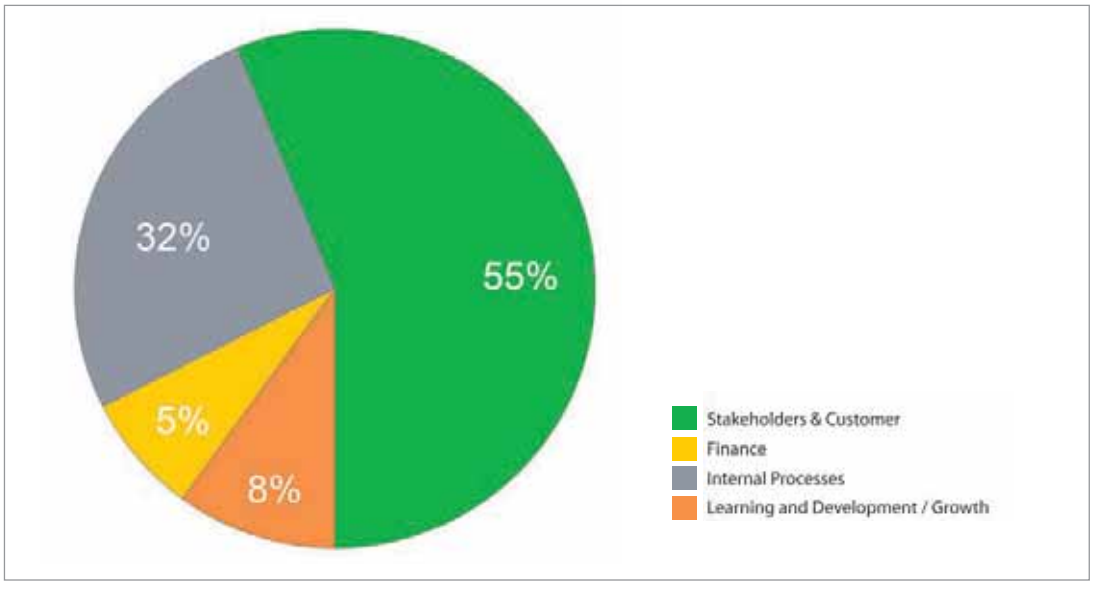


Figure 1: NNR Performance Trend 2009-2013

2.2 PERFORMANCE FOR THE YEAR UNDER REVIEW

For the year 2012/13, the weightings per balanced scorecard perspective were structured as follows;



Overall Performance across the entire Balance Scorecard was as follows during the period under review;

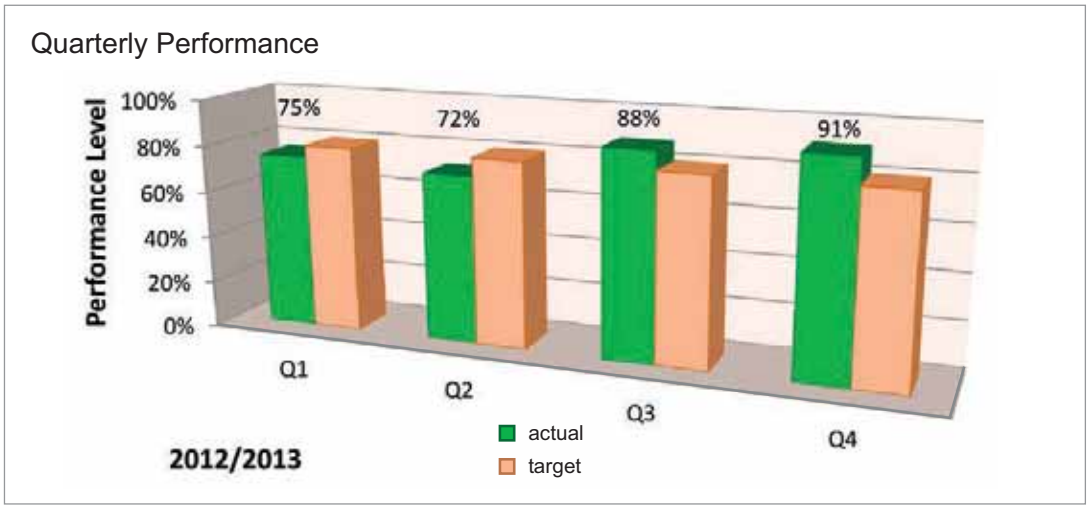


Figure 2: NNR Quarterly Performance 2012/13

The bulk of the NNR's performance expectation is derived from the organisation's regulatory mandate. A summary of the 2012/13 performance trends per perspective is presented in the following Graphs:



Figure 3: NNR Quarterly Performance in the Customer and Stakeholder Perspective

The organisation had stipulated performance milestones or targets in relation to each strategic objective to be achieved on a quarterly basis. This performance is thus based on the methodology of assessing the extent to which the organisation was able to meet performance targets in each area per quarter during the period under review. Therefore, the performance in the Customer and Stakeholder perspective has steadily improved at an average of 83.25%, as indicated in Figure 3.

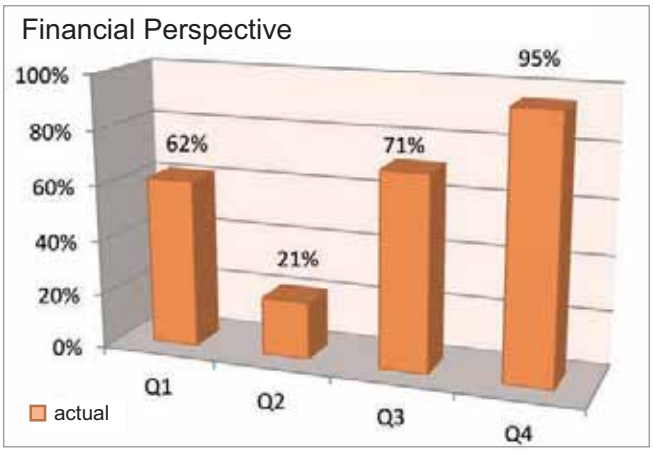


Figure 4: NNR Quarterly Performance Financial Perspective

The performance of the Financial Management and Administration perspective for the year under review is indicated in Figure 4 above. Quarterly performance across the quarters for 2012 showed a steady upward trend. The sudden drop in performance during the second quarter (Q2) can be attributed to the fact that the position of Chief Financial Officer (CFO) was vacant at the time.



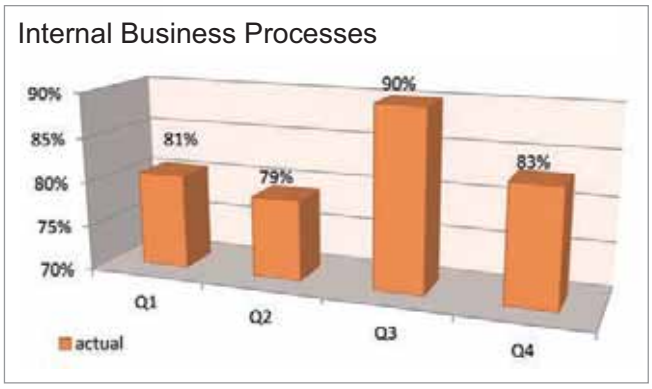


Figure 5: NNR Quarterly Performance Internal Business Processes Perspective

The Internal Business Processes portfolio consists of the majority of performance improvement, governance and controls, such as internal audit, risk management, Board administration processes, strategy, operations, quality management, organisational development, information and communication technology (ICT) administration and management. Performance in this area remained stable at an average of about 83%, as shown in Fig. 5.

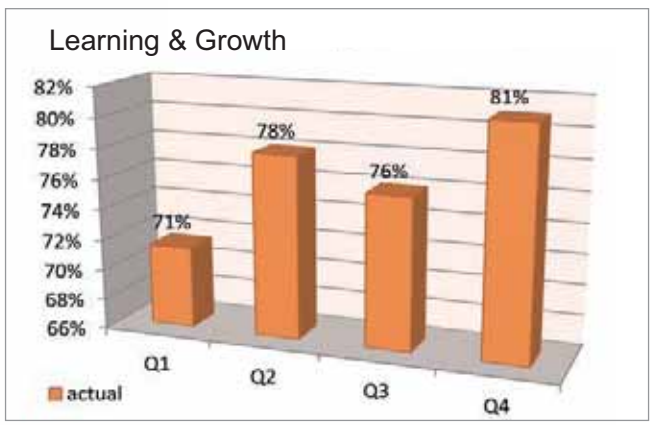


Figure 6: NNR Quarterly Performance Internal Business Processes Perspective

The performance of the Learning and Growth perspective speaks directly to the organisation's people management approaches and practices, as encapsulated in the Human Resources portfolio. For the year under review, the NNR has seen an upward trend in performance with an average performance of 76.5%.

2.3 NNR PROGRAMMES; PREDETERMINED OBJECTIVES

1. Programme: Standards Authorisations & Reviews Assessments (SARA)

Programme purpose:	• The Standards, Authorisations Reviews and Assessments (SARA) division provides strategic leadership and management in the following areas: • Authorisations for nuclear vehicle licences (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 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 oriented goals:	• Effective Regulatory Oversight and Framework to assure nuclear safety and security
Strategic objective:	• 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 verification capability for the NNR. • To undertake regulatory research that ensures that the regulatory regime is strengthened. • To ensure that the NNR is positioned to respond to initiatives relating to nuclear expansions.

2. Programme: 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 oriented goals:	• Effective regulatory oversight and framework to assure nuclear safety and security.
Strategic objective	• To provide assurance of safety performance of holders through inspections, audits, investigations and taking of enforcement action for identified non-compliance. • To assure holders' compliance with regulatory requirements. • To assure effective implementation of nuclear security measures by holders.

3. Programme: Communication & Stakeholder Relations

Programme purpose:	• This Programme provides strategic leadership for purposes of ensuring coherent coordination, consistency, quality, impact and responsiveness of NNR's communications and stakeholder engagements. It also assists to strengthen the system of NNR's communications and face-to-face engagements through sound stakeholder relations. This Programme is also responsible for ensuring that the public is accurately informed about matters relating to nuclear safety and the roles and responsibilities of the NNR.
Strategic outcome oriented goals	• Strengthen stakeholder relations and enhance corporate image.

Strategic objective:	• To strengthen stakeholder relations and improve public perceptions of the NNR. • To improve NNR quality of work and effectiveness through compliance with national and international obligations, as prescribed by the NNR Act.

4.Programme: Corporate Support Services

Programme Purpose:	• This Programme provides strategic leadership and direction in the areas of human capital management, facilities management, ICT and occupational health and safety. The primary focus of the Programme is in ensuring efficient processes and resources in support of the organization's strategic objectives.
Strategic Outcome Orientated Goals:	• Develop and maintain sound organizational infrastructure.
Strategic Objective:	• To develop and maintain sound organisational infrastructure. • To have satisfied and productive employees. • To be the employer of choice

5. Programme: Financial Management & 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 covers oversight role in implementing financial systems that supports robust systems of internal control.
Strategic Outcome Orientated Goals:	• Ensure financial viability and sustainability of the organisation. • Ensure effective human capital management.
Strategic Objective:	• To ensure that the NNR continues to remain a financially viable entity with adequate revenue to meet its strategic objectives. • To ensure prudent financial management in the NNR by aligning strategic with allocated funds.

6. Programme: Internal Audit

Programme Purpose:	• Internal audit provides assurance to the NNR's stakeholders that the organisation operates in a responsible manner by performing the following functions, among others: • Evaluating the organisation's governance processes, including ethics, especially the 'tone at the top'; • Performing an objective assessment of the effectiveness of risk management (outsourced) and the internal control framework; • Systematically analysing and evaluating business processes and associated controls; and • Providing a source of information, as appropriate, regarding instances of fraud, corruption, unethical behaviour and irregularities. • Internal audit reports functionally to the Audit and Risk Management Committee (ARMCOM) and administratively to the CEO.
Strategic Outcome Orientated Goals:	• Enhance good governance
Strategic Objective:	• To improve and maintain an effective system of internal controls

7. Programme: Risk Management

Programme Purpose:	• Risk management is a systematic and formalised process instituted by the organisation to identify, assess, manage and monitor risks. While enterprise-wide risk management is the application of risk management throughout the institution rather than only in selected business areas or disciplines. The internal audit and risk department assists management by co-ordinating and facilitating the risk management activities within the NNR.
Strategic Outcome Orientated Goals:	• Enhance good governance
Strategic Objective:	• To improve and maintain an effective system on internal controls and risk management.

8. Programme: Company Secretariat

Programme Purpose:	• This Programme provides for strategic leadership for purposes of ensuring the effective and efficient functioning of the Board and its Board committees. This is done through providing the Board with quality, consistent and responsive administrative and logistical support. It also assists the Board and Board members to discharge their role and responsibilities. The Programme is also mandated to ensure that it is the source to provide guidance on good corporate governance principles and practices for the Board and the organisation as a whole. This is done through, inter alia, the NNR's Board compliance index and other measures.
Strategic Outcome Orientated Goals:	• Enhance good governance
Strategic Objective:	• To develop and maintain independent and effective governance structures.

9. Programme: Strategy Management & Organisational Performance

Programme Purpose:	• The purpose of this function is to ensure formulation, development of strategy and execution of the organisation's mandate in line with the NNR Act by utilizing a strategic plan that is aligned to the national planning framework and priorities. The function also monitors and evaluates organisational performance and provides performance enhancing solutions that will aid in the attainment of performance targets.
Strategic Outcome Orientated Goals:	• Create a high performance culture.
Strategic Objective:	• To establish and maintain a high performance culture through defining, developing and implementing quality management programmes and standards through the organisational strategic plan.

10. Programme: Legal Counsel

Programme Purpose:	• The purpose of this function is to provide the organisation with advice and guidance on all legal matters, such as legislative drafting, interpretation of agreements and/or legislation, vetting of contracts, drafting of pleadings, and liaison with external legal representatives.
Strategic Outcome Orientated Goals :	• Enhance good governance
Strategic Objective:	• To ensure compliance with applicable legislation and policy framework

2.4 PERFORMANCE INFORMATION BY PROGRAMME OBJECTIVE

Achieved:	Planned tasks have been completed and approved.
Largely achieved:	Planned tasks achieved above 80%
Not achieved:	The Planned tasks were not fully achieved.

Strategic Objective	Key performance Indicator / Measure	Annual Target	Annual Actual	Variance
1. To process applications for nuclear authorisations in a timely and accurate manner.	CM1a:COR, COE, NVL and NIL issued within the set timelines where : COR:90 days; COE:180 days; NVL:180 days; NIL<20% deviation on plan	As stipulated per licence type	NTWP - 5 NPP - 0 NORM - 3 100%	No variance.
	CM1b: ratio of work performed against work planned for reviews & assessments.	80% of total agreed schedule	Achieved. 112%	This included reviews and assessments of authorisation change requests (ACRs). Positive variance +12%
2. To provide assurance of safety performance of holders through inspections, audits, investigations and taking of enforcement action for identified non- compliance.	CM2a:The quantity of compliance assurance and enforcement activities conducted in the three broad categories of NORM, NTWP & KNPS	NPP:58 NTWP:72 NORM:252 *(382 inspections)*	*Achieved 115%* *(438 inspections)*	Positive variance of 56 inspections overall
	Audits	NPP: 0 NTWP:8 NORM: 8 *(16 audits)*	Achieved 100% *(16 audits)*	No Variance
	Environmental Samples	NPP: 75 NTWP:72 NORM: 424	NPP: 75 samples Achieved 100%	Achieved NPP: 75
			NTWP: 72 samples Achieved 100%	Achieved NTWP:72
			NORM: 418 samples Largely Achieved 98.5%	NORM: 424 -6 variance
	CM2b:Effectiveness of enforcement actions taken	0/12 months	Largely Achieved 98%	The enforcement of sanctions against non-compliance to regulatory requirements often translates to the issuance of a directive by the NNR to the holder in breach. The KPI seeks to measure the level of effectiveness of the NNR's enforcement regime by tracking the number of repeat offences within 12 months of issuance of a directive. In 2012/13, only 1 repeat non-compliance was registered.

Strategic Objective	Key performance Indicator / Measure	Annual Target	Annual Actual	Variance
3. To assure that holders have an effective emergency preparedness plan.	CM3: Percentage of corrective actions undertaken and validated	100%	Largely Achieved 98%	The objective related to this measure seeks to give assurance that holders have effective emergency preparedness plans. To that, end holders' disaster /emergency preparedness is put to the test from time to time as per agreed schedule. There was deviation from plan in Q1 regarding the postponement of NUFCOR exercise.
4. To assure holder's compliance with regulatory requirements.	CM4: Harmonised compliance assurance and enforcement Programme	60% implementation by Q4	Achieved 100%	In order to ensure holder cooperation with regard to compliance requirements, the organisation realised that there has to be an enabling environment in the form of procedures and guidelines for all affected parties, as well as harmonisation of key policies and processes in this regard. The KPI seeks to measure the progress made towards achieving this. It is a medium term measure which will convert to monitoring of compliance rates in the longer term, once harmonisation has been achieved.
5. To benchmark and update safety standards and regulatory practices in line with national and international norms and requirements.	CM5: Percentage completion of the NNR specific Self-Assessment Tool (SAT) Programme of action relating to nuclear safety.	60% implementation of SAT Programme	Largely Achieved 47.7/60 (76% of Target)	In accordance with the strategic objective to benchmark and update Safety Standards and Regulatory Practices in line with national and international norms and requirements, the NNR embarked on a gap analysis whose aim was to strengthen the existing regulatory framework. This gap analysis was conducted utilising the IAEA recommended SAT and thus a project was commissioned internally to facilitate this exercise, including the recommendations thereof and next steps. The variance is the results of various sub modules implementation progress.
6. To assure effective implementation of nuclear security measures by holders.	CM6: % implementation of the nuclear security strategy over stipulated period.	40%	Largely Achieved 80%	The strategic thrust surrounding nuclear security is to assure effective implementation of nuclear security measures by holders. The NNR is giving this area concerted focus as has been demonstrated through the crafting of a Nuclear Security Strategy as well as building internal capacity in the area. Variance is due to delayed finalisation of regulations for this area.
7. To establish an independent verification capability for the NNR.	CM7: % completion of action plan for nuclear verification capability (laboratory)	30%	Largely Achieved 73% (22/30)	In order to fulfil the objective to establish an independent verification capability for the NNR, efforts have been channelled towards refurbishing an identified facility into a suitable laboratory. Variance is due to delays in the implementation process.

Strategic Objective	Key performance Indicator / Measure	Annual Target	Annual Actual	Variance
8. To undertake regulatory research that ensures that the regulatory regime is strengthened.	CM8: Cost Consequence Analyses	100% complete by Q4	Achieved 100%	The KPI is in respect of making recommendations to the Department of Energy on levels of financial security to be provided for by holders by conducting a cost consequence analysis amongst others. The variance is as a result of data unavailability, which led to delays in the process and subsequent change in approach.
9. To ensure that the NNR is positioned to respond to initiatives relating to nuclear expansions.	CM 9: Position Papers (PP's) on EPTB, Digital I&C, National Conformity Assessment Framework, External Events.	100%	Largely Achieved 70%	The variance is due to delays in the process. The strategic objectives are to ensure that the NNR is positioned to respond to initiatives relating to nuclear expansion. This is thus articulated in order to enable the NNR to regulate the safe operation of existing holders by preparing for applications related to nuclear expansions. The KPI therefore measures the extent of readiness or completion of specific topics/subjects/ papers with the view to their recommendations regarding the NNR's capacity to respond to expansions amongst others. For this cycle (year) the subjects chosen are on Emergency Plan Technical Basis (EPTB), Digital I&C, National Conformity Assessment Framework, External Events.
10. To strengthen stakeholder relations and improve public perceptions of the NNR.	CM10: Level of stakeholder positive perceptions of the NNR.	60%	Largely Achieved 80.5% (48.3/60)	Based on stakeholder perception survey results.
11. To improve NNR quality of work and effectiveness through compliance with national and international obligations as prescribed by the NNR Act.	CM 11: Number of New/needful and necessary improvements made to the NNR due to participation in various international forums / obligations.	1	Achieved 100%	The practical aim was to coordinate the implementation of at least one new/needful/ necessary value adding improvement to NNR as a direct result of international exposure.
12. To ensure that the NNR continues to remain a financially viable entity with adequate revenue to meet its strategic objectives.	FM1 :Level funding/ cost strategic Programme.	1:1	Achieved 100%	This is in reference to the actual KPI.
13. To ensure prudent financial management in the NNR, i.e. by aligning the execution of strategic objectives with allocated funds.		<5%	Largely Achieved 99.8% 92%	Variance is due to late capital injection of 12m in the last Quater of 12/13

Strategic Objective	Key performance Indicator / Measure	Annual Target	Annual Actual	Variance
14. To improve and maintain an effective system of internal controls.	PM1: Unqualified Audit Report	Unqualified report	Achieved 100%	Unqualified Report
15. To improve and maintain an effective system on internal controls and risk management.	PM2a: Number of Internal Audits conducted vs Planned.	14	12 internal audits Largely Achieved 86%	-2 Audits
16. To improve and maintain an effective system on internal controls and risk management.	PM2b: Risk maturity level	Level 3	Achieved 100%	The risk rating framework used is recommended by National Treasury and the NNR has achieved a rating of level 4 which is better than targeted.
17. To develop and maintain independent and effective governance structures.	PM3: % Performance of Board.	80%	Achieved 100%	No variance
18. To develop and maintain sound organisational infrastructure.	PM4:Infrastructure down time (TAT)	100% of Programme	Achieved 100%	This measures the systems downtime. For the FY 2012/13, the NNR has enjoyed a stable systems uptime environment.
19. To establish and maintain a high performance culture through defining, developing and implementing quality management Programmes and standards.	PM5a: Organisational Excellence Rating	600 points (60%)	249 Excellence points Not achieved 42% of target	The business excellence framework measures the organisation's level of excellence in 9 identified criteria as per the EFQM Model. In the past year the NNR established a baseline level of excellence. The baseline places NNR at 42% of target.
	PM5b: % performance of the NNR Annual Plan implementation.	80%	Achieved 81%	Overall performance target achieved.
20. To ensure compliance with applicable legislation and policy framework.	PM6: Legislative Compliance Index.	80%	Not Achieved 50% of process	The process to measure the actual KPI has been delayed with partial results achieved. These results pertain to process and not actual legislative compliance level of the NNR.
21. To have satisfied and productive employees.	LM1: % employee satisfaction.	70%	Not Achieved 53.2% of target	Based on climate survey conducted in Q1 of 2012 financial year.
22. To be the employer of choice.	LM2: Average employee performance level.	80%	Not Achieved 66%	The results are based on sampled data excluding management performance.

Table 4: NNR Performance by Objective and KPI

Challenges Encountered by the NNR in 12/13

The NNR encountered the following challenges in implementing service delivery:

- Poor availability of service providers in specified areas. This resulted in the delayed implementation of Programmes, such as the determination of implications of some initiatives relating to nuclear expansion. The focus of the NNR for the year was on:
    - Determining the financial liability to be provided for by holders in the event of a nuclear accident by conducting a cost consequence analysis. After this project had experienced many delays, the Executive determined an alternative approach which would meet the timeframe for updating the Government Notice. The NNR embarked on a review of the currently prescribed levels of financial security against those prescribed by other countries with nuclear Programmes and the prescriptions of the international conventions on nuclear liability, such as the Vienna Convention, the Paris Conventions and the Convention on Supplementary Compensation.

  Other initiatives included:
    - Digital control and instrumentation; and
    - Refurbishment of a laboratory for independent analytical capability.

- Whilst the above were completed by the end of the financial year, there were some significant implementation delays as stated above.
- Delayed implementation of key projects due to stringent and onerous requirements of the PFMA and supply chain management policies. This meant that the processes needed to evaluate tenders and to give the go ahead for implementation of key strategic project milestones proved to be inappropriately exhaustive.

Organisational Environment

In accordance with the NNR Act, the organisation is governed by a Board of Directors, appointed by the Minister of Energy. In addition to the requirements of the NNR Act, the Public Finance Management Act (Act No 1 of 1999), Treasury Regulations and other legislation, the organisation must adhere to good governance principles and best practice, which requires the establishment of the following governance structures:

- Board of Directors,
- Audit and Risk Management Committee,
- Transformation and Development Committee,
- Technical Committee,
- Executive Management Committee, and
- Appropriate procurement committees.

Among various things, the Board of Directors is responsible for ensuring the establishment and maintenance of:

- Effective, efficient and transparent systems of financial and risk management and internal control;
- A system of internal audit under the control and direction of an audit committee complying with and operating in accordance with regulations and instructions prescribed in terms of sections 76 and 77; and
- An appropriate procurement and provisioning system which is fair, equitable, transparent, competitive and cost-effective.

Key Policy and Industry Developments that have impacted the NNR in the past year

Industry developments impacting the NNR in the past cycle and continuing in the medium to long-term were as follows:

(i) Early Engagement for the New Nuclear Build Programme

The government's Integrated Resource Plan for Electricity 2010-2030 (IRP) report has indicated that 1600 MW of additional nuclear generation capacity must be in place by 2023. For this to be possible, the licensing of a new nuclear power station would have to commence in 2013 at the latest, and the preliminary licensing engagement was thus targeted to commence in the past cycle (2012/13).

This was viewed as necessary because the NNR needed to determine thorough engagement with Eskom on long term aspects, such as specifications, vendor qualification, manufacturing, site safety analysis, the Site Safety Report, including the Seismic Hazard Assessment for the relevant site.

Therefore, in the past year, the NNR has developed regulations on siting of new nuclear power plants and on control of developments, as well as a strategy document for the Licensing of New Nuclear Power Plant

Position papers have been developed addressing a number of key issues, such as:

- External events
- Vendor standards
- Manufacturing
- Emergency planning zones
- Authorisations.

(ii) Steam Generator Replacement Programme at Koeberg Nuclear Power Station

In the past year, the NNR received the proposed long-term asset management interventions (LTAM) at Koeberg, including TPU-SGR-PLEX (Thermal Power Uprate (TPU), Steam Generator replacement (SGR) and Plant Life Extension (PLEX) from ESKOM. TPU is to involve a 10% increase in reactor thermal power. The SGR project involves replacement of six steam generators (three for each unit), which form a major part of the primary circuit connected to the reactors via pipework. The Department of Public Enterprises has approved the SGR project. The SGR project makes provision for TPU in the sizing of the new steam generators and in the safety analysis.

The NNR's role was to review the licensee safety assessment to:

- Verify compliance with nuclear safety criteria;
- Verify that the safety assessment entails an acceptable analysis of the aspects of design and operation that are relevant to safety, including the analysis of risks associated with normal conditions and accident situations;
- Verify that the methods of analyses are appropriate for use and comply with licensing conditions;
- Ensure through various manufacturing oversight activities, that the characteristics of the components being manufactured are consistent with the material and design specifications;
- Ensure through various oversight activities, that the installation, testing and commissioning Programme verifies the ability to operate the modified plant safely at the new operating conditions;
- Verify the quality of the safety assessment as evidenced by the professional competence, independence and integrity of the operator's experts and on the assessment and justification process itself. While some of these had already begun in 2012/13, the main bulk of the licensing work will commence in the first quarter of 2013.

(iii) Emerging Stakeholder issues impacting on the NNR business were as follows:

During the year under review, the NNR implemented steps aimed at resolving legacy issues affecting communities living nearby mine tailings on the West and East Rand. In this regard the NNR also made concerted efforts to improve cooperation and collaboration with municipal authorities in relation to contaminated sites and relocation of affected communities.



2.5 LINKING PERFORMANCE WITH BUDGETS

Public entities are required by law to make an assessment of the extent to which they have achieved their objectives by making a comparison between the targets set ahead of the financial year with the outputs achieved at the end of that period. The allocation of financial resources should underpin such an assessment. In this regard, the NNR presents the following financial information, which links to the information in the annual financial statements.

The NNR managed to realise 98% of the R136 million projected revenue for the 2012/2013 financial period. The 2% variance realised is well within the 5% set as an acceptable variation and could be attributed to a decline in new applications. Part of the variance was caused by the under-collection of authorisation fees, which could be attributed to surrenders of licenses, changes of operations categories during the financial year and liquidations and/or bankruptcy of operators, which led to write-offs where the collection was highly unlikely.

Application fees are dependent on the number of applications received within a particular year. The nature of applications always influences the charges that are levied for a particular application in terms of scale and complexity of work. While projections are based on historical information and planned and communicated by operators, it is normal to receive applications without early warning, which causes fluctuations in fees. The Regulator adopted a strict cash management approach during the year, and this contributed to higher investment income coupled with significant amounts of cash that were committed but not yet disbursed by the end of the year.

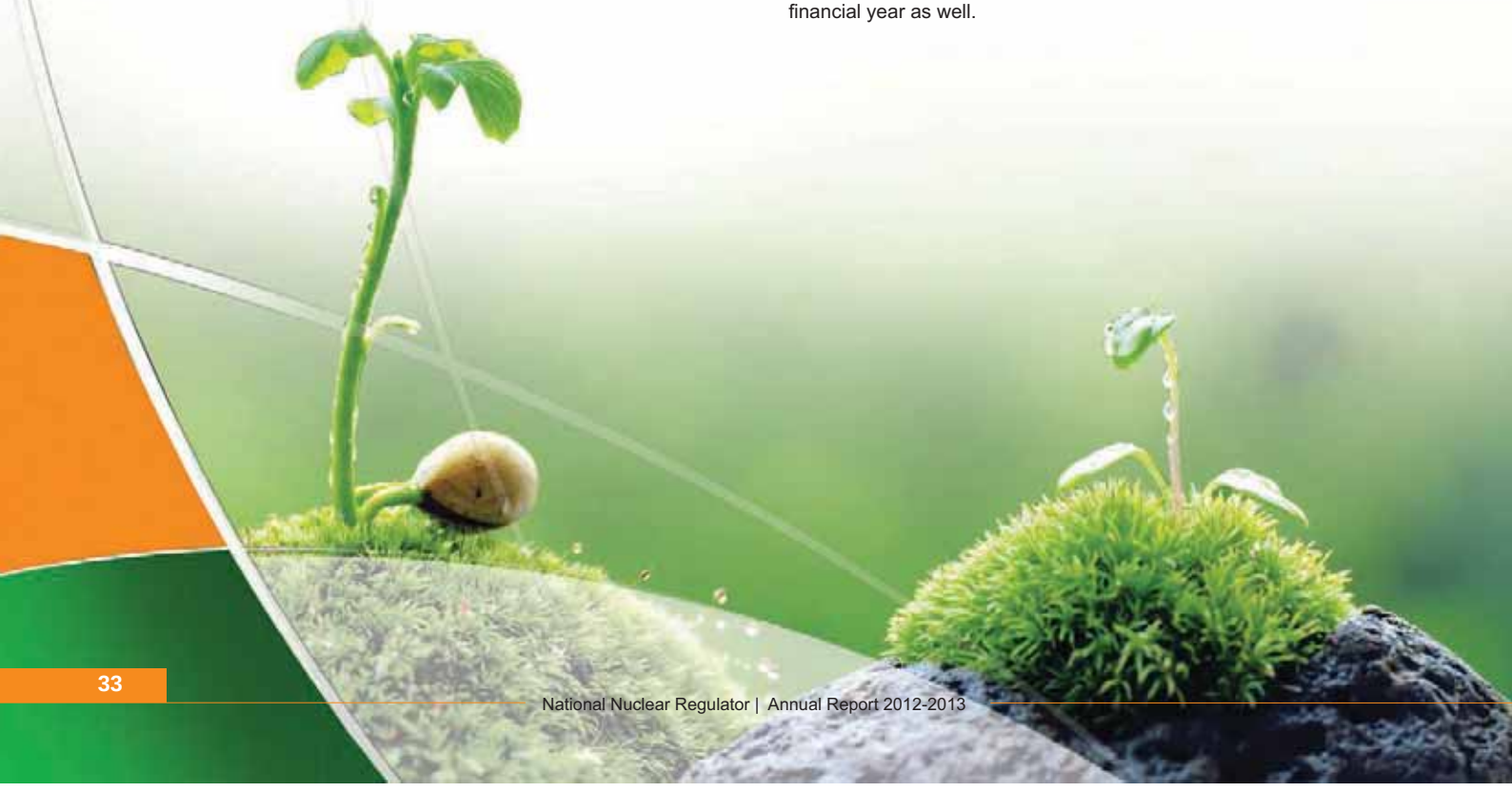
The financial performance of the organisation during the year under review was good considering that the Regulator utilised over 87% of its total budget. The R30 million that was unspent at the end of the financial year accounts for 19.9% of the total budget, and is accounted for as follows:

- R12 million, which is 40% of the unspent amount, represents the conditional grant allocated to the entity in December 2012 for improvement of the Emergency Control Centre (ECC) and the satellite office in Cape Town. The ECC project has commenced well, and the associated procurement process was at an advanced stage at the end of the financial year. The total cost that was available at year end is estimated to be above R12 million. The satellite office renovation, however, experienced challenges on technical legalities around extensions and modifications necessary for the upgrade. The legal team made a breakthrough with the Cape Town City Council at year-end, which paved the way for the project to gain momentum during the first quarter of 2013/14 financial year.

- The other 60% of the amount is attributed to commitments made by year-end. Although no disbursements were made by the end of the financial year, agreements were entered into or the procurement process was completed at that point. The implementation of projects and related activities are underway in this regard.

At the end of the reporting period, the NNR continued with the above projects. The laboratory establishment project was well underway with the facility refurbishment in progress and development of testing and operation processes and methods at an advanced stage. Provision has been made in the remaining amount of the budget allocated for equipment for the plant for which the procurement process has been completed. Delivery will be synchronised with the completion of refurbishment to minimise the risk of fruitless expenditure on storage as most of the equipment will be imported. The project is planned for completion by the end of the 2013/14 financial year.

The ECC planning and preparatory work was completed, and the project plan signed off. At the end of the financial year, procurement processes were underway and the project is planned for completion during 2013/14 financial year as well.



Summary of Financial Information

	2012/2013			2011/2012		
Sources of revenue	**Budget**	**Actual Amount Collected**	**(Over)/Under Collection**	**Budget**	**Actual Amount Collected**	**(Over)/Under Collection**
	R'000	**R'000**	**R'000**	**R'000**	**R'000**	**R'000**
Government Grant	30 912	30 912	-	35 430	35 430	-
Authorisation Fees	102 115	99 068	3 047	79 726	88 480	8 754
Application Fees	2 619	447	2 172	2 355	1 581	(774)
Investment Income	1 310	2 667	(1 357)	2 500	2109	(391)
Deferred income	-	443	(443)	-	-	-
Other Income	-	1 352	(1 352)	-	-	-
TOTAL	**136 956**	134 889	**2 067**	**120 011**	**127 600**	**7 589**

Programme Expenditure

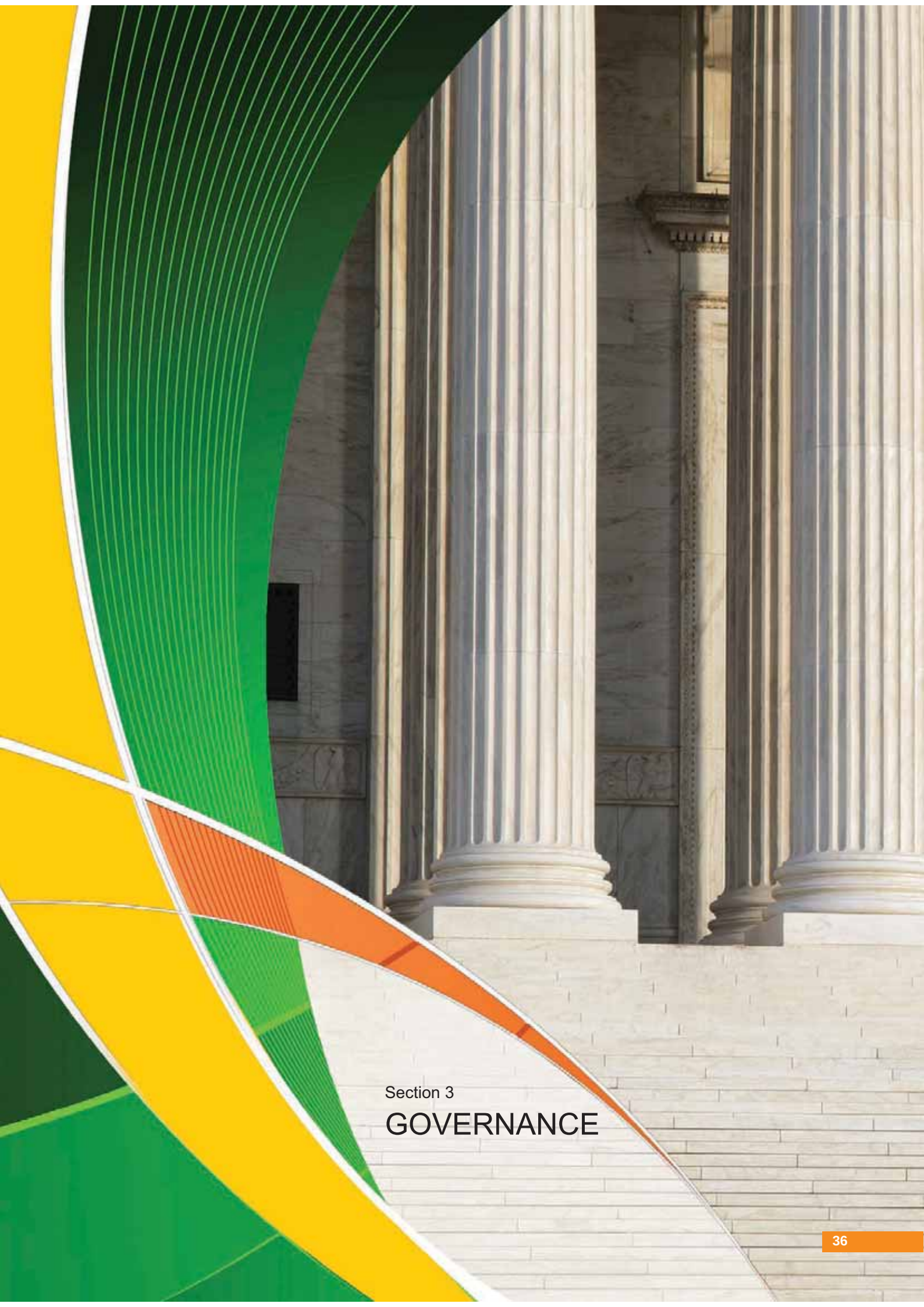
	2012/2013			2011/2012		
Programme Name	**Budget**	**Actual Expenditure**	**(Over)/Under Expenditure**	**Budget**	**Actual Expenditure**	**(Over)/Under Expenditure**
	R'000	**R'000**	**R'000**	**R'000**	**R'000**	**R'000**
Administration	64 006	51 817	12 189	52 473	55 097	(2 623)
Standards Authorizations & Reviews Assessments	46 044	46 991	947	45 926	48 222	(2 296)
Compliance Assurance and Enforcement	26 465	21 426	5 040	21 611	22 691	(1 080)
TOTAL	**136 956**	**120 234**	**16 722**	**120 011**	**126 010**	**(5 999)**

Capital Investment, Maintenance and Asset Management Plan

	2012/2013			2011/2012		
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**
Environmental Samples testing laboratory	18 000	443	17 557	18 000	-	18 000
Emergency Control Centre	12 000	-	12 000	-	-	-
TOTAL	**30 000**	**443**	**29 557**	**18 000**	-	**18 000**

"Learn from yesterday, Live for today, Hope for tomorrow.
The important thing is not to stop questioning."

Albert Einstein - Theoretical Physicist



Section 3

GOVERNANCE

THE BOARD OF DIRECTORS



Dr Tracy Cohen
Chairperson



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



Mr Kabelo Samuel Kakoma
Audit and Risk Management Committee



Mr Jeffery Leaver
Audit and Risk Management Committee, Technical Committee



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



Prof Gordon Sibiya
Technical Committee



Dr Thapelo Motshudi
Chariperson of Technical Committee



Mr Katse Maphoto
Board Member



Mr Moegamat Ishaam Abader
Board Member



Mr Sibusiso Mimi
Transformation and Development Committee

- **Ms Elsie Monale**: Alternate -DOE
- **Dr Bethuel Selapelo**: Technical Committee
- **Ms Nolwazi Cobbinah**: Alternate - DWEA, Audit and Risk Management Committee, Technical Committee,



3.1 INTRODUCTION

During the review period, the Board regularly reviewed the processes and systems of the NNR, and can assure stakeholders that the Regulator was managed soundly and ethically. The NNR Board of Directors is of the view that the organisation has applied and complied 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.

3.2 PORTFOLIO COMMITTEE MEETINGS

The NNR presented its Annual Report 2012 on 12 October 2012 to the Portfolio Committee on Energy (PCE). The PCE also requested an additional briefing from the NNR's Audit and Risk Management Committee on its findings. The NNR assured the Committee that nuclear installations and entities under the oversight of NNR did not expose workers to harmful levels of radiation or cause nuclear damage to the environment in 2012 and that it had successfully fulfilled its fiduciary duties and continued to discharge its mandate in accordance with best practices of governance. The activities and findings of the Audit and Risk Management Committee were briefed in detail.

3.3. THE BOARD OF DIRECTORS

The Board of Directors is the Accounting Authority in terms of the Public Finance Management Act and is appointed for a renewable period of three years by the Minister of Energy. In terms of Section 8 (1) and (2), the Regulator is governed and controlled, in accordance with the NNR Act, by a Board of Directors to ensure that the objects of the Act are carried out and to exercise general control over the performance of the Regulator's functions. The Board of Directors embraces the principles of 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, whilst 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 in respect 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 regulators unique environment.

Composition of the Board

The Board comprises of 10 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 CEO, hold office for a maximum of three years, but are eligible for re-appointment.

NNR Board Members April 2012 – March 2013			
Title	**Full Name**	**Date Appointed**	**Stakeholder Represented**
Dr	Tracy Cohen *	05 December 2012	Chairperson - Board
Mr	Tshepo Mofokeng *	05 December 2012	Deputy Chairperson – Board Chair person: ARMCOM
Mr	Kabelo Samuel Kakoma **	05 December 2012	Civil Society
Mr	Jeffery Leaver *	05 December 2012	Independent Member
Ms	Elsie Monale *	05 December 2012	DoE
Mr	Nikisi Wilson Lesufi *	05 December 2012	Organized Business
Prof	Gordon Sibiya **	05 December 2012	Independent Member
Dr	Thapelo Motshudi *	05 December 2012	Independent Member
Ms	Nolwazi Zandile Cobbinah *	05 December 2012	DWEA
Mr	Katse Maphoto *	05 December 2012	DoE
Mr	Moegamat Ishaam Abader *	05 December 2012	DWEA
Mr	Sibusiso Mimi **	05 December 2012	Organised Labour
Dr	Bethuel Selapelo *	05 December 2012	Independent Member

* ***Re-appointment***
** ***New Appointment***

New Appointments

The new members appointed were:

#	Name	Designation	Date appointed
1.	Professor G. Sibiya	Non- Executive Director	05 December 2012
2.	Mr S Kakoma	Non- Executive Director	05 December 2012
3.	Mr S Mimi	Non- Executive Director	05 December 2012
4.	Ms E Monale	Alternate	05 December 2012

Resignations

The following resignations took place during the reporting period:

#	Name	Designation	Date Appointed	Date Resigned
1.	Adv B Mkhize	Chief Executive Officer	15 February 2010	31 Nov 2012
2.	Ms M Liefferink	Non – Executive Director	01 December 2009	16 April 2012
3.	Mr D. Netshivhazwaulu	Non – Executive Director	01 August 2010	29 June 2012
4.	Ms D. Kgomo	Non–Executive Director	01 December 2009	29 June 2012 (Sabbatical)
5.	Ms E Thema	Independent Member of the Audit and Risk Management Committee	01 October 2010	31 Aug 2012
6.	Mr F Langa	External Member of the Technical Committee	01 May 2012	15 Jan 2013

Board Meetings

Names	Meeting dates						
	25 Apr 12	25 May 12	26 Jul 12	26 Oct 12	21 Nov 12 Special Mtng (workshop on NNR Act Amendment	11 Jan 13 Board Induction	30 Jan 13
Dr T Cohen – Chairperson	✓	✓	✓	✓	✓	✓	✓
Mr T Mofokeng – Deputy Chairperson	✓	✓	✓	✗	✓	✓	✓
Mr J Leaver	✓	✓	✓	✓	✓	✓	✓
Dr T Motshudi	✓	✓	✓	✓	✗	✗	✗
Mr D Elbrecht	✓	✗	✓	✓	✓	N/A	N/A
Mr M Lesufi	✓	✓	✓	✓	✓	✓	✓
Adv B Mkhize- Chief Executive	✓	✓	✓	✓	✓	N/A	N/A
Mr I Abader	✗	✗	✗	✗	✓	✓	✗
Mr D Netshivhazwaulu	✓	✗	N/A	N/A	N/A	N/A	N/A
Ms D Kgomo	✓	✗	✓	N/A	N/A	N/A	N/A
Ms N Cobbinah	N/A	✓	✗	✗	✓	✓	✗
Mr K Maphoto	✗	✗	✓	✓	✗	✗	✗
Dr D Sehlapelo	N/A	N/A	N/A	N/A	✓	✓	✓
Mr T Tselane (Interim CEO)	N/A	N/A	N/A	N/A	N/A	✓	✓
Mr S Mimi	N/A	N/A	N/A	N/A	N/A	✓	✓
Prof G Sibiya	N/A	N/A	N/A	N/A	N/A	✓	✓
Mr S Kakoma	N/A	N/A	N/A	N/A	N/A	✓	✓
Ms E Monale	N/A	N/A	N/A	N/A	N/A	✓	✗

✓ ***Member present at the meeting.***
✗ ***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.***

3.4 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,
- Technical Committee; and
- Transformation and Development Committee.

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.

3.4.1 Audit and Risk Management Committee

The Audit and Risk Management Committee comprised four non-executive Directors and one independent member. A non-executive Director who is not the Chairperson of the Board chaired the Committee. The Audit and Risk Management Committee 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 current members of the Audit and Risk Management Committee are:

- Mr T Mofokeng (Chairperson)
- Mr N Lesufi
- Mr J Leaver
- Ms N Cobbinah - Re-appointed on 05 December 2012
- Mr S Kakoma - appointed in 05 December 2012
- Mr D Netshivhazwaulu resigned from the Board in 29 June 2012
- Ms E Thema* resigned from the Committee in 31 August 2012

** Ms E Thema, Independent Audit Committee member.*

The Audit and Risk Management Committee convened seven times during the period under review.

The Audit and Risk Management Committee convened six times during the period under review. Attendance at meetings was as follows:

Names	Date of the meeting April 2012 – March 2013					
	17 Apr 12	16 May 12	24 May 12 Special Mtng	16 Jul 12	16 Oct 12	22 Jan 13
Mr T Mofokeng	✓	✓	✓	✓	✓	✓
Mr N Lesufi	✓	✗	✗	✓	✓	✓
Mr J Leaver	✓	✓	✓	✓	✓	✓
Ms E Thema	✗	✗	✗	✗	N/A	N/A
Mr D Netshivhazwaulu	✓	✓	✓	N/A	N/A	N/A
Ms N Cobbinah	N/A	N/A	N/A	N/A	N/A	✓
Mr S Kakoma	N/A	N/A	N/A	N/A	N/A	✓

✓ Member present at the meeting.

✗ 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

3.4.2 Technical Committee

The Technical Committee consisted of three non-executive Directors and two external members, 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 current members of the Committee are:

- Ms D Kgomo (Chairperson) till September 2012;
- Dr T Motshudi Chairperson from October 2012;
- Mr J Leaver;
- Dr B Sehlapelo;
- Mr F Langa - resigned from the Committee in January 2013;
- Ms N Cobbinah - appointed to the Committee in January 2013;
- Prof G Sibiya- appointed to the Committee in January 2013.

The Committee met four times during the year under review

The Technical Committee convened four times during the period under review. Attendance at meetings was as follows:

Names	Date of the meeting April 2013 – March 2013			
	18 Apr 12	18 Jul 12	17 Oct 12	21 Jan 13
Ms D Kgomo - Chairperson	✓	✓	✓	N/A
Dr T Motshudi	✓	✓	✓	✓
Mr J Leaver	✓	✓	✓	✓
Dr D Sehlapelo	N/A	✓	✓	✓
Prof G Sibiya	N/A	N/A	N/A	✓
Ms N Cobbinah	N/A	N/A	N/A	x
Mr D Langa	N/A	x	x	N/A
Ms M Liefferink *	N/A	N/A	N/A	N/A
Mr D Elbrecht *	✓	N/A	N/A	N/A

* ***Directors who were requested by the Board to attend Technical Committee meetings in order to provide expertise while the process of appointing external members was being finalised.***

✓ ***Member present at the meeting.***

x ***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.***

3.4.3 Transformation and Development Committee

The Transformation and Development Committee 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 Transformation and Development Committee comprised the following members:

- Mr N Lesufi (Chairperson);
- Ms D Kgomo til September 2012;
- Ms Cobbinah - appointed to the Committee in October 2012;
- Mr D Elbrecht - term of office on the Board expired in November 2012; and
- Mr M Mimi - appointed to the Committee in January 2013

The Transformation and Development Committee convened three times during the period under review. Attendance at meetings was as follows:

Names	Date of the meeting April 2012 – March 2013		
	18 Apr 12	10 Jul 12	17 Oct 12
Mr N Lesufi – Chairperson	✓	✓	✓
Ms M Liefferink	N/A	N/A	N/A
Ms D Kgomo	✓	✓	N/A
Mr D Elbrecht	✓	x	✓
Ms N Cobbinah	N/A	✓	✓

✓ ***Member present at the meeting.***

x ***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.***

3.5 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 2013 are stated in Note to the annual financial statements on page.

3.6 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 adopted the Public Sector Risk Management Framework issued by the National Treasury. This is also in compliance with the requirements of Section 51 of the Public Finance Management Act (PFMA, Act No. I of 1999).

Risk Management Strategies to identify Risks and Manage the Risks

A Risk Steering Committee was established to ensure effective implementation of risk management at the NNR. The committee consists of senior managers and managers of the organisation. The committee reports to the Audit and Risk Management Committee (ARMCOM), a Board committee. The committee met quarterly to discuss the current and potential risks facing the organisation. A Risk Champions' Forum, which consist of managers and senior staff of the organisation and reports to the Risk Steering Committee, was also established. The Risk Champions' Forum met quarterly to monitor and ensure that actions to address the identified risks are implemented.

An annual risk assessment, inclusive of internal and external risk factors, was conducted in this financial year. The strategic and operational risk registers were then 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 owners 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 Audit and Risk Management Committee and the Board.

Identification of new risks is a standing agenda item at the NNR Board. Identified risks are assessed and included in the relevant risk registers.

3.7 INTERNAL CONTROL

The Board has reviewed and approved policies and procedures presented by management, which will ensure that internal controls are effectively implemented. In this way, the Board is responsible for ensuring that internal controls at all levels are effective. .

Further, the Internal Audit and Risk Management function reviews internal controls and reports its findings to management and ARMCOM. The function also reported on the progress made by management in addressing the outstanding findings. The Internal Audit and External Audit findings were presented to the Board, quarterly.

3.8 INTERNAL AUDIT AND AUDIT COMMITTEES

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

The Head of Internal Audit reports administratively to the CEO and functionally to the 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.

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 be included in the annual 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 projects, special investigations, requests from management and ARMCOM. ARMCOM is responsible for approving the plan based on the agreed scope of work that needs to be performed.

Summary of Audit Work Done

In the 2012/2013 financial year, 13 internal audits and two special request audits were conducted. Two audits were in progress at the end of the financial year. The internal audits were conducted in the following areas:

No.	Department and Function	Number of Audits Conducted	Type of Audit Conducted	Status of Audit
1	SARA, Reviews and Assessments	1	Process	Completed
2	SARA, Nuclear Security	1	Follow-up	Completed
3	Compliance Assurance and Enforcement	1	Process	Completed
4	Finance, Supply Chain Management	1	Special Request	Completed
5	Corporate Support Services, Payroll	1	Special Request	Completed
6	Corporate Support Services, Payroll	1	Process	Completed
7	Corporate Support Services, Leave Management	1	Process	Completed
8	Corporate Support Services, Information Technology	1	Follow up	Completed
9	Strategy and Organisational Performance, Quarter four of 11/12 review	1	Compliance	Completed
10	Strategy and Organisational Performance, Quarter two of 12/13 review	1	Compliance	Completed
11	Communications and Stakeholder Relations, International Obligations Management	1	Process	Completed
12	Communications and Stakeholder Relations, Communications Management	1	Process	Completed
13	Finance, Follow up on Auditor General audit report	1	Follow up	Completed
14	Finance, Financial Administration	1	Process	In progress
15	Corporate Support Services, Human Resources Management	1	Process	In progress

Key Activities and Objectives of the Audit Committee

The Committee comprises five members elected by the Board. All members of the Committee are suitably skilled and experienced, independent Directors. The Committee has an independent role with accountability to the Board. The Committee does not assume the functions of management, which remain the responsibility of the Executive Management. The Committee acts in accordance with its statutory duties and the delegated authority of the Board.

The committee assists 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

3.9 FRAUD AND CORRUPTION

The NNR conducted a fraud risk survey in June 2012, after which a Fraud and Corruption Prevention Manual, was developed and approved by the Board. .The Manual includes the Fraud and Corruption Prevention Policy, the Fraud and Corruption Prevention Plan, the Fraud and Corruption Response Plan and the Whistle-blowing Policy.

The Manual is an official indication that the NNR has adopted a culture of integrity, openness and fairness. The aim of the Manual is to facilitate the development of controls, which will assist in mitigating the risks of fraud and corruption and be the basis for the prevention and detection of these possible challenges at the NNR, and to provide guidelines as to how to respond when instances of fraud and corruption (alleged or real) are identified.

Workshops were held with staff members to present the Manual and to ensure implementation and compliance with the detailed reporting processes. Staff members were encouraged to report fraud, and relevant numbers to be used for internal and external reporting, were provided. No fraud or potential fraud cases were reported in this financial year.

3.10 SOCIAL RESPONSIBILITY



Social Outreach at Tshireleco School in Northern Cape

In 2012/2013, the NNR's corporate social responsibility (CSR) thrust focused on supporting skills development among the youth specifically targeting learners who are studying mathematics and science at high school level to encourage them to take up technical subjects, such as engineering at university or further education and training (FET) college.

The key focus areas for the NNR during 2012/2013 were;

- Participation in the DoE-led Learners' Focus Week Programme to create science and technology awareness among for learners;
- Implementation of a structured job shadowing Programme for five learners via the Techno Girl Programme;
- Sponsorship towards the promotion of careers for Women in Nuclear energy via the WiN-NNR Programme; and
- Sponsorship towards the refurbishment of Tshireleco High School facilities in the Northern Cape.





Section 4

HUMAN RESOURCE MANAGEMENT



4.1 INTRODUCTION AND OVERVIEW OF HUMAN RESOURCES (HR)

The HR priorities for the year under review focussed largely on refining the basics to be able to ultimately move from a transactional HR service to a more strategic, innovative HR solution.

HR priorities for the year under review and the impact of these priorities were;

- Development and implementation of the Employment Equity Plan.
- Development and implementation of the Workplace Skills Plan.
- Implementation of the Leadership Development Programme.
- Development of an effective Talent Management Strategy.
- Roll out of the Data Integrity Project.
- Conducting of a Climate Survey.
- Development of a Workforce Planning Framework and key strategies
- to attract and recruit a skilled and capable workforce.

Employee Performance Management Framework

The performance management system is aligned to the annual performance cycle. The framework ensures that performance contracts are concluded by all employees at the start of the performance cycle and are informed by departmental annual plans. Individual performance reviews are done biannually to ensure that performance challenges are detected and addressed timeously. The final assessment outcomes are moderated and finally used to determine performance incentive bonuses in line with both the performance management policy as well as the incentive policy. This process is being automated to ensure efficiency.

Employee Wellness

The NNR recognises that employees may encounter personal challenges, which may hinder them from performing optimally. As a caring employer, the NNR has secured external services to assist with professional interventions to employee problems, which may affect their performance. These interventions include financial advice, legal advice, relationships, family matters, substance abuse, work, stress and trauma. The service is available 24 hours a day throughout the year, including weekends.

Policy Development

Highlights

Eight key HR policies were developed and reviewed during this period, mainly to address audit findings for the previous year. All approved policies were workshopped throughout the entity to ensure understanding and compliance. These, along with all existing NNR HR policies and procedures, are currently in force. The HR Strategic Plan 2012 - 17 was developed and implementation is on-going. Major highlights in the HR space include the automation of HR processes using a system that integrates with the payroll system. This will ensure efficiencies in providing transactional HR data, as well as in complying with the legislative reporting requirements. This also resulted in the data integrity project, which sought to ensure that the information loaded onto the system is accurate and current.

Challenges faced by the NNR

Certain key projects which were prioritised could not be executed. This is largely attributed to the HR structure, which is not aligned to the strategy. While HR has implemented automation of its processes, it could not assign capacity to manage the systems data, a situation that has resulted in the under-utilization of the system as most information is not loaded on time due to lack of personnel specifically assigned to the task. The use of the system is thus dependent on personal preference. The resignation of the personnel practitioner exacerbated the challenge.

Future HR Plans /Goals

HR will focus on all elements of talent management to ensure that talent is identified, nurtured, optimally utilized and retained.Succession Planning will be a key element to ensure a pool of key personnel to key positions

4.2 HUMAN RESOURCES OVERSIGHT STATISTICS

Personnel Cost: Programme

Programme	Total Expenditure for the entity (R'000)	Personnel Expenditure (R'000)	Personnel exp. as a % of total exp. (%)	No. of employees	Average personnel cost per employee (R'000)
Administration	120 234	21 029	17	31	678
Standards Authorizations & Reviews Assessments	120 234	36 051	30	38	949
Compliance Assurance and Enforcement	120 234	18 026	15	26	693
TOTAL		**75 106**		**95**	

Personnel Cost: Salary Band

Level	Personnel Expenditure (R'000)	% of personnel exp. to total personnel cost	No. of employees	Average personnel cost per employee (R'000)
Top Management	1 292	2	1	1 292
Senior Management	2 591	3	2	1 296
Professional qualified	61 621	82	67	919
Skilled	4 476	6	9	497
Semi-skilled	4 572	6	13	352
Unskilled	554	1	4	139
TOTAL	**75 106**	**100**	**95**	**791**

Performance Rewards

Programme	Performance rewards (R'000)	Personnel Expenditure (R'000)	% of performance rewards to total personnel cost
Top Management	264	1 292	20
Senior Management	46	2 591	1,8
Professional qualified	762	61 621	1,2
Skilled	30	4 476	0,7
Semi-skilled	60	4 572	1.3
Unskilled	7	554	1.3
TOTAL	**1 169**	**75 106**	**1,6**

Training Costs

Directorate/ Business Unit	Personnel Expenditure (R'000)	Training Expenditure (R'000)	Training Expenditure as a % of Personnel Cost.	No. of employees trained	Avg training cost per employee R'000
CSS	8 697	222	3	16	14
Finance	6 916	154	2	12	13
SARA	36 052	101	0.3	7	14
Internal Audit	1 276	22	1.7	2	11
Strategy	1 047	195	19	11	18
CAE	18 025	277	1.5	16	17
Legal	1 579	14	1	2	7
CEO	1 514	48	3	3	16
TOTAL	**75 106**	**1 033**	**1.3**	**69**	**15**

Employment and Vacancies

Programme	2011/2012 No. of Employees	2012/2013 Approved Posts	2012/2013 No. of Employees	2012/2013 Vacancies	% of vacancies
Top Management	1	1	0	1	100%
Senior Management	2	2	2	0	0%
Professional qualified	57	69	67	3	4%
Skilled	7	12	9	3	25%
Semi-skilled	14	16	13	3	19%
Unskilled	4	4	4	0	0%
TOTAL	**85**	**104**	**95**	**10**	**10%**

Apart from the vacant positions of Legal Counsel , CFO and CEO, for which suitable candidates were found at third attempt after soliciting the services of a talent search company, all other vacant positions were filled timeously.

Salary Band	Employment at beginning of period	Appointments	Terminations	Employment at end of the period
Top Management	1	0	1	0
Senior Management	2	1	1	2
Professional qualified	57	14	4	67
Skilled	7	4	2	9
Semi-skilled	14	1	2	13
Unskilled	4	0	0	4
TOTAL	**85**	**20**	**10**	**95**

Reasons for Staff Leaving

Reason	Number	% of total no. of staff leaving
Death	0	0%
Resignation	8	8.5%
Dismissal	1	1%
Retirement	0	0%
Ill health	0	0%
Expiry of contract	1	1%
Other	0	0%
TOTAL	**10**	**10.5%**

Most employees left for better prospects, and most of these vacancies have been filled with the exception of one, which will not be permanently filled pending the reconfiguration of the organisational structure.

Labour Relations: Misconduct and Disciplinary Action

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

Equity Target and Employment Equity Status

Levels	MALE							
	African		Coloured		Indian		White	
	Current	Target	Current	Target	Current	Target	Current	Target
Top Management	0	1		0	0	0	0	0
Senior Management	1	2	1	4	0	2	0	1
Professional qualified	19	23	6	5	3	1	12	15
Skilled	4	3	0	0	0	0	0	0
Semi-skilled	0	0	0	0	0	0	0	0
Unskilled	1	0	0	0	0	0	0	0
TOTAL	**25**	**29**	**7**	**9**	**3**	**3**	**12**	**16**

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	0	3	0	1	0	1	0	0
Professional qualified	20	20	0	2	1	2	2	4
Skilled	1	10	0	1	0	0	2	5
Semi-skilled	8	0	1	0	0	0	3	0
Unskilled	0	0	0	0	0	0	0	
TOTAL	**29**	**33**	**1**	**4**	**1**	**3**	**7**	**9**

Levels	DISABLED STAFF			
	MALE		FEMALE	
	Current	Target	Current	Target
Top Management	0	0	0	1
Senior Management	0	0	0	0
Professional qualified	1	1	0	0
Skilled	0	0	0	0
Semi-skilled	0	0	1	0
Unskilled	0	0	0	0
TOTAL	1	1	1	1

"Whatever nature has in store for mankind, unpleasant as it may be, men must accept, for ignorance is never better that knowledge."

Enrico Fermi - Italian Physicist





Section 5

REGULATION OF NUCLEAR ACTIONS

5. REGULATION OF NUCLEAR ACTIONS

5.1 CORE BUSINESS

The regulation of nuclear actions at the NNR is performed by two technical divisions, namely Standards, Authorisations, Reviews and Assessments (SARA) and Compliance Assurance and Enforcement (CAE).

Standards, Authorisations, Reviews and Assessments (SARA) Division

The SARA Division is primarily responsible for the management of the following functions at the NNR:

- 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; and
- Managing special nuclear related projects of a regulatory nature.

The 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 and response, and security exercises.

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; and
- 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 of enforcement action for identified non-compliances.
- Strengthening independent analytical verification capability and capacity within the NNR.
- Enhancing regulatory Programmes and the application of safety focused research.

The Regulatory Process

In accordance with the provisions of the NNR Act, the NNR is mandated to exercise regulatory control over nuclear installations, nuclear vessels and other actions capable of causing nuclear damage. The purpose of the regulatory process is to ensure the protection of persons, property and the environment from nuclear damage. The regulatory process entails authorisation, safety case review and assessment, and the undertaking of compliance assurance and enforcement activities as appropriate.

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, and
- 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 decom-missioning. 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.



Standard conditions included in a nuclear authorisation address:

- The description and configuration of the authorised facility or action;
- Requirements in respect of modification to facilities;
- Operational requirements in the form of operating technical specifications, procedures or Programmes as appropriate;
- Maintenance testing and inspection requirements;
- Operational radiation protection Programmes;
- Radioactive waste management Programmes;
- Emergency planning and preparedness requirements as appropriate;
- Physical security;
- Transport of radioactive material;
- Public exposure safety assessments;
- Quality assurance; and
- Reporting.

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.

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.

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, 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; and
- Taking all necessary measures to prevent recurrence.

In certain instances, the NNR has performed its own investigation.

5.2 LIST OF AUTHORISATIONS GRANTED BY THE NNR

The following tables details the nuclear authorisations granted by the NNR to date;

Authorisation	Nuclear Installations (NIL)
NIL-01	Koeberg Nuclear Power Station
NIL-02	SAFARI - 1 Research Reactor
NIL-03	P2700 Complex
NIL-04	Thabana Complex comprising the following facilities: Thabana Pipe Store; Thabana Radioactive Waste Storage facility; Thabana 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-2500
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

Authorisation	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-2900
NIL-25	Building XB
NIL-26	BEVA Evaporation Ponds
NIL-27	Building P-2800
NIL-28	Vaalputs National Radioactive Waste Disposal Facility
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) in
NIL-41	Liquid Effluent Treatment Facility Complex
NIL-42	B-1 Building Basement

Certificates of Exemption (COE)		
COE Number	**Name of COE Holder**	**Type of COE issued**
COE-02	Oranje Mynbou En Vervoer Maatskappy	Condition for reclaimation of gypsum
COE-03	Nitrogen Products (Pty) Limited	Condition for reclaimation of gypsum
COE-04	Oranje Mynbou En Vervoer Maatskappy	Conditions for reclaimation and release of waste rocks
COE-12	The Maretsel Property Trust Developers	Conditions for removal of Tailing footprint

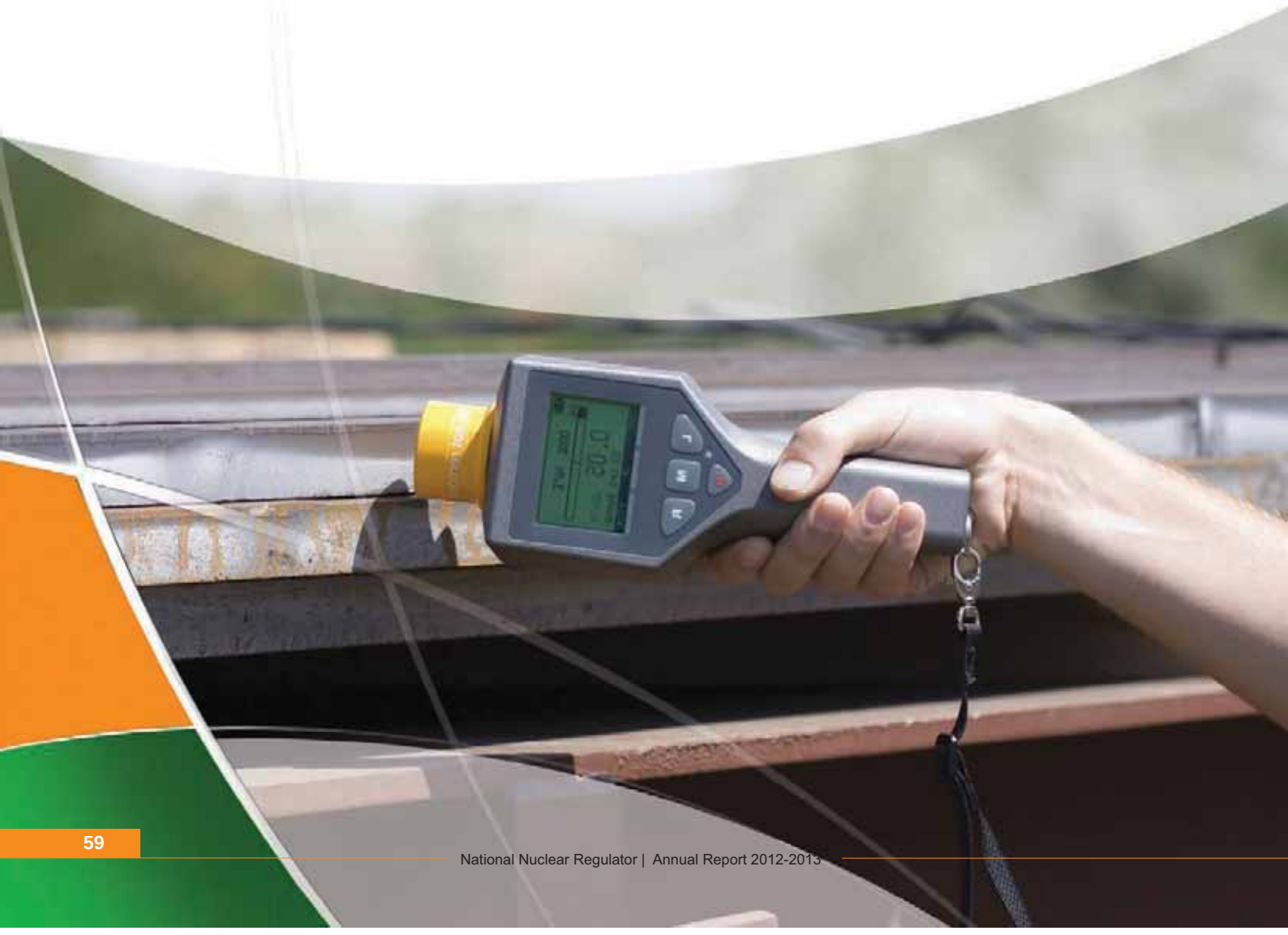
Nuclear Vessel Licence	
NVL Number	**Name of Holder**
NVL 11	HMS Talent of the Royal Navy
NVL 15	Team Spirit Merchant Vessel

COR Number	Certificates of Registration (COR)	Type of COR issued
COR-2	Anglogold Ashanti Limited: Vaal River Operations	Mining & mineral processing
COR-3	Anglogold Ashanti Limited - West Wits Operations	Mining & mineral processing
COR-4	Anglogold Ashanti Limited - Ergo Operations	Mining & mineral processing
COR-5	ARMgold/Harmony Freegold Joint Venture Company (Pty) Ltd (Tshepong, Matjhabeng & Bambani Operations)	Mining & mineral processing
COR-6	ARMgold/Harmony Freegold Joint Venture Company (Pty) Ltd (Joel operation)	Mining & mineral processing
COR-7	African Rainbow Minerals Gold Limited (Welkom Operations)	Mining & mineral processing
COR-10	Avgold Limited - Target Division	Mining & mineral processing
COR-11	Gravelotte Mines Limited	Mining & mineral processing
COR-13	MTC Demolition	Scrap Processor
COR-16	Nuclear Fuels Corporation of SA (Pty) Limited	Mining & mineral processing
COR-18	South Deep Join Venture	Mining & mineral processing
COR-19	Palabora Mining Company (Pty) Limited	Mining & mineral processing
COR-20	Foskor Limited (Phalaborwa)	Mining & mineral processing
COR-22	Fer-Min-Ore (Pty) Limited (Zirtile Milling)	Mining & mineral processing
COR-23	Steenkampskraal Monazite Mine (Pty) Limited	Mining & mineral processing
COR-25	Eggerding SA (Pty) Limited	Mining & mineral processing
COR-26	Richards Bay Iron and Titanium (Pty) Limited	Mining & mineral processing
COR-27	Foskor Limited (Richards Bay)	Mining & mineral processing
COR-28	Randfontein Estates Limited-(Kusasaletheu)	Mining & mineral processing
COR-30	Mine Waste Solutions (Pty) Limited	Mining & mineral processing
COR-31	Ya-Rona Scrap Metals	Scrap Processor
COR-32	CJN Metal Dealers CC	Scrap Processor
COR-33	Rampete Metal Processors (Pty) Ltd	Scrap Processor
COR-34	DMC Energy (Pty) Limited	Mining & mineral processing
COR-36	Stilfontein Gold mining Company Limited	Mining & mineral processing
COR-37	Harmony Gold Mining Company Limited (Free State Operations)	Mining & mineral processing
COR-38	Omnia Phosphates (Pty) Ltd	Fertlizer manufacturer
COR-39	Yara South Africa (Pty) Ltd	Scrap Processor
COR-40	ARMgold/Harmony Freegold Joint Venture Company (Pty) Ltd (St Helena Operations)	Mining & mineral processing
COR-41	Blyvooruitzicht Gold Mining Company Limited	Mining & mineral processing
COR-43	Exxaro KZN Sands	Mining & mineral processing
COR-45	Anglo Operations Limited: (Rand Scrap Iron)	Scrap Processor
COR-46	Evander Gold Mines Limited	Mining & mineral processing
COR-47	Grootvlei Properties Mines Ltd	Mining & mineral processing
COR-48	DRDGOLD Limited	Mining & mineral processing
COR-50	Rappa Resources (Pty) Limited	Mining & mineral processing
COR-51	Consolidated Modderfontein (Pty) Limited	Mining & mineral processing
COR-52	Nigel Gold Mining Company Limited	Mining & mineral processing
COR-53	East Rand Proprietary Mines Limited	Mining & mineral processing
COR-54	Cronimet (RSA) Pty Ltd	Scrap Processor
COR-57	Crown Gold Recoveries Pty) Limited	Mining & mineral processing
COR-58	Harmony Gold Mining Company Limited - Randfontein Operations	Mining & mineral processing

COR Number	Certificates of Registration (COR)	Type of COR issued
COR-59	Industrial Zone Limited	Mining & mineral processing
COR-61	Sedex Minerals	Mining & mineral processing
COR-64	Potchefstroom Plastiek Herwinning BK	Scrap Processor
COR-66	Mintek	Small user
COR-69	GFI Mining SA (Pty) Ltd (Driefontein Operations)	Mining & mineral processing
COR-70	GFI Mining SA (Pty) Ltd (Kloof Operation)	Mining & mineral processing
COR-71	GFI Mining SA (Pty) Ltd (Beatrix Operation)	Mining & mineral processing
COR-76	Blastrite (Pty) Limited	Mining & mineral processing
COR-77	Anglo American Research Laboratories (Pty) Limited	Small user
COR-74	Durban Roodepoort Deep Mine	Mining & mineral processing
COR-79	Durban Roodepoort Deep Limited	Mining & mineral processing
COR-80	Mogale Gold (Pty) Ltd	Mining & mineral processing
COR-81	Metrec	Mining & mineral processing
COR-84	The Big Bin CC	Scrap Processor
COR-86	Glenover Phosphate Limited (Mining Site) Operation)	Mining & mineral processing
COR-87	Rand Refinery Limited	Mining & mineral processing
COR-92	The Forensic Science Laboratory, SA Police	Small user
COR-97	Geratech Zirconium Beneficiation (Ltd)	Mining & mineral processing
COR-95	Microzone Trading 69 cc	Scrap Processor
COR-98	B G Scrap Metals (Pty) Ltd	Scrap Processor
COR-99	Roode Heuwel Sand Limited	Mining & mineral processing
COR-100	South African Airforce (SAAF),Department of Defence (DoD), RSA	Small user
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 & mineral processing
COR-105	Tantilite Resources	Scrap Processor
COR-106	Mineral Sands Resources Pty Ltd	Mining & mineral processing
COR-107	Vesuvius South Africa (Pty) Ltd	Mining & mineral processing
COR-109	SM Mining Construction Pty Ltd	Mining & mineral processing
COR-110	Geotron Systems (Pty) Limited	Small user
COR-111	Farmers World Limpopo(Pty) Ltd	Mining & mineral processing
COR-112	Scaw Metals Group	Scrap Processor
COR-117	Vic Ramos CC	Scrap Processor
COR-118	GoldPlats Recovery Ltd	Mining & mineral processing
COR-119	Huntrex 196 Pty Ltd (trading as Ceracast)	Mining & mineral processing
COR-131	East Rand Metals Beneficiations (Pty) Ltd	Mining & mineral processing
COR-132	Grifo Engineering (Pty) Ltd	Small user
COR-135	Tioxide SA (Pty) Ltd	Mining & mineral processing
COR - 156	Necsa Calibration Facility for Radiometric Instruments	Small user
COR-159	North West Reclaiming	Scrap Processor
COR-160	Shiva Uranium One	Mining & mineral processing
COR-164	Sulzer Pumps (SA) Limited	Service provider

COR Number	Certificates of Registration (COR)	Type of COR issued
COR-165	Uramin Mago Lukisa	Mining & mineral processing
COR-166	Weston Scrap Metal	Scrap Processor
COR-167	Western Uranium (Pty) Ltd	Mining & mineral processing
COR-178	Durban Container Terminal - Business Unit of SA Port Operations	Small user
COR-180	SA Port Operations - Container Terminal Cape Town	Small user
COR-181	Transnet Limited (SA Port Operations -Multipurpose Terminal,Saldanha bay)	Small user
COR-182	Buffelsfontein Gold Mine Limited	Mining & mineral processing
COR-183	Tasman Pacific Minerals (Pty) Limited	Mining & mineral processing
COR-186	AfriSam (Pty) Limited	Small user
COR-190	Ezulwini Mining Company Ltd	Mining & mineral processing
COR-194	Exxaro Resources	Small user
COR-195	Houlgon Uranium & Power (Pty) Ltd	Mining & mineral processing
COR-197	Gold Reef City Theme Park	Small user
COR-198	Set Point Industrial Technologies (Pty) Ltd (Isando)	Small user
COR-199	Uramin Mago Lukisa	Mining & mineral processing
COR-200	Uramin Mago Lukisa	Mining & 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 & mineral processing
COR-206	Uranium One and Micawber 397 (Proprietary) Limited	Mining & mineral processing
COR-207	Set Point Industrial Technologies (Pty) Ltd (Mokopane)	Small user
COR-210	Tasman Pacific Minerals (Pty) Limited	Mining & mineral processing
COR-211	Tasman Pacific Minerals (Pty) Limited	Mining & mineral processing
COR-215	Margaret Water Company	Mining & mineral processing
COR-216	Paddy's Pad 1183 (Pty) Ltd	Mining & mineral processing
COR-217	Cango Caves Oudtshoorn Municipality	Small user
COR-218	Grindrod Terminals (Pty) Limited	Service provider
COR-219	Southgold Exploration (Pty) Limited	Mining & mineral processing
COR-220	African Empowered Aggregates CC	Mining & mineral processing
COR-221	Tasman Pacific Minerals (Pty) Limited	Mining & mineral processing
COR-222	Tasman Pacific Minerals (Pty) Limited	Mining & mineral processing
COR-223	Tasman Pacific Minerals (Pty) Limited	Mining & mineral processing
COR-225	New Kleinfontein Goldmine (Pty) Limited	Mining & mineral processing
COR-226	Rand Uranium (Pty) Limited	Mining & mineral processing
COR-227	WG Wearne Limited	Small user
COR-228	Ergo Mining (Pty) Limited	Mining & 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 & mineral processing
COR-233	Central Rand Gold South Africa (Pty) Limited (East)	Mining & mineral processing
COR-234	Pamodzi Gold Orkney (Pty) Limited	Mining & mineral processing
COR-235	IM Motlhabane Farming CC (T/A Motlhabane Recycle Scrap)	Scrap Processor
COR-236	Reclaim Invest 101 (Pty) Limited	Scrap Processor

COR Number	Certificates of Registration (COR)	Type of COR issued
COR-238	Exxaro TSA Sands (Pty) Limited (Namakwa Sands Operations)	Mining & mineral processing
COR-239	Aflease Gold Limited	Mining & mineral processing
COR-240	Tantus Trading 180 (Pty) Ltd	Mining & mineral processing
COR-242	Enviro Mzingazi Gypsum (Pty) Limited	Small user
COR-245	Namakwa Uranium (Pty) Limited	Mining & mineral processing
COR-246	NTP Logistics (Pty) Limited	Service provider
COR-247	SGS South Africa (Pty) Ltd	Small user
COR-248	Foskor Zirconia (Pty) Limited	Mining & mineral processing
COR-249	Pro Mass Transport (Pty) Ltd	Mining & mineral processing
COR-250	JCI Gold Limited	Mining & mineral processing
COR-252	Harmony Gold Mining Company Limited (South Operations)	Mining & mineral processing
COR-253	Avgold Limited (North Operations)	Mining & 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	Small user
COR-260	African Mineral Standards (a division of Set Point Industrial Technology (Pty) Ltd)	Small user
COR-261	North West University	Small user
COR-262	UIS Analytical Services (Pty) Ltd	Small user
COR-263	Aklin Carbide (Pty) Ltd	Service provider



5.3 REGULATION OF NUCLEAR POWER PLANTS - KOEBERG NUCLEAR POWER STATION (KNPS)



Koeberg Nuclear Power Station located in Western Cape

Koeberg Nuclear Power Station (KNPS) is currently the only nuclear power station in South Africa and the entire African continent. It is located in Melkbosstrand on the west coast of South Africa. Koeberg is owned and operated by South Africa's only national electricity supplier, Eskom. The two nuclear reactors at the power station form the entirety of the South African nuclear power generation Programme. Koeberg supplies power to the national grid so that over-capacity can be redistributed to the rest of the country on an as-needed basis.

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, NL-1 variation 17, contains 19 conditions.

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, NL-1. 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.

5.3.1 Occupational Exposure to Radiation

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

The worker doses at KNPS were within regulatory limits during the period under review. 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). The highest annual individual dose accrued during 2012 was 14.63mSv. The average annual individual dose of the total exposed occupational workforce was approximately 0.54mSv. The maximum and average doses are acceptable considering the regulatory limits of 20mSv and the ALARA target of 4mSv respectively.

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.
Average individual worker dose	Controlled by application of the ALARA principle. The ALARA target for the annual average individual dose is 4mSv per annum.

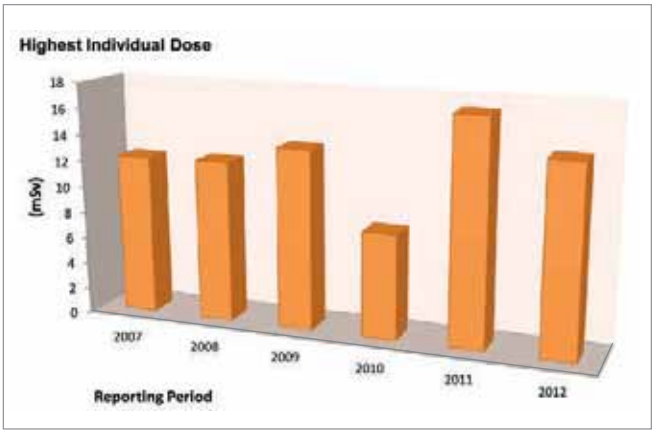


Figure 1: Highest individual dose at Koeberg (2007 - 2012)

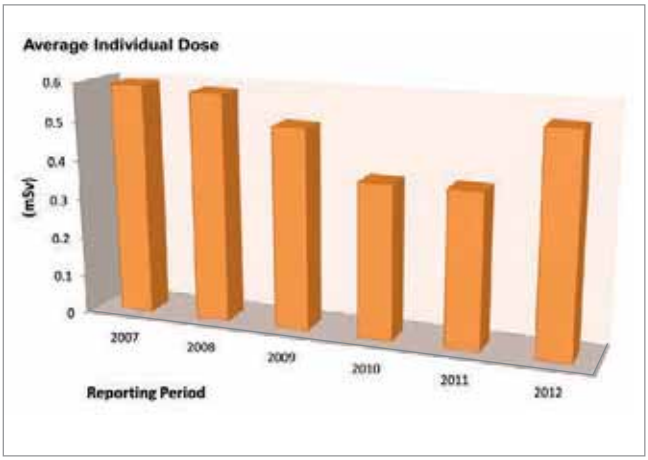


Figure 2: Average individual dose at Koeberg (2007 to 2012)

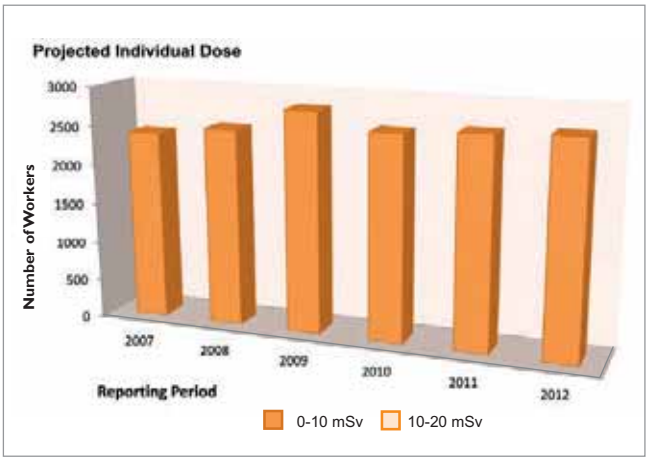


Figure 3: Occupational exposure at Koeberg (Dose bandwith) 2007 to 2012

The dose distribution arising from the occupationally exposed workers accrued from 2007 to 2012 is illustrated in the figures above.

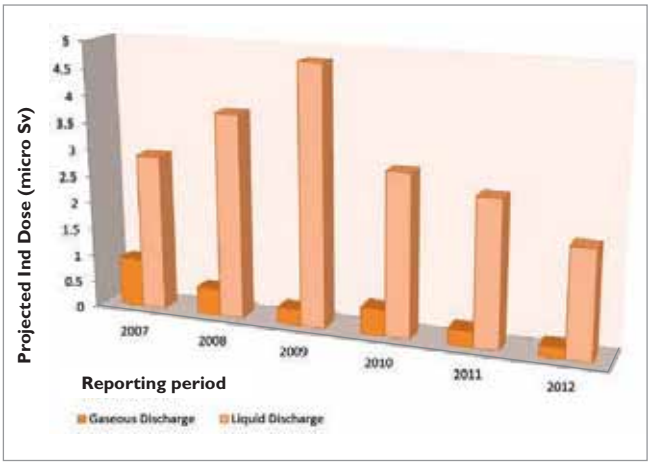


Figure 4: Projected public dose (gaseous and liquid) 2007 to 2012

The projected public dose (gaseous and liquid) from Koeberg for 2007 to 2012 is illustrated in Figure 4 above.

5.3.2 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 0.25mSva/a and the system of Annual Authorised Discharge Quantities (AADQ's) applicable to the site. KNPS complied with the AADQ's and the projected public doses resulting from the effluent releases (both liquid and gaseous) were well within the dose constraint for the 2012 calendar year. The maximum public dose for 2012 was determined to be 0.0023 mSv which is considered acceptable given the NNR regulatory limit of 0.250 mSv per annum for Koeberg.



NNR Inspectors at Koeberg Nuclear power station

5.3.3 Percentage AADQ in Effluent discharged during 2012

The effluent discharges for key radionuclides for 2012 are given in the table below. These show compliance to the Annual Authorised Discharge Quantities (AADQs), which are established to ensure compliance with the public dose limit referred to in the following table.

Quarter	Liquid pathway dose in µSv/a	Gaseous pathway dose in µSv/a	Total projected dose in µSv/a
1	0.61665	0.04197	0.65862
2	0.48394	0.04438	0.52832
3	0.26059	0.04775	0.30834
4	0.74382	0.04747	0.79129
Total for the calendar year (January – December 2012)	2.105	0.18157	2.28657

Table 1: Percentage of AADQ in effluent discharged during calendar year 2012

5.3.4 Nuclear Safety

The authorisation holder's commitment to safety of the plant and operations have been confirmed by the inspections performed. Where it has been seen 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) Reassessment of Koeberg following the Fukushima Accident

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

- Compliance with the current design basis for external events.
- Stress Tests, i.e. robustness against external events beyond the design basis.
- Adequacy of accident management and emergency planning.

In response to the Fukushima accident, Eskom established an External Events Review Team (EERT) and commenced with the implementation guidelines issued by the Institute of Nuclear Power Operators (INPO) and the World Association of Nuclear Operators (WANO) focusing on the above aspects, but predominantly addressing plant equipment, people, procedures and nuclear culture. The EERT approach was to assess the design base readiness by a review of system health indicators as well as a review of all non-conformance reports, operability determinations and temporary alterations.

- The NNR finalised the South African National Report, which was submitted to the IAEA for the Second Extraordinary Meeting of the Convention on Nuclear Safety (CNS) of August 2012. At this meeting, the national reports were summarised, and guidelines for reporting and peer review provided. It was also agreed that the updated national reports would be discussed at the Sixth CNS meeting sceduled to take place in 2014.

- During the review period, Eskom undertook the following activities;
  - Submitted a second revision of the post-Fukushima Koeberg reassessment covering additional external events, as well as addressing NNR comments on the first submission.
  - Submitted a strategy for maintenance and testing of equipment needed for response to beyond design basis accidents.
  - Implemented a number of short-term corrective actions.
  - Conducted ongoing seismic reassessments are scheduled for completion by 2014, and the accident procedure enhancements by 2015. Overall, the post-Fukushima project is expected to be completed by 2022.

- The NNR position to date may be summarised as follows:
  - The assessments conducted by Eskom conform to the NNR directive and are in accordance with (and scope in excess of) international practice.
  - The nuclear installations are adequately designed, maintained and operated to withstand all external events considered in the design base.
  - There were no findings to warrant curtailing operations or to question the design margins of these facilities.
  - The safety reassessments identified a number of potential improvements to further reduce risk beyond the design requirements.
  - Follow-up studies needed to be performed to confirm the conclusions and consolidate the formal licensing documentation.
  - Identification of areas for improvement of the Regulatory Standards and Regulatory Practices which will be addressed as part of the current review of the Regulatory Framework project initiated in 2010.

- Improvements to the regulations relate to:
  - The inclusion of specific requirements on combinations of events for beyond design basis events.
  - The inclusion of specific provisions relating to elevating the level of testing and maintenance of all equipment included in the respective severe accident management measures.
  - The inclusion of specific requirements related to the robustness of accident management measures and emergency planning arrangements considering beyond design basis external events.
  - A recommendation that South Africa perform a full self-assessment of all Emergency Planning and Response Infrastructures using the IAEA Emergency Preparedness Review (EPREV) and Self-Assessment guidelines.
  - Koeberg being one of the first nuclear power plants to implement Severe Accident Management Guidelines (SAMGs), and the NNR the first regulator to include these in the regulatory process.
  - Continued consistent enforcement of conservative emergency planning zones around Koeberg, informed by risk analysis, beyond what has been required up to now in any other country in the world. Following the Fukushima accident requirements on emergency plans, including zone sizes, are being revisited internationally.
  - Consistent application of restrictions on developments in the formal emergency planning zones of Koeberg, also informed by risk analysis, beyond present international requirements - the City of Cape Town Disaster Management and Spatial Planning authorities have been very supportive in this regard.

(ii) Second Safety Reassessment

The second periodic reassessment of Koeberg has been completed by Eskom. The report on the reassessment, which commenced in April 2008, has been submitted to the NNR. The NNR has undertaken to review this submission which will culminate in a report, due in 2013, on the continued safe operation of the plant.

(iii) Emergency Planning Technical Basis

The NNR Position Paper on Technical Bases for Emergency Planning in nuclear installations was finalised during the period under review.

(iv) Steam Generator Replacement (SGR)

The Steam Generator Replacement 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 NNR is preparing for the SGR project by developing safety requirements and undertaking recruitment of relevant technical regulatory staff to work on the project.

(v) New Nuclear Build Programme

The NNR continued with the development of regulations, position papers and guidelines in preparation for the New Build Programme.

(vi) Spent Fuel Interim Storage

Eskom indicated that spent fuel storage capacity at Koeberg will need to be expanded, and has submitted a proposed strategy for spent fuel dry storage which includes the following four phases:

(i) Extension of the use of the existing (four) spent dry fuel casks in the Cask Storage Building (CSB) at Koeberg.
(ii) Acquisition and use of additional casks to be stored in the CSB.
(iii) Establishment of a Transient Interim Storage Facility (TISF) (on the Koeberg site).
(iv) Establishment of a Centralised Interim Storage Facility (CISF) (off-site).

The NNR has formally accepted the strategy subject to the necessary approvals. The NNR presented its licensing strategy for these projects at a workshop held by the Department of Energy in Pretoria on 6 December 2013. In February 2013 the NNR approved Eskom's submission for the extension of the use of the existing spent fuel casks until March 2018.

(vii) Refuelling Water Storage Tank (PTR) Replacement

Each reactor unit at Koeberg has one PTR tank which provides water for cooling the reactors in the event of an accident. The view of infrastructure maintenance Eskom has indicated that it plans to initiate the PTR tank replacement project in the near future.

(viii) Configuration Control Issue

Eskom implemented a plan of corrective actions to address the concern raised by the NNR regarding the overall quality of work (mainly by contractors) in the areas of maintenance and in-service inspection. In outage 219, as for outage 119, the NNR continued to monitor implementation of the corrective actions. This will continue into 2013. According to the inspections, there is reasonable improvement in this regard.

(xi) Koeberg Refuelling Outage 219

Outage 219 was completed by 1 December after 79 days. All outstanding issues raised by the NNR were resolved, and the NNR approved fuel reload and return to power (criticality).

(xii) Urban development and Koeberg Traffic Evacuation Model (TEM)

In the light of possible major urban developments within the 16 km radius of Koeberg, as well as international attention to this type of issue post Fukushima, the NNR has conducted a review of the Traffic Evacuation Model and resulting comments have been passed to City of Cape Town for a response.

5.3.5 Competency and Sufficiency of the Operator Workforce to Work Safely

The staffing and competency levels at Koeberg are monitored on the basis of coverage of safety related tasks, taking into account the capacity for continuous coverage, ie the capacity to have several people qualified for a given task so as to provide continuity. The review performed during the review period indicates that all safety related tasks are covered, except for some minor shortfall in continuity (8 out of some 1072 tasks monitored in this period). The NNR considers this acceptable.

5.3.6 Transport Safety

There were no safety concerns involving transport of radioactive material in 2012.

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 activities, including nuclear security inspections, to provide assurance that transport of this nuclear and radioactive material, is conducted safely. Eskom have applied for a nuclear vessel licence for transport of nuclear fuel to Koeberg during 2013. The application for the NVL was published in accordance with requirements.

The following figure reflects the inventory of solid radioactive waste, produced and drummed from 2010-2012.

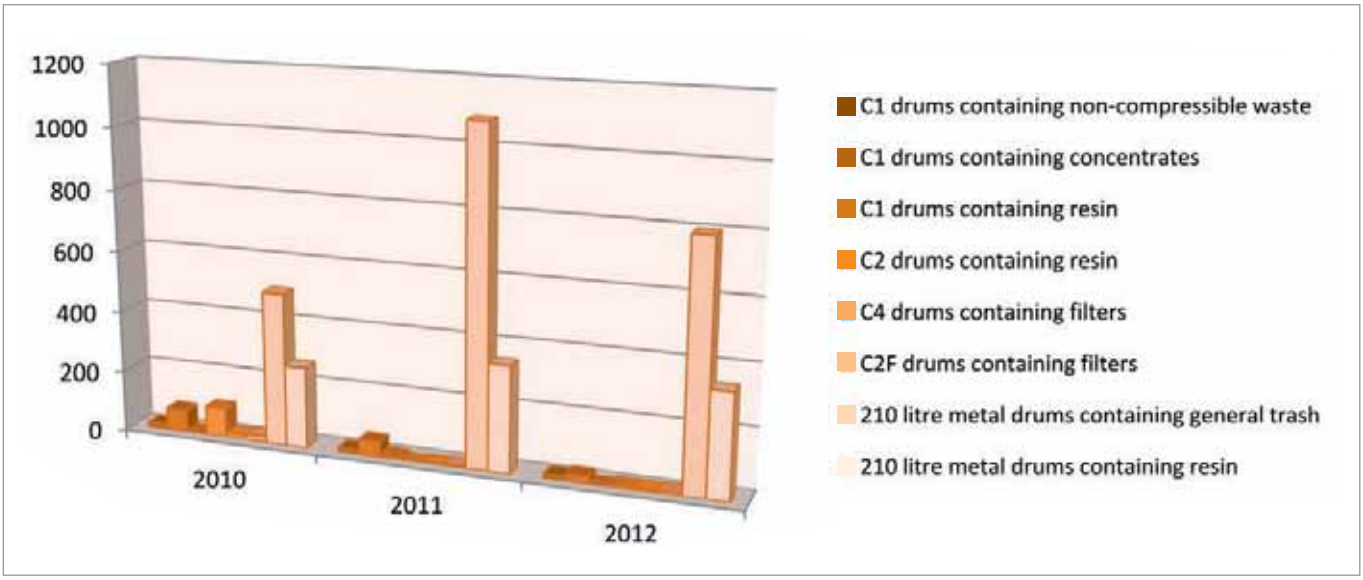


Figure: 5 Inventory of solid radioactive waste produced and drummed from 2010-2012



5.3.7 Radioactive Waste Safety

There were no safety concerns involving the transport of radioactive material in 2012.

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 storing and transporting it.

5.3.8 Environmental Protection

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

5.3.9 Nuclear Emergency Planning and Preparedness

The NNR conducted a regulatory emergency exercise to test the effectiveness of the integrated Koeberg emergency plan on 5 September 2012. The NNR is satisfied that the overall integrated plan is viable and that Eskom and supporting organisations are adequately prepared to manage nuclear emergency situations arising from Koeberg.

5.3.10 Physical Security

There were no concerns with respect to physical security at the Koeberg nuclear power station during the review period.

The physical security requirements at Koeberg are monitored by both the NNR and national key points security functionaries. 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 actively in the security projects initiated. There were no concerns with respect to physical security at the KNPS during the period under review.

5.3.11 Safety of Sealed Radioactive Sources

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 over the review period.

5.3.12 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 that the processes implemented at Koeberg relating to incidents/occurrences were acceptable and that plant safety performance was acceptable.

The NNR monitors incidents/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;
- Monthly 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; and
- Direct assessment of selected significant occurrences.

5.3.13 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 73 inspections at the Koeberg nuclear power station as part of its compliance assurance activities for 2012.

5.3.14 Regulatory Warnings and Directives to Stop Work

In 2012, the NNR raised the following non-compliance to the conditions of authorisation:

- 28 May 2012: Classification of equipment: the non-compliance relates to the incorrect classification of equipment that led to the NNR not being involved in the approval process of the planned activities undertaken.
- 15 March 2013: Quality management: the non-compliance relates to the failure of a valve necessitating the NNR to conclude that the cornerstones of an effective quality management programme had not been effectively established and/or implemented.

- 20 March 2013: Process control: the non-compliance relates to the non-effective processes associated with the use of position papers. The NNR found that various processes related to the management and control of position papers has not been effectively established and/or implemented.

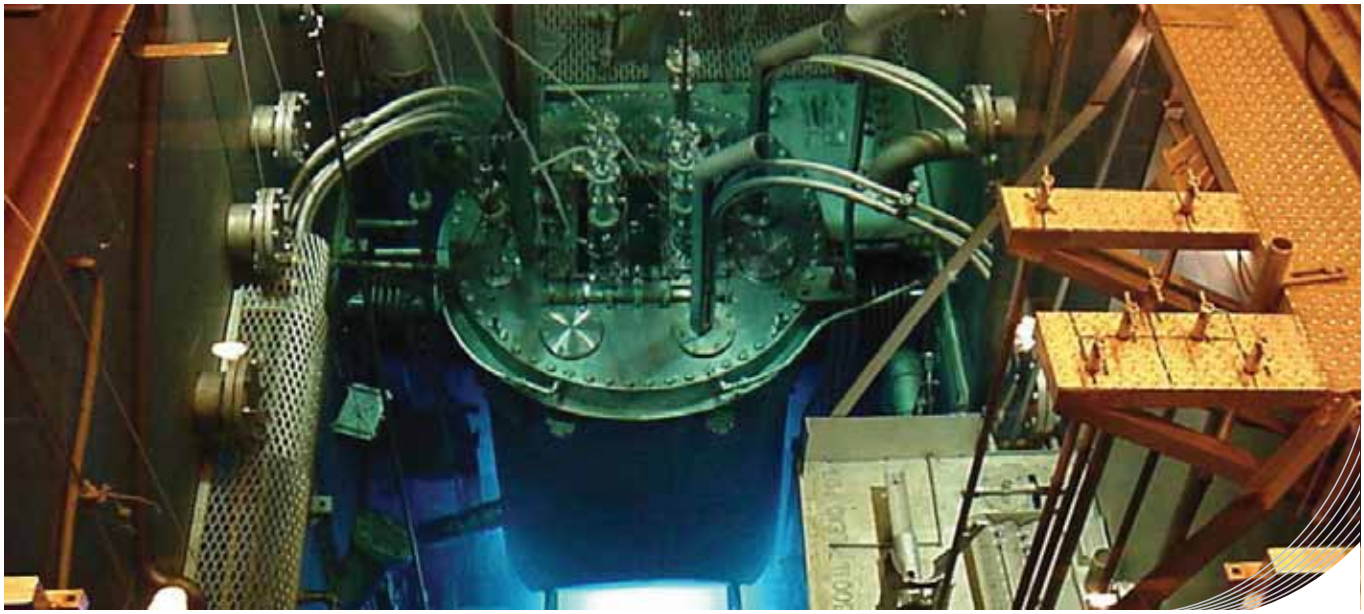
5.3.15 Regulatory Independent Verification

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 those obtained from Eskom.

5.3.16 Appeals to the Chief Executive Officer

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

5.4 REGULATION OF NUCLEAR TECHNOLOGY AND WASTE PROJECTS (NTWP) - SOUTH AFRICAN NUCLEAR ENERGY CORPORATION (NECSA) PELINDABA



Safari-1 Reactor Building located on the NECSA Pelindaba site in North West Province

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 on the Pelindaba site, is wholly owned by the state. The Pelindaba site, comprising 658ha of land and 54ha of buildings and other improvements, is situated in the magisterial district of Madibeng in the North-West Province, approximately 25km west of Pretoria and 55km north-west of Johannesburg. Necsa employs approximately 1.400 people in diverse technical areas such as physics, engineering, chemistry radio-pharmaceuticals 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 licence, Necsa is required to ensure that arrangements, acceptable to the NNR, were established and implemented during the period under review.

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.
Average individual worker dose	Controlled by application of the ALARA principle. The ALARA target for the annual average individual dose is 4mSv per annum.

5.4.1 Occupational Exposure

The average effective doses for occupationally exposed persons demonstrated that Necsa was in compliance with the dose limitation system for individual workers over the review period. The average effective radiation dose for the 2012 calendar year was 0.62 mSv per occupationally exposed person. The maximum cumulative dose accrued for an individual during the 2012 calendar year was 38.9 mSv and the total collective dose for the 1094 radiation workers was 678.4 person-mSv.

The occupational exposure for calendar year 2012 for the workforce at Necsa was as follows:

Exposure type	Dose for January to December 2012
Maximum dose (mSv)	38.91
Average dose (mSv)	0.62

5.4.2 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 2012 calendar year were 6.285 and 3.336 µSv respectively.

Quarter	Liquid pathway dose in µSv/a	Gaseous pathway dose in µSv/a	Total projected dose in µSv/a
1	1.290	1.450	2.74
2	1.688	0.750	2.44
3	1.962	0.397	2.359
4	1.345	0.739	2.084
Total for the calendar year (January – December 2012)	6.285	3.336	9.621

5.4.3 Nuclear Safety

The nuclear facilities on the Necsa Pelindaba site entail a diverse range of facilities, including:

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

These facilities are authorised in terms of Nuclear Installation Licences NIL-02 through NIL-27 and NIL-29 through NIL-42. In accordance with the conditions of 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 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

Variation or Amendments to Nuclear Authorisations

Following the review of authorisation change requests (ACR's) received from Necsa related to Nuclear Installation Licences NIL-02, NIL03, NIL05 and NIL08; the NNR varied said authorisations as per the table below during the review period -

NIL	Date Varied	Comment
NIL-02 (SAFARI-1 Research Reactor)	21 May 2012	Necsa requested amendment of site plan for SAFARI-1.
NIL-03 (P2700 Complex)	04 May 2012	Necsa, requested variation of the licence to remove detail related to the facility description that was considered to be security sensitive.
NIL-08 (ELPROD in Building P-2500)	04 May 2012	Necsa, requested variation of the licence to remove detail related to the facility description that was considered to be security sensitive.

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 to demonstrate the safety of the facility, including risk to workers and the public.

During the review period, the NNR reviewed and responded to Necsa on SARs related to the following nuclear facilities on the Pelindaba site

(i) P-2700 Complex (UCHEM)
(ii) Umet facility in Building P2600
(iii) ELPROD facility in Building P-2500
(iv) SAFARI-1 Research Reactor
(v) Modification of the R1 and R2 liquid Effluent tanks at SAFARI-1
(vi) Proposed Modification in A8 Wet Decontamination Facility
(vii) P-1500 Material Characterisation Laboratories
(viii) P1600 Radioanalytical Laboratories
(ix) Upgrade and improvements at the Area 21 Waste storage Facility

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).

During the review period, the NNR reviewed and responded to Necsa on the following OTS submissions:

(i) P-2700 (UCHEM)
(ii) Building A-West Drum Store
(iii) Pelstore
(iv) Pelindaba East Busshed
(v) Pelindaba East Ponds 6
(vi) Vaalputs National Radioactive Waste Disposal Facility
(vii) Thabana Pipe Store

(viii) Thabana Calcium Fluoride Ponds
(ix) NTP Radiochemical Facility

Application for Nuclear Installation Site Licence for SAFARI-2

In August 2012, Necsa applied to the NNR for a Nuclear Installation Site Licence for the proposed SAFARI-2 Research Reactor. It is proposed that the reactor will use plate type low enriched uranium fuel, and its thermal power will not exceed 30 MW (generated by fuel assemblies). The facility is intended to be used for:

- isotope production,
- beam-lines for research, material and fuel testing, and
- in-core irradiation facilities for research.

During the review period the NNR reviewed and commented on the Necsa draft Public Information Document (PID) related to the application. The PID is intended to provide background information on the proposed project including an identification of the hazards associated therewith. Following the satisfactory addressing of the NNR comments on the PID the document will be made available to the general public together with the request for public comment on the Necsa application as required in terms of section 21 (4)(a) of the National Nuclear Regulator Act, Act 47 of 1999. Publication of the application is anticipated to be undertaken in the next review period.

Application for Nuclear Installation Licence for the Proposed Necsa Production Smelter

Originating from Necsa's previous operations, approximately 14 000 tons of uranium contaminated scrap metal comprising both ferrous and non-ferrous metals is presently stored on the Pelindaba site. These materials originated primarily from the decommissioning of the former uranium enrichment facilities at Velindaba, operation of which were terminated in the early 1990's. Necsa informed the NNR that it wished to destroy these materials by melting them in induction furnaces.

In accordance with the provisions of section 21 (4) (b) of the National Nuclear Regulator Act, Act 47 of 1999 a public hearing was convened by the NNR on 11 October 2012 relating to the proposed Necsa smelter.

Several interventions were made by the public and these were considered by the NNR during the review period.

5.4.4 Competency and Sufficiency of Necsa's Pelindaba Workforce to Work Safely

In addition to the requirements in the RSRP, 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 duly authorised persons to control and supervise operations, which may affect plant or facility safety.

The NNR is satisfied that Necsa complied with the above requirement during the review period.

5.4.5 Transport Safety

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

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, 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 the OR Tambo International Airport to Pelindaba of uranium target plates and fuel plates.
- Transportation of safeguards samples from Pelindaba to the IAEA headquarters in Vienna, Austria.

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 review period, 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	Transport Package Name	Effective Date	Expiry Date
ZA/NNR/1005/ B(U)–96	Beatrice	02 January 2013	02 January 2018
ZA/NNR/1008/ B(U)–96	Jane	02 January 2013	02 January 2018

5.4.6 Radioactive Waste Safety

There were no safety concerns regarding radioactive waste management on the Pelindaba site at 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, and
- Establish, implement and maintain a radioactive waste management programme for each facility on the site, in order to:
    - Ensure the identification, quantification, characterisation and classification of any radioactive waste generated;
    - Provide for the necessary steps leading to safe clearance, authorised discharge, disposal, reuse or recycling; and
    - Provide for the safe storage of radioactive waste between any waste management processes.

The following are some of the primary principles that apply to the management of solid radioactive waste on the Necsa Pelindaba site:

- Waste management is aimed at optimising processes from waste generation to waste disposal;
- The responsibility for solid waste management in the development of facility-specific programmes; application of safety standards; quality assurance; and optimisation and compliance with waste acceptance requirements, is vested with the waste generator.

All waste generated and processed on the Necsa site shall, after completion of the relevant predisposal activities, be channelled via the Nuclear Liabilities Management Department (NLM) for further predisposal activities (as applicable), followed by either long-term storage or disposal.

The waste generator is responsible for waste up to the point at which it has been formally transferred and accepted by NLM. The storage of radioactive waste on the Pelindaba site was found to be in conformance to the conditions of authorization.

Decommissioning Strategies

Paragraph 5 of the SSRP, requires that authorisation holders submit a decommissioning strategy to the NNR for review. A decommissioning strategy may vary from over time for a facility and across the variety of facilities, but all must document the current intent for a facility after its operational phase.

During the review period, the NNR reviewed and responded to Necsa on the following decommissioning strategies:

(i) Proposed LEU Fuel and Target Plate Facility
(ii) Thabana Pipe Store
(iii) Thabana Stores 1-5
(iv) Pelstore
(v) Pelindaba East Busshed Complex
(vi) P-1500 Material Characterisation Laboratories

Phase 2 Decommissioning of the Conversion Plant

Decommissioning of nuclear facilities on the Pelindaba site comprise the following three phases:

(i) Phase 1 decommissioning covers the facility termination of operation and removal of inventory to obtain a state of passive safety.
(ii) Phase 2 decommissioning covers the continued decommissioning activities for the removal and decontamination of process systems.
(iii) Phase 3 decommissioning covers the activities required for the clearance of the facility. Activities may range from final decontamination of the facility to clearance levels or complete demolition of buildings and removal of all contaminated material. After completion of Phase 3 decommissioning, facility may be release from further regulatory control.

The Conversion Plant was built in the early 1980's and originally used for the conversion of ADU (Ammonium-diuranate (NH4)2U207) to U03, then to UF4, and finally to UF6, the latter which was required for the (now defunct) enrichment process. Operations in the plant were terminated in the late 1990's and phase 1 decommissioning of the facility was completed in 2003.

During the review period, the NNR reviewed and approved Phase 2 decommissioning activities for the Uranium Conversion Plant.

5.4.7 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; as well as
- Water and fish samples from the Crocodile River and Hartebeespoort 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.

5.4.8 Emergency Planning and Preparedness

The NNR had a responsibility to follow-up on corrective actions that were raised during the regulatory emergency exercise at Necsa. These have been verified and accepted by the NNR as satisfactorily closed out.

Necsa Emergency Planning Technical Basis

The NNR had previously required Necsa to revise the technical basis for the emergency planning zones at the Pelindaba site. The Necsa Emergency Planning Technical Basis report focused on the emergency planning zones, specifically the Precautionary Action Zone (PAZ) and the Urgent Protective Action Planning Zone (UPZ). In these two zones, prompt implementation of protective actions was necessary to protect the public from deterministic effects and the risk of stochastic effects.

The NNR review of the Necsa Emergency Planning technical Basis is currently ongoing and is anticipated to be completed in the next review period. This review will assess the extent to which Necsa has addressed the NNR concerns previously raised and take account of the lessons learnt from the TEPCO Fukushima Di Ichi Accident.

The NNR Position Paper on Emergency Planning Technical Basis for nuclear installations has been finalised. The Paper took into account the comments from Necsa, which are also used as input to the regulations on emergency preparedness and response that is being developed. Eskom and Necsa will have an opportunity to comment on the draft regulations once they have been published for comment.

5.4.9 Physical Security

During the review period, the NNR conducted an investigation on the reported security breach at Necsa. The investigation involved on-site physical inspections and assessment of records related to the activities and arrangements at the time of the security breach. The findings from the investigation will be addressed with Necsa in the next review period.

5.4.10 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 must, as a minimum, detail the following information:

- Nuclear facility in which the source(s) were located;
- Name of person responsible for the source;
- Radionuclide or radionuclide composition;
- Original activity;
- Identification number;
- Reference date (date produced);
- Form of the source (e.g. sealed source, anodised disk, solution, powder, etc);
- Company or facility of origin;
- Location or storage space;
- Date transferred; and
- Details of company or facility transferred to.

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 in September).

5.4.11 Nuclear Incidents / Accidents Reported

Although several minor occurrences were reported by Necsa, there were no nuclear occurrences that fell in the category of nuclear accident or nuclear incident as defined in the SSRP during the review period. The NNR found the processes implemented at Necsa relating to incidents or occurrences to be acceptable and that plant safety performance was satisfactorily maintained during the review period.

5.4.12 Regulatory Compliance Inspections

NTWP conducted 75 planned compliance inspections at the Necsa Pelindaba site during the 2012/2013 financial year. Most of these inspections showed satisfactory compliance with the regulations. NTWP also conducted five (5) unplanned inspections at the Necsa facilities and they are as follows:

(i) On more than two occasions, the NNR found discrepancies with the sample results submitted to the NNR. This was communicated to Necsa. The NNR conducted an inspection at RadioAnalysis Laboratories after which a directive was issued to Necsa.

(ii) There were findings raised in the previous inspections at the K0090 facility at Necsa. The inspections showed very little progress regarding implementation of corrective action at the facility. A follow-up inspection was conducted at the K0090 facility and an acceptable progress was made.

(iii) A pre-shipment inspection was conducted at Pelstore. The inspection was conducted in order to ensure that drums that were to be dispatched to Vaalputs complied with the set requirements. The NNR was satisfied that the drums were in compliance with the requirements.

(iv) Following Necsa's application to have the site removed from regulatory control, a confirmatory survey was conducted at the old calibration facility at Necsa. In the report, the NNR required Necsa to clean up some spots in the old calibration facility site.

(v) Necsa had reported to the NNR a repeat event at P-1701 facility, which involved the lid of the DPTE container that was still connected to the cell door during the transfer of radioactive waste at cell 11.



Radioactive waste had fallen out of the DPTE container and led to contamination of the area behind the cell. The NNR conducted an inspection regarding this matter and Necsa is found to have addressed the mater satisfactorily.

Audits

All of the seven (7) planned audits were conducted during the review period. There were some minor deviations from compliance, and all those have been addressed as nuclear events.

Regulatory Investigations

The NNR conducted an investigation into the breach of security that took place at Necsa during the month of April 2012.

5.4.13 Regulatory Warnings or Directives to Stop Work

The NNR issued two directives to Necsa during the 2012/2013 financial year:

i. A directive regarding Medical Surveillance Records was issued to Necsa during the 2011/2012 financial year. The directive aimed to establish the veracity of the allegation that that the complaint forwarded to the Office of the Public Protector indeed came from former Necsa employees. The directive further required Necsa to provide records associated with this matter to the NNR. The matter is still open as it needs additional expertise that the NNR does not have to make a ruling in this matter.
ii. A directive requiring Necsa to cease the analysis of the radioactivity for all samples at the Necsa RadioAnalysis Laboratory under NIL-37.

5.4.14 Regulatory Independent Verification of Radiological Environmental Analysis

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

5.4.15 Regulatory Capacity and Number of Appointed Inspectors

One additional inspector was appointed in the NTWP department during the review period.

5.4.16 Appeals to the Chief Executive Officer or the Board

Necsa lodged an appeal against the directive issued by the NNR to cease the analysis of the radioactivity for all samples at the Necsa RadioAnalysis Laboratory under NIL-37.

5.5 REGULATION OF VAALPUTS NATIONAL RADIOACTIVE WASTE DISPOSAL FACILITY



Vaalputs Radioactive Waste Repository located in the Northern Cape

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, and the disposal site is situated in the western half and is 99.54 ha (900 m x 1 106 m) in extent, including a 200 m 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 that commenced in November 1986 and, under the current nuclear programme, is estimated to extend for 50 years up to 2036, which is also the estimated end of the operational period for the Koeberg Nuclear Power Station.

5.5.1 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 average effective radiation dose for the 2012 calendar year was 0.38 mSv per occupationally exposed person.

5.5.2 Projected Public Exposure to Radiation

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

5.5.3 Nuclear Safety

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

(a) Updated Vaalputs Post Closure Radiological Safety Assessment;
(b) Vaalputs Waste Acceptance Criteria;
(c) Vaalputs Safety Assessment Report;
(d) Facility Description and Safety Assessment for the Waste Treatment Facility;
(e) Operational Technical Specifications for Vaalputs; and
(f) Vaalputs Emergency Plan.

5.5.4 Competency and Sufficiency of Necsa's Vaalputs Workforce to Work Safely

In addition to the requirements in the RSRP, the conditions of licence require 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

Waste Generator	TYPE OF WASTE PACKAGE			Waste Generator	TYPE OF WASTE PACKAGE		
	Concrete	Metal	Other		Concrete	Metal	Other
Koeberg	0	120	0	Necsa	0	1436	0
TOTAL	**0**	**120**	**0**	**TOTAL**	**0**	**1436**	**0**

Trench	Number of waste packages	Total activity as on 31st December 2012	
		Received	Decayed
A01	11740	1.92E+05	5.15E+04
A02	840	4.07E+02	7.48E+01
A03	1639	8.53E+02	4.67E+02
A04	1079	6.99E+02	5.22E+02
A05	120	6.56E+00	6.51E+00
B01	3177	1.02E+05	2.42E+04
B02	400	1.87E+04	1.38E+04
B03	233	1.32E+04	1.16E+04
B04	23	7.14E+03	6.44E+03
TOTAL	**19251**	**3.35E+05**	**1.09E+05**

make provision for the appointment, as appropriate, of duly 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.

5.5.5 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.

5.5.6 Radioactive Waste Safety

Vaalputs received 1436 (100 litre) metal drums from Pelindaba and 120 metal drums from Koeberg Nuclear Power Station for disposal during the calendar year 2012. The receiving and disposal of radioactive waste at Vaalputs was in conformance with the conditions of authorization. Two non-conforming drums received from Koeberg Nuclear Power Station in 2011 calendar year were returned to Koeberg Nuclear Power Station following the NNR directive during the review period. Packages disposed at Vaalputs during 2012.

5.5.7 Environmental Protection

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

5.5.8 Nuclear Emergency Planning and Preparedness

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

5.5.9 Physical Security

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

5.5.10 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 onsite. There were no irregularities relating to sealed radioactive sources at Vaalputs during the period under review.

5.5.11 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 review period.

5.5.12 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.

5.5.13 Regulatory Warnings or Directives to Stop Work

Following the previous challenges and incidents experienced with regard to the shipment of radioactive waste packages for disposal at Vaalputs, Vaalputs was directed to suspend all activities associated with the receipt of all radioactive waste packages from 12 April 2012, until the following actions had been addressed to the satisfaction of the NNR:

a) The return of the identified radioactive waste package/drum, 5551C1/4246 to Eskom's Koeberg Nuclear Power Station.

b) The registration of the nuclear event referred to in the Vaalputs letter, NIL28A0050 as a B10 category 2 nuclear event, and a report submitted to the NNR within 24hrs in accordance with SHEQ-INS-4140.

c) The implementation of appropriate corrective actions commensurate with that nuclear event identified in 2 above by the Vaalputs and acceptance thereof by the NNR prior to lifting the directive.

d) The NNR should be provided with a procedure detailing all the remedial actions to be undertaken by Vaalputs to prevent the recurrence of this nuclear event by 30 April 2012.

The directive was conditionally lifted on 8 November 2012

5.5.14 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.

5.5.15 Appeals to the Chief Executive Officer or the Board

There were no appeals concerning Vaalputs during the review period.



5.6 NATURALLY OCCURRING RADIOACTIVE MATERIALS (NORM)



Inside a Mine Shaft

Natural resources that are extracted from the ground, such as coal, oil, gold, natural gas and other mineral ores, contain various amounts of natural radioactivity. When these resources are extracted and processed, their natural state can be modified, which may result in the enhancement of the natural radioactivity content originally present. Such enhancements may be observed in the residues or the waste generated and/or in the products or by-products and are sometimes high enough to pose a risk to both humans and the environment if they are not adequately controlled.

In the operations and activities involving Naturally Occurring Radioactive Material (NORM), it is possible for radioactive material to be released to the environment, affecting members of the public. Radiation exposure to natural sources of radiation arising from the mining and processing of uranium ores as well as those originating from industries dealing with NORM, warrant appropriate regulatory attention to ensure the protection of persons and the environment.

Mining and minerals processing in South Africa involving NORM are authorised by the NNR in accordance with the provisions of the National Nuclear Regulator Act (NNRA). These requirements are further elaborated on in the Regulations on Safety Standards and Regulatory Practices (SSRP), which were promulgated in accordance with Section 36 of the NNRA. The SSRP contains the principal radiation protection and nuclear safety requirements and, more specifically, requires a prior safety assessment before operations and activities may be performed at NORM facilities. The SSRP also specifies objectives, such as operational safety assessment, controls and limitations on operation, a maintenance and inspection programme, staffing and qualification, radiation protection, etc. South Africa is a member state of the International Atomic Energy Agency (IAEA); therefore, South African legislation and standards have been strongly influenced by the IAEA regulatory framework.

In terms of the National Nuclear Regulator Act (Act No. 47 of 1999), the NNR is responsible for exercising regulatory control over mining and mineral processing facilities handling NORM. Mining and mineral processing facilities which handle NORM require authorisation in terms of this Act. In terms of section 22 (1) of the NNR Act, such facilities are authorised by means of a certificate of registration (COR). The COR is issued with certain conditions of authorisation which all holders are required to comply with. A system of compliance assurance exercises (inspections, audits and investigation actions) are conducted at these various holders to ensure compliance with the conditions of authorisation and the applicable Safety Standards and Regulatory Practises R388.

The NNR currently grants nuclear authorisations for the following categories:

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

The activities at these facilities include actions, such as:

- Mining and processing of gold, copper, uranium, heavy minerals and phosphate rock;
- Recycling of scrap material (i.e. ferrous and non-ferrous metal, plastic, stainless steel, etc.) that is contaminated by NORM;
- Laboratories conducting tests of small quantities of NORM samples for verification of proposed and existing actions, including samples from prospecting activities, and
- Some service providers are authorised for clean-up of radiologically contaminated sites.

Brief descriptions of the various processes at the 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 fertilisers, animal feed, and phosphoric acid using phosphate rock, which contains Naturally Occurring Radioactive Materials or NORM. 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 tonnes 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 into the sea, whereas the scrap is either stored on site or released for other purposes. Seventy five per cent of the phosphate rock comes from Foskor Limited: Phalaborwa Division in the Limpopo Province and the rest is imported from North African countries, e.g. Togo rock, which is of sedimentary phosphate rock origin.

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 originates from mine 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 Scrap smelters receive scrap from scrap dealers/processors for melting. A scrap melt is formed by placing a quantity of scrap metal in furnace. The end-product (steel) is exported/transported to various industries, such as 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, and the radiological content of the samples is 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. The scale produce from the sandblasting contain significant radioactivity which warrant the control by the NNR.

5.6.1 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.
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 dose of 20 mSv per year averaged over five consecutive years is 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.

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

Operational Special Case Mines (SCMs)

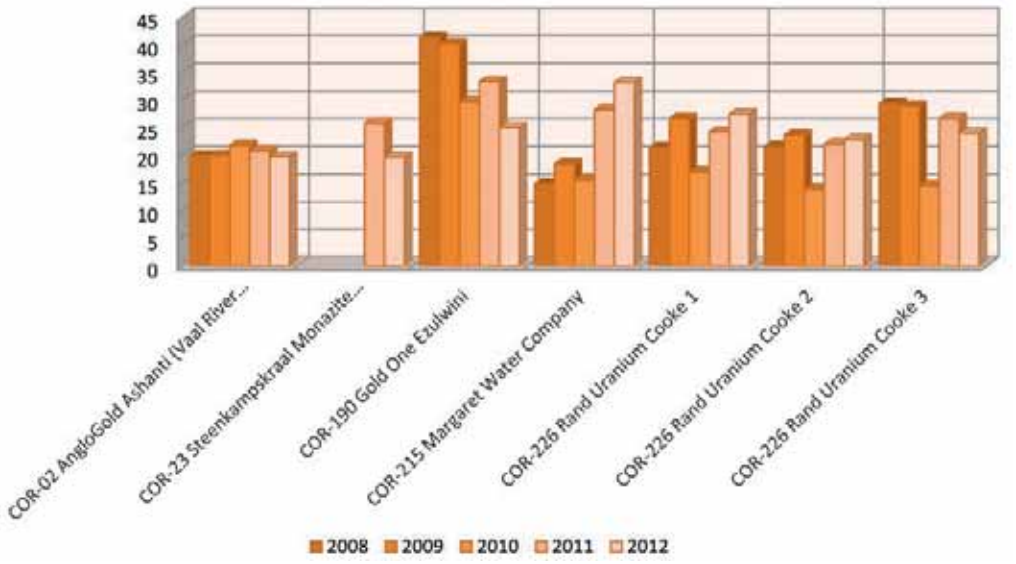
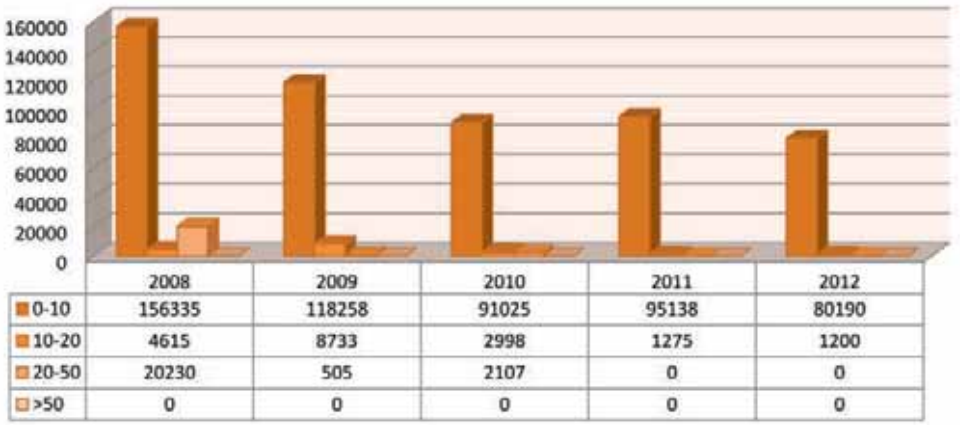


Figure 1: Summary of occupational radiation dose for SCMs over period 2008 to 2012

Operational Non-SCMs

Total Effective Dose (mSv/a)



	2008	2009	2010	2011	2012
0-10	156335	118258	91025	95138	80190
10-20	4615	8733	2998	1275	1200
20-50	20230	505	2107	0	0
>50	0	0	0	0	0

Figure 2: Summary of occupational radiation dose for Non-SCMs for all NORM users over period 2008 to 2012

Special Case Mines (SCM)

For a mine to be classified as special case by the NNR, the potential of the monthly dose rate 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.

5.6.2 Projected Public Exposure to Radiation

In accordance with the Regulations on Safety Standards and Regulatory Practices (RSRP), Regulation No. R388, dated 28 April 2006, the doses for members of the public must comply with the action specific dose constraint and a limit of 1mSva-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.

5.6.3 Transport Safety

There were no safety concerns related to transport during the period under review. The transportation of NORM and NORM contaminated scrap was carried out in accordance with the requirements of the NNR. Routine transport of low specific activity (LSA-1) scrap materials takes place on a daily basis between authorised facilities.

5.6.4 Radioactive Waste Safety

There were no safety concerns 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, and
- 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.

5.6.5 Environmental Protection

Following concern over potential environmental impact, due to mining activity in South Africa, the NNR finalised its review and updating of the Licensing Guide LG -1032, which provides guidelines to holders and prospective holders of NNR authorisations on how to conduct prior and operational public safety assessments for NORM facilities which carry out activities and operations involving radioactive ores and minerals containing uranium, thorium and their progeny.

5.6.6 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 members of the public. The scope and application of this procedure was mainly limited to the transportation of NORM as in the case of NUFCOR. An Emergency exercise was conducted for the first time at NUFCOR on the 13th of February 2013. The exercise was generally a success, and the holder was required to submit a corrective action plan to address the deviations that were identified. Through its compliance assurance function, the NNR will follow up on the implementation of the corrective action plan to ensure compliance.

5.6.7 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 unauthorised removal, diversion or theft of such material. In general, the holders demonstrated compliance with the physical security requirements.

5.6.8 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.

5.6.9 Nuclear Incidents/Accidents Reported

Ten incidents relating to the spread of radioactive contamination were reported in this period and corrective action plans have been submitted on rehabilitation of the affected areas. The NNR continued through compliance assurance inspections to monitor implementation of the corrective action plans.

5.6.10 Regulatory Compliance Inspections

In order 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 237 inspections were conducted during the review period 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 eight 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 the mines were deficient in terms of the requirements related to quality management systems. The mines 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 review period.

Investigations

During the review period, the NNR conducted four (4) regulatory investigations. Three (3) of these investigations are on-going and the

other one was referred to the Directorate of Radiation Control at the Department of Health following confirmation by the NNR that the radioactivity that was detected at SA Metal in Cape Town falls under the scope and mandate of Radiation Control.

5.6.11 Regulatory Warnings and Directives to Stop Work

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

a) On 28 February 2013 the NNR directed Buffelsfontein Gold Mines Limited to:

- Cease the processing and release of waste rock, with immediate effect, until compliance with conditions imposed by the NNR for this activity is demonstrated;
- Submit the list of all waste rock clients including their addresses, contact details, where the material will be used and the usage of such waste rock by not later than 7 March 2013; and
- Cease the processing, crushing and release of waste rock at number 5 shaft until safety assessment report is submitted and approved by the NNR.

Outcome

The holder has complied with all directive points and the embargo on waste rock use has been removed but stringent conditions have been imposed to ensure that the same incident does not recur.

b) On 10 January 2013, the NNR directed Linbeck Metal Trading (Pty) Ltd to cease scrap handling operations on the authorised site effectively immediately until they have surrendered the Certificate of Registration following the failure by the holder to conduct a site safety assessment for a period of eleven (11) months that were requested by the holder and agreed upon by the NNR.

Outcome

The directive remains in force until the holder has demonstrated compliance with the NNR requirement. Compliance Assurance and Enforcement activities will be conducted to ensure compliance to the directive.

c) On 7 November 2012 the NNR directed Central Rand Gold SA (Pty) Ltd to close out the identified deviations that were to be addressed by end of August 2012 by the 23rd of November 2012.

Outcome

The holder has closed about 80% of the directive points. The NNR will, through compliance inspections, ensure that compliance to the directive is achieved.

d) On 26 June 2012, the NNR directed GFI Mining South Africa (Pty) ltd (Kloof Operations) to, within 30 days from the date of the directive

- Collect the remaining scales from the affected farms and ensure that these sites are rehabilitated to acceptable levels; and
- Retrieve the remaining seven (7) pipes that were used for the construction of a warehouse at Grasbank farm.

Outcome

The compliance of the holder with the NNR directive was confirmed through a compliance assurance inspection on 1 August 2012.

e) On 17 April 2012, the NNR directed Central Rand Gold SA (Pty) Ltd to submit by the 24th of April 2012:

- All outstanding monthly dose reports; and
- Quarterly dose reports.

Outcome

All outstanding dose reports were submitted to the NNR in full compliance with the directive.

f) On 4 April 2012, the NNR directed Blyvooruitzicht Gold Mining Company Limited for failing on address identified deviations on numerous occasions to, within 30 days from the date of the directive;

- Submit to the NNR the Board resolution on the appointment of the Responsible Person for the holder;
- Submit to the NNR the current status of the operations on the authorised site;
- Submit to the NNR radioanalysis report of the waste rock released to Merafong Crushers; and
- Provide an action plan on management of the salvage yard in terms of segregation and categorisation at shaft 4 central salvage yard.

Outcome

The holder has addressed the directive points with an exception of the management of the salvage yard. The holder has been instructed to cease the release of scrap from the authorised site until compliance is demonstrated. The NNR continues through compliance assurance inspection to ensure that the holder complies with the directive.

5.6.12 Appeals to the Chief Executive Officer (CEO)

There were no appeals to the CEO during the review period.

5.7 SPECIAL PROJECTS

During the period under review, the team focused primarily on regulatory research and development associated with the following key areas:

- Implementation of Self-Assessment national actions;
- Populating the country Radiation and Waste Safety Infrastructure profile using the web-based IAEA Radiation Safety Information Management System (RASIMS);
- Development of regulatory standards and positions;
- Establishment of a National Dose Register (NDR) for South Africa;
- Coordinating of two of the Forum for Nuclear Regulatory Bodies Technical Working Groups;
- Upgrade of the NNR Emergency Control Centre;
- Determination of appropriate levels of financial provisioning for nuclear damage from nuclear installations; and
- Investigation of facilities with a potential for NORM associated exposures, especially the oil and gas industry actions to be authorised.

5.7.1 Highlights for the Review Period

- **Self-Assessment**

The NNR, together with the Directorate Radiation Control, is participating in the IAEA Regional project RAF00938 "Promoting Self-assessment and Networking of Regulatory Bodies for Safety.

The African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA) Project on "Self Assessment of Regulatory Infrastructure for Safety and Networking of Regulatory Bodies" was initiated by Member States as a complementary intervention to strengthen the effectiveness and sustainability of national regulatory infrastructure. The purpose of the Project is to ensure regulatory control through developing and sustaining sound national regulatory infrastructure, which includes national regulatory bodies that are equipped to effectively and efficiently regulate the application of nuclear technology and practices and by promoting regional cooperation among regulatory bodies.

The NNR embarked on a process to implement the national actions from the first Lifecycle of the Self-Assessment within three years through twelve subprojects. By the end of 2012/13, about 58% of the projects had been completed. The implementation of the NNR Self-Assessment is being project managed by the National Self-Assessment Coordinator. Team leaders were appointed for each subproject and team members assigned to assist in the projects. This approach ensures input from all relevant NNR departments and also facilitates capacity building.

Progress made so far with the twelve subprojects and achievements include:

- Seven new regulations drafted and reviewed.
- Internal procedures for inspector training and enforcement developed.
- Induction programme developed and implemented, training matrix and manual drafted, and technical training materials drafted for in-house training courses.
- Report on requirements for control of radioactive sources at Nuclear Installations completed.
- NNR regulated sources uploaded to IAEA Regulatory Authority Information System (RAIS).
- Requirements and criteria, funding mechanisms and a national strategy developed for remediation.
- Reports on the calibration and verification of radiological instrumentation completed.
- Report with recommendations for implementation to improve national support channels completed.
- Quality Management System in the process of being established.
- Report with situational analysis and interventions related to national and regional cooperation platforms drafted.

- **National Dose Register**

The Joint Co-ordinating Committee (JCC) between the NNR and the Directorate of Radiation Control (RadCon) of the National Department of Health agreed to establish a National Dose Register using the IAEA-developed Regulatory Authority Information System (RAIS). This was the outcome of a study conducted by a Working Group under the JCC following a review of international practices and engagement with some of the major Dosimetry Service Providers (DSP) in the country. It was also agreed that the central dose register would be located at the NNR.

In March 2012, the Regulatory Bodies submitted a formal proposal to the IAEA requesting assistance in establishing a national dose register (NDR). An IAEA expert mission was conducted from 20 to 24 August 2012 with the objective of performing a feasibility study regarding the possibility of using RAIS for establishing a NDR in the Republic of South Africa (RSA). The mission included meetings with the two regulatory authorities, Dosimetry Service Providers (DSP), representatives of three major mines, and the State Security Agency.

The IAEA team concluded that the establishment and operation of the NDR in RAIS is feasible within the existing legal and regulatory framework.

The team also provided detailed technical advice on the data structure of the NDR and the means of data exchange with the DSPs and mines. The NDR is to be established in a way that does not affect the working practices of the DSPs and mines. A number of issues that need to be resolved had been identified, together with proposed technical measures by the IAEA and agreed by all participating stakeholders. The NDR project is to be implemented in three-phases over the next few years by means of an action plan, with identified potential needs for IAEA assistance in each of these phases.

- **Upgrade of the NNR Emergency Control Centre**

The NNR has started a project to upgrade the NNR Emergency Control Centre (ECC) and related infrastructure. A project plan has been approved by the NNR Executive for implementation during the fourth quarter.

The functionality of the NNR Emergency Control Centre should be enhanced to appropriately service current and possibly additional regulatory obligations related to international communication and independent technical assessments during a nuclear or radiological accident. Necessary capabilities for the ECC were derived from a needs analysis (review of national and international standards) and benchmarking visits to national and international emergency and disaster operations centres. Specifications for an optimal designed and refurbished centre consisting of strategic, tactical and operational components, necessary and reliable ICT infrastructure, on-line technical data, modeling tools and radiological instrumentation had been developed.

Procurement of the suppliers, services and equipment has been initiated in accordance with the NNR Supply Chain Management Policy and Procedure. During the first phase of the project procurement, design and installation of identified capabilities, tools and systems is planned. This will be followed by the update of procedures, training of staff and exercising of the NNR preparedness and response arrangements.

- **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.

During the course of the financial year, the detail design for the ARC laboratory has been concluded, consultants have been appointed for the development of the radiological analytical techniques, methods, management systems and processes, and the training of staff, and a contractor has been selected for the refurbishment of the ARC laboratory. The plan is to have commissioned both laboratories by March 2014 providing the NNR with an independent verification facility.

- **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 and has developed seven regulations in the course of the review period. The regulations will be submitted to the Executive Authority for promulgation. The balance of the regulations that have been identified for development will be finalised by March 2014.

The NNR has further developed the following position papers:

- Emergency Plan Technical Basis
- Consideration of external events for new nuclear installations; and
- Conformity assessment of pressure equipment in nuclear service.
- Review of operator liability in case of an accident

Concern has been expressed that the levels of financial security currently prescribed are inadequate and not in line with international practice.

Following the Fukushima Daiichi accident, the IAEA Action Plan called for Member States to work towards establishing a global nuclear liability regime that addresses the concerns of all States that might be affected by a nuclear accident with a view to providing appropriate compensation for nuclear damage.

The NNR has reviewed international practice regarding prescribed levels of financial security and will make recommendations to the NNR Board for updating the levels of financial security.

5.8. NUCLEAR SECURITY

The realisation that nuclear or radioactive material could be used with malicious intent is regarded as a serious threat to national and international peace and security. The risk posed by nuclear or radioactive material falling into wrong hands is real and is a growing concern that demands improved nuclear security. It therefore becomes important that effective national systems of nuclear security be established and heightened to facilitate the enhancement of global efforts to combat nuclear terrorism. The practical steps required to bolster nuclear security and mitigate this risk include proper accounting for and securing nuclear and radioactive material as well as their related facilities to prevent theft, sabotage and use with malicious intent.

In response to this global initiative and in line with its regulatory mandate, the NNR reconfigured its functional structure to include a nuclear security function.

Strategic Objectives of Nuclear Security Function

The overall strategic objective of the nuclear security function is to provide for the effective regulatory oversight and framework to assure compliance to the nuclear security regulatory requirements. In addition the nuclear security function will ensure the fulfilment of national and international obligations in terms of the various conventions over which the NNR has jurisdiction.

Functions and Responsibilities

The established NNR Nuclear Security Regulatory Framework will seek to assure the following:

I. Increased regulatory oversight and controlled access and preventing unauthorised access to radioactive material, nuclear material, controlled or sensitive equipment;
II. Provision of the framework for the security clearance of designated persons and the implementation thereof (including foreign visitors to nuclear facilities).
III. Assuring the establishment and maintenance of PPS which must incorporate measures aimed at detecting and preventing illicit trafficking of nuclear and radioactive material;
IV. Provision of necessary surveillance in cooperation with other State Security Agencies and protective measures against the unlawful use of radioactive material for harmful purposes or terror attacks particularly in the context of major public events;
V. Prevention of theft, diversion and sabotage at authorised facilities and during the associated transport of nuclear or radioactive material, and
VI. Provision of adequate measures to ensure response and reporting of incidents related thereto.

In addition, the strengthened and effective nuclear security framework should adequately respond to the threat of:

i. Theft and detonation of an intact nuclear weapon.
ii. Theft or purchase of fissile material leading to the fabrication and detonation of a crude nuclear weapon, also known as an improvised nuclear device (IND)
iii. Attacks against and sabotage of nuclear facilities, in particular nuclear power plants, causing release of large amounts of radioactivity.
iv. Unauthorised acquisition (theft) of radioactive materials contributing to the fabrication and detonation of a radiological dispersion device (RDD), also known as a dirty bomb, or radiation emission device (RED).

Activities During the Review Period

Consistent with its position as a vital component in the nuclear regulatory framework, the NNR participated in the following nuclear security activities over the review period:

- Planning meetings at NATJOC (Joint Operation Committee) to establish the national security plan and identify resources required for implementation during AFCON 2013.
- Deployed NNR staff to the NATJOINTS, Moses Mabhida Stadium and ECC.
- Participated in wider licensing workshops which involved the Government Sector Security Council (GSSC).
- Conducted Nuclear Security Threat Assessment on ESKOM Koeberg NPS, NUFCOR and Necsa Vaalputs in the form of assessing Nuclear Security Culture and management of nuclear security measures. Inspections were conducted on the perimeter fence, intrusion detection system, assessment of communication systems and certain subsystems constituting the Physical Protection Systems. Inspections were conducted during the day and at night. Lighting systems and assessment ability were tested to determine reliability of illumination and response by the security guard force. Interviews were conducted with the Power Station Manager (PSM), Facility Managers, Plant Managers, Senior Managers and Managers.
- Review of ESKOM Security Plan for the shipment of Fresh Fuel from Sweden to South Africa (ESKOM NPS).
- Review of ESKOM Security Standard (KSA-100).



5.9 STAKEHOLDER RELATIONS

During the year under review the NNR's stakeholder communication and engagement mechanisms continued to evolve and relationships with key stakeholders remained positive. The NNR's stakeholder engagement priorities for the year under review focused largely on exchanging information and best practices with regulators from abroad and strengthening ongoing dialogue with stakeholders.

International Obligations and Co-operation

As a member state of the International Atomic Energy Agency (IAEA), South Africa is required to fulfil its international obligations and support collaboration to enhance nuclear safety and security globally. The National Nuclear Regulator (NNR) is mandated as the competent authority for regulating nuclear safety and fulfilling South Africa's obligations in respect of international instruments concerning nuclear safety. 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 Forums.

Some of the international obligatory initiatives undertaken by the NNR, during the review period, are highlighted below:

IAEA Convention on Nuclear Safety

- Participated in the 2nd Extraordinary Meeting of the Contracting Parties to the Convention of Nuclear Safety.

IAEA Commission on Safety Standard (CSS)

- Participated in the 33rd Commission on Safety Standards (CSS) held at the IAEA in Vienna from the 19-21 March 2013. This meeting is attended by senior regulators that are required to recommend Safety Standards for approval to the Board of Governors of the IAEA.

IAEA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

- Hosted and participated at the Regional Meeting on the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, in Cape Town, South Africa, from 16 to 18 October 2012.

IAEA Safety Standards Committees

- The IAEA nuclear safety and radiation protection standards have served as references and benchmarks for the global community, including South Africa.

- During the period under review, NNR staff attended several working groups and technical committee meetings of the IAEA.

The NNR continued to participate in the following IAEA Safety Standards Committees:

- o Nuclear Safety Standards Committee (NUSSC)
- o Radiation Safety Standards Committee (RASSC)
- o Waste Safety Standards Committee (WASSC)
- o Transport Safety Standards Committee (TRANSSC)
- o Commission on Safety Standards (CSS)

IAEA General Conference (GC)



South African delegation in attendance at the GC

The IAEA General Conference is an important annual event, where international regulatory matters are discussed and agreed upon. Furthermore the conference agrees the scope of work to be undertaken by the IAEA during the following year. The 56th Annual General Conference of the IAEA was held in Vienna, Austria from 17th - 21st September 2012. The South African delegation was represented by officials from the Department of International Relations and Cooperation (DIRCO), DOE, NNR, Eskom and Necsa.

Multinational Design Evaluation Programme (MDEP)

The MDEP was initiated by the United States Nuclear Regulatory Commission (USNRC) to facilitate co-operation among nuclear regulators involved in the safety review of new reactor designs which are intended for construction in world-wide markets or at least in more than one country. The purpose of MDEP is to ensure that a design found suitable in one country, does not have to be substantially modified to meet licensing requirements elsewhere. This can be achieved if the requirements that must be satisfied in one country are consistent with, or at least not significantly different to, those that must be satisfied in another country. The NNR has been actively involved in all MDEP activities since its inception. In view of South Africa's envisaged nuclear expansion programme, participation in this initiative, is particularly important. The NNR attended the Multinational Design Evaluation Programme (MDEP) Policy Group (PG) meeting in Washington DC, USA on 15 March 2013.

Bilateral Cooperation

The NNR maintains nuclear regulatory cooperation arrangements with several foreign regulators, including leading countries in nuclear regulation such as France and the United States. It also maintains arrangements with countries, such as United Kingdom, Russia and South Korea. The NNR strives to develop strategic relationships to share regulatory experience and ensure that best practices are available and used for the safety and security of South Africans.



NNR signing cooperation agreement with the Russian Federation



Meeting between NNR and CNSC (Canada)



NNR Staff and Board Members attended the Nuclear Executive Workshop (NEW) arranged under the bilateral agreement with USNRC



NNR Staff attended the Fundamentals of Reactor Safety (FORS) training course arranged under the bilateral agreement with USNRC

During the period under review the NNR concluded the signing of the co-operation agreement with the Russian Federation and held bilateral meetings with ASN France, Canadian Nuclear Safety Commission (CNSC) and United States Regulatory Commission (USNRC). Additionally during the year under review the USNRC convened the Nuclear Executive and Fundamentals of Reactor Safety (FORS) training workshops with the NNR. The workshops were held in South Africa in March 2013 and attended by NNR staff and Board members.

Regional Co-operation

Within the regional African context, 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 increasing role in the strengthening of nuclear and radiation safety regulatory infrastructure throughout the African region.

The NNR continued to represent South Africa in the technical working groups of the Forum for Nuclear Regulatory Bodies in Africa (FNRBA).

National Co-operation

In order to give effect to co-operative governance, the NNR enters into strategic co-operation agreements with national and international competent authorities for the purposes of strengthening the nuclear safety regulatory regime.

During the review period, the NNR held two Joint Co-ordinating Committee (JCC) meetings with the following Transport entities;

- Civil Aviation Authority (CAA),
- South African Maritime Safety Authority (SAMSA),
- Railway Safety Regulator (RSR), and
- Road Traffic Management Corporation (RTMC)

The NNR and Transport entities reaffirmed their commitment towards cooperation and the working relationship remained positive.

Engagements with NNR and Civil Society NGOs

The NNR engages in an ongoing dialogue with the public about its role in protecting worker and public health. This section highlights how the NNR connected with Civil Society and its efforts to increase public awareness on nuclear safety during the period under review.

The NNR initiated a "Building Bridges to connect with Civil Society" initiative to improve its bi-directional information sharing efforts and creating stakeholder alignment. During the 2012 review period, the NNR convened three meetings with Civil Society non-governmental organisations (NGOs) in different provinces. The meetings were held



NNR Building bridges to connect with Civil Society Meeting



NNR Building bridges to connect with Civil Society Meeting

in the Eastern Cape, Gauteng and the Western Cape and were focussed on information sharing and discussing stakeholder concerns regarding nuclear safety in South Africa. Although in its infancy stages, the "Building Bridges to connect with Civil Society' initiative continues to be regarded as an effective platform to foster constructive dialogue and information sharing on matters relating to nuclear safety between NNR and Civil Society NGOs.

Stakeholder communications

The NNR is committed to improving the quality and frequency of its communication with the public. During the period under review the NNR convened a post Fukushima Media Briefing, responded to stakeholder enquiries, hosted a VIP programme during the regulatory emergency exercise and continued to participate at the various Public Safety and Information Forums.

Media Briefing



NNR post Fukushima Media Briefing

Following the Fukushima Daiichi nuclear accident regulatory authorities from 23 countries, including South Africa, along with four regional and three international organisations, as well as the IAEA, amongst many other organisations, contributed information on national response activities, stress test reports, and complimentary activities and assessments to the stress tests.

The NNR conducted a media briefing session to provide feedback to the South African public on the ongoing and planned measures to improve nuclear safety in light of the post Fukushima Daiichi nuclear accident in Japan. The media briefing took place on 14 June 2012 at the NNR offices in Centurion and was attended by stakeholders from the DoE, Eskom, Pelindaba Public Safety & Information Forum and the news media.

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 the persons 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, and
- 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 Board of Directors during the period under review.

VIP Observer Programme during Nuclear Regulatory Emergency Exercise at Koeberg

During the period under review, the NNR conducted a regulatory emergency exercise at Koeberg. As part of the regulatory exercise programme, the NNR invited observers from various external stakeholder groups to witness the responses and actions of the functional organisations during an emergency. The observers then participated in a post-exercise debriefing session, where their observations were noted.

Stakeholder Perception Survey

As part of an on-going commitment to ensure we provide an effective service to our stakeholders, the NNR commissioned a dipstick survey to track and evaluate stakeholder perceptions and satisfaction levels with the NNR. The primary objectives of the survey were to assess public awareness levels of the NNR and to evaluate how key stakeholders perceive the NNR in delivering on its mandate. Additionally, the survey sought to understand how stakeholders consume information in view of informing the NNR's communication strategy. The survey was concluded in 2012 and relevant insights will be used to inform the NNRs stakeholder engagement strategy for 2013.



Section 6

ANNUAL FINANCIAL STATEMENTS

General Information

Country of incorporation and domicile	South Africa
Legal form of entity	Schedule 3A National Public Entity
Nature of business and principal activities	To provide protection of persons,property and the environment against nuclear damage
Directors	Dr T Cohen Mr T Mofokeng, Mr A Abader Ms N Cobbinah (alternative to Mr A Abader) Mr S Kakoma, Mr J Leaver, Mr N Lesufi, Mr K Maphoto, Mr S Mimi Ms E Monale (alternative to Mr K. Maphoto) Dr T Motshudi, Prof. G Sibiya
Registered office	Eco Glade Office Park Eco Glade 2,Block 6, Witch Hazel Avenue Highveld Ext 75, Eco Park, Centurion, 0046
Business address	Eco Glade Office Park, Eco Glade 2, Block G 420 Witch Hazel Avenue Highveld Ext 75, Eco Park, Centurion, 0046
Postal address	P.O Box 7106 Pretoria Eco Park, Centurion, Highveld, Ext 75 0046
Controlling entity	Department of Energy
Bankers	ABSA Bank
Auditors	Auditor-General of South Africa Registered Auditors
Secretary	Ms B Laka (Resigned 31 March 2013)
Attorneys	Geldenhuys Malatjie & Newtons Attorneys

Index

The reports and statements set out below comprise the annual financial statements presented to the parliament:

Index	Page
Director's Responsibilities and Approval	91
Report of Auditor-General to Parliment	92
Audit and Risk Management Committee Report	94
Directors' Report	96
Statement of Financial Position	99
Statement of Financial Performance	100
Statement of Changes in Net Assets	101
Cash Flow Statement	102
Accounting Policies	103
Notes to the Annual Financial Statements	111



Director's Responsibilities and Approval

The directors are required by the Public Finance Management Act (Act No 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 South African Statements 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 NNR and place considerable importance on maintaining a strong control environment. To enable the directors to meet these responsibilities, the Board of Directors 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 NNR and all employees are required to maintain the highest ethical standards in ensuring the NNR'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 NNR. 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, 2014 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 Board of Directors are primarily responsible for the financial affairs of the NNR, they are supported by the NNR's external auditors.

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 92.

The annual financial statements set out on pages 99 to 127, which have been prepared on the going concern basis, were approved by the accounting authority on July 31, 2013 and were signed on its behalf by:



Dr T Cohen
Chairperson of the Board



Mr T Tselane
Acting Chief Executive Officer

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

Introduction

1. I have audited the financial statements of the National Nuclear Regulator set out on pages 99 to 127, which comprise the statement of financial position as at 31 March 2013, the statement of financial performance, statement of changes in net assets and statement of cash flows for the year then ended, and the notes, comprising a summary of significant accounting policies and other explanatory information.

Accounting Authority's responsibility for the financial statements

2. 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 the Public Audit Act of South Africa, 2004 (Act No. 25 of 2004) (PAA), the General Notice issued in terms thereof and 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 2013, and its financial performance and cash flows for the year then ended 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).

Emphasis of matter

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

Restatement of corresponding figures

8. As disclosed in note 30 to the financial statements, the corresponding figures for 31 March 2012 have been restated as a result of an error discovered during 31 March 2013 in the financial statements of the National Nuclear Regulator at, and for the year ended, 31 March 2012.

REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

9. In accordance with the PAA and the General Notice issued in terms thereof, I report the following findings relevant to performance against predetermined objectives, compliance with laws and regulations and internal control, but not for the purpose of expressing an opinion.

Predetermined objectives

10. I performed procedures to obtain evidence about the usefulness and reliability of the information in the annual performance report as set out on pages 20 to 32 of the annual report.

11. The reported performance against predetermined objectives was evaluated against the overall criteria of usefulness and reliability. The usefulness of information in the annual performance report relates to whether it is presented in accordance with the National Treasury's annual reporting principles and whether the reported performance is consistent with the planned objectives. The usefulness of information further relates to whether

indicators and targets are measurable (i.e. well defined, verifiable, specific, measurable and time bound) and relevant as required by the National Treasury Framework for managing programme performance information.

The reliability of the information in respect of the selected objectives is assessed to determine whether it adequately reflects the facts (i.e. whether it is valid, accurate and complete).

12. There were no material findings on the annual performance report concerning the usefulness and reliability of the information.

Additional matter

13. Although no material findings concerning the usefulness and reliability of the performance information was identified in the annual performance report, I draw attention to the following matters below.

Achievement of planned targets

14. Of the total number of 27 targets planned for the year, 12 of targets were not achieved during the year under review. This represents 44% of total planned targets that were not achieved during the year under review. This was as a result of the institution not considering relevant systems and evidential requirements during the annual strategic planning

Material adjustments to the annual performance report

15. Material misstatements in the annual performance report were identified during the audit, all of which were corrected by management.

Compliance with laws and regulations

16. I performed procedures to obtain evidence that the entity has complied with applicable laws and regulations regarding financial matters, financial management and other related matters. My findings on material non-compliance with specific matters in key applicable laws and regulations as set out in the General Notice issued in terms of the PAA are as follows:

Annual financial statements, performance and annual reports

17. The financial statements submitted for auditing were not prepared in all material respects in accordance with the requirements of section 55(1) (b) of the PFMA. Material misstatements of liabilities and disclosure items identified by the auditors were subsequently corrected, resulting in the financial statements receiving an unqualified audit opinion.

Procurement and contract management

18. Goods and services with a transaction value below R500 000 were procured without obtaining the required price quotations, as required by Treasury Regulation 16A6.1

Internal control

19. I considered internal control relevant to my audit of the financial statements, annual performance report and compliance with laws and regulations. The matters reported below under the fundamentals of internal control are limited to the significant deficiencies that resulted in the findings on the annual performance report and the findings on compliance with laws and regulations included in this report.

Leadership

20. The executive authority did not exercise oversight responsibility regarding financial and performance reporting and compliance and related internal controls

Financial and performance management

21. The executive authority did not prepare regular, accurate and complete financial and performance reports that are supported and evidenced by reliable information

22. The executive authority did not review and monitor compliance with applicable laws and regulations

Auditor General

Sign as Auditor-General
Pretoria
31 July 2013

AUDITOR-GENERAL SOUTH AFRICA

Auditing to build public confidence

Report from the AUDIT AND RISK MANAGEMENT COMMITTEE

It is with pleasure that we present this report for the financial year ended 31 March 2013.

Audit and Risk Management Committee Members and Attendance

The Audit and Risk Management Committee comprises of the members listed on page 41 of the annual report, and is required to meet at least three times per annum, as per its approved terms of reference. During the period under review, the Committee met more than three times. The Committee members' meeting attendance is disclosed on page 41 of the annual report.

Responsibilities of the Audit and Risk Management Committee

The Committee adopted appropriate formal terms of reference in its charter, which are in line with the requirements of Section 51(1)(a) of the Public Finance Management Act (Act 1 of 1999), and Treasury Regulation 27.1. The Committee also conducted its affairs in compliance with its charter. The charter was reviewed and approved by the Board.

The Committee's main duties and activities during the period under review may be summarised as follows:

Effectiveness of Internal Control

The system of internal control over the financial and operational activities, proved to be effective, efficient and transparent. In accordance with the PFMA and King III Report on Corporate Governance requirements, Internal Audit provided the Audit and Risk Management Committee and Management with the assurance that the internal controls were appropriate and effective.

This was achieved by means of the risk management process, as well as by the identification of corrective actions and the suggested enhancement of both controls and processes. From information gathered from reports received from the Auditor- General of South Africa, it was noted that no matters had been reported, indicating material deficiencies in the NNR system of internal control. Accordingly the Committee is in the position to report that, for the period under review, the system of internal control over financial reporting was reasonable, efficient and effective. A few areas as noted in the AGSA management letter will however be given attention by the executive in order to further strengthen the system of internal controls.

Evaluation of Financial Statements

The Committee has:

- Reviewed and discussed the audited annual financial statements to be included in the annual report, with the Auditor-General of South Africa, as well as the Accounting Authority.
- Reviewed the Auditor-General of South Africa's audit and management report, as well as management's response to the report.
- Reviewed changes in accounting policies and practices.
- Reviewed material adjustments resulting from the audit. The Committee concurs with, and accepts the Auditor-General of South Africa's report on the annual financial statements, and is of the opinion that the audited financial statements should be accepted.

Internal Audit

During the period under review, the NNR had an internal audit and risk management function that was assisted by an outsourced audit firm. The Committee approved the internal audit three year rolling strategic and annual plans and reviewed the quarterly reports. The head of internal audit had direct access to the chairpersons of both the Audit and Risk Management Committee and the Board of Directors. The Committee is satisfied with the performance of the internal audit activity, in assisting to address the risks pertinent to the NNR.

Risk Management

The Committee reviewed the NNR's overall approach to risk management and control, as well as the risk management processes and practices, while specifically including the results of the risk management workshops which entailed:

- Management strategies and initiatives in managing the risks facing the NNR;
- Periodic and year-end reports on the status of risk management within the NNR; and
- The review of the fraud and corruption prevention manual.

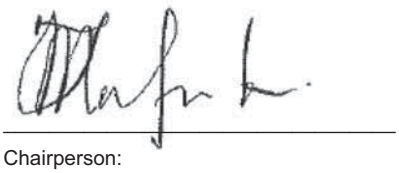
Auditor-General of South Africa

The Committee reviewed the scope and results of the external audit and its effectiveness. The Committee also met with representatives from the Auditor-General of South Africa to ensure that there were no unresolved issues.

Assessment of the Audit and Risk Management Committee

The Board of Directors evaluated the performance of the Committee and the Committee also conducted a self-assessment of its performance.

Mr T Mofokeng CA (SA)



Chairperson:
Audit and Risk Committee Management 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 2013.

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 No 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 and operates principally 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 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 matter or circumstance 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 prepared in accordance with the South African Statements of 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 by National Treasury.

7. Non-current Assets

Details of major changes in the nature of the non-current assets of the NNR during the year were as follows:

During the year operating lease agreement betwen NNR & Faerie Glen Waterpark (Pty) ltd was terminated when the NNR bought the office buiding which it rented from Faerie Glen Waterpark (Pty) ltd. The building was rented by the NNR under operating lease for a period of five years effective from 01 November 2010 with a renewal option.The lease expense for the year ended 31 March 2013 amounted to R 2 765 273.

8. Accounting Authority

The Directors of the entity during the year and to the date of this report are as follows:

Name	Nationality	Changes
Dr T Cohen	South African	Re-appointed 05 December 2012
Mr T Mofokeng	South African	Re-appointed 05 December 2012
Mr A Abader	South African	Re-appointed 05 December 2012
Ms N Cobbinah (alternative to Mr A Abader)	South African	Re-appointed 05 December 2012
Mr S Kakoma	South African	Appointed 05 December 2012
Mr J Leaver	South African	Re-appointed 05 December 2012
Mr N Lesufi	South African	Re-appointed 05 December 2012
Mr K Maphoto	South African	Re-appointed 05 December 2012
Mr S Mimi	South African	Appointed 05 December 2012
Ms E Monale (alternative to Mr K. Maphoto)	South African	Appointed 05 December 2012
Dr T Motshudi	South African	Re-appointed 05 December 2012
Prof. G Sibiya	South African	Appointed 05 December 2012
Mr D Netshivhazwaulu	South African	Resigned 29 June 2012
Mr D Elbrecht	South African	Term ended November 2012
Ms D Kgomo	South African	Resigned 29 June 2012
Ms M Liefferink	South African	Resigned 16 April 2012

9. Secretary

The secretary of the NNR is Ms B Laka (Resigned 31 March 2013) 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 Pretoria Eco Park, Centurion Highveld Ext 75 0046

10. Corporate Governance

Board of Directors' Meetings

The accounting authority has met on eight (8) separate occasions during the financial year. The accounting authority schedules to meet at least 4 times per annum.

Directors have access to all members of management of the NNR.

	Main Board Meeting	Audit and risk Management commitee	Technical commitee	Transformation and Development commitee
Number of meetings held	8	6	4	3
Dr T Cohen (Chairperson) *	7	-	-	-
Mr T Mofokeng (Deputy chairperson) *	7	6	-	-
Mr A Abader *	2	-	-	-
Ms N Cobbinah *	4	1	-	2
Mr D Elbrecht***	4	-	1	2
Mr S Kakoma **	2	1	-	-
Ms D Kgomo***	2	-	2	2
Mr J Leaver *	8	6	4	-
Mr N Lesufi *	7	4	-	3
Mr K Maphoto *	2	-	-	-
Dr T Motshudi *	6	-	4	-
Mr S Mimi **	2	-	-	-
Ms E Monale **	1	-	-	-
Prof. G Sibiya **	1	-	1	-
Mr D Netshivhazwaulu***	1	3	-	-

* Re-appointed ,** New appointment , *** Resigned or term ended

11. Controlling Entity

The NNR's controlling entity is Department of Energy

12. Bankers

ABSA Bank

13. Auditors

Auditor-General of South Africa will continue in office for the next financial period.

Statement of Financial Position as at March 31, 2013

Figures in Rand	Note(s)	2013	2012
Assets			
Current Assets			
Trade and Other receivables from exchange transaction	8	9,551,679	30,704,241
Cash and cash equivalents	9	63,244,266	36,615,133
		72,795,945	**67,319,374**
Non-Current Assets			
Property, plant and equipment	4	119,996,876	20,831,918
Intangible assets	5	1,986,254	2,298,400
		121,983,130	**23,130,318**
Total Assets		**194,779,075**	**90,449,692**
Liabilities			
Current Liabilities			
Other financial liabilities	11	6,630,793	-
Operating lease liability	6	-	2,729,526
Trade payables from exchange transaction	13	2,664,556	2,883,500
Provisions	12	8,839,448	5,025,440
		18,134,797	**10,638,466**
Non-Current Liabilities			
Other financial liabilities	11	72,410,711	-
Retirement benefit obligation	7	11,265,549	13,055,654
Unspent conditional grants and receipts	10	29,557,320	18,000,000
		113,233,580	**31,055,654**
Total Liabilities		**131,368,377**	**41,694,120**
Net Assets		**63,410,698**	**48,755,572**
Accumulated surplus		63,410,698	48,755,572

Statement of Financial Performance

Figures in Rand	Note(s)	2013	2012
Revenue			
Authorisation fees	14	99,067,659	88,479,789
Application fees		447,160	1,581,935
Other income	16	1,352,446	-
Deferred Income		442,680	-
Interest received	21	2,667,427	2,108,524
Government grants	15	30,912,000	35,430,000
Total revenue		**134,889,372**	**127,600,248**
Expenditure			
Compensation of employees	19	(75,106,423)	(82,310,167)
Depreciation and amortisation		(9,153,676)	(5,046,235)
Finance costs	22	(4,652,517)	-
Credit loss written off	20	(226,051)	-
Goods and services	17	(31,095,578)	(38,654,384)
Total expenditure		**(120,234,245)**	**(126,010,786)**
Operating surplus	18	**14,655,127**	**1,589,462**
Surplus for the year		**14,655,127**	**1,589,462**
Attributable to:			
Owners of the controlling entity		14,655,127	1,589,462

Statement of Changes in Net Assets

Figures in Rand	Accumulated surplus	Total net assets
Balance at April 01, 2011	**47,166,110**	**47,166,110**
Changes in net assets		
Surplus for the year	1,589,462	1,589,462
Total changes	1,589,462	1,589,462
Opening balance as previously reported	48,420,833	48,420,833
Adjustments		
Correction of errors	334,738	334,738
Balance at April 01, 2012 as restated	**48,755,571**	**48,755,571**
Changes in net assets		
Surplus for the year	14,655,127	14,655,127
Total changes	14,655,127	14,655,127
Balance at March 31, 2013	**63,410,698**	**63,410,698**

Note(s)

Cash Flow Statement

Figures in Rand	Note(s)	2013	2012
Cash flows from operating activities			
Receipts			
Authorisation fees		119,994,168	88,347,375
Goverment grants		42,912,000	35,430,000
Interest income		2,667,427	2,108,524
Application fees		447,160	1,581,935
Other Income		8,199	-
		166,028,954	127,467,834
Payments			
Compesation of employees		(72,932,524)	(77,162,550)
Goods & Services		(34,595,610)	(35,341,021)
Finance costs		(4,652,517)	-
		(112,180,651)	(112,503,571)
Net cash flows from operating activities	24	**53,848,303**	**14,964,263**
Cash flows from investing activities			
Purchase of property, plant and equipment	4	(107,496,107)	(3,911,408)
Proceeds from sale of property, plant and equipment	4	-	316,952
Purchase of other intangible assets	5	(554,672)	(1,468,246)
Deposit on acquisition of office building		-	(20,000,000)
Net cash flows from investing activities		**(108,050,779)**	**(25,062,702)**
Cash flows from financing activities			
Increase on other financial liabilities		79,041,504	-
Increase or dercrease in post-retirement medical liability		1,790,105	(17,104,984)
Net cash flows from financing activities		**80,831,609**	**(17,104,984)**
Net increase/(decrease) in cash and cash equivalents		**26,629,133**	**(27,203,423)**
Cash and cash equivalents at the beginning of the year		36,615,133	63,818,556
Cash and cash equivalents at the end of the year	9	**63,244,266**	**36,615,133**

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 Rands.

Assets and liabilities or income and expenditure will not be offset, unless it is required or permitted by a standard.

1.1 Significant judgements and sources of estimation uncertainty

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

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 8).

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 4 and 5, reference is made to historical information and intended use of assets.

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

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

1.2 Revenue Recognition

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

Accounting Policies (continued)

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

1.3 Government Grants

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

1.4 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 recognized 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 recognized 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.

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:

Item	**Average useful life**
Land	Not depreciated
Buildings	20 Years
Furniture and fixtures	10-25 Years
Motor vehicles	4-5 Years
Office equipment	5-25 Years
IT equipment	3-5 Years
Leasehold improvements	Over period of lease
Scientific and technical equipment	5 Years

1.5 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 capitalized 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 capitalized includes the cost of materials, direct labour and an appropriate proportion of overheads. Capitalized development expenditure is stated at cost less accumulated amortization and impairment losses.

Accounting Policies (continued)

Computer Software

Acquired computer software licences are capitalized 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.

Amortization 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.

1.6 Subsequent Expenditure

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

1.7 Impairment of 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 recognized 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 recognized 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 recognized for the asset in prior years. A reversal of an impairment loss of assets carried at cost less accumulated depreciation or amortization is recognized immediately in Statement of Financial Performance.

1.8 Financial Instruments

Recognition and Initial Measurement

All financial instruments are initially recognized 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 recognized 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.

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.

Accounting Policies (continued)

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 amortized cost are recognized in Statement of Financial Performance when the financial asset or financial liability is derecognised or impaired, and through the amortization 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 recognized at fair value plus transaction costs that are directly attributable to their acquisition or issue, and are subsequently carried at amortized 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. For trade receivables, which are reported net of such provisions, are recorded in a separate allowance account with the loss being recognized within operational expenditure in the Statement of Financial Performance. On confirmation that the trade receivable will not be collectable, the gross carrying value of the asset is written off against the associated provision. The loans and receivables comprise trade and other receivables at reporting date.

Cash and Cash Equivalents

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

Financial Liabilities

Bank borrowings are initially recognized at fair value net of any transaction costs directly attributable to the issue of the instrument. Such interest-bearing liabilities are subsequently measured at amortized 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 recognized at fair value and subsequently carried at amortized cost using the effective interest method.

1.9 Accounting for Leases

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

Finance Leases - Lessee

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

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

Operating Leases - Lessee

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

1.10 Employee Benefits

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 Penefits

The NNR provides defined benefit and defined contribution plans for the benefit of employees. 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.

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.

Accounting Policies (continued)

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 employees' entitlement to annual leave represents a present obligation which NNR has to pay as a result of employees' services provided to the reporting date. Annual leave is provided for over the period that the leave accrues.

1.11 Provisions and Contingencies

Management judgment is required when recognising and measuring provisions and when measuring contingent liabilities as set out in Notes 12 and 26 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 judgments regarding projected outcomes and ranges of losses based on historical experience and recommendations of legal counsel.

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

1.12 Going Concern Assumption

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

1.13 Related Parties

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

1.14 Comparative Figures

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

1.15 Irregular, Fruitless and Wasteful Expenditure

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

1.16 Foreign Currencies

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

1.17 Interest Received

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

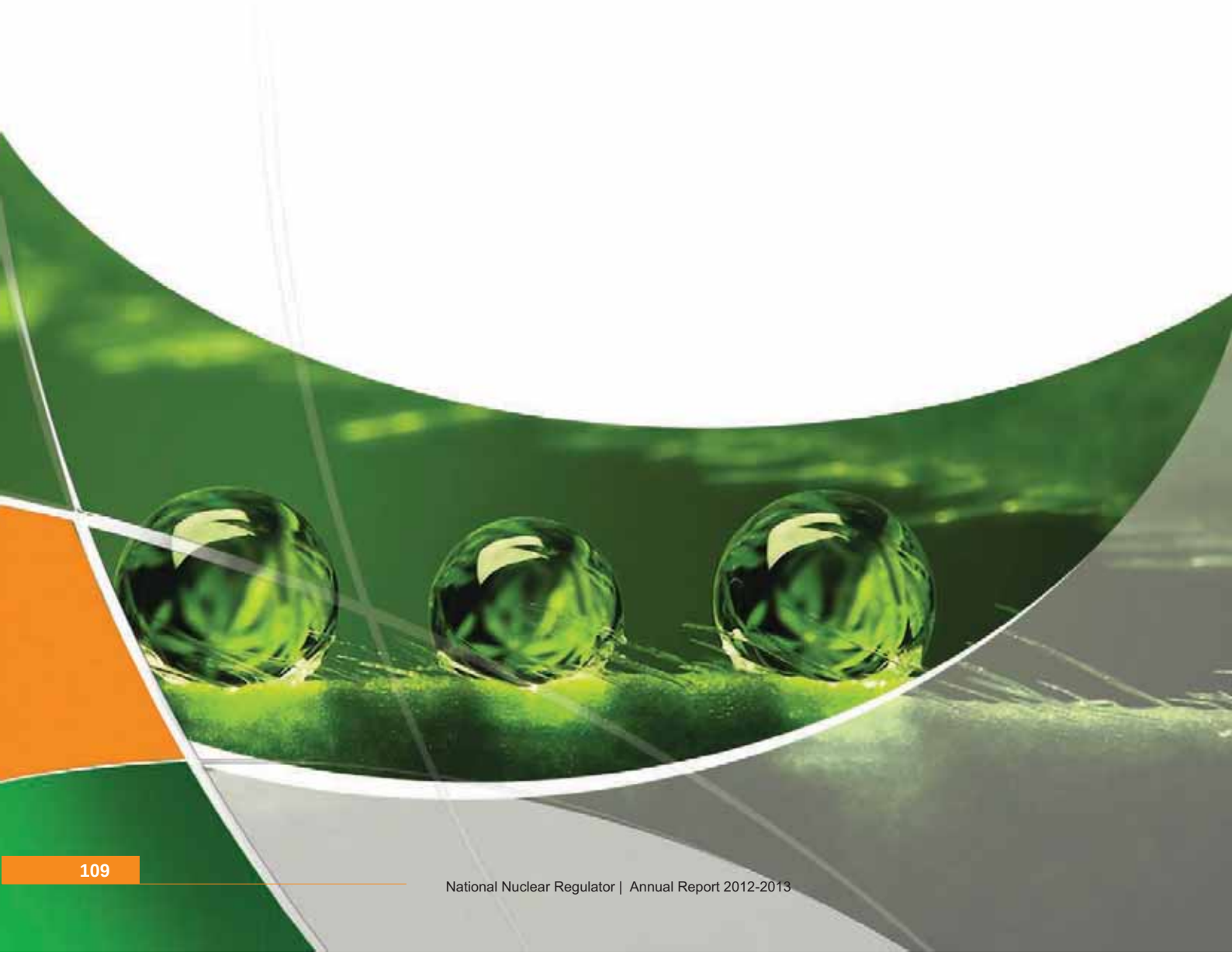
1.18 Budget Information

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

Accounting Policies (continued)

2. Changes in Accounting Policy

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



Notes to the Annual Financial Statements

3. New Standards and Interpretations

3.1 Standards and interpretations effective and adopted in the current year

In the current year, the NNR has adopted the following standards and interpretations that are effective for the current financial year and that are relevant to its operations:

Standard/ Interpretation:	Effective date: Years beginning on or after
- GRAP 23: Revenue from Non-exchange Transactions	April 01, 2012
- GRAP 24: Presentation of Budget Information in the Financial Statements	April 01, 2012
- GRAP 26: Impairment of cash-generating assets	April 01, 2012
- GRAP 104: Financial Instruments	April 01, 2012

3.2 Standards and Interpretations Issued, but not yet Effective

The NNR has not applied the following standards and interpretations, which have been published and are mandatory for the NNR's accounting periods beginning on or after April 01, 2013 or later periods. The standards below are similar to existing standards applied by the NNR and are unlikely to impact the financial position or performance of the entity, but may impact the extent of disclosures provided.

Standard/ Interpretation:	Effective date: Years beginning on or after
- GRAP 25: Employee benefits	April 01, 2013
- GRAP 20: Related parties	April 01, 2013
- GRAP 1 (as revised 2012): Presentation of Financial Statements	April 01, 2013
- GRAP 3 (as revised 2012): Accounting Policies, Change in Accounting Estimates and Errors	April 01, 2013
- GRAP 9 (as revised 2012): Revenue from Exchange Transactions	April 01, 2013
- GRAP 17 (as revised 2012): Property, Plant and Equipment	April 01, 2013
- GRAP 31 (as revised 2012): Intangible Assets (Replaces GRAP 102)	April 01, 2013
- IGRAP16: Intangible assets website costs	April 01, 2013
- IGRAP1 (as revised 2012):Applying the probability test on initial recognition of revenue	April 01, 2013

Figures in Rand	2013	2012

4. Property, Plant and Equipment

	2013			2012		
	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	(6,411,086)	105,872,407	213,750	(149,625)	64,125
Furniture and fixtures	4,162,066	(543,659)	3,618,407	4,008,746	(358,697)	3,650,049
Motor vehicles	210,848	(163,047)	47,801	210,848	(110,335)	100,513
Office equipment	8,042,663	(2,642,988)	5,399,675	7,528,589	(1,517,935)	6,010,654
IT equipment	8,295,460	(5,020,725)	3,274,735	8,127,388	(3,293,749)	4,833,639
Leasehold improvements	442,680	-	442,680	6,440,140	(1,682,190)	4,757,950
Laboratory equipment	3,019,228	(1,891,807)	1,127,421	2,536,060	(1,334,822)	1,201,238
Total	**136,670,188**	**(16,673,312)**	**119,996,876**	**29,279,271**	**(8,447,353)**	**20,831,918**

Reconciliation of property, plant and equipment - 2013

	Opening balance	Additions	Disposals	Transfers In	Transfer out	Depreciation	Total
Land	213,750	-	-	-	-	-	213,750
Buildings	64,125	105,316,870	-	4,584,931	-	(4,093,519)	105,872,407
Furniture and fixtures	3,650,049	30,219	-	123,101	-	(184,962)	3,618,407
Motor vehicles	100,513	-	-	-	-	(52,712)	47,801
Office equipment	6,010,654	362,840	(2,633)	333,523	(177,901)	(1,126,808)	5,399,675
IT equipment	4,833,639	547,596	(41,655)	-	(326,911)	(1,737,934)	3,274,735
Leasehold improvements	4,757,950	755,414	-	-	(4,584,931)	(485,753)	442,680
Laboratory equipment	1,201,238	483,168	-	-	-	(556,985)	1,127,421
	20,831,918	**107,496,107**	**(44,288)**	**5,041,555**	**(5,089,743)**	**(8,238,673)**	**119,996,876**

Reconciliation of property, plant and equipment - 2012

	Opening balance	Additions	Disposals	Transfers In	Depreciation	Total
Land	213,750	-	-	-	-	213,750
Buildings	75,141	-	-	-	(11,016)	64,125
Furniture and fixtures	3,585,818	159,993	(223,925)	152,442	(24,279)	3,650,049
Motor vehicles	190,589	-	-	-	(90,076)	100,513
Office equipment	4,223,916	3,023,094	(61,765)	46,578	(1,221,169)	6,010,654
IT equipment	5,596,216	495,317	(31,262)	5,143	(1,231,775)	4,833,639
Leasehold improvements	5,880,536	233,004	-	-	(1,355,590)	4,757,950
Laboratory equipment	1,708,144	-	-	-	(506,906)	1,201,238
	21,474,110	**3,911,408**	**(316,952)**	**204,163**	**(4,440,811)**	**20,831,918**

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

Office building located at Erf 3078 in Centurion Highveld,Gauteng, acquired during the financial year under review at a cost of R 99 million. The transaction is financed by a 20 year mortgage bond of R 79,2 million obtained from ABSA. R 20 million deposit has been paid in cash.The carrying value of the asset at year end was R 101 234 038.

Land & Building located at Erf 3187 in Melkbosch Strand in the Blaauberg Municipality, Western Cape,the property is paid up and had a carrying amount of R 213 750 and R 53 438 respectively at year end.

Some assets has been reclassified and transfered during the current year from one class of assets to another.

Figures in Rand	2013	2012

5. Intangible Assets

	2013			2012		
	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value
Computer software, other	3,890,661	(1,904,407)	1,986,254	3,287,801	(989,401)	2,298,400

Reconciliation of intangible assets - 2013

	Opening balance	Additions	Transfers In	Transfer out	Amortisation	Total
Computer software, other	2,298,400	554,672	56,510	(8,322)	(915,006)	1,986,254

Reconciliation of intangible assets - 2012

	Opening balance	Additions	Transfers out	Amortisation	Total
Computer software, other	1,489,555	1,468,246	(53,911)	(605,490)	2,298,400

6. Operating Lease Liability

Current liabilities	-	2,729,526

During the year operating lease agreement betwen NNR & Faerie Glen Waterpark (Pty) ltd was terminated when the NNR bought the office buiding which it rented from Faerie Glen Waterpark (Pty) ltd. The building was rented by the NNR under operating lease for a period of five years effective from 01 November 2010 with a renewal option. The lease expense for the year ended 31 March 2013 amounted to R 2 765 273.

The acquisition resulted on conversion of lease to asset financing transaction. The conversion resulted in a set off of three months current operating lease rental expense of R 2 765 274 against the deferred operating lease liability of R 2 729 526 to the net effect of R 35 748.

7. Employee Benefit Obligations

Defined benefit plan

The NNR has made provision for post-employment medical benefit covering 12 employees in 2012/2013 financial year.

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.

Post retirement medical aid plan

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 Safey) on or before 30 July 1990 as well as for 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 at 31 March 2013.

Figures in Rand	2013	2012
The amounts recognised in the statement of financial position are as follows:		
Carrying value		
Present value of the defined benefit obligation-wholly unfunded	(11,265,549)	(13,055,654)
Present value of the defined benefit obligation-partially or wholly funded	(63,977,000)	(46,142,000)
Fair value of planned assets	65,757,000	53,721,000
Assets not recognised	(1,780,000)	(7,579,000)
	(11,265,549)	**(13,055,654)**
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 %
	100.00 %	100.00 %
Net expense (gain) recognised in the statement of financial performance		
Current service cost	114,000	18,000
Interest cost	1,094,000	527,000
Actuarial (gains) losses	(213,879)	6,960,000
Benefits paid	(2,783,572)	(327,000)
	(1,789,451)	**7,178,000**
Actual return on planned assets		
Expected return on planned assets	5,314,000	5,499,000
Actuarial gain (loss) on planned assets	9,379,000	(3,507,000)
	14,693,000	**1,992,000**
Calculation of actuarial gains and losses		
Actuarial gains (losses) – Obligation	(13,625,000)	1,332,000
Actuarial gains (losses) – Planned assets	9,379,000	(3,507,000)
	(4,246,000)	**(2,175,000)**

7.1 Post Retirement Pension Benefit Plan

Changes in present value of the defined benefit obligation are as follows:		
Opening balance	46,142,000	46,356,000
Interest cost	3,769,000	4,117,000
Current service cost	629,000	580,000
Past service cost	3,041,000	-
Benefits paid	(3,229,000)	(3,579,000)
Actual (gain) losses recognised in statement of financial performance	13,625,000	(1,332,000)
	63,977,000	**46,142,000**
Changes in fair value of planned assets are as follows:		
Opening fair value of planned assets	53,721,000	54,730,000
Expected return on planned assets	5,314,000	5,499,000
Contribution by employer	397,000	402,000
Contribution by participants	175,000	176,000
Benefits paid	(3,229,000)	(3,579,000)
Actual gain (losses) recognised in statement of financial performance	9,379,000	(3,507,000)
	65,757,000	**53,721,000**

Figures in Rand	2013	2012
Key assumptions used		
Actuarial principal assumption used at the reporting date :		
Discount rate used	8.40 %	8.40 %
Expected rate of return on assets	10.60 %	10.10 %
General inflation rate	6.60 %	6.10 %
Salary inflation rate	7.60 %	7.10 %
Pension increase	4.00 %	4.00 %
Funding Levels	116 %	103 %

Figures in Rand	2013	2012

7.2 Post Retirement Medical Aid Benefit Obligation

Changes in present value of the defined benefit obligation are as follows:		
Opening defined benefit obligation	13,055,000	5,877,000
Interest cost	1,094,000	527,000
Current service cost	114,000	18,000
Benefits paid	(2,783,572)	(327,000)
Actual (gain) losses recognised in statement of financial performance	(213,879)	6,960,000
	11,265,549	**13,055,000**
Actuarial principal assumption used at the reporting date		
Discount rate used	7.4 %	8.5 %
Medical inflation rate	6.9 %	7.9 %
General inflation	5.4 %	- %
Post retirement interest rate	0.5 %	- %
Proportion of continuing membership at retirement	100.0 %	100.0 %
Proportion of retiring members who are married	90.0 %	90.0 %

Age of spouse	In-service Members: Husbands 3 years older than wives	In-service Members: Husbands 3 years older than wives
	Retirement age of members 65	Retirement age of members 65
Mortality of in-service member	Males: SA8590L (Ult) Female: 55% SA8590L (Ult)	Males: SA8590L (Ult) Female: 55% SA8590L (Ult)
Mortality of continuation members	Male: PA (90) M less 3 years	Females: PA (90) F less 1 year
Annual rate of withdrawal-from age 50+	-	0.74 %

Number of members		
Number of members in active employment	4	4
Number of pensioners	8	8
	12	**12**
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 purposes of the calculations rather than their absolute values. Assumed healthcare cost trends rates and discount rate have a significant effect on the amounts recognised in NNR surplus or deficit. A one percentage point change in assumed healthcare cost trends and discount rates would have the following effects:

Figures in Rand	2013	2012
`	**One percentage point decrease**	**One percentage increase point**
Effect on the aggregate of service and interest cost-medical Inflation	1,070,606	870,873
Percentage change Effect on the aggregate of service and interest cost-medical Inflation	12	(10)
Effect on defined benefit obligation-medical Inflation	12,505,608	10,207,393
Percentage change Effect on defined benefit obligation-medical Inflation	12	(9)
Effect on the aggregate of service and interest cost-discount rate	967,216	953,139
Percentage change Effect on the aggregate of service and interest cost-discount rate	(1)	(1)
Effect on defined benefit obligation-discount rate	10,163,358	12,581,515
Percentage change Effect on defined benefit obligation-discount rate	(10)	12
		Central assumption
Effect on the aggregate of the service and interest cost		962,644
Effect on defined benefit obligation		11,265,549

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

`	2013 R	2012 R	2011 R	2010 R	2009 R
Defined benefit obligation	11,265,549	13,055,654	5,877,654	33,360,650	29,897,654
Experience adjustments on plan liabilities	(213,879)	6,960,000	(4,773,000)	1,970,000	(374,144)

Defined contribution plan

It is the policy of the NNR to provide retirement benefits to all its employees. A defined contribution pension funds,which is subject to the Pensions Fund Act exist 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	7,549,535	7,424,502

8. Trade and Other Receivables from Exchange Transaction

Trade debtors	8,885,050	7,894,064
Staff advance	297,150	326,925
Deposits & Prepayments	369,479	22,483,252
	9,551,679	**30,704,241**

Significant decrease on deposits & prepayments relate to R 20 million deposit paid on acquisition of office building transferred to property,plant and equipment on capitalisation of office building during the current financial year.

Trade and other receivables past due but not impaired

Trade and other receivables which are less than 3 months past due are not considered to be impaired. At March 31, 2013, R 9,111,091 (2012: R 7,804,471) were past due date but not impaired.

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

1 month past due	8,800,155	3,960,447
2 months past due	310,935	-
3 months past due	-	3,844,023

Figures in Rand	2013	2012

Trade and other receivables impaired

As of March 31, 2013, trade and other receivables of R 1,812,302 (2012: R 3,156,460) were impaired and provided for.

The ageing of these receivables is as follows:

Over 4 months	1,812,302	3,156,460

Reconciliation of provision for impairment of trade and other receivables

Opening balance	3,156,549	1,560,236
Provision for impairment	-	1,596,313
Amounts written off as uncollectable	(226,051)	-
Unused amounts reversed	(1,118,196)	-
	1,812,302	**3,156,549**

The creation and release of provision for impaired receivables have been included in operating expenses in the NNR surplus or deficit (note 18). Amounts charged to the allowance account are generally written off when there is no expectation of recovering additional cash.

9. Cash and Cash Equivalents

Cash and cash equivalents consist of:

Cash on hand	7,500	7,494
Bank balances	3,178,044	12,238,717
Short-term deposits	60,058,722	24,368,922
	63,244,266	**36,615,133**

10. Unspent Conditional Grants and Receipts

Unspent conditional grants and receipts comprises of:

Goverment grant	29,557,320	18,000,000

Movement during the year

Balance at the beginning of the year	18,000,000	18,000,000
Additions during the year	12,000,000	-
Income recognition during the year	(442,680)	-
	29,557,320	**18,000,000**

The NNR has been granted R 18 million earmarked for the establishment and commissioning of the environmental radio analytical laboratory to be used for sample analysis. The total amount of R 442 680 was disbursed during the current year and commitments of R 3 605 484 for development of laboratory methods and R 3 924 068 for refurbishment of laboratory were contracted during the year under review.

The NNR was allocated a conditional grant of R 12 million during the current financial year particularly for the establishment of Emergency Control Centre and refurbishment of Cape Town office. Application will been made to National Treasury under S 53(3) of the PFMA to retain cash surpluses reported in the current financial year ending 31 March 2013. Should permission to retain this surplus not be granted then the NNR may be required to surrender surplus to National Treasury through its Executive Authority. See note for reconciliation of grants from National/Provincial Government.

Figures in Rand	2013	2012

11. Other Financial Liabilities

At amortised cost

Re-imbursement agreement	5,100,000	-
An agreement between NNR & Faerie Glen Waterpark (Pty) Ltd exist for re- imbursement of tenant installation cost incurred by Faerie Glen Waterpark (Pty). The re-imbursement is repayable on monthly instalment of R 100 000 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		
ABSA mortgage bond 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. The effective interest rate for the year is 9%.	73,941,504	-
	79,041,504	**-**
Total other financial liabilities	**79,041,504**	**-**
Non-current liabilities		
At amortised cost	72,410,711	-
Current liabilities		
At amortised cost	6,630,793	-

12. Provisions

Reconciliation of provisions - 2013

	Opening Balance	Additions	Reversed during the year	Total
Annual Leave	4,875,440	68,042	-	4,943,482
Annual performance bonus	-	3,895,966	-	3,895,966
Other provision	150,000	-	(150,000)	-
	5,025,440	**3,964,008**	**(150,000)**	**8,839,448**

Reconciliation of provisions - 2012

	Opening Balance	Additions	Utilised during the year	Total
Annual Leave	4,888,922	4,875,440	(4,888,922)	4,875,440
Other provisions	150,000	-	-	150,000
	5,038,922	**4,875,440**	**(4,888,922)**	**5,025,440**

The leave provision represents management's best estimate of the NNR 's liability for leave provision based on the NNR approved leave policy.

Provision for annual Leave

Leave provision represents the amount due to employees for unutilised leave days accrued for services rendered to the NNR as of 31 March 2013. 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 rate and leave balance which are due to employees as at 31 March 2013.

Figures in Rand	2013	2012

13. Trade payables from Exchange Transaction

Trade payables	1,671,982	178,916
Payments received in advance	356	-
Accruals	217,196	1,976,313
13th Cheque accrual	775,022	728,271
	2,664,556	**2,883,500**

14. Revenue

Authorisation fees	99,067,659	88,479,789
Application fees	447,160	1,581,935
Other income	1,352,446	-
Deferred Income	442,680	-
Interest received	2,667,427	2,108,524
Government grants	30,912,000	35,430,000
	134,889,372	**127,600,248**

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

Authorisation fees	99,067,659	88,479,789
Application fees	447,160	1,581,935
Interest received	2,667,427	2,108,524
	102,182,246	**92,170,248**

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

Government grants	30,912,000	35,430,000

15. Government Grants and Subsidies

Government grant	30,912,000	35,430,000

Unconditional

Unconditional grants received	30,912,000	35,430,000

Conditional grant

Balance unspent at beginning of year	18,000,000	18,000,000
Current-year receipts	42,912,000	35,430,000
Unconditional grant	(30,912,000)	(35,430,000)
Conditional grant disbursed	(442,680)	-
	29,557,320	**18,000,000**

The NNR has an obligation to establish and commission the environmental radio analytical laboratory (see note 10) for details.

The NNR has an obligation to upgrade an Emergency Control Centre and refurbish Cape Town satellite office (see note 10) for details.

Figures in Rand	2013	2012

16. Other Income

Proceeds from insurance	8,199	-
Provision for bad debts adjustment	1,344,247	-
	1,352,446	**-**

17. Goods and Services

Advertising	575,128	1,150,645
Assessment rates & municipal charges	315,123	53,013
Auditor's fees	1,508,243	1,376,854
Bank charges	39,524	7,241
Consulting and professional fees	6,675,912	4,494,292
Consumables	148,741	90,799
Insurance	778,711	299,566
Community development and training	727,447	309,083
Conferences and seminars	1,016,074	561,592
Lease rentals on operating lease	663,695	12,577,803
Marketing	185,223	73,744
Magazines, books and periodicals	252,129	74,441
Medical expenses	21,480	10,707
Postage and courier	399,760	141,469
Printing and stationery	1,021,410	624,267
Protective clothing	58,061	-
Software expenses	849,075	30,164
Subscriptions and membership fees	602,649	102,977
Telephone and fax	1,739,295	2,374,024
Transport and freight	18,867	25,176
Training	1,146,970	738,403
Travel - local	4,075,454	3,668,047
Travel - overseas	2,930,982	1,820,326
Electricity	990,515	972,403
Water	8,416	36,042
Repairs & Maintenance	3,510,137	5,375,457
Other expenses	836,557	1,665,849
	31,095,578	**38,654,384**

18. Operating Surplus (deficit)

Operating surplus (deficit) for the year is stated after accounting for the following:

Operating lease charges		
Premises		
Contractual amounts	452,225	12,317,120
Equipment		
Contractual amounts	211,470	260,683
	663,695	**12,577,803**

Depreciation on property, plant and equipment	9,153,676	5,046,235
Employee costs	75,106,423	82,310,167
Amount expensed in respect of retirement benefit plans:	6,288,398	15,103,093
Pension fund-Defined contribution plan	7,549,535	7,424,502
Pension fund-Defined benefit plan	527,968	500,592
**Post medical-Defined benefit plan	(1,790,105)	7,178,000
Credit loss written off	226,051	-

Figures in Rand	2013	2012

19. Employee Related Costs

Basic	43,715,246	40,275,227
Performance Bonus	1,168,789	2,491,516
Medical aid - company contributions	2,515,632	2,315,084
UIF	311,814	272,729
SDL	644,212	604,640
PAYE	18,078,221	18,810,781
Post medical-Defined benefits plan	(1,790,105)	7,178,000
Pension fund-Defined benefit plan	527,968	500,592
**Pension fund-Defined contribution plan	7,549,535	7,424,502
13th Cheques	2,385,111	2,437,096
	75,106,423	**82,310,167**

**During the current financial year post retirement medical aid obligation decreased from R 13 055 654 to R 11 265 549. The Net effect of amount recognise on the statement of performance amount to (R 1 790 105).

20. Credit Loss Written Off

Debts impaired	226,051	-

21. Investment Revenue

Interest revenue		
Short-term deposits	2,667,427	2,108,524

22. Finance Costs

Non-current borrowings	4,652,517	-

23. Auditors' Fees

Fees	1,508,243	1,376,854

24. Cash Generated from Operations

Surplus	14,655,127	1,589,462
Adjustments for:		
Depreciation and amortisation	9,153,676	5,046,235
Credit loss written off	226,051	-
Movements in operating lease assets and accruals	(2,729,526)	-
Movements in retirement benefit assets and liabilities	(1,790,105)	7,178,000
Movements in provisions	3,814,008	5,603,711
Provision for doubtful debts adjustment	(1,344,248)	1,233,719
Profit(loss) on assets written off	44,287	907,788
Deferred Income	(442,680)	-
Changes in working capital:		
Trade and Other receivables from exchange transaction	21,149,388	(69,372)
Trade receivables from exchange transactions	(226,051)	-
Trade payables from exchange transaction	(218,944)	(7,633,411)
Unspent conditional grants and receipts	11,557,320	-
Increase/(decrease) in provisions.	-	1,108,131
	53,848,303	**14,964,263**

Figures in Rand	2013	2012

25. Commitments

Authorised capital expenditure

Already contracted for but not provided for		
- Property, plant and equipment	8,897,681	79,000,000
- Intangible assets	91,664	-
- Other commitments & contractual amounts	3,621,781	-
- Operating lease	198,018	435,640
	12,809,144	**79,435,640**

This committed expenditure relates to plant and equipment , intangible assets 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	198,018	237,622
- in second to fifth year inclusive	-	198,018
	198,018	**435,640**

Operating lease payments represent rentals payable by the NNR for eight Photocopiers leased from Ubuntu Technologies. The NNR rent photocopiers under operating lease for a period of three years from Ubuntu technologies effective from 01 February 2011,expiring on 28 February 2014. The lease allows for 0% annual escalation. Lease expense for the year amount to R 237 622. No contingent rent is payable.

26. Contingencies

Matter	Case	
Application has been made to National Treasury under S 53(3) of the PFMA to retain cash surpluses reported in the current financial year ending 31 March 2013. Should permission to retain this cash surplus not be granted, then the NNR may be required to surrender surplus to National Treasury through its Executive Authority.	S 53(3) of the PFMA to retain cash surpluses	12,000,000
Siphiwe Tshabalala V Marleze Swanepoel, CCMA and NNR – This is a matter is currently under review at the CCMA. The applicant has failed to file the record and to amend its founding papers. In November 2012, we instructed our attorneys to apply to court to have the review dismissed. The application to dismiss the review was launched on 11 December 2012. Tshabalala has filed the record, which is defective and has been called upon to rectify this. He has further filed an affidavit opposing the application to dismiss the review. The NNR filed a notice of an irregular proceeding in March 2013.	Siphiwe Tshabalala V Marleze Swanepoel, CCMA and NNR	2,883,033
Mashishi and Mwase v NNR and Sakwe V NNR – an application for consolidation of the three matters relating to dismissal for operational requirements granted as per email from the attorneys dated 8 June 2012 in the Labour Court. Papers have been filed and we await a trial date. A Pre – Trial before a Judge was held on 06 February 2013. We now await a trial date on the matter.	Mashishi and Mwase v NNR and Sakwe V NNR	2,922,101
Mike Blumenthal – Mr. Blumenthal instituted proceedings in the CCMA against the NNR for unfair dismissal. The CCMA found in his favour and awarded a year's compensation. On 11 December 2012 the NNR instructed its attorneys to take the matter on review in the Labour Court. An Application was filed at the Labour Court on 19 December 2012. Blumenthal entered appearance to oppose on 20 December 2012. Our attorneys received transcript of the CCMA proceedings and are currently perusing same in order to determine whether or not we need to supplement our review application at the Labour Court.	Mike Blumenthal – Mr. Blumenthal instituted proceedings in the CCMA against the NNR for unfair dismissal.	1,014,637
		18,819,771

Figures in Rand	2013	2012

27. Related Parties

Relationships	
Directors	Refer to note 28 on directors' emoluments
Controlling entity	Department of Energy
Entities ultimately under common control	South African National Nuclear energy corporation Limited (NECSA) South African National energy Regulator of South africa (NERSA) South African National Energy Development Institute (SANEDI) The National Radioactive Waste Disposal Institute (TNRWDI) 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 of the NNR	ABSA pension administrators
Key management personnel	B Mkhize (CEO) Resigned 30 November 2012 Mr O Phillips Mr T Tselane (Act CEO) Appointed 03 December 2012 Ms Z Mbatha Mr D Netshivhazwaulu Appointed 29 June 2012

Related party balances

Amounts included in Trade receivable (Trade Payable) regarding related parties		
NECSA	(222,513)	-
NECSA	24,204	24,204
Related party transactions		
Services rendered to related parties		
NECSA	28,069,642	25,207,260
Goverment transfers		
Department of Energy	42,912,000	35,430,000
Purchases from related parties		
NECSA	(1,979,808)	(1,107,100)
Other		
ABSA pension administrators	8,077,503	7,925,093

Figures in Rand	2013	2012

28. Directors' Emoluments

Executive

2013

	Basic Salary	Performance bonus	Allowance	Contributions	Total
Adv. B Mkhize (CEO) Resigned 30/11/2012	1,143,652	263,834	-	106,386	1,513,872
Mr T Tselane (Acting CEO) Appointed 01/12/2013	1,100,897	22,534	42,088	141,419	1,306,938
Mr D Netshivhazwaulu (CFO) Appointed 01/07/2012	840,866	-	-	50,424	891,290
Ms Z Mbatha	998,829	-	-	76,487	1,075,316
Mr O Phillips	1,220,462	23,518	-	128,416	1,372,396
	5,304,706	**309,886**	**42,088**	**503,132**	**6,159,812**

2012

	Basic Salary	Performance Bonus	Contributions	Other benefits	Total
Adv. B Mkhize (CEO)	1,581,344	263,834	151,898	-	1,997,076
Ms RJ Magoele	445,255	-	25,907	5,767	476,929
Ms LG Mashishi	389,320	-	17,439	372,561	779,320
Mr M Msebenzi	476,693	-	43,658	607,084	1,127,435
Mr JN Mwase	397,189	-	54,807	353,035	805,031
Ms JL Meyer	306,702	-	11,381	-	318,083
Ms Mbatha	186,676	-	12,155	-	198,831
Mr CO Phillips	1,107,202	44,797	73,689	45,816	1,271,504
Mr KW Loatwane	781,642	-	38,678	32,383	852,703
Mr T Tselane	82,068	-	8,694	2,629	93,391
	5,754,091	**308,631**	**438,306**	**1,419,275**	**7,920,303**

Directors

2013

	Directors' fees	Total
Dr T Cohen	69,984	69,984
Mr T Mofokeng	135,284	135,284
Mr S Kakoma	17,352	17,352
Mr J Leaver	133,931	133,931
Mr N Lesufi	87,288	87,288
Mr S Mimi	20,244	20,244
Dr T Motshudi	71,400	71,400
Prof. G Sibiya	17,352	17,352
Mr D Netshivhazwaulu	28,920	28,920
Mr D Elbrecht	49,164	49,164
	630,919	**630,919**

2012

	Directors' fees	Total
Dr T Cohen-(Chairperson)	66,654	66,654
Mr T Mofekeng	136,761	136,761
Mr J Leaver	107,429	107,429
Mr N Lesufi	101,181	101,181
Dr T Motshudi	94,706	94,706
Mr D Netshivhazwaulu	81,818	81,818
Mr D Elbrecht	75,428	75,428
Ms M Liefferink	87,916	87,916
	751,893	**751,893**

29. Change in Estimate

Property, Plant and Equipment

Leasehold improvement in respect of office building has been transferred to buildings on capitalisation of office building. The useful life of this leasehold Improvements was estimated to be five years in line with operating lease . During the current period the NNR bought the office building which it rented from Faerie Glen waterpark (Pty) Ltd under operating lease hence management have revised the estimate of leasehold improvement to 20 years consistent with that of office building. The effect of this revision has decreased the depreciation charge for the current and future periods by R 435,566

30. Prior Period Errors

Skills development levy was classified and reported as part of goods and services during the prior year. During the current financial year, skills development has been reclassified from goods and services and reported as part of compesation of employees. The net effect of changes on retained earnings is zero.

An error occured during prior when fair adjustment was incorrectly calculated and credited to trade receivables from exchange transactions.The effect of of this error on surplus amount to R 334 737.

The correction of the error(s) results in adjustments as follows:

Statement of financial position		
Increase on trade receivables from exchange transaction	-	334,737
Statement of Financial Performance		
Increase in compensation of employees	-	561,554
Decrease in goods and services	-	(561,554)
Increase in surplus for the year	-	334,737

31. Comparative Figures

Certain comparative figures have been reclassified in accordance with GRAP 1, paragraph 33 and financial reporting framework. Comparative figures have been adjusted to conform to changes in presentation in the current year. Changes in classification is relevant to an understanding of the prior period and current period's financial statement.

Statement of financial position		
Decrease in trade and other payables from exchange transactions	-	(20,151,253)
Decrease in provisions	-	(578,272)
Increase in unspent conditional grants and receipts	-	18,000,000
Increase in operating Lease liability	-	2,729,526
Statement of Financial Performance		
Increase in Revenue	-	1,748,467
Decrease in finance income		(1,748,467)

Notes to the Annual Financial Statements (continued)

32. 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 program 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. NNR finance division identifies, evaluates and hedges financial risks in close co-operation with the NNR'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 and 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 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 of licence and certificate holders by major reputable mining & scrap metal companies.Management evaluate credit risk relating to each licence or certificate holder on an ongoing basis. There is no independent crediting ratings,risk control assesses the credit quality of customers,taking into account finacial 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.

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.

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
Cash flow interest rate risk						
Morgage Bond over office	8.50 %	11,893,214	11,893,214	11,893,214	11,893,214	14,475,435

Fair value interest rate risk

Price Risk

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

33. 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 31 March 2013, and the new financial year ending 31 March 2014 as well as the budget over MTEF, in 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.

34. Unauthorised Expenditure

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

35. Fruitless and Wasteful Expenditure

Opening Balance	199,157	199,157
Less: Amount recovered	(199,157)	-
	-	**199,157**

36. Irregular Expenditure

Opening balance	-	21,493,004
Add: Irregular Expenditure - current year	284,373	5,865,730
Less: Amounts condoned	-	(27,358,734)
	284,373	**-**

Details of irregular expenditure - current year

The irregular expenditure above relate to training expense incurred without requestion of minimum number of three quotation.	284,373

37. 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	14,655,127	1,589,462
Adjusted for:		
Loss on assets written off	44,288	907,788
Credit loss written off	226,051	-
Provision for doubtful debts	(1,344,247)	1,233,719
Provision for leave pay	68,042	-
Provision for retirement benefit obligation	(1,790,105)	7,178,000
Variance in goverment grant	11,557,320	(21,192,000)
Variance in authorisation fees	3,047,341	2,088,211
Variance in other income	3,524,838	(1,670,000)
Variance in investment income	(1,357,759)	(1,582,738)
Variance in compesation	(14,738,336)	24,437,593
Variance in goods and services	(3,401,611)	13,501,203
Variance in Depreciation	3,973,106	(179,238)
Variance in finance cost	485,945	(42,000)
Variance in capital expenditure	(14,950,000)	(26,270,000)
Net surplus per approved budget	**-**	**-**



Section 7

GLOSSARY

7. 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:	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: to limit the range of options considered in the optimisation process; and to restrict the doses via all exposure pathways to the average member of the critical group, in order to ensure that the sum of the doses received by that individual from all controlled sources remains within the dose limit, and which, if found retrospectively to have been exceeded, should not be regarded as an infringement of regulatory requirements but rather as a call for the reassessment of the optimisation of radiation protection.
Dose limit:	The value of the effective dose or equivalent dose to individuals from actions authorised by a nuclear installation licence, nuclear vessel licence or certificate of registration, which must not be exceeded.
Emergency planning:	The process of developing and maintaining the capability to take action that will reduce the impact of an emergency on persons, property or the environment.
Emergency preparedness:	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 subject to irradiation.
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/unauthorised exposure to radiation or the release of radioactive material, which is capable of giving rise to an effective dose in excess of 1 msv to the public off-site within a year, or in excess of 50 msv 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 0.1 msv 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 20 msv 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:	The 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 action, 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.
Radioactive waste acceptance criteria:	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.
Source:	Anything that may cause radiation exposure, such as by emitting ionising radiation or releasing radioactive substances or materials; a complex or multiple installation situated at one location or site may, as appropriate, be considered as a single source.



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