nuclear SAFETY FIRST



Annual Report 2009

NATIONAL NUCLEAR REGULATOR

National Nuclear Regulator's Organisational Profile

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) with regard to the health and safety of workers, the public and the environment associated with authorised nuclear sites, and the financial aspects in terms of Section 55 of the Public Finance Management Act (Act No. 1 of 1999).

Mandate

To provide for the protection of persons, property and the environment against nuclear damage via the establishment of safety standards and regulatory practices.



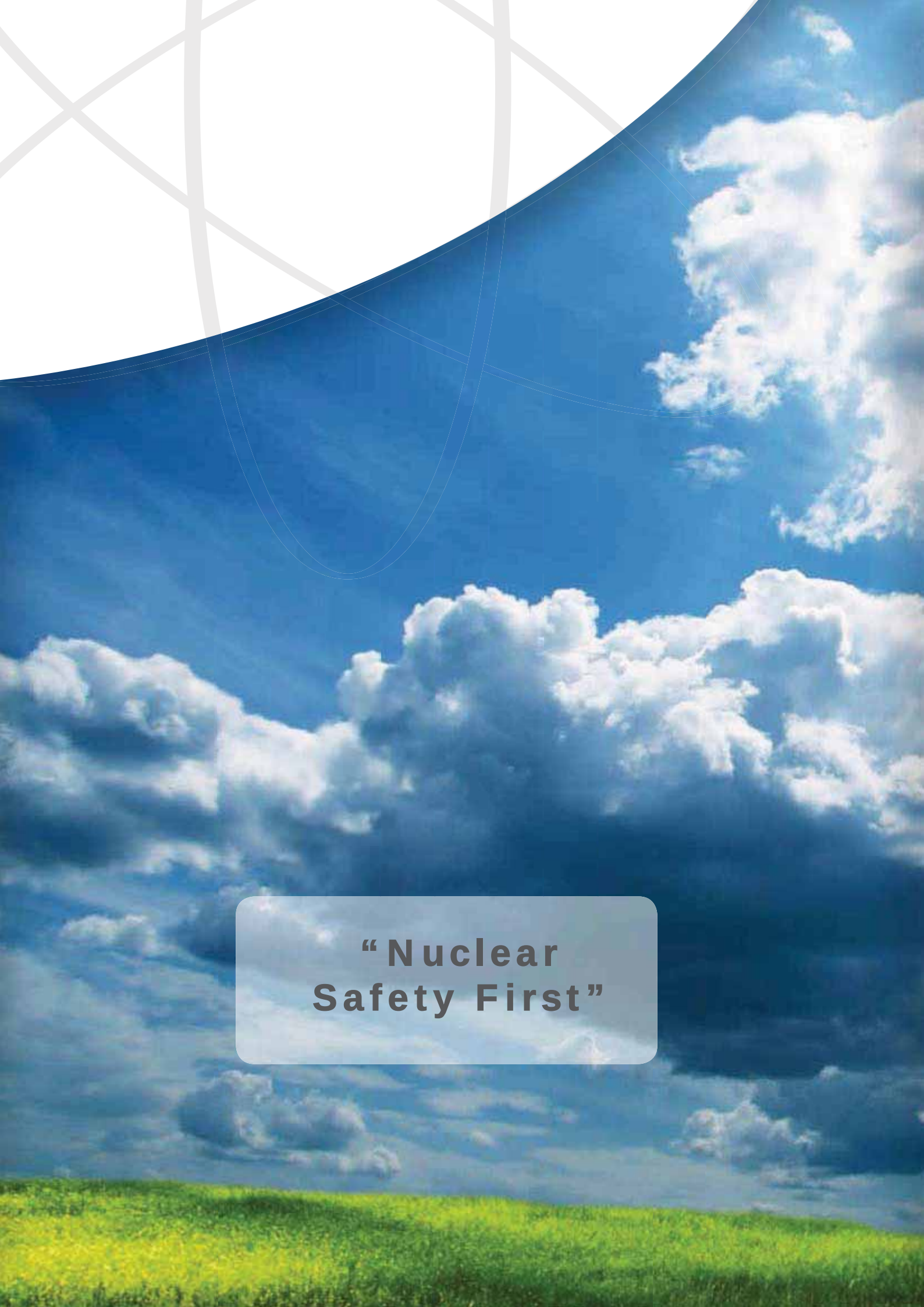
Vision

To be a leading, impartial authority for the regulation of the safe use and handling of nuclear and radioactive material.

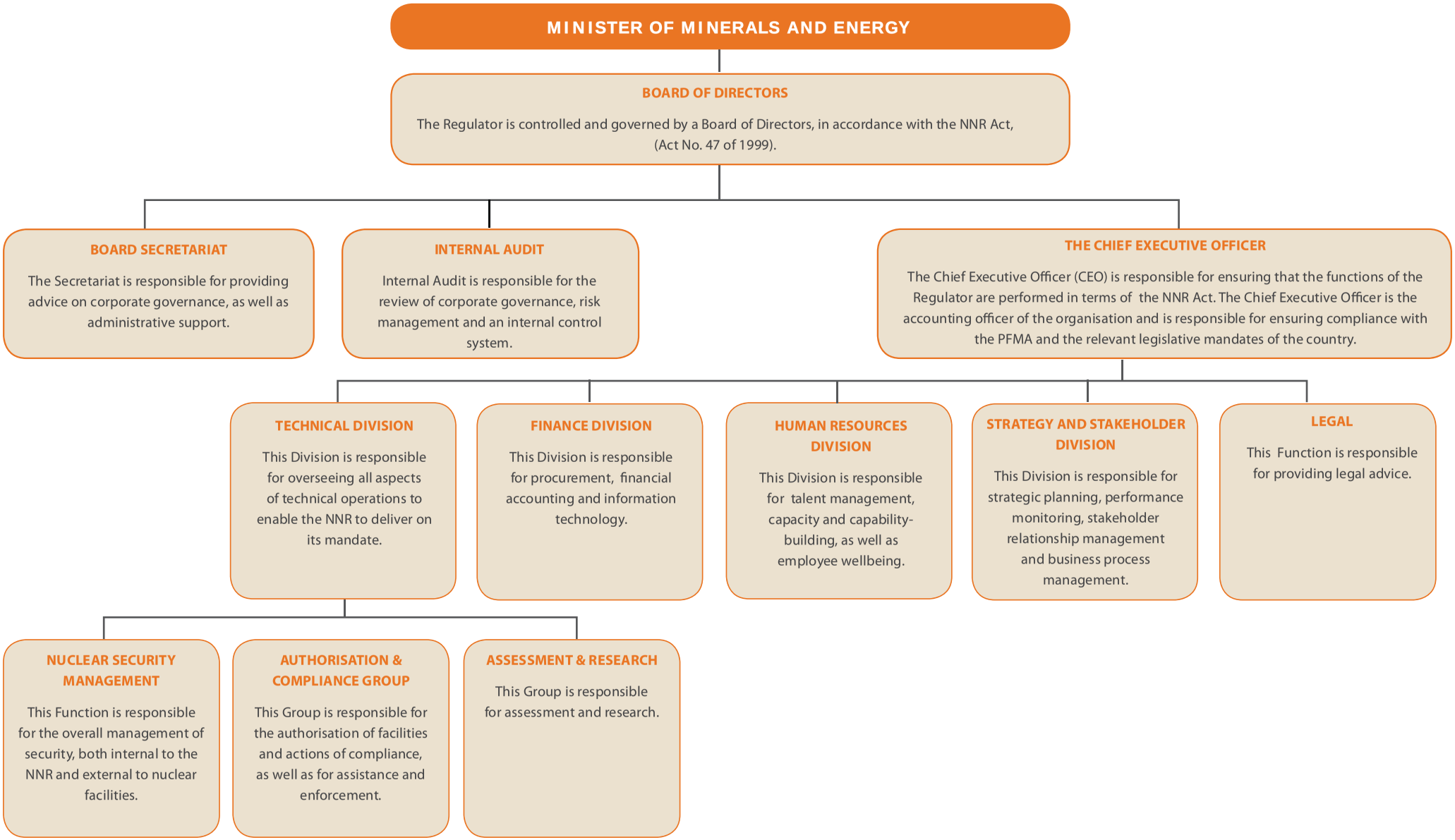
Mission

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

- Excellence in nuclear regulatory practices; and
- Human resources and transformation practices best suited to the nuclear regulatory needs of the nation.


“Nuclear
Safety First”

ORGANISATIONAL STRUCTURE



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“For the Protection of Persons, Property and the Environment Against Nuclear Damage”

1. CHAIRPERSON'S REPORT



The Board welcomes the publication of the Nuclear Energy Policy and looks forward to supporting the implementation of a national strategy.

The key role of the National Nuclear Regulator (NNR) is to provide for the protection of persons, property and the environment against nuclear damage in South Africa.

The NNR also represents South Africa as a Contracting Party (CP) to the International Atomic Energy Agency Convention on Nuclear Safety (IAEA CNS) and the Joint Convention on Radioactive Waste Management and Spent Fuel Management.

I am pleased to report that the NNR has honoured its international obligations under the CNS and Joint Conventions for the 2008/09 financial year.

In April 2008, the NNR presented the South African CNS Report to the International Atomic Energy Agency (IAEA) at the fourth CNS review meeting in Vienna.

In addition, the NNR coordinated the compilation of South Africa's first National Report on Radioactive Waste Management and Spent Fuel Management, which was submitted to the IAEA in October 2008. The Report was subsequently presented during the third review meeting of the Joint Convention in May 2009. The Report summarises South Africa's approach to the safety of spent fuel and radioactive waste, and demonstrates how South Africa fulfils its obligations under the Joint Convention.

In March 2009, the NNR participated in the IAEA's Technical Cooperation (TC) Project on promoting self-assessment of regulatory infrastructures for safety, as well as the networking of regulatory bodies in Africa. Subsequently, the NNR hosted the launch of the Forum of Nuclear Regulatory Bodies in Africa (FNRBA).

As part of its commitment to improving international collaboration and networking on the African continent, I am proud to report that the NNR will be hosting the IAEA's International Conference on Effective Nuclear Regulatory Systems on behalf of the South African government, which is scheduled to take place in Cape Town in December 2009.

The NNR also successfully executed its national mandate for the 2008/09 financial year.

In this regard, all nuclear facilities in the country were inspected and found to be compliant with the required safety standards, as stipulated in the NNR's conditions of license.

In March 2009, NECSA declared a site emergency that received extensive media coverage and gave understandable rise to concerns over public safety. As per its mandate of protecting persons, property and the environment against nuclear damage, the NNR responded immediately and after assessing the situation concluded that it was an event which presented no danger to workers or the public in general.

I am pleased to report that there were no nuclear accidents or incidents reported in South Africa during 2008/09.

One of the challenges facing the NNR is the development of a regulatory framework for the Pebble Bed Modular Reactor (PBMR) project. The NNR continued to apply stringent regulatory oversight measures in reviewing plans relating to the siting, design, manufacture of components, installation, operation and decommission of the PBMR project.

The NNR continues to face challenges in recruiting and retaining scarce skills and competencies for ensuring that the South African nuclear sector continues to be regulated effectively in the future. During the period under review, the NNR focused on building its internal Human Resources function, in order to meet its future regulatory obligations.

One of the NNR's key strategic focus areas in the future, is to build public confidence in the nuclear regulatory environment in South Africa. To this end, the NNR ensures that the nuclear licence holders, Eskom and NECSA, hold regular Public Safety Information Forum meetings to provide information to the public on matters relating to nuclear safety and emergency planning.

In addition, the NNR responds to any public enquiry regarding matters of nuclear and radiation safety.

During the 2008/09 financial year, there were several media reports on the contamination of the Wonderfonteinspruit Catchment Area (WCA) in the West Rand district in Gauteng. This matter continues to receive urgent attention from the NNR and other relevant authorities. The NNR has developed a regulatory framework and actively participates in a multidisciplinary steering committee which determines the basis of future actions and decisions relating to the remediation of the Wonderfonteinspruit Catchment Area.

The NNR's total operating revenue for the 2008/09 financial year came to R85 million, of which R65 million was derived from authorisation fees. A total of R20 million was received in the form of a direct government grant. It can be reported that the NNR has strengthened its internal financial controls and procedures during the period under review.

In conclusion, I would like to record my sincere gratitude to the staff and Management for their continued dedication, as well as to Mr Guy Clapisson for accepting the responsibility of acting Chief Executive Officer. On a more personal note, I wish to thank my colleagues on the NNR Board for their support and guidance during the period under review.



Prof MA Hermanus
Chairperson: National Nuclear Regulator

2. REPORT BY THE CHIEF EXECUTIVE OFFICER



2.1 Introduction

The National Nuclear Regulator (NNR) is a statutory organisation, responsible for exercising regulatory control over the safety of nuclear installations, certain types of radioactive waste, irradiated nuclear fuel and the mining and mineral processing of radioactive ores and minerals in South Africa.

I am pleased to report that the NNR has successfully executed on its mandate of exercising regulatory oversight of all nuclear installations, radioactive waste facilities, mining and minerals processing facilities in the country during the 2008/9 financial year.

Regulatory oversight activities, pertaining to the Koeberg Nuclear Power Station (KNPS), NECSA's nuclear installations, the Vaalputs radioactive waste disposal site and various mining and minerals processing facilities, showed satisfactory compliance with the NNR's safety standards and regulatory requirements, as stipulated in their respective conditions of authorisation.

A key challenge experienced by the NNR in exercising regulatory oversight of KNPS, relates to dealing with the monitoring and control of developments in the vicinity of the KNPS Nuclear Emergency Plan zone. The NNR proposed an updated regulation to the Minister of Minerals and Energy in September 2008. It is envisaged that the promulgation of these regulations would constitute an important legal instrument in dealing with controlling new changes in developments around the KNPS.

Regulatory oversight of the Pebble Bed Modular Reactor (PBMR) Project involved fast-tracking the review of the nuclear installation licence applications by the PBMR Demonstration Power Plant (DPP) and the Fuel Fabrication Plant. Although the progress of the PBMR Project has been slower than scheduled, the NNR continued with its regulatory review of the nuclear licence applications and developed several regulatory documents for consideration.

With regard to the regulatory oversight of mining and minerals processing facilities, the NNR observed a trend of recurring non-compliance by a few authorisation holders over the past few years. The NNR views these transgressions as serious offences and has issued relevant directives pertaining to these specific cases in order to implement corrective measures for improved compliance in the future. During the 2008/09 financial year, the NNR granted 32 new Certificates of Registration (CORS), mainly for mining and mineral processing facilities. The increase in COR authorisations in South Africa presents a challenge to the resource capacity of the NNR.

The regulatory oversight activities of the NNR also includes the granting of licences to nuclear-powered vessels or vessels carrying radioactive materials on board.

During the period under review, the NNR granted two nuclear vessel licences. These were granted to the US nuclear-powered aircraft carrier, the Theodore Roosevelt, and the Russian nuclear-powered missile cruiser, Peter the Great, to visit Cape Town during the periods 1 to 10 October 2008 and 12 to 15 January 2009 respectively. In both instances, the NNR conducted radiological monitoring in the vicinity of the vessels prior to the visits, as well as during and after the visits, and an analysis of the samples taken has indicated that there were no detectable radiological effects caused by either of the vessels.

An integral part of the NNR's mandate is to ensure that South Africa honours its international obligations under various conventions of the IAEA, and for the NNR to instil public confidence in the regulation of nuclear safety in the country. In addition, the NNR assumes a pivotal role in fostering cooperation and collaboration with international nuclear regulators from specific countries.

During the 2008/09 financial year, the NNR presented the South African National Report to the IAEA Convention for Nuclear Safety, and also coordinated the compilation of the South African National Report to the IAEA Joint Convention on the Management of Radioactive Waste and Spent Fuel Management, which was subsequently presented at the IAEA review meeting in May 2009.

The NNR continues to represent South Africa effectively via participation in key multilateral activities of the IAEA committees for developing safety standards.

During the period under review, the NNR expanded its scope of work with regard to international cooperation via the Multinational Design Evaluation Programme (MDEP), which serves as a forum for regulators that are facing similar challenges in terms of licensing new reactor designs.

On the African continent, the NNR hosted the launch of the Forum of Nuclear Regulatory Bodies in Africa (FNRBA). The FNRBA was established to facilitate the enhancement, strengthening and harmonisation of radiation protection, nuclear safety, as well as to provide a nuclear security regulator infrastructure and framework for 18 member states. The FNRBA also offers an effective and efficient internationally recognised forum for the exchange of regulator experiences and practices amongst the nuclear regulatory bodies in Africa.

One of the major achievements on the international front, is that the IAEA afforded South Africa and the NNR the opportunity to host the next IAEA International Conference on Effective Nuclear Regulatory Systems, which is scheduled to take place in Cape Town from 14 to 18 December 2009.

One of the key roles of the NNR is to instil public confidence in the nuclear regulatory systems of the country and, in September 2008, an updated regulation on the appointment of chairpersons and deputy chairpersons to serve on the various Public Safety Information Forums was published. The regulation requires the NNR Board to select and appoint chairpersons and deputy chairpersons to the Public Safety Information Forums at Koeberg, as well as at the NECSA sites. The NNR Board fulfilled this obligation by appointing chairpersons and deputy chairpersons to the respective Public Safety Information Forums. These Forums play an important role in enhancing public confidence in South Africa's Nuclear Regulatory System.

The envisaged programme, to increase the supply of nuclear energy, as outlined in the National Nuclear Energy Policy and Strategy, will present considerable challenges to South Africa's nuclear regulatory system. It will be necessary to review and optimise the current legislative and regulatory framework, and the NNR has already embarked on such an initiative. It will also be important to invest more resources in the NNR to ensure that the nuclear regulatory capacity of the country can respond effectively to the entire value chain of a larger nuclear energy sector.

This expansion programme will pose additional challenges to the organisation and management infrastructure of the NNR. The NNR's current internal organisational challenges include the recruitment, training and retention of suitably qualified and skilled staff members. Over the past few years, the organisation experienced serious challenges in retaining its technical staff, comprising of engineers and scientists, who are required to perform important regulatory oversight functions.

In addition, the NNR identified a need to increase its management capacity in non-technical areas. To this end, the NNR recruited, inter alia, a Chief Financial Officer, a Human Resources Executive and a Stakeholder Communications Manager to develop and implement comprehensive plans to address these challenges.

2.2 Appreciation

I express my sincere gratitude to all those who contributed to the NNR's successful performance over the past financial year. Thank you to our Government, especially the Minister of Minerals and Energy, for the confidence you have bestowed in the NNR.

Thank you to the Chairperson and the members of the Board for their exceptional guidance and support during the year. Lastly, a big thank you to all Employees at the NNR - your dedication and hard work is a cornerstone in the process of building a truly great nuclear regulator for South Africa.



GA Clapisson
Acting Chief Executive Officer



Corporate Governance Report

3. CORPORATE GOVERNANCE REPORT

3.1 National Nuclear Regulator as an Entity

The NNR was established in terms of the National Nuclear Regulator Act (Act 47 of 1999), which came into effect on 20 February 2000. The facilities and actions regulated by the NNR are diverse, including the operation of nuclear power reactors, research reactors, nuclear fuel fabrication, nuclear technology applications and the mining and processing of uranium and other radioactive ores.

3.2 Code of Practice and Conduct

The Board of the NNR adopted a Code of Conduct and Good Ethics, which requires board members and employees to conduct themselves with integrity, openness and accountability when dealing with all stakeholders. In terms of this Code, a declaration of interest has to be made by both board and staff members of the NNR, which is updated on an annual basis and seeks to avoid any real, perceived or potential conflict of interest.

3.3 Board of Directors

The Board of Directors, appointed by the Minister of Minerals and Energy (the Executive Authority) in terms of the NNR Act, derives its power from Section 8 of the NNR Act. It acts as the NNR's accounting authority in terms of the Public Finance Management Act (PFMA).

The Board of the NNR adopted a Board Charter, which expands on the responsibilities of the Board of Directors, as set out in the mentioned Acts. It also defines the responsibilities of the Board as a unitary working group, as well as those of individual directors, covering areas that are not explicitly dealt with in the Acts. The Board Charter is reviewed annually to ensure that it meets standards of best practice within the Regulator's unique environment as far as reasonably possible.

The role of the Board is to ensure that the NNR carries out its mandate effectively, as set out in both the NNR Act and the PFMA, by collectively directing the affairs of the NNR, whilst looking after the interests of stakeholders, including those of the Executive Authority. The Board fully appreciates the requirement for accountability, honesty and transparency in fulfilling its fiduciary duties towards the shareholders and the organisation. To this end, the Board endeavours to ensure that the NNR complies with the obligation imposed on it by various laws and regulations that are applicable to the NNR, as well as by the Protocol on Corporate Governance, which includes the King II Report.

The Board comprises one executive member and 12 non-executive members who are appointed by the Minister of Minerals and Energy in terms of the NNR Act. Board Members, including the CEO, hold office for a maximum of three years, but are eligible for re-appointment.

3.3.1 Non-Executive Directors



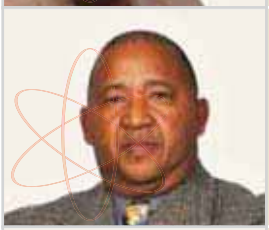
1. Prof. MA Hermanus (Chairperson)

(Appointed 1 December 2006)
Prof. Hermanus is Director of, and Adjunct Professor at the Centre for Sustainability in Mining Engineering in the Faculty of Engineering and the Built Environment at the University of the Witwatersrand. She obtained her BSc (Geology) from the University of Cape Town and her MSc (Engineering and Physical Metallurgy) from the University of the Witwatersrand.



2. Ms TN Mgoduso (Deputy Chairperson)

(Re-appointed 1 December 2006)
Ms Mgoduso holds the position of Executive Director: Human Resources at the University of Johannesburg and is a Director at Ayavuna Women's Investments, amongst others. Prior to that, she was the Executive Director at Imperial Logistics and CEO of Freight Dynamics, a Transnet business unit. She obtained her BA and BA Honours degrees at the University of Fort Hare, followed by a scholarship in Germany, where she studied Analytical Psychology at the Freie Universität in Berlin. She completed her master's degree in Clinical Psychology at the University of the Witwatersrand and later did her Master's in Management Studies at the Wits Business School. She also completed a number of senior executive programmes and courses at GIBS, in the USA, the UK and in Singapore, amongst others.



3. Mr DP Elbrecht

(Re-appointed 1 December 2006)
Mr Elbrecht represents organised labour and is the National Treasurer and a member of the National Executive of the National Union of Mineworkers. He holds an NTC6 Certificate and numerous management and leadership qualifications. He also holds various directorships in a diverse group of institutions.



4. Mr K Govender

(Appointed 1 December 2006)
Mr Govender is the Chief Financial Officer for SuperSport International (Pty) Ltd. He completed his BCom at the University of Natal (Pietermaritzburg) and his Honours in Accounting via the University's Durban Campus. He is a chartered accountant (CA) (SA Institute of Chartered Accountants). He has extensive experience in public sector finance by way of audit and consulting and, more specifically, in accounting in public entities.



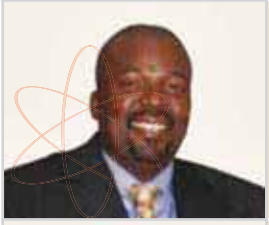
5. The Rev. PJ Grové

(Re-appointed 1 December 2006)
The Rev. Grové, represents communities that may be affected by nuclear activities. He is a minister of religion, currently attached to the Bureau for Continuing Theological Education and Research at the University of Stellenbosch. He holds a BA Hons (Sociology) and a BTh from the University of the Western Cape.



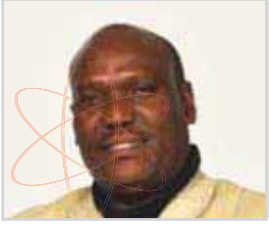
6. Mr WN Lesufi

(Appointed 1 December 2006)
Mr Lesufi is the Senior Executive Manager: Health and Environment for the Chamber of Mines. He obtained his BPharm from the University of the North, his BSc (Hons) in Biological Sciences from the University of Leicester (UK), and his MSc in Microbiology from the University of London.



7. Adv. BM Mkhize

(Re-appointed 1 December 2006 and resigned 31 March 2009)
Adv. Mkhize is the Registrar and CEO of the Health Professions Council of South Africa. He obtained his B Juris and LLB degrees from the University of Zululand, an Advanced Diploma in Labour Law (cum laude) from UNISA, where he also completed a Business Management Programme. He was admitted as an Advocate of the High Court of South Africa and has served on numerous church, community and training bodies.



8. Mr BA Ramahlo

(Appointed 1 December 2006)
Mr Ramahlo is the General Manager: Security at Sentech Limited. He obtained his Diploma in International Relations and Diplomacy from the Centre for Foreign Relations in Dar-es-Salaam, Tanzania, and holds a BA degree from Unisa.

9. Mr RJD Santos



(Appointed 1 December 2006 and resigned April 2008)
Mr Santos is Deputy Director-General: Minerals Regulation at the Department of Minerals and Energy. He holds a BA Honours in Political Science, a BSc Honours in Geology and a GDE in Mining, and is currently engaged in studies for his LLB. He headed the team that drafted the new Mining and Minerals Policy.

10. Prof. DG van der Merwe



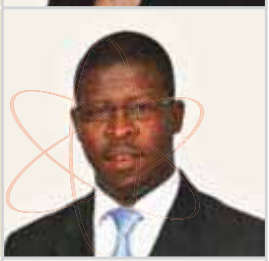
(Appointed 1 December 2006)
Prof. Van der Merwe is Director of Medical Physics at the Charlotte Maxeke Johannesburg Academic Hospital and is a registered medical physicist with the Health Professions Council of South Africa. She holds a PhD from the University of the Witwatersrand. She collaborates extensively as a consultant with the Human Health Division of the International Atomic Energy Agency on regional and inter-regional projects. She has acted as supervisor for many regional fellows undergoing education and training in Medical Physics related to Cancer Management.

11. Ms J Yawitch



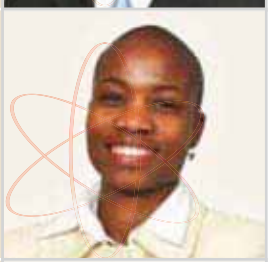
(Appointed 1 December 2006)
Ms Yawitch is Deputy Director-General: Environmental Quality and Protection at the Department of Environmental Affairs and Tourism. She obtained her BA, BA Hons and MA degrees in Development Studies from the University of the Witwatersrand, and her MSc in Agricultural Development (with distinction) from the University of London.

12. Mr T Mofokeng



(Appointed 1 February 2007)
Mr Mofokeng is a Director at Rakoma and Associates. Prior to that, he was Director: Internal Audit at the Department of Minerals and Energy. He completed his BCom and Honours degrees in Accounting at the University of Witwatersrand. He is a qualified Chartered Accountant (CA) (SA Institute of Chartered Accountants) and a certified Internal Auditor (CIA).

13. Ms D Kgomo



(Appointed July 2008)
Ms Kgomo is Director: Nuclear Safety at the Department of Minerals and Energy. She has worked at the South African Nuclear Energy Corporation as a scientist. She completed her BSc degree, her BSc Hons and her MSc at the University of Witwatersrand.

14. Mr MT Magugumela (Chief Executive Officer: NNR)



(Appointed 1 April 2005 and resigned June 2008)
Mr Magugumela was the Chief Executive Officer of the NNR and holds a BSc in Physics and Mathematics from Allegheny College, USA and an MA in Physics from Rice University, USA. He is a member of the IAEA's Commission on Safety Standards (CSS), which advises the Director-General of the IAEA on nuclear safety matters.

15. Mr GA Clapisson (acting Chief Executive Officer: NNR)



(Appointed 1 July 2008)
Mr Clapisson is the NNR's acting Chief Executive Officer. His technical background lies in Electrical Engineering. He obtained a National Diploma in Electrotechnics in France. He has 29 years experience in the nuclear industry. At the NNR he has held several positions, ranging from Specialist/Divisional Head of Plant Safety Assessment Systems in the Engineering Department, Technical Manager in the Engineering and Technical Department, Senior Manager in the Power Reactor Division and, as from 1 July 2008, he has been acting Chief Executive Officer. He is a member of the International Atomic Energy Agency's (IAEA) Commission on Safety Standards (CSS).

Changes in Members of Directors

The following directors resigned during the period under review:

1. Mr Santos resigned in April 2008.
2. Mr Magugumela resigned in June 2008.
3. The Rev. Grové has been awarded a scholarship in the Netherlands for ten months, since September 2008.
4. Adv. Mkhize resigned on 31 March 2009.

The following directors were appointed during the period under review:

1. Ms Kgomo in July 2008.
2. Mr Clapisson in July 2008.

3.4 Report by the Board Secretary

The NNR is committed to the principle of good corporate governance and the practising of ethical standards in conducting its business. Corporate governance embodies processes and systems by which organisations are directed, controlled and held accountable. It is also concerned with the organisational arrangements that are in place to ensure an appropriate set of checks and balances.

3.5 Role of the NNR Board

The Board is responsible for oversight with regards to the functioning of the NNR. The Board regularly reviews governance structures and processes, in order to ensure that the organisation operates within the required legislative framework and in accordance with best practices. Issues of governance will continue to receive the consideration and attention of the Board and its committees during the year ahead. Furthermore, the Board approved a Code of Conduct and Good Ethics, which is applicable to the Board, employees and contractors of the NNR. The Code of Conduct is reviewed by the Board on an annual basis to ensure that it remains relevant and in line with best practice and changing legislation.

3.6 Board Meetings

The Board meets regularly and retains full and effective control over the organisation. During the period under review, the Board met six times to discuss and review the NNR's operational performance, as well as to address issues of strategic importance. It monitors Management in implementing the Board's plans and strategies. Special Board Meetings are convened when necessary to consider issues that require resolutions by the Board between scheduled meetings. Members of Management are invited periodically to attend Board Meetings.

All directors have access to the services of the Board Secretary who *inter alia* is responsible for ensuring that Board procedures are followed.

The Board of Directors Convened Six Times During the Period Under Review. Attendance of Meetings was as Follows:

	Total Held	Attended	Dates Meetings Held					
			Apr 2008	Jun 2008	Jul 2008	Aug 2008	Oct 2008	Jan 2009
Ms MA Hermanus (Chairperson)	6	6	P	P	P	P	P	P
Ms TN Mgoduso	6	5	P	P	A	P	P	P
Mr MT Magugumela (CEO) (Resigned 30 June 2008)	6	1	A	P	R	R	R	R
Adv. BM Mkhize	6	6	P	P	P	P	P	P
Mr BA Ramahlo	6	6	P	P	P	P	P	P
Mr RJD Santos (Resigned 14 April 2008)	6	0	R	R	R	R	R	R
Prof. DG van der Merwe	6	6	P	P	P	P	P	P
Mr DP Elbrecht	6	5	P	P	A	P	P	P
Mr K Govender	6	2	P	A	P	A	A	A
The Rev. PJ Grové*	6	3	P	P	P	A	A	A
Mr WN Lesufi	6	6	P	P	P	P	P	P
Ms J Yawitch	6	3	P	P	P	A	A	A
Mr T Mofokeng	6	5	P	P	P	A	P	P
Ms D Kgomo (Appointed in July 2008)	6	3	N/A	N/A	P	A	P	P
Mr GA Clapisson (Acting CEO) (Appointed in July 2008)	6	4	N/A	N/A	P	P	P	P

** The Rev. Grové is in the Netherlands on a Scholarship*

P=PRESENT A=APOLOGY N/A=NOT APPLICABLE R=RESIGNED

3.7 Committees of the Board

The Board is advised and assisted by three Board Committees, namely the Audit and Risk Committee, the Finance Committee and the Transformation and Development Committee. Board Committees are mechanisms that help and assist the Board to discharge its responsibilities. They also assist the directors by providing them with detailed information pertaining to specific areas with regard to their duties and responsibilities, such as auditing, risk management, human resources and finance. Board Committees meet at least once every quarter. All the Committees adopted formal Terms of Reference and they provide the required feedback to the Board via Committee Reports. The Terms of Reference of Board Committees are reviewed annually, in order to ensure that they are still relevant, i.e. in line with best practice and good governance.

The CEO is an *ex officio* member of all these Committees. Executive Managers are invited to attend relevant meetings of the various Committees, as deemed appropriate.

3.7.1 Transformation and Development Committee

The Transformation and Development Committee is responsible for overseeing Human Resources strategies and policies are submitted to the Board for approval. These strategies and policies include, but are not limited to a review of Staff Remuneration, Human Resources policies, as well as Conditions of Service.

The Transformation and Development Committee comprises of five Non-Executive Directors, namely:

- Ms Mgoduso (Chairperson);
- Prof. van der Merwe;
- Mr Ramahlo;
- Mr Elbrecht; and
- The Rev. Grové is in the Netherlands on a scholarship.

The Transformation and Development Committee Convened Six Times During the Period Under Review. Attendance of Meetings was as Follows:

	Total Held	Attended	Dates Meeting Held					
			May 2008	July 2008	Aug 2008	Sept 2008	Dec 2008	Feb 2009
Ms TN Mgoduso (Chairperson)	6	5	P	P	P	A	P	P
Prof. DG van der Merwe	6	6	P	P	P	P	P	P
Mr DP Elbrecht	6	4	A	P	A	P	P	P
Mr BA Ramahlo	6	5	P	A	P	P	P	P
*Mr PJ Grové	6	2	P	P	A	A	A	A
Mr WN Lesufi (Appointed 29 October 2008)	6	0	N/A	N/A	N/A	N/A	A	A
Mr MT Magugumela (CEO)	6	1	P	R	R	R	R	R
Mr GA Clapisson (Acting CEO) *ex officio*	6	4	N/A	P	P	P	A	P

**The Rev. PJ Grové is in the Netherlands on a Scholarship.*

P=PRESENT A=APOLOGY N/A=NOT APPLICABLE R=RESIGNED

3.7.2 Audit and Risk Management Committee

The Audit and Risk Management Committee comprises three Non-Executive Directors and one member representing the Independent Audit Committee. A Non-Executive Director, who is not the Chairperson of the Board, chairs the Committee. The Audit and Risk Management Committee assists the Board in overseeing:

- The integrity of the NNR's financial statements;
- The NNR's compliance with legal and regulatory requirements;
- The performance of the NNR's Internal Audit Activity;
- The safeguarding of assets; and
- The running of adequate systems and control processes.

The Members of the Committee are:

- Adv. Mkhize (Chairperson) (Resigned 31 March 2009);
- Mr Mofokeng;
- Mr Santos (Resigned in April 2008);
- Mr Lesufi; and
- Ms Mzizi is an Independent Audit and Risk Management Committee Member.

The Audit and Risk Management Committee Convened Five Times During the Period Under Review. Attendance of Meetings was as Follows:

	Total Held	Attended	Dates Meetings Held				
			Jun 2008	Jul 2008	Oct 2008	Dec 2008	Mar 2009
Adv. BM Mkhize (Chairperson) (Resigned 31 March 2009)	5	5	P	P	P	P	P
Mr RJD Santos (Resigned 14 April 2008)	5	0	R	R	R	R	R
Mr WN Lesufi	5	4	P	P	A	P	P
Mr T Mofokeng	5	4	R	P	P	P	P
Ms P Mzizi*	5	2	A	A	A	P	P
Mr MT Magugumela (CEO) (Resigned 30 June 2008)	5	1	P	R	R	R	R
Mr GA Clapisson (Acting CEO) *ex officio* (Appointed in July 2008)	5	4	P	P	A	P	P

**Ms P Mzizi is an Independent Audit and Risk Management Committee Member.*

P=PRESENT A=APOLOGY N/A=NOT APPLICABLE R=RESIGNED

3.7.3 Finance Committee

The Finance Committee assists the Board with all relevant financial matters, with a view to optimising the financial resources of the NNR. It is responsible for Financial Management Reporting, Organisational Financial Planning, Budget Development and Budget Control. Furthermore, it is also responsible for Information Technology, as well as information management of the organisation.

The Finance Committee comprises three non-Executive Directors, namely:

- Mr Govender (Chairperson);
- Mr Elbrecht; and
- Mr Mofokeng.

The Finance Committee Convened Five Times During the Year. Attendance was as Follows:

	Total Held	Attended	Dates Meeting Held				
			Apr 2008	Jul 2008	Aug 2008	Oct 2008	Jan 2009
Mr K Govender (Chairperson)	5	3	A	P	P	P	A
Mr DP Elbrecht	5	5	P	P	P	P	P
Mr T Mofokeng	5	4	P	A	P	P	P
Mr MT Magugumela (CEO) (Resigned 30 June 2008)	5	0	A	R	R	R	R
Mr GA Clapisson (Acting CEO) *ex officio* (Appointed in July 2008)	5	4	N/A	P	P	P	P

P=PRESENT A=APOLOGY N/A=NOT APPLICABLE R=RESIGNED

3.8 Executive Management Committee

The Executive Management Committee was constituted to assist the CEO in managing the organisation in terms of the authority delegated by the Board. Furthermore, the Executive Management Committee assists the Chief Executive Officer in guiding and controlling the overall direction of the business, and acts as a medium of communication and coordination between business units and the Board.

The Executive Management Committee comprised seven members during the period under review, namely:

- Mr MT Magugumela (Chief Executive Officer) (Resigned 30 June 2008);
- Mr Clapisson (Acting Chief Executive Officer) (Appointed 1 July 2008);
- Ms Moloto (Chief Financial Officer) (Appointed 1 November 2008);
- Mr Phillips (Senior Manager: Nuclear Technology and Natural Sources);
- Dr Hill (Acting Senior Manager: Power Reactor Division);
- Ms Mashishi (Human Resources Executive) (Appointed 1 July 2008); and
- Mr Muller (Acting Assessment Group Coordinator).

3.9 Remuneration of the Board and Executive

Remuneration details are set out in the annual financial statements on page 111 of this report.

3.10 Internal Audit and Risk Management Report

The Executive Management Committee is ultimately responsible for the NNR's internal control system, which is designed to provide reasonable assurance against material misstatement and loss. The organisation maintains a system of internal financial controls designed to provide the Executive Management Committee with reliable information to maintain proper accounting records, as well as to ensure the reliability of financial information used within the business and for publication purposes.

The internal control system includes:

- A documented organisational structure and a reasonable division of responsibility;
- Established policies and procedures, including a Code of Ethics, to foster a strong ethical climate; and
- Established mechanisms to ensure compliance.

3.10.1 Internal Audit

The internal audit provides an independent, objective evaluation of the NNR, as well as consulting services designed to improve the organisation's operations. The internal audit assists the Board in determining whether the NNR's network of Risk Management, control and governance processes designed and represented by Management, is adequate and functioning in a manner to ensure, *inter alia*, that:

- Risks are appropriately identified and managed;
- Significant financial, managerial and operating information is accurate, reliable and available on time;
- Resources are acquired economically, used efficiently and adequately protected; and
- That programmes, plans and objectives are achieved.

Opportunities to improve Management control, service delivery and the organisation's image, as identified during audits, are communicated to the appropriate level of Management.

3.10.2 Risk Management

The Board is responsible for overseeing risk management processes in accordance with corporate governance requirements. During the period under review, a Risk Assessment was conducted, with the following objectives:

- To provide the Board with the assurance that significant business risks are systematically identified, assessed and reduced to acceptable levels, in order to achieve an optimal risk reward balance.
- To make risk identification and risk management an integral part of the daily activities of every person in the organisation.

The NNR's enterprise-wide Risk Management process is guided by the following key principles:

- A clear assignment of responsibilities, as well as accountability.
- The existence of a common Enterprise-wide Risk Management Framework and Process.
- The identification of uncertain future events that may influence the success of business plans and strategic objectives.
- The integration of Risk Management activities within the organisation, as well as across its value chains.

The NNR's integrated Risk Management implementation approach, entails the development of strategic, functional and process risk profiles. Strategic risk is typically defined as those risks that may influence the achievement of strategic business objectives. Similarly, functional and process risks are defined as risks that may influence the achievement of functional and process objectives respectively.

3.10.3 Most Significant Risks

Following a rigorous Risk Assessment excercise, it was noted that the organisation faced the following significant risks:

- The recruitment and retention of adequately skilled staff members.

- The retention of corporate memory.
- Physical security.
- Fulfilling the NNR's mandate and other legislative requirements.
- Business continuity.

3.11 Public Finance Management Act

3.11.1 Financial Planning and Management

During the period under review, all financial reporting processes were carried out in accordance with the requirements of the Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA), the National Nuclear Regulator Act of 1999 (Act No. 47 of 1999), Treasury Regulations, Generally Accepted Accounting Practice (GAAP) and Generally Recognised Accounting Practices (GRAP). The Strategic Plan and the Business Plan, with accompanying budgets, were prepared, approved by the NNR Board and submitted to the Minister of Minerals and Energy for approval, as required in terms of the PFMA.

Section 17 of the NNR Act states that, for purposes of the regulation of nuclear industries, NNR funds, include *inter alia*, authorisation fees, imposed by the Minister or under separate legislation. The final step in the development process of the NNR's Strategic and Business Plans, with accompanying budgets, is the determination of the levies to be imposed on the regulated industries. The total budget for each of the regulated industries is used as one of the elements in determining the authorisation fees for each industry.

3.11.2 Administration and Procurement

During the year under review a Supply Chain Management Policy was developed and approved by the Board.

4. OPERATIONAL REPORT

The NNR is mandated to exercise regulatory control over nuclear installations, nuclear vessels and any activities with the potential of causing nuclear damage.

The NNR's regulatory process entails the following: Safety Case Review and Assessment; Issuing of Nuclear Authorisations, Compliance Assurance; and Enforcement.

The Safety Case is 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. Compliance Assurance is a set of activities to determine the extent to which holders of nuclear authorisations comply with the conditions of authorisation. The Enforcement actions are commensurate with the seriousness of the non-compliance and may take the form of a written letter, penalties, curtailment of operations, suspension of the authorisation, or ultimately withdrawal of the authorisation.

In accordance with the International Safety Standards of the IAEA and International Commission on Radiation Protection (ICRP), the NNR requires that no individual person shall be exposed to an annual radiation dose in excess of the regulatory dose limits, and that all exposures are "as low as reasonably achievable" (ALARA).

In line with these international standards, the following regulatory radiation dose limits are prescribed by the NNR:

- The regulatory limit for the occupationally exposed workforce is an (average) effective dose of 20 MilliSievert (mSv) per year averaged over five consecutive years, with no more than a maximum of 50 mSv in any given year.

- The regulatory limit for a member of the public is a maximum effective dose of 1 mSv in any year from all nuclear-related activities, with a dose constraint of 0,25 mSv per annum from any single authorised facility.

The following activities of the NNR are elaborated upon in greater detail in this section of the report:

- The regulation of nuclear power reactors;
- The regulation of nuclear technology and waste management;
- The regulation of Naturally Occurring Radioactive Material (NORM);
- Nuclear vessel licensing; and
- The Pebble Bed Modular Reactor (PBMR).

4.1 Regulation of Nuclear Power Reactors

The NNR currently regulates the safety of the only nuclear power station on the African continent, which is Eskom's Koeberg Nuclear Power Station.

4.1.1 Koeberg Nuclear Power Station



Eskom operates the Koeberg Nuclear Power Station (KNPS), comprising two 900 Megawatt Electrical (MWe) pressurised water reactors (PWRs), on the Atlantic coast 40 kilometres north of Cape Town. The first Nuclear Licence, NL-1, was issued to Eskom for the construction of the power station, which commenced in 1976. The two units were brought into commercial operation in July 1984 and November 1985 respectively.

As a result of the optimisation of operating practices, modifications carried out on the plant, and changes in regulatory requirements and regulations, the initial licence was progressively updated over the years up to Variation 17 of the Koeberg licence which was issued in November 2008.

Eskom, as the nuclear licence holder, is required to implement 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 ensure assurance of compliance with the conditions of the nuclear licence in terms of Section 5(d) of the NNR Act.

The details of the NNR's regulatory oversight programme for the KNPS are presented in the following sections. Globally, the NNR is satisfied that the KNPS has complied with the NNR Safety Standards and Regulatory Practices.

4.1.2 Occupational Exposure to Radiation

In terms of occupational exposure, the worker doses at KNPS over the period under review were significantly below the prescribed regulatory limits.

The highest annual individual dose accrued during 2008, was 12.6 mSv, compared to 12.5 mSv in 2007, as opposed to the regulatory limit of 50 mSv per annum, and 20 mSv averaged over five consecutive years.

The total annual collective dose to the workforce for the period under review was 1.5 person Sv, compared to 1.5 person Sv in 2007. During 2008, the total occupationally exposed workforce numbered 2 556, compared to 2 492 in 2007, indicating an average annual individual dose of approximately 0.59 mSv, compared to approximately 0.59 mSv during 2007, which is well within the ALARA target of 4 mSv.



Figure 1: Maximum Occupational Exposure of Individual Worker Dose Arising from Individual Exposure, Accrued from 2004 to 2008.

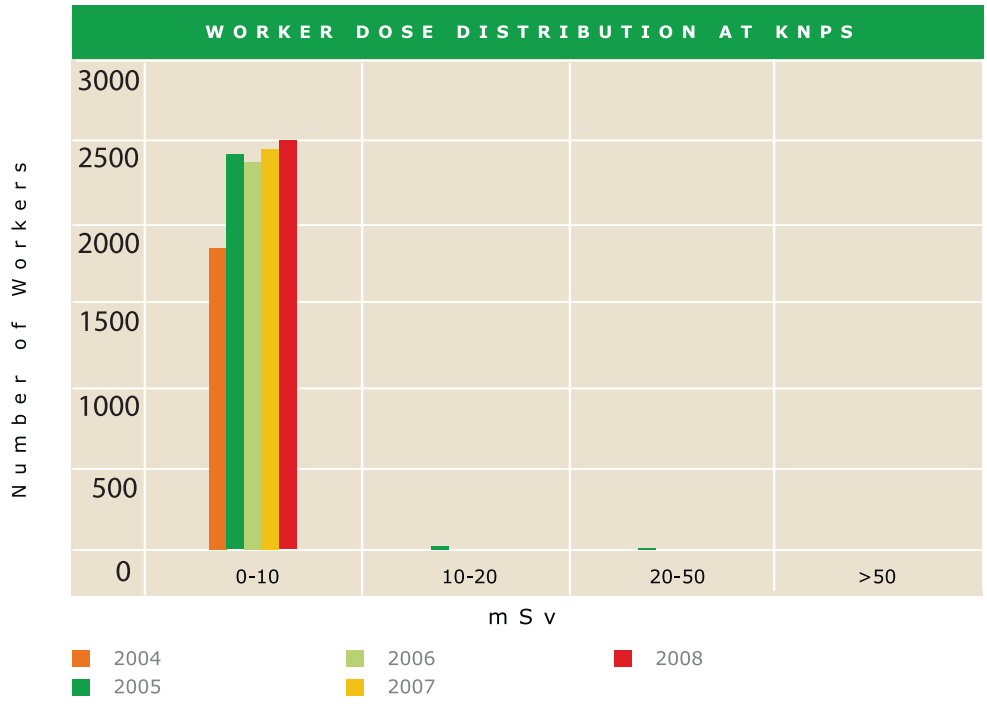


Figure 2: Dose Distribution Arising from Individual Exposure, Accrued from 2004 to 2008.

4.1.3 Public Exposure to Radiation

Various gaseous and liquid radioactive effluents are produced during the process of nuclear power generation. These effluents are treated by using dedicated clean-up systems, which remove most of the radioactivity prior to discharge into the environment. However, during the operation of any nuclear power station, it is inevitable that small amounts of radioactivity will be released into the environment. Public exposure is controlled within strictly defined limits, via the implementation of a radiological effluent management programme, which ensures that the discharges of radioactivity from Koeberg result in no significant risk to the public. A key feature of this programme is the control of radioactivity in effluent discharges to keep them within the Annual Authorised Discharge Quantities (AADQ). In addition to continuous monitoring of radioactivity in effluent, radiological surveillance of the environment is also conducted. In this way, an independent and strict control of public exposure to radioactive releases is maintained.

Radioactivity in liquid and gaseous discharges from Koeberg during 2007 and 2008, contributed a projected total individual dose of 0.004 mSv to the hypothetically most exposed public group. The projected doses, as a result of gaseous and liquid discharges, were 0.00047 mSv and 0.0038 mSv respectively for 2008 (0.00094 mSv and 0.003 mSv respectively for 2007), which is well within the NNR limit of 0.250 mSv per annum, and meets the ALARA dose target of 0.010 mSv, which is applicable to an annual period in which there is one refuelling outage.

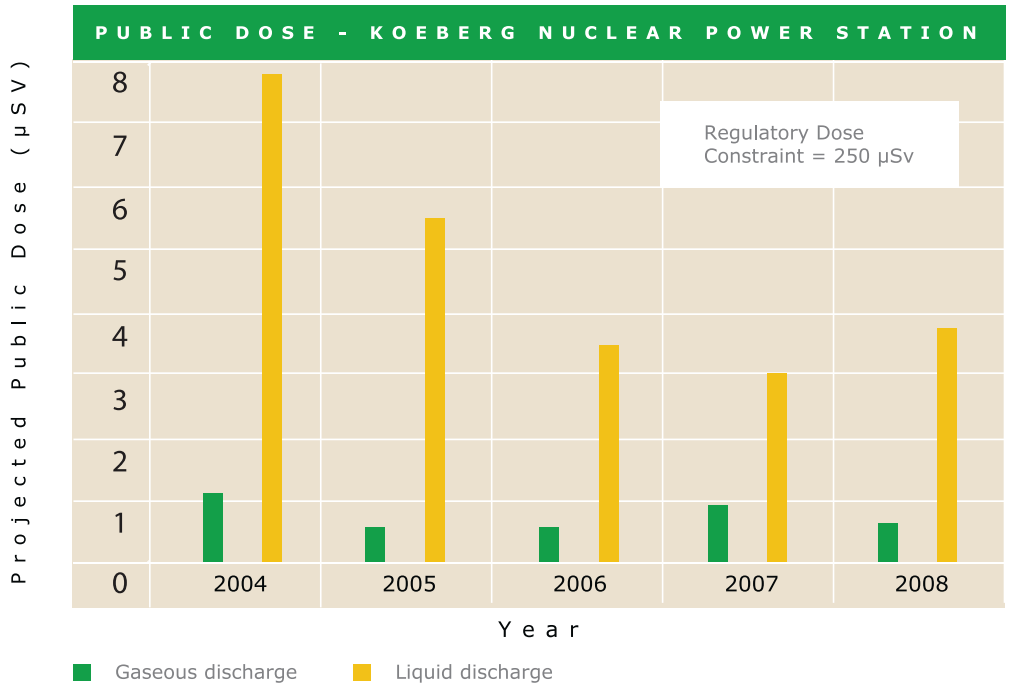


Figure 3: Projected Public Dose from 2004 to 2008

During the period under review, there were no concerns regarding the safety of the public living in the vicinity of KNPS.

4.1.4 Nuclear Safety

As was the case in previous years, a major part of the NNR's work in the area of nuclear safety was related to in-depth safety assessments associated with KNPS. During the period under review, the NNR focused its safety assessment activities primarily on the areas summarised below.

4.1.4.1 Plant Refuelling Outage Modifications

The NNR concluded the assessments of a significant number of major safety-related modifications, scheduled for implementation during refuelling outage 117 for Unit 1. The outage was subsequently completed during April 2009.

All modifications were approved and implemented, with the exception of two, namely "overpressure protection" and "station blackout". The NNR requested additional tests and analyses to be performed, and assessment work on those two modification proposals is still on-going.

4.1.4.2 Findings of the Koeberg First Periodic Review

In terms of the first Koeberg periodic review reported on previously, many corrective actions have since been completed, but there are still a number requiring resolution before the first periodic review could be finalised. Implementation of modifications during outage 117 for unit 1 and outage 217 for Unit 2, will finalise most of the corrective actions. However, further modifications still have to be implemented, and two major projects, namely the Safety-Related Surveillance Manual (SRSM) and Upgraded Technical Specification (UTS) must be completed. All projects are at an advanced stage and are scheduled for completion in 2010. The NNR will continue to monitor the implementation of these projects.

4.1.4.3 Koeberg's Second Periodic Review

The NNR concluded discussions with Eskom and approved the scope of the Koeberg second periodic review, which commenced in April 2008. The NNR regards this project as an effective way to compare the Koeberg plant design and operations to current international safety standards and practices.

The project is following IAEA guidelines (NS-G2.10) and the scope takes into consideration safety improvements implemented in the French nuclear programme, referred to as "VD3 projects".

4.1.4.4 Koeberg Nuclear Fuel Management Strategy

- **Spent Fuel Pool**
  The NNR concluded its assessment of the alternative spent fuel pool cooling system proposed for Koeberg, and approved the design of this modification, in conjunction with the associated operational procedures, changes to operating technical specifications, as well as changes to the Safety Analysis Report.

- **New RFA 2 Fuel**
  Eskom submitted a license proposal to the NNR for Westinghouse RFA 2 type fuel for Koeberg. The NNR completed the assessment of documentation submitted and concluded that the new RFA 2 fuel could be safely used in the Koeberg reactors.

- **AFA 3 GA Fuel**
  Eskom informed the NNR that the French fuel manufacturer, AREVA, had modified the design of their AFA-3GA fuel, as a corrective measure against unexpected growth phenomena experienced in this type of fuel at Koeberg during previous fuel cycles (as reported in the NNR's previous Annual Report). The NNR requested the submission of a safety assessment and, after a detailed evaluation of the proposed changes to the fuel design, the implementation of this type of fuel at Koeberg has been approved.

4.1.4.5 Plant Condition Management

During the nuclear plant's operating lifetime, structures, systems and components (SSCs), important to safety, must be examined for possible deterioration, so as to determine whether they are acceptable for continued safe operation or whether remedial measures should be taken. In-service inspection programmes emphasise the examination of the pressure boundaries of the primary and secondary coolant systems, because of their importance to safety and the potentially severe consequences of their failure. During the period under review, one of the main activities of the in-service inspection programme was conducted on the reactor pressure vessels.

Koeberg's reactor pressure vessels are required to undergo a complete ultrasonic examination once every 10 years. The reactor pressure vessel examinations were scheduled for refuelling outages during February 2009 and September 2009 for Unit 1 and Unit 2 respectively, during the Third Inspection Interval. All ultrasonic examination systems proposed for the reactor pressure vessels are required to be qualified. In this context, qualification of the ultrasonic examination system must include the examination procedure, the examination equipment, and the examination personnel constituting the system. Qualification of the automated ultrasonic examination system for the Koeberg reactor pressure vessels is a mandatory ASME Section XI Code requirement.

Eskom elected to utilise the services of the French company, AREVA NDT, for the automated ultrasonic examination of the reactor pressure vessels, and for the qualification thereof. During October 2008, prior to Koeberg outage 117, the qualification work was found to be incomplete. The NNR approved a waiver, allowing the Koeberg Unit 1 reactor pressure vessel to be inspected in February 2009, on condition that the reactor pressure vessel qualification activity is concluded satisfactorily prior to September 2009. The NNR will monitor the qualification process and assess the inspection process for the Unit 2 reactor pressure vessel inspection, scheduled for outage 217 during September 2009.

4.1.4.6 Developments around Koeberg

The NNR continues to monitor developments in the vicinity of Koeberg. The Emergency Planning Steering and Oversight Committee (EPSOC), which meets quarterly, and is attended by representatives from the local authorities, serves as a forum for this purpose. It is expected that the proposed regulation, developed in terms of Section 38(4), of the NNR Act on control and monitoring of developments in the vicinity of Koeberg, will help to control developments in this area. The purpose of this regulation is not to impede developments in this area, but to ensure that adequate emergency response infrastructure is provided as the developments take place.

4.1.5 Transport Safety

The following table indicates the number of shipments of nuclear fuel to Koeberg, as well as low and intermediate-level radioactive waste from Koeberg to Vaalputs.

Table 1: Consignments During 2008

Consignments	Number 2008	Number 2007
Fuel Consignments on Site	1	2
Radioactive Waste Consignments to Vaalputs	59	46
Other Materials (sealed sources) Acquired During 2008	2	5

No safety concerns arose as a result of the transportation of radioactive material between Koeberg and Vaalputs during 2008.

4.1.6 Radioactive Waste Safety

Liquid radioactive, waste released into the sea during 2008, totalled a volume of 8 775.35 m^3, compared to 9 822 m^3 in 2007. The quantity of solid radioactive waste produced and drummed is indicated in table 2.

Table 2 : Inventory of Solid Radioactive Waste Produced and Drummed

Type of Solid Radioactive Waste	Number of Drums: 2008	Number of Drums: 2007
C1 Drums Containing Non-compressible Waste	23	17
C1 Drums Containing Concentrates	25	40
C1 Drums Containing Resin	4	23
C2 Drums Containing Resin	0	0
C4 Drums Containing Filters	4	5
C2F Drums Containing Filters	6	5
210 Litre Metal Drums Containing General Trash	712	592
210 Litre Metal Drums Containing Resin	306	189

No safety concerns arose due to radioactive waste management at Koeberg during the period under review.

4.1.7 Environmental Protection

The Koeberg Environmental Surveillance Programme, involving sampling and analysis of representative environmental media, is performed to verify that effective control has been maintained over effluent discharges. In addition, a widespread network of Environmental Thermo-Luminescent Dosimeters (TLDs) around Koeberg monitors external exposure to active gaseous effluents from Koeberg.

The results of the 2008 Environmental Surveillance Programme did not indicate any significant increase in the levels of radioactivity in environmental samples when compared to pre-operational levels, with the exception of marine and sewage sludge samples, which contained traces of radionuclides derived from Koeberg. These trace quantities included Ag-110m, I-131, Co-58, Co-60, Cs-134 and Cs-137.

An investigation proved that the presence of I-131 was again due to nuclear medicine usage and not to the power plant. Although this was detected as part of the compliance assurance programme of the nuclear licence, this aspect actually falls under the regulation of the

Department of Health's Directorate of Radiation Control.

During the period under review, there were no safety concerns with regard to members of the public living in the vicinity of KNPS.

4.1.8 Nuclear Emergency Planning and Preparedness

The evaluation of Koeberg's emergency preparedness and response is based on the following elements:

- Emergency exercises – NNR and holder emergency exercises;
- Audit/surveillance activities; and
- Review and assessment activities.

4.1.8.1 NNR Emergency Exercise

The regulatory nuclear emergency exercise was held at KNPS on 6 and 8 May 2008. The overall objective was to test the response of both on-site and off-site organisations to a simulated nuclear accident. The exercise included the evaluation of late-phase decision-making and the use of radiological data. Following a discussion on draft findings and observations with all relevant stakeholders, the NNR regulatory emergency exercise report for Koeberg was issued in August 2008. A total of 13 findings and 26 observations was recorded.

Although areas for improvement were highlighted, the NNR concluded that the overall response of Eskom and the intervening organisations had shown that the Koeberg nuclear emergency plan was adequate.

A process was then developed to assist the NNR in determining the safety significance of the findings identified during the emergency exercise. This process also provided all stakeholders with a common framework for understanding and communicating the safety significance of the exercise findings. It also provided stakeholders with a basis for timely assessment and enforcement actions asso-ciated with an emergency exercise finding/observation.

Eskom continues to implement corrective actions, and all outstanding findings/observations in the report are being tracked via NNR/Eskom Single Point Contact Meetings, and via other reporting mechanisms.

4.1.8.2 Koeberg Annual Internal Emergency Exercise

During the period under review, KNPS conducted a programme of emergency exercises on 23 April 2008. The City of Cape Town was involved in the exercise and the incidents of observed non-conformance were all addressed. On 19 December 2008, a technical support centre exercise was also held at Koeberg and both AREVA and Electricité de France (EdF) were involved in the exercise.

The outcome of these exercises proved to be successful, in that changes to the emergency preparedness and response processes were adequately tested and responded to by the various role-players.

4.1.9 Physical Security

The licensing requirements pertaining to physical security, with which Eskom must comply, are contained in Condition 12 of the Koeberg Nuclear Licence NIL-01 Variation 17. This condition specifically refers to a security standard that was developed by Eskom in consultation with the security establishment in South Africa. The NNR compliance assurance programme includes inspections, using these requirements as a benchmark. During the period under review, no concerns were raised regarding physical security at KNPS.

4.1.10 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. There were no concerns raised with regard to the safety of these sources.

4.1.11 Nuclear Incidents/Accidents Reported

The NNR monitors incidents/events at Koeberg via:

- Audits conducted on the Eskom processes relating to events (i.e. plant monitoring, reporting, follow-up and close-out);

- Monitoring of the implementation of these processes;
- Quarterly meetings between Eskom and the NNR, at which experience feedback is discussed;
- Review of Eskom reports on experience feedback and safety indicators, which reflect trending of occurrences and contributing factors; and
- A direct assessment of selected significant events.

These are reported to the NNR in the form of problem notifications. A total of 707 problem notifications (PNs) (events) were reported in the following categories:

Table 3: Problem Notifications/Events

Category	Number of Incidents/ Events in 2007/08	Number of Incidents/ Events in 2008/09
1. Notify the NNR Immediately	0	0
2. Notify the NNR Within 24 hours	6	2
3. Notify the NNR Within Five Working Days	701	636

None of these PNs were classified as nuclear incidents or nuclear accidents, as defined in the Regulation on Safety Standards and Regulatory Practices.

The reporting and following up of problems, episodes and events at Koeberg constitute a thorough, fully procedurised and ongoing process of investigation. The duration of a given investigation, until final close-out, may vary from a few weeks to several months, depending upon the complexity of the issues involved.

International events were monitored by Eskom and the NNR in terms of their potential impact on KNPS. Eskom monitored information from sources such as the World Association of Nuclear Operators (WANO), the Institute of Nuclear Power Operators (INPO), the IAEA and EdF. Apart from monitoring Eskom processes in this regard, the NNR also monitored information received from the IAEA and information exchanged with other regulatory bodies via bilateral agreements.

The NNR was satisfied that the processes implemented at Koeberg, relating to incidents/ events, were satisfactory and that plant safety performance was satisfactory.

4.1.12 Regulatory Compliance

4.1.12.1 Compliance Assurance Programme

In order to verify the degree of compliance with the conditions of authorisation, the NNR regularly undertakes independent inspections and audits. During the period under review, the NNR reviewed and updated its Compliance Assurance Programme, focusing on strengthening its content and the visibility of its processes. The effect was a reduction in the number of inspections performed, with greater emphasis on increasing their scope and quality. During the period under review, a total of 56 inspections were conducted in 30 process areas, compared to 209 inspections in 30 process areas during 2007. The inspection plan was redesigned to cover all the conditions of licence, with varying frequencies of inspections, based on past experience. The format of the inspections was changed to follow that of an audit approach. The intention was that the reports themselves should provide material for capacity-building.

Safety Indicators

A safety indicator system is used by the NNR to record and grade findings arising from the Compliance Assurance Programme, as well as from inspections and assessment activities. The regulatory concerns are ranked in terms of their severity according to a colour-coded system, with:

- Red being unacceptable;
- Orange being tolerably high;
- Yellow being tolerably medium;
- Blue being tolerably low; and
- Green being below regulatory concern.

The main findings of the Compliance Assurance Programme were recorded as per the NNR safety indicators classification system, and are summarised below:

Table 4: Compliance Assurance Programme Findings

Safety Indicator Classification and Number	Finding
Red (unacceptable) – none	• N/A
Orange (tolerably high) – two	• Configuration control Eskom had put considerable effort into a project to improve and correct configuration control issues in the plant. Although significant improvements were noted, the NNR is of the opinion that more evidence needs to be collected via compliance assurance activities before the indicator could be downgraded. • Record-keeping This finding relates to inconsistencies and non-conformances found within the different record-keeping processes applied in the plant. Eskom was requested to strengthen and update the individual processes, in order to comply with governing standards. The implementation of these measures is being monitored via NNR compliance assurance activities.
Yellow (tolerably medium) – one	• Procedure compliance This finding relates to minor procedure non-compliances, mainly related to procedures of low safety significance. Eskom has taken measures to rectify this situation and the NNR will monitor the effectiveness of the actions taken.
Blue (tolerably low)	• N/A
Green (below regulatory concern)	• N/A

4.1.13 Regulatory Warnings or Directives to Stop Work

There were no regulatory warnings or directives to stop work during the period under review.

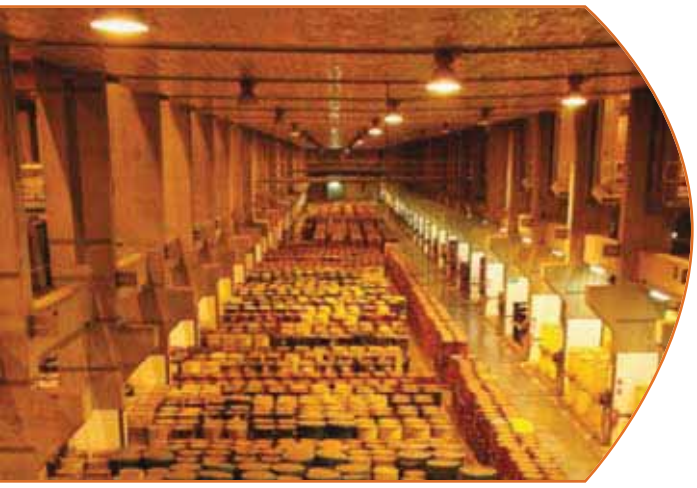
4.1.14 Competency and Sufficiency of the Koeberg Workforce to Work Safely

Overall, the staffing and competency levels at Koeberg were found to be satisfactory. These levels have improved in recent months partly as a result of the downsizing of the Eskom PBMR Client Office. The staff numbers at entry level also increased as a result of the recruitment drive for the New Build Programme, even though this programme is currently on hold.

4.1.15 Appeals to the Chief Executive Officer

No appeals were lodged during the period under review.

4.2 Regulation of Nuclear Technology and Radioactive Waste



The NNR regulates the safety of the nuclear facilities at the South African Nuclear Energy Corporation's (NECSA) Pelindaba site, as well as at the Vaalputs National Radioactive Waste Disposal Facility.

The details of the NNR's regulatory oversight programme for NECSA are presented in the following sections. Globally, the NNR is satisfied that NECSA has complied with the NNR's Safety Standards and Regulatory Practices.

4.2.1 NECSA Pelindaba Site

4.2.1.1 Background

The South African Nuclear Energy Corporation (NECSA) was established as a public company, and is wholly state-owned in terms of the Nuclear Energy Act (Act No. 46 of 1999). NECSA's Headquarters are situated at the Pelindaba site, comprising 658 hectares of land and 54 hectares of buildings and other facilities.

NECSA undertakes and promotes research and development in the field of nuclear energy and related technologies; processes and stores nuclear material and other restricted material; and cooperates with other organisations on matters falling within the scope of these areas. In addition, NECSA is responsible for operating the Vaalputs Radioactive Waste Disposal Facility.

4.2.1.2 List of Authorised Actions

The nuclear facilities at the NECSA Pelindaba site are authorised in terms of Nuclear Installation Licence NL-27.

Following the NNR's issuing of a revised Nuclear Installation Licence NL-27, which is a variation on NL-26, to NECSA in April 2006, an appeal was made by NECSA to the Minister of Minerals and Energy on the grounds that the issuing of a site licence was contrary to the provisions of the NNR Act.

The decision on the NECSA appeal was handed down by the Minister of Minerals and Energy in June 2007. The decision required the NNR to issue separate authorisations for the various facilities at the Pelindaba site.

During the period under review, the NNR and NECSA expedited the issue of separate authorisations for NECSA facilities at the Pelindaba site. To date the NNR has issued three nuclear installation licences, namely NIL-02, NIL-05 and NIL-07, for authorised actions related to the operation of the SAFARI-1 Research Reactor, the HEU Vault-K0090 and the A-West Drum Store.

The NNR will proceed with the authorisation process for the remaining separate NILs for the facilities at the NECSA site during the next reporting period.

4.2.1.3 Occupational Exposure to Radiation

The average effective doses for occupationally exposed persons demonstrated that NECSA was in compliance with the dose limits for individual workers.

The average effective radiation dose for the 2008 calendar year was 0.64 mSv per occupationally exposed person, compared to 0.63 mSv during 2007, which constitutes 15% of the ALARA objective of 4 mSv per annum. The total collective dose for the 995 radiation workers was 0.64 mSv per person, and the maximum cumulative dose, accrued for an individual during the said calendar year, was 11.8 mSv, as compared to 13.9 mSv in 2007.

The following graph details the occupational exposure trends over the past five years:

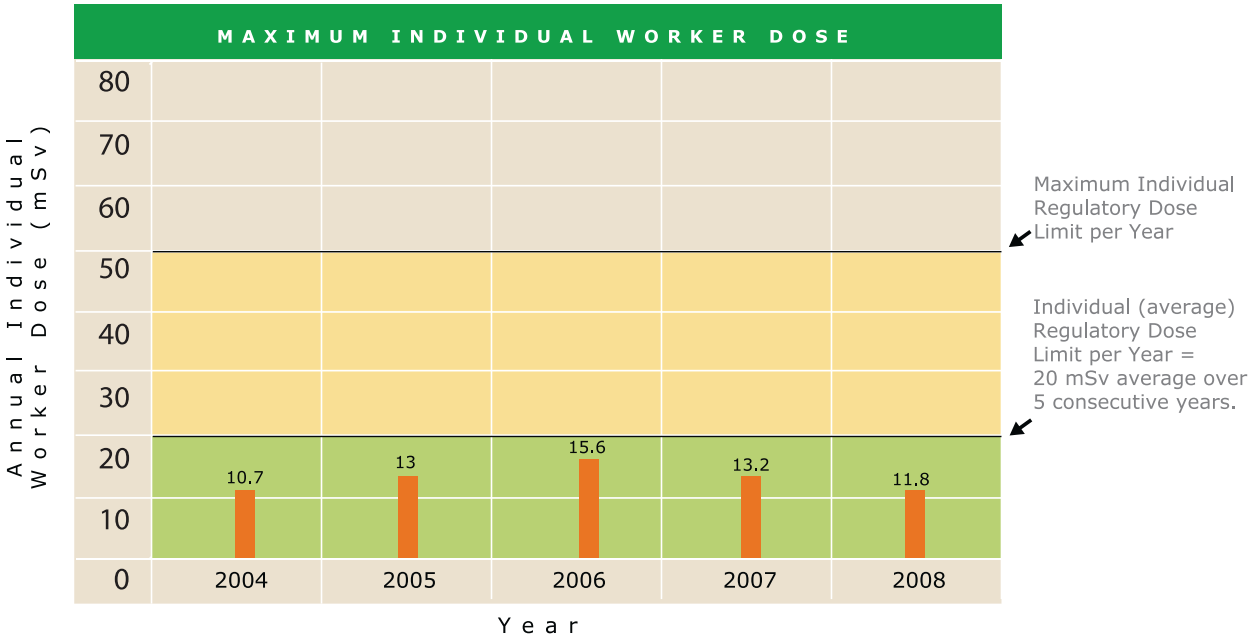


Figure 4: Maximum Worker Dose Arising from Individual Exposure, Accrued from 2004 to 2008.

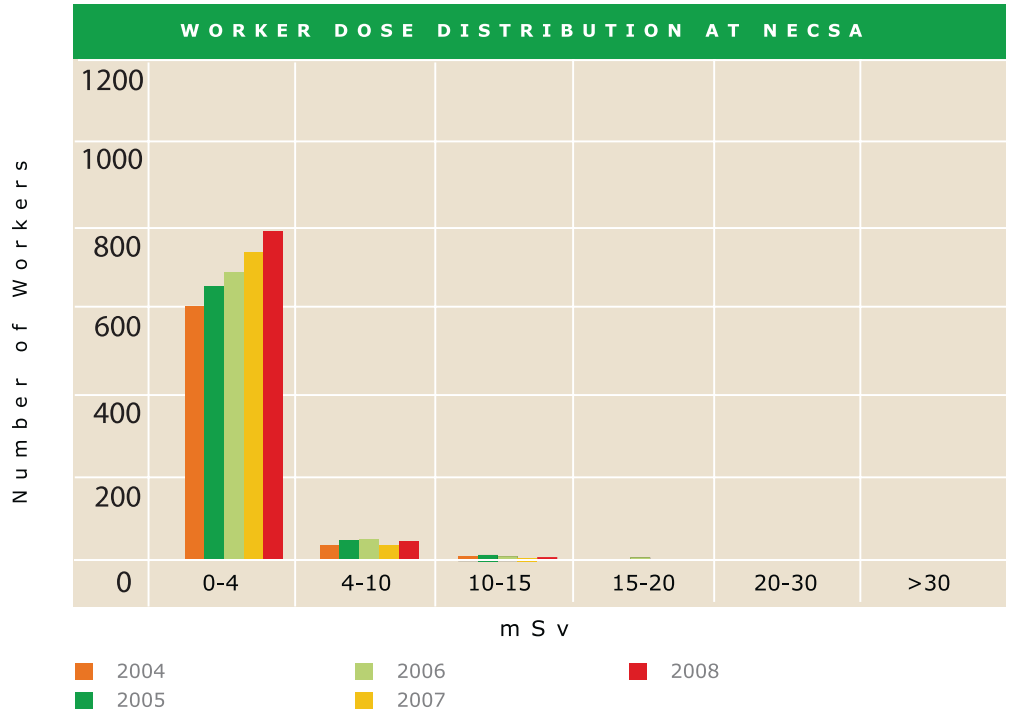


Figure 5: Occupational Exposure Trends from 2004 to 2008

There were no workers exposed to a figure higher than the regulatory dose limit of 20 mSv per annum, and the distribution of worker exposure is indicated in Figure 5 above.

4.2.1.4 Public Exposure to Radiation

In accordance with the conditions of licence, the public doses resulting from effluent discharges from the NECSA Pelindaba site must comply with the dose constraint of 0.25 mSv per annum, and with the system of AADQs applicable to the site. NECSA demonstrated compliance with both the AADQs and the projected public doses resulting from effluent releases (both liquid and gaseous). The projected annual dose for members of the public was calculated to be 0.013 mSv, with the liquid effluent contributing 0.011 mSv and the gaseous effluent contributing 0.002 mSv.

The trend of estimated public doses for the period 1998 to 2008 is indicated in Figure 6, below.

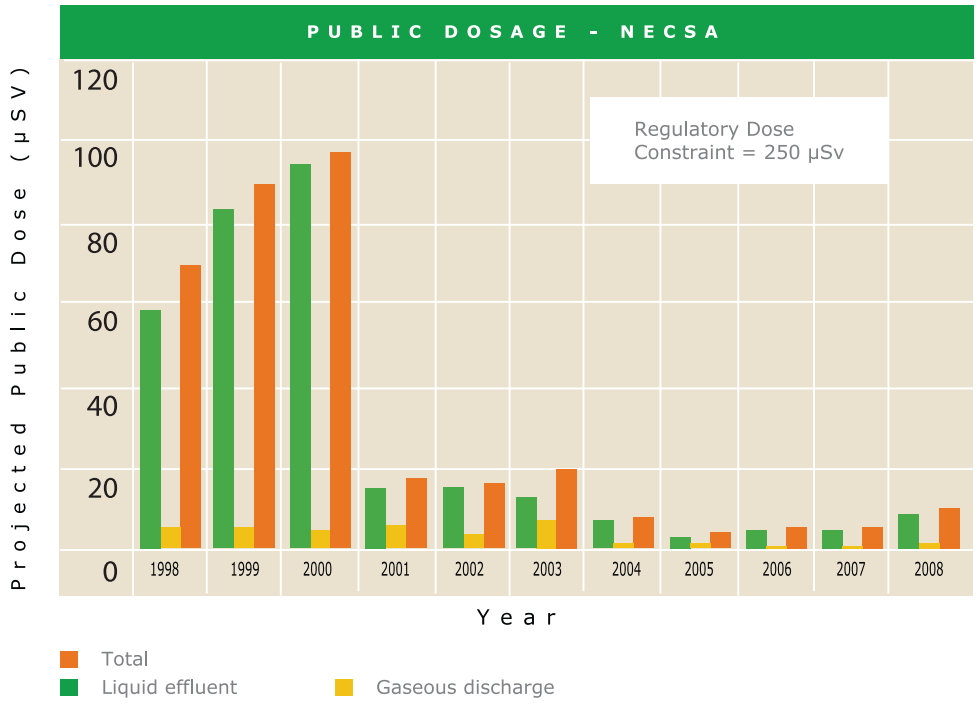


Figure 6: Projected Public Dose from 1998 to 2008.

4.2.2 Nuclear Safety

- **Process-Based Licensing**

Process-Based Licensing (PBL), is the process whereby the authorisation holder carries the responsibility for technical details relating to nuclear safety, and more emphasis is placed on the licence holder, so as to ensure that appropriate processes are in place to comply with regulatory requirements.

PBL at facilities run by NECSA commenced during the 2002/03 financial year, and the system has since been expanded to comprise 225 NECSA-designed documents at present, dealing with the full spectrum of process areas, including policy, security, project management, radiation protection, as well as other regulatory processes.

At the end of the period under review, 202 of these documents were submitted to the NNR, and 48 have been approved.

- **Conversion of the SAFARI-1 Research Reactor from Highly Enriched Uranium (HEU) to Low Enriched Uranium (LEU)**

The SAFARI-1 Research Reactor on the NECSA Pelindaba site is a tank-in-pool type, light-water-

moderated and cooled, beryllium and water-reflected research reactor, designed and built as a general research tool, and falling into the class of research reactors commonly referred to as Material Test Reactors (MTR). SAFARI-1 is currently licensed to operate at a maximum thermal power level of 20 MW, and is primarily used for isotope production.

Until August 2008, the reactor was fuelled by highly enriched uranium (HEU), contained in plate-type fuel elements.

Following review and assessment processes by the NNR of NECSA submissions and, in line with international trends and nuclear non-proliferation, during August 2008 the NNR granted permission for the phased conversion of the SAFARI-1 from using HEU fuel to using low enriched uranium (LEU) fuel.

The loading of LEU fuel assemblies continued during the remainder of the financial year, to a point where the number of LEU fuel assemblies in the SAFARI-1 core stood at 20 at the end of March 2009 . This represented 76% of the fuel assemblies converted to LEU and, if the control rods are taken into account as well, the percentage conversion of the SAFARI-1 Research Reactor, as at the end of March 2009, was 75%.

Full conversion of SAFARI-1 to using LEU fuel assemblies will be achieved when 26 LEU fuel assemblies and six control rods, with LEU follower elements, have been loaded into the SAFARI-1 core.

It is envisaged that the reactor will be fully converted to LEU by mid-2009.

- **Repair to the Anion Column of the SAFARI-1 Primary Demineraliser**

During December 2006, SAFARI-1 experienced an incident where the bottom sieve of the primary demineraliser's anion column was damaged and the resin in the demineraliser was released into the pool of the reactor. Following approval by the NNR for SAFARI-1 to repair the anion column, the repair work was completed during June 2008. The column was operated for a test cycle and, a report submitted by SAFARI-1, to justify the routine operation of this demineraliser, was reviewed by the NNR. Approval for the routine operation of the repaired anion column was granted by the NNR during January 2009.

- **Proposed NECSA Smelter**

Originating from NECSA's previous operations, approximately 14 000 tons of uranium-contaminated scrap metal are presently being stored at the Pelindaba site. NECSA regards smelting as the most appropriate and cost-effective method of reducing the detrimental effects of contaminated material, as well as the volume of waste to be disposed of.

The NNR completed its review of the submitted safety case for the proposed NECSA smelter during December 2007, and submitted its comments to NECSA during January 2008. NECSA has indicated that the resubmission of the safety case for the NECSA smelter would take place during the next financial year.

- **PBMR Fuel Development Laboratories, Including an Advanced Coater Facility**

The PBMR Fuel Development Laboratories (FDL) are located at the Beva facilities on the NECSA Pelindaba site, and comprise the Kernel Laboratory, the Coating Laboratory, the Graphite Laboratory and the Quality Control Laboratory. The laboratories are licensed under the NECSA license and perform experimental work relating to the manufacturing and development of PBMR fuel.

These laboratories are currently authorised to operate, using natural and depleted uranium (≤0.07%). During the period under review, the NNR approved the production of a limited quantity of kernels and coated particles, using enriched uranium (<10%). The NNR also approved the transporting of a sample of the coated particles produced to the USA for testing purposes.

4.2.3 Transport Safety

There were no safety concerns relating to the transportation of radioactive material from NECSA during the period under review.

The requirements for the safe transportation of radioactive material, adopted by the NNR, are specified in the IAEA Standard Series No. TS-R-1, Regulation for the Safe Transport of Radioactive Materials, 2005 edition, Vienna 2005.

Transport activities, undertaken during the period under review, included the following:

- Importation of LEU fuel plates from Cerca in France;
- Importation of LEU (oxide) from Cerca;
- Exportation of sources;
- Exportation of coated particles to the USA; and
- The transportation of calibration sources between the Vaalputs and Pelindaba sites.

4.2.4 Radioactive Waste Safety

There were no safety concerns relating to radioactive waste management at NECSA during the period under review.

The conditions of licence require NECSA to:

- Establish and implement arrangements for the minimisation and safe management of radioactive waste on site; and
- To establish, implement and maintain a radioactive waste management programme for each facility on site, in order to:
  - Ensure the identification, quantification, characterisation and classification of any radioactive waste generated;
  - Make provision for the necessary steps resulting in safe clearance, authorised discharge, disposal, re-use or recycling; and
  - To make provision 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 at the NECSA Pelindaba site:

- Waste Management is aimed at the optimisation of the processes from waste generation to waste disposal.
- The responsibility for solid Waste Management, with regard to the development of facility-specific programmes, the application of standards, quality assurance, optimisation and compliance with waste acceptance requirements, is vested in the waste generator.
- All Waste Generated and processed at the NECSA site shall, after completion of the relevant predisposal activities, be channelled via a single gate-keeping entity (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 when it has been formally transferred and accepted by NLM.

4.2.4.1 Waste Stored at the NECSA Pelindaba Site – Pelstore

Pelstore is the centralised storage facility for radioactive waste at the Pelindaba site and is housed in a decommissioned building that is being re-used for this specific purpose. During the 2008 calendar year, a total of 2 581 radioactive waste containers were transferred to Pelstore, compared to 2 472 in 2007. The total number of radioactive waste containers in Pelstore, as at 31 December 2008, was 49 914, compared to 47 333 in 2007.

The following table reflects the radioactive waste received at Pelstore during the period under review:

Table 5: Waste Accrued and Stored at Pelstore during 2008

Waste Type	Waste Container	Number of Containers
Isotope Waste	4 ton	47
Medical Waste	100 □	3
Medical Waste	160 □	5
Solidified Waste	100 □	180
Compressible Waste	160 □	2 186
Non-compressible Waste	200 □	149
Safeguarded Enriched Waste	200 □	11

In addition, 36 496 separation element assemblies (SEAs) were stored at Pelstore, packed into 913 pallets (40 SEAs per pallet).

4.2.5 Environmental Protection

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

In addition to the monitoring and control of effluent discharges, NECSA is required to institute an environmental monitoring programme, in order to ensure that discharges do not result in environmental build-up of radioactivity.

Samples are collected from various media in the environment around the Pelindaba site. These are analysed and results are submitted to the NNR on a quarterly and annual basis. The sample media include:

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

The NNR employs a system of reporting levels, investigation levels and intervention levels, in order 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 correct the situation.

4.2.6 Nuclear Emergency Preparedness and Response

The NNR carries, in terms of the National Nuclear Regulator Act (Act No. 47 of 1999), Section 38, the responsibility to ensure that the holder of a nuclear authorisation, in this case NECSA, has an effective emergency plan in place for the protection of workers, the public and the environment in the event of a nuclear accident. To fulfil this responsibility, the NNR developed a requirements document, RD-014 Emergency Preparedness and Response Requirements for Nuclear Installations (Rev. 0). NECSA was directed to implement the requirements contained in the document, by putting the necessary preparedness and response arrangements in place.

In order to assess the effectiveness of the NECSA preparedness and response arrangements, the NNR normally performs audits and arranges an emergency exercise, during which the response to a given scenario is tested. To actively involve stakeholders, the NNR invites observers to these regulatory exercises.

There was no emergency exercise held during the period under review, but one will be conducted during the 2009/10 financial year.

An accident scenario, involving the release of radioactive material, resulting in on-site and off-site consequences and responses, is usually simulated. The scenario requires NECSA to implement protective actions on site, activate Madibeng Disaster Management and communicate with other off-site organisations. These actions include the activation of on-site functionaries, who assist in managing the consequences of the "release". On-site procedures, processes, equipment and responses by staff members are usually tested by the NNR.

The NNR conducted an audit at NECSA on 24 and 25 September 2008, where two observations and one finding were made. These have been addressed and concluded to the satisfaction of the NNR.

4.2.7 Physical Security

NECSA embarked on a programme of upgrading the physical security measures at its Pelindaba site following a security breach in November 2007. The NNR continues to monitor the implementation of the security upgrades at the NECSA Pelindaba site during the year under review.

4.2.8 Safety of Sealed Radioactive Sources

The control of radioactive sources is managed in accordance with the stipulations contained in the NECSA PBL document, HSE-INS-8100, namely Control of Radioactive Sources. In terms of the stipulations contained in document HSE-INS-8100, NECSA is required to maintain a source register of all sources on site.

The source register is submitted to the NNR annually at the end of the calendar year and NECSA provides the NNR with a status report twice a year, namely during March and September. No irregularities were detected in this regard.

4.2.9 Nuclear Events, Incidents and Accidents Reported

In accordance with the NECSA internal event classification system, all nuclear-related events are categorised according to the severity of the event, and reported to the NNR as follows:

- Category One events are reported to the NNR on a quarterly basis.
- Category Two events are reported within twenty-four hours of the event occurring.
- Category Three events are reported within one hour of the event occurring.

A total of 38 Category Two events and five Category Three nuclear events were reported during the calendar year. None of these events represented a nuclear accident or incident as defined in the NNR Act.

- **Declaration of a Site Emergency at Pelindaba on 16 March 2009**

At approximately 10:07 on Monday 16 March 2009, the NNR received notification from NECSA that a site emergency had been declared, following the release of noble gas from Building P1701. The NNR maintained contact with the NECSA emergency controller throughout the site emergency, which was terminated at approximately 10:50, following a resolution by NECSA that radiological conditions on site had returned to a safe state.

Following its initial investigation of the event, the NNR published a media release to provide reassurance that there was no risk involved to either the workers or the general public.

Although the NNR was satisfied that there was no danger to the workers and members of the public, the NNR launched an independent investigation into the event.

The NNR independent investigation concluded that:

(i) The impact of the event was limited to the NECSA Pelindaba site and the event presented no danger to the workers on-site or the public off-site.
(ii) The above was confirmed by an NNR environmental survey, conducted during the period 23 to 25 March 2009, which identified no detectable levels of radiation above background levels.
(iii) The releases of noble gas and iodine from the NECSA Radiochemical facility (Building P1701) on the day, did not exceed the daily limits for releases from the facility.
(iv) While the NECSA emergency functionaries were activated promptly, the NNR raised questions relating to:

a. Failure on the part of emergency functionaries to follow procedure upon their arrival at the NECSA Emergency Control Centre.
b. Problems experienced with the deployment of the NECSA field teams.

The NNR plans to review all NECSA facilities, and Annual Authorised Discharge Quantities (AADQs) in particular, as well as their derivation, during the 2009/10 financial year.

4.2.10 Regulatory Compliance

- **Compliance Assurance Programme**

  During the period under review, the NNR conducted a total of 174 planned inspections of the NECSA Pelindaba site. The inspections showed compliance with NNR requirements and conditions of licence.

  The NNR also conducted three audits. These audits were related to the NTP facility (P1701), the SAFARI-1 facility and the NECSA Emergency Services. Generally, the audits revealed satisfactory compliance with the conditions of licence, although some questions were raised with regard to the SAFARI-1 facility and the NECSA Emergency Services.

- **Safety Culture Audit**

  During the period under review, NECSA focused on the implementation of the (SHEQ) system, on training, traffic control and, to a limited extent, on the management of the event and the associated communication. NECSA embarked on a traffic control campaign, featuring various competitions and a traffic hot line.

  NECSA also appointed a person who will carry overall responsibility for the event management process and the associated communication. The NNR will, on a continuous basis, monitor the implementation of these corrective actions.

4.2.11 Regulatory Warnings or Directives to Stop Work

No warnings or directives were issued during the period under review.

4.2.12 Competency and Sufficiency of the NECSA Workforce to Work Safely

In addition to the requirements contained in the Safety Standards and Regulatory Practices (SSRP), the conditions of licence require NECSA to establish and implement arrangements to ensure that only suitably qualified and experienced persons perform any duties that may affect the safety of operations on 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 that could affect the safety of the plant or that of the facility.

NECSA complies with the above requirements. It was, however, previously identified that additional capacity was required and, more specifically, in the area of safety case development. NECSA has optimised available resources in an effort to improve the quality of the safety case and licensing submissions to the NNR.

4.2.13 Appeals to the Chief Executive Officer

No appeals were lodged during the period under review.

4.3.1 NECSA Vaalputs Site

4.3.1.1 Background

Vaalputs is a South African national radioactive waste disposal facility that is situated in the Northern Cape. Springbok is the closest town to the repository and is situated 90 km north-west of Vaalputs. The facility covers an area of approximately 10 000 ha. The area set aside for the disposal site comprises 99.54 ha (900 m x 1 106 m), including a 200 m exclusion zone along the perimeter.

The NNR issued Nuclear License NL28 to Vaalputs in February 1990, and Vaalputs is used for the disposal of low and intermediate-level waste from KNPS into near-surface trenches.

4.3.1.2 Occupational Exposure to Radiation

The average effective radiation dose per occupationally exposed worker for the calendar year 2008, was 0.5 mSv compared to 0.60 mSv in 2007, and the maximum radiation dose for the year 2008 came to 1,7 mSv, compared to 1,2 mSv in 2007.

There were no workers exposed in excess of the regulatory dose limit of 20 mSv per annum, and the distribution of worker exposure is indicated in Figure 7.

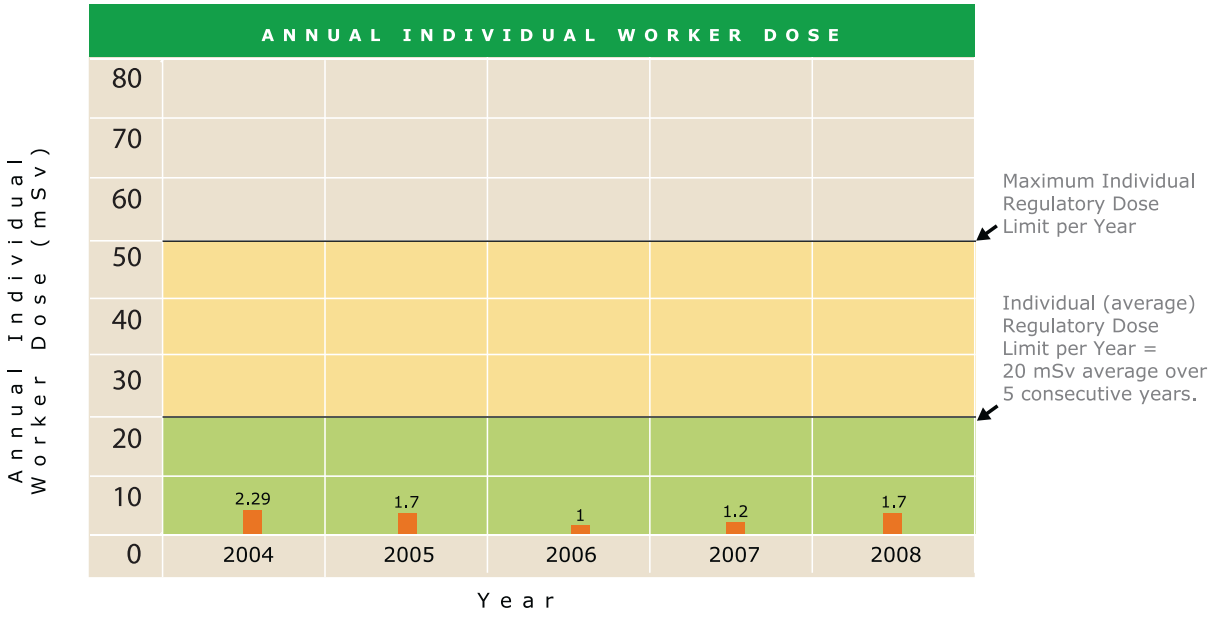


Figure 7: Maximum Worker Dose Arising from Individual Exposure, Accrued from 2004 to 2008.

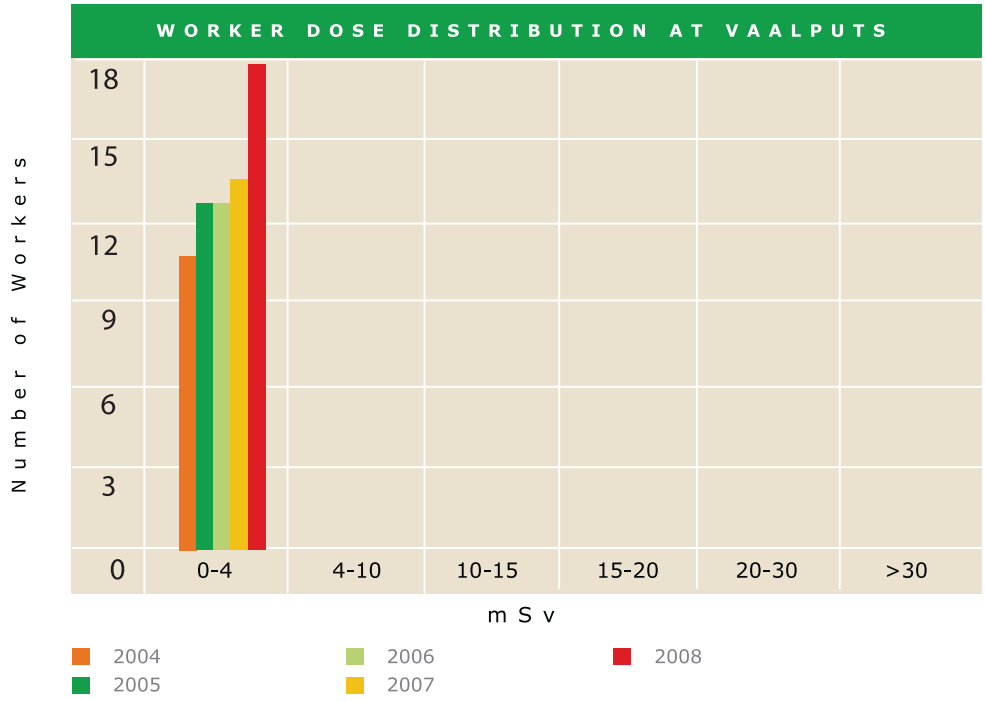


Figure 8: Occupational Exposure to Radiation from 2004 to 2008.

4.3.1.3 Public Exposure to Radiation

The Environmental Surveillance Programme for Vaalputs showed no measurable radiological impact on the public living in the vicinity of Vaalputs.

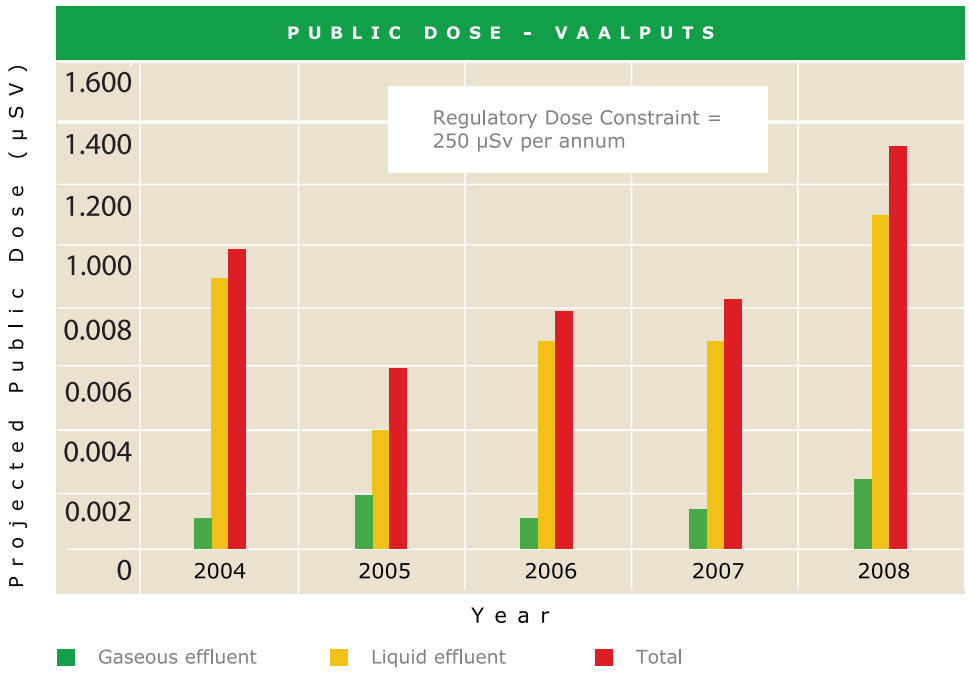


Figure 9: Projected Public Exposure to Radiation from 2004 to 2008.

4.3.1.4 Nuclear Safety

The revised post-closure safety assessment of the Vaalputs facility is in the process of being reviewed by the NNR. Vaalputs has also submitted an operational safety assessment of the facility, which is also being reviewed.

Furthermore, NECSA has submitted a request to the NNR for approval to dispose of NECSA radioactive waste at the Vaalputs radioactive waste repository. The issue of disposing NECSA waste at Vaalputs will be discussed with the holder (NECSA), and the request will be responded to in the next reporting period.

4.3.1.5 Transport Safety

The requirements for the safe transportation of radioactive material, adopted by the NNR, are those specified in the IAEA Standard Series No. TS-R-1, Regulation for the Safe Transport of Radioactive Materials, 2005 edition, Vienna 2005. Transporting of waste to the Vaalputs site is

the responsibility of the waste generator/s. The generator/s, or appointed contractor/s may, under normal conditions, transport the waste to the trench where the waste is off-loaded by Vaalputs members of staff and disposed of in the trenches.

Vaalputs procedures specify that only suitably qualified and appointed staff members from the waste disposal facility are allowed to operate motorised equipment, transport waste containers, and perform tasks related to the waste disposal activities a the Vaalputs site.

Transporting of radioactive sources to and from the service provider responsible for the calibration of radiation protection instruments, used at the Vaalputs site, is reported to the Regulator as and when such sources are transported.

4.3.1.6 Radioactive Waste Safety

During the period under review, 59 shipments, comprising 1 560 radioactive waste packages, were received at Vaalputs from Koeberg for final disposal, compared to the 46 shipments, comprising 919 radioactive waste packages, in 2007. The number and types of waste packages disposed of are indicated in Table 6.

Table 6. Waste Packages Disposed of at Vaalputs During 2008

Type of Waste	Number of Drums	Number of Shipments
Concrete Drums	240	48
Metal Drums	1320	11
Total	**1560**	**59**

The Vaalputs nuclide inventory, including the number of waste packages in each trench, as at 31 December 2008, is summarised in Table 7.

Table 7. Vaalputs Nuclide Inventory

Trench	Number of Waste Packages	Total Activity Received and Decayed up to 31 December 2008	
		Total Activity Received to Date (Gab)	Total Activity Corrected for Decay (Gab)
A01	11 260	1.916 E+05	8.568 E+04
A02	840	4.070 E+02	1.266 E+02
A03	1 639	8.534 E+02	5.654 E+02
B01	3 177	1.019 E+05	2.920 E+04
B02	348	1.580 E+04	1.430 E+04
B03	91	1.910 E+03	1.883 E+03
Total	**17 355**	**3.125 E+05**	**1.318 E+05**

The above inventory is in compliance with the approved safety case for the facility.

4.3.1.7 Environmental Protection

Routine environmental monitoring at and around the Vaalputs site has been done since 1984. This programme is conducted to confirm that there were not any releases from the Vaalputs site into the environment. The monitoring programme is mainly focused on borehole water, soil and vegetation in the area.

Most of the nuclides were below the lower level of detection of the analytical equipment. Detectable concentrations, mainly uranium, alpha and beta activities, were the result of natural radioactivity and did not have any unnatural impact on the environment.

4.3.1.8 Nuclear Emergency Planning and Preparedness

The facility has an emergency team, which is fully trained and retrained, as well as duly appointed to perform different functions during an emergency situation.

4.3.1.9 Physical Security

A secondary effect of the upgrades initiated at the NECSA Pelindaba site, following the security breach that occurred at the Pelindaba site in November 2007, is that they initiated the upgrading of the physical security measures

at the Vaalputs site as well. At this stage, an electrical fence has been installed around the waste disposal area. Upgrading of the camera system and the guarding of the site are in progress and expected to be completed during the next reporting period.

During the period under review, the NNR continued to monitor the implementation of planned security upgrades at the NECSA Vaalputs site during its quarterly compliance assurance inspections at the site.

4.3.1.10 Safety of Sealed Radioactive Sources

The sealed radioactive sources that are utilised on the Vaalputs site are mainly test sources, which are used to test and calibrate radiological protection instruments utilised in the day-to-day activities on site. These sources are stored in accordance with NECSA-approved procedures.

4.3.1.11 Nuclear Events, Incidents and Accidents Reported

Two nuclear events were reported at Vaalputs during the period under review. However, none of these represented a nuclear incident or accident as defined in the NNR Act.

4.3.1.12 Regulatory Compliance Inspections

During the period under review, a total of four inspections in ten technical areas were planned and conducted. NNR inspections undertaken at Vaalputs during the period under review indicated adequate compliance with the Vaalputs licence conditions.

4.3.1.13 Regulatory Warnings or Directives to Stop Work

No warnings or directives were issued during the period under review.

4.3.1.14 Competency and Sufficiency of the Vaalputs Workforce to Work Safely

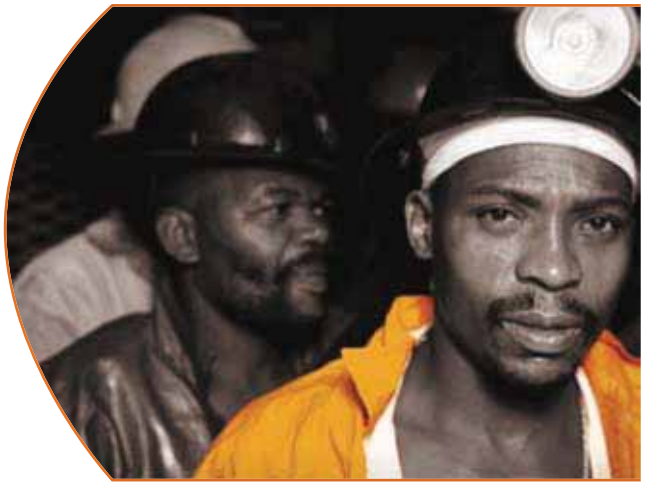
The conditions of the Vaalputs licence, as well as the process-based licensing documents, require NECSA to allow only suitably qualified and authorised staff members to perform actions that could have an influence on radiation and conventional safety. The Vaalputs staff members who perform actions that may have an influence on safety are adequately trained, tested and authorised to perform such functions.

4.3.1.15 Appeals to the Chief Executive Officer

No appeals were lodged during the period under review.

4.4 Regulation of Naturally-Occurring Radioactive Material

4.4.1 Background



Naturally-occurring radionuclides are present in all minerals and raw materials of natural origin, of which the most important for the purposes of radiation protection are the radionuclides in the U^{238} and Th^{232} decay series, as well as K^{40}. These materials are commonly referred to as Naturally-Occurring Radioactive Material (NORM). In some materials, the levels of NORM are significantly high – to the extent that regulatory control may be required for radiation protection purposes. In terms of the NNR Act (Act No. 47 of 1999), the NNR is responsible for exercising regulatory control over mining and mineral processing facilities handling NORM and requiring 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 NNR issues five types of CORs at present, namely:

Category 1	Small users
Category 2	Scrap processors and smelters
Category 3	Fertilisers
Category 4	Small mines
Category 5	Large mines

Typical activities at facilities handling NORM include actions such as:

- The mining and processing of gold, copper, uranium, heavy minerals and phosphate rock;
- Clearance of sites contaminated with NORM residue;
- The recycling of scrap material (i.e. ferrous and non-ferrous metals, plastic, stainless steel, etc.) that is contaminated with NORM residues; and
- Conducting tests in laboratories on small quantities of NORM samples for verification of proposed and existing actions – including samples from prospecting activities.

The regulatory oversight activities of NORM facilities presents one of the most challenging aspects for the NNR. This is largely due to the geographical spread and increasing number of facilities that must be regulated.

4.4.2 Certificates of Registration Issued for the 2008/09 Financial Year

32 CORs were issued during the period under review, and the total number of NORM facilities authorised to date, is 138.

A typical nuclear authorisation would, *inter alia*, include the following authorisation conditions:

- Operational radiation protection;
- Radioactive waste;
- Transportation;
- Physical security;
- Hazard assessment;
- Operational limitations;
- Requirements for events; and
- Quality management.

4.4.2.1 Authorised Actions for the Period 2008 to 2009

	COR Number	Name of Holder	Type of Application	Type of Facility	Date Issued
1	COR-214	Ogoerian Construction CC (T/A Moria Mining)	COR	Demolition	2008/05/14
2	COR-223	Tasman Pacific Minerals (Pty) Ltd.	COR	Exploration	2008/05/21
3	COR-222	Tasman Pacific Minerals (Pty) Ltd.	COR	Exploration	2008/05/21
4	COR-221	Tasman Pacific Minerals (Pty) Ltd.	COR	Exploration	2008/05/21
5	COR-132	Grifo Engineering (Pty) Ltd.	COR	Scrap Metal	2008/05/14
6	COR-197	Gold Reef City Theme Park	COR	Mining and Minerals	2008/05/21
7	COR-110	Geotron Systems (Pty) Ltd.	COR	Small User	2008/06/13
8	COR-206	Uranium One and Micawber 397 ((Pty) Ltd.	COR	Exploration	2008/06/18
9	COR-164	Sulzer Pumps (SA) Ltd.	COR	Scrap Metal	2008/06/02
10	COR-76	Blastrite (Pty) Ltd.	COR	Mining and Minerals	2008/06/13
11	COR-226	Rand Uranium (Pty) Limited	COR	Mining and Minerals	2008/08/18
12	COR-190	Ezulwini Mining Company Ltd.	COR	Mining and Minerals	2008/07/28
13	COR-227	WG Wearne Ltd.	COR	Small User	2008/09/16
14	COR-234	Pamodzi Gold Orkney (Pty) Ltd.	COR	Mining and Minerals	2008/09/16
15	COR-232	Central Rand Gold South Africa (Pty) Ltd.	COR	Mining and Minerals	2008/09/16
16	COR-233	Central Rand Gold South Africa (Pty) Ltd. (East)	COR	Mining and Minerals	2008/09/16

4.4.2.1 Authorised Actions for the Period 2008 to 2009 (continued)

	COR Number	Name of Holder	Type of Application	Type of Facility	Date Issued
17	COR-224	Pomona Scrap Metals	COR	Scrap Processor	2008/09/12
18	COR-225	New Kleinfontein Goldmine (Pty) Ltd.	COR	Mining and Minerals	2008/09/16
19	COR236	Reclaim Invest 101 (Pty) Ltd.	COR	Scrap Processor	2008/12/01
20	COR-242	Enviro Mzingazi Gypsum (Pty) Ltd.	COR	Fertiliser Manufacturer	2008/11/24
21	COR-218	Grindrod Terminals (Pty) Ltd.	COR	Small User	2008/10/17
22	COR-182	Buffelsfontein Gold Mine Ltd.	COR	Mining and Minerals Processing	2008/10/10
23	COR-229	The New Reclamation Group (Pty) Ltd.	COR	Scrap Processor	2008/10/09
24	COR-15	Pamodzi Free State (Pty) Ltd.	COR	Mining and Minerals Processing	2008/11/05
25	COR-235	IM Motlhabane Farming CC (T/A Motlhabane Recycle Scrap)	COR	Scrap Processor	2008/12/02
26	COR-241	India Steel (Pty) Ltd.	COR	Scrap Processor	2008/12/02
27	COR-237	Mookoli Construction	COR	Scrap Processor	2008/12/02
28	COR-228	Ergo Mining (Pty) Ltd.	COR	Mining and Minerals Processing	2009/02/09
29	COR-238	Exxaro TSA (Pty) Ltd.	COR	Mining and Minerals Processing	2009/01/27
30	COR-239	Aflease Gold Ltd.	COR	Mining and Minerals Processing	2009/02/17
31	COR-181	Transnet Ltd.	COR	Small User	2009/02/02
32	COR-230	ALS Chemex SA (Pty) Ltd.	COR	Small User	2009/02/17

4.4.3 Occupational Exposure to Radiation

The primary radiation exposure pathway to workers in the underground mining environment is via the inhalation of particulate radon progeny. In order to prevent any person from being exposed to doses above the regulatory a dose projection is calculated, based on the current rate of dose accumulation. If the outcome of this calculation indicates a likelihood of exceeding the set regulatory annual limit, such a facility is referred to as a Special Case Shaft or Mine (SCS/SCM).

Regulatory oversight functions of such mines are intensified and monitored very closely by Regulatory Officers. Individual monitoring is undertaken at these mines, since the potential of exceeding the dose is high. The occupational dose is therefore monitored on a month-to-month basis. During the year under review the NNR focused on increasing the frequency of compliance assurance inspections at all facilities of which the projected cumulative radiation dose indicated a strong likelihood of exceeding the annual regulatory dose limit. This ensured that the engineering and administrative controls previously introduced were improved, in order to minimise the dose that the workforce was exposed to.

Holders are required to put in place adequately designed and properly controlled ventilation systems, so as to reduce occupational exposure to as low a level as is reasonable achievable. Good engineering controls have, over the years, been the only practicable way of reducing the doses in the working environment. In areas where no other practical means of controlling the radiation exposures are available, administrative measures, such as job and worker relocation systems, were successfully implemented.

4.4.4 Regulatory Oversight Activities Pertaining to Special Case Mines

Holders who violate the measures as per the requirements of conditions of authorisation, and thereby exposing workers to radiation levels above the regulatory dose limit, are directed by the NNR to immediately withdraw from all the affected areas and, in some instances, to withdraw all the workers from those areas, until all the identified non-compliances have been addressed.

Over the past two years, there has been an improvement in observed worker doses, which can be attributed to the more rigorous compliance assurance measures implemented at these special case areas. Some of these actions included the issuing of directives to the affected facilities, as reported in the section titled Regulatory Warnings and Directives to Stop Work.

Figure 10 compares the distribution of radiation doses that workers were exposed to, as reported by holders in their annual dose reports for the calendar years 2004 to 2008.

There were no workers exposed to doses above the maximum regulatory dose limit of 50 mSv per annum, and the distribution of worker exposure is also indicated in Figure 10.

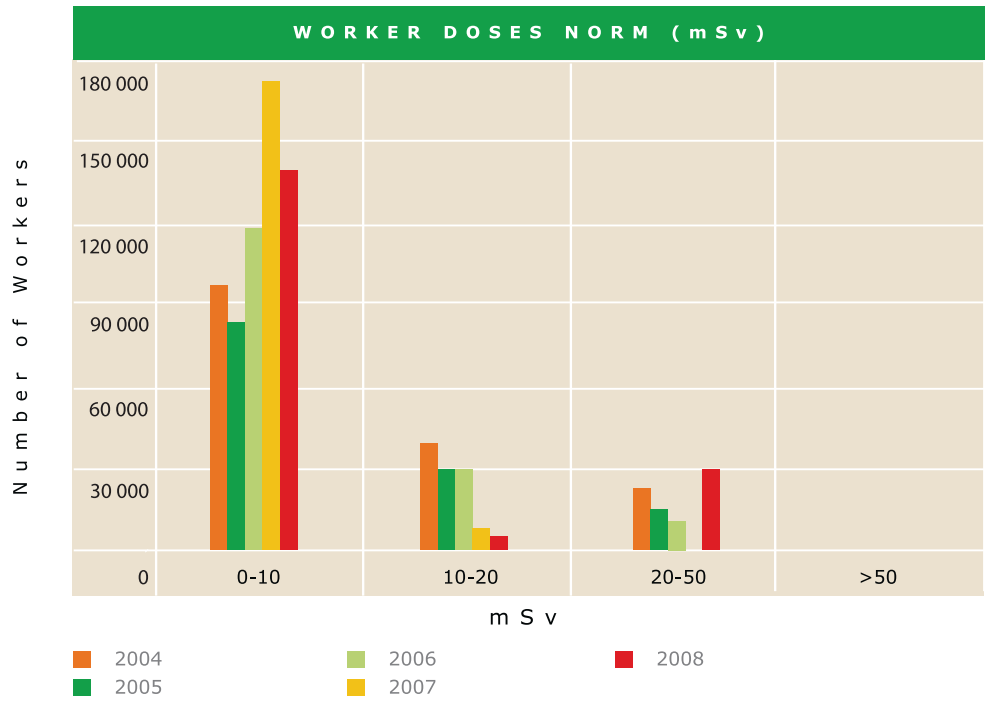


Figure 10: Occupational Exposure to Radiation from 2004 to 2008.

4.4.5 Public Exposure to Radiation

Public exposure, due to radioactive emissions and discharges from all sources related to any NORM facility, is controlled via a system of dose limitation, as prescribed in the Safety Standards and Regulatory Practices (SSRP) R388. Authorisation holders are required to conduct safety assessments, in order to identify and quantify the radiological risk to members of the public and representative persons, and they must submit these Public Safety Assessments (PSAs) to the NNR for approval. Based on these PSAs, as well as on the associated Public Radiation Protection Programmes (PRPPs), holders must then establish and implement surveillance monitoring and reporting procedures. These result in the prevention of an unacceptable radiation or contamination hazards to the public from actions at mines and discharges into the environment.

The scheduled PSAs were submitted and reviewed by the NNR for adequacy and implementation during the period under review. From these PSAs, it is apparent that there has been an improvement in the implementation of the Radiation Protection Programme by authorisation holders.

The NNR expects, however, that there will be an increased need to apply more stringent requirements to manage radioactive discharges/effluents at holder sites. This will be achieved via the introduction of a source-specific Annual Authorised Discharge Quantity (AADQ), which takes into account the dose constraint not exceeding 0.25 mSv per annum, or the application of Best Available Techniques (BAT) and Best Environmental Practice (BEP). The NNR, however, ensures at all times that the dose that the public is exposed to, is in no instance exceeded.

4.4.6 Transport Safety

The holders of nuclear authorisation continued to transport routinely low specific activity (LSA-1) scrap materials on a daily basis, in accordance with the conditions of authorisation.

Isolated incidents were reported to the NNR, relating to trucks carrying potentially radioactive scrap to unauthorised facilities. These trucks were detected by bulk gamma monitors, located at some of the facilities, specifically designed to detect radioactive contamination in a truck load. The NNR was duly informed and the trucks were re-routed to appropriately authorised facilities. The NNR will investigate the possibility of installing more of these bulk gamma monitors at strategic points, in order to avoid such events in future.

The transportation of NORM and NORM-contaminated scrap was generally done in accordance with the requirements of the NNR and, during the period under review, no other safety concerns arose relating to the transportation of NORM.

4.4.7 Radioactive Waste Safety

Authorisation holders were required to manage their radioactive waste and associated waste products. Accordingly, Section 1.5 of the COR requires that a waste management procedure be submitted to demonstrate compliance with NNR requirements.

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

Table 8: Type and Quantities of Radioactive Waste Material

Type of Waste	Waste Quantity: 2007/08	Waste Quantity: 2008/09
Restricted Scrap	4.92E+05	2.61E+06
Unrestricted Scrap	8.45E+06	4.17E+06
Semi-solid Waste	4.33E+07	1.46E+11
Gaseous Waste	1.16E+12	1.61E+10
Liquid Waste	4.77E+07	4.06E+10
Solid Waste	3.18E+07	4.83E+07
Other Waste	3.22E+06	2.20E+06

The main aspects of a typical radioactive waste management procedure include:

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

4.4.8 Environmental Protection

The NNR requires holders to establish, implement and maintain an environmental monitoring and surveillance programme, as outlined in the SSRP, in order to ensure and verify that the radioactive effluent discharged by the holders complies with the conditions of nuclear authorisation. Monitoring, based on the outcome of public safety and dose assessment reports, ensures that controls on the release of radioactive effluents are verified.

The NNR is currently considering the introduction of regional, rather than holder-specific safety public assessments, which would provide adequate information on the appropriate source-specific AADQ for each action within that region, i.e. from site-specific Public Hazard Assessments (PHA) to a Regional PHA (RPHA).

A working group was established and a pilot project will be identified for implementation by this group. One of the main objectives of the working group is to ensure that all exposure pathways and uptake routes from all sources around the critical group or representative person are considered and properly quantified. The activities of the working group are ongoing and the results will be presented during the next Reporting period.

4.4.9 Contaminated Sites

The NNR has successfully completed the project of the previously identified 38 radioactive contaminated sites that needed to be cleaned up. A further 15 sites were

identified, which had been earmarked for township and industrial developments. These sites were cleaned up and the NNR conducted a confirmatory survey, which enabled the sites to be released from regulatory control for the intended use and purpose.

4.4.10 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 has been approved by the NNR. Such systems prevent, as far as reasonably possible, unauthorised access to areas containing radioactive material, and also prevent the unauthorised removal or transfer, or theft of such material.

In general, COR holders demonstrated compliance with the physical security system requirements.

4.4.11 Safety of Sealed Radioactive Sources

All sealed radioactive sources maintained by holders of CORs are managed under the jurisdiction of the Department of Health's Directorate of Radiation Control.

4.4.12 Nuclear Incidents/Accidents Reported

COR holders are required to notify the NNR of any event that has taken place at an authorised facility, in accordance with an established procedure. During the period under review, authorisation holders reported a total of 43 events to the NNR.

None of these represented a nuclear incident or accident as defined in the NNR Act.

4.4.13 Regulatory Compliance

4.4.13.1 Compliance Assurance Programme

The NNR undertakes independent compliance assurance inspections, investigations and audits at authorised facilities, using the risk-graded approach, in order to verify the degree of compliance with conditions of authorisation.

These compliance assurance inspections can either be planned, unplanned or reactive.

During the period under review, the NNR increased the frequency of compliance assurance inspections at all authorised COR-holder sites, in line with its new risk-graded approach. This entailed frequent visits to facilities with a high potential for exposing their workers to radiation, or where demolition activities were carried out.

A total of 351 inspections were planned for the period under review, of which 379 were conducted, including reactive or unplanned inspections, compared to 235 during 2007/08. As a result of the increased frequency and consequent visibility of the NNR at these facilities, the average holder's compliance index for compliance assurance inspections was 72%, compared to 85% during 2007/08.

Holders were required to investigate the reasons for, and implement corrective actions related to, all non-compliances identified.

Over and above the inspections, the NNR conducted compliance assurance audits in terms of the quality management systems that are required to be established and maintained at all these facilities. A total of 20 compliance assurance audits, in terms of ISO 9000:2001, were planned for the period under review, of which 19 were completed. The outstanding audit was postponed, as the operations at that facility had been ceased and the NNR was notified accordingly. Proof of closure was then formally presented to the NNR.

These audits revealed a gradual improvement in the implementation of quality management systems. This is due, *inter alia*, to COR holders attending quality management training and developing an improved understanding of the NNR quality requirements. The NNR will hold regular workshops for holders in future, in order to continue improving the implementation of these systems.

Where non-conformities were identified, holders were required to submit and implement action plans, addressing corrective, as

well as preventive actions, so as to avert a recurrence. The NNR will continue to monitor the implementation of the corrective and preventive measures during the next reporting period.

4.4.14 Regulatory Warnings and Directives to Stop Work.

As a result of the routine inspections conducted by the NNR, tougher action was taken to enforce compliance with the conditions of authorisation, and several directives were issued to COR holders to cease all operations until identified non-compliances have been satisfactorily addressed. In instances where holders do not adequately comply with the NNR's requirements, enforcement is escalated to the level where directives are issued to the authorisation holder as illustrated below.

Name	Offence	Directive
Stilfontein Gold Mining Company	Failure to conduct a Public Safety Assessment	Address concerns pertaining to the public in the vicinity, regarding safety
Kynoch Pty Ltd.	Carrying out activities not specified in the scope of authorisation	Directed to cease all activities of reclamation
HVH Pty Ltd.	Carrying out activities not specified in the scope of authorisation	Directed to cease all activities of refurbishment
Fer-Min-Ore Pty Ltd.	Failure to comply with conditions of authorisation	Directed to address all non-compliances
Mine Workers Recycling Service	Failure to inform the NNR that they had ceased activities	Holder required to follow the process for surrendering an authorisation
Durban Roodepoort Deep Mine	Failure to obtain approval from the NNR for demolition activities	Holder directed to cease demolition activities
Croniment RSA Pty Ltd.	Failure to comply with conditions of authorisation	Holder directed to submit required procedures within 30 days
Gravelotte Mine Ltd.	Failure to comply with NNR requirements for a worker monitoring programme	Holder directed to cease operations
Harmon-Evander Gold Mine	The holder failed to remove workers from a mine with the potential to exceed the annual dose	Holder directed to remove all workers who would exceed the annual dose
GFI Mining SA	Failure by the holder to meet the compliance schedule	Holder directed to implement a compliance assurance schedule

4.4.15 Competency and Sufficiency of the Operator Workforce to Work Safely

The SSRP requires that the radiation protection function should be sufficiently independent and that it should be consulted on all decisions that might have an impact on radiation protection or nuclear safety. The NNR, via the regulatory documents issued to holders, requires holders to demonstrate that they have adequate, competent, qualified and trained staff to execute the radiation protection function, and to maintain an appropriate safety culture. To this effect, holders were required to submit appropriate documents, indicating compliance with these requirements. As a minimum, the staff establishment of the operator workforce must comprise a radiation protection specialist (RPS); a radiation protection officer (RPO), who is an officer certified by the NNR responsible for the operational radiation protection programme of a NORM facility; and a radiation protection monitor (RPM), who is an officer assisting the RPO with basic functions of radiation protection, such as monitoring.

From the inspections and audits conducted, the NNR is able to report that all authorisation holders demonstrated satisfactory compliance with the above requirements during the period under review.

4.4.16 Appeals to the Chief Executive Officer (CEO)

The CEO of the NNR received one appeal from GFI Mining SA (Proprietary) Limited, related to the nuclear authorisation fee levied by the NNR on all the activities of GFI Mining SA (Proprietary) Limited.

It was subsequently resolved that the authorisation fee, as published in the Government Gazette, No. 117 of 10 November 2008, is the correct fee that the NNR must levy in terms of legislation, and that it is the Minister of Minerals of Energy who determines the authorisation fee as per Section 28 of the NNR Act. The CEO resolved that the appeal was incorrectly brought in terms of Section 43 of the NNR Act.

4.5 Nuclear Vessel Licence

During the period under review, the NNR granted Nuclear Vessel Licences to the US nuclear-powered aircraft carrier, Theodore Roosevelt and the Russian nuclear-powered missile cruiser, Pyotr Veliky, to visit Cape Town over the periods 1 to 10 October 2008 and 12 to 15 January 2009 respectively.

The NNR conducted radiological monitoring in the vicinity of the vessels, prior to the visits, as well as during and after each visit. The analysis of the samples indicated that there had been no detectable radiological effect due to the nuclear vessels.



During the review of Nuclear Vessel Licence applications, the NNR raised some concerns related to the recurrent late submissions of applications for Nuclear Vessel Licences by the SA Navy. The NNR engaged in constructive discussions with the SA Navy, in order to improve the SA Navy's processes, as well as other relevant government processes. Judging from the latest application, received from the SA Navy, for a UK nuclear-powered military submarine to visit Simons Town during September 2009, indications are that the processes have improved.

4.6 Nuclear Security Management

During October 2008, the Nuclear Security Management (NSM) function was formalised and adopted into the NNR's new organisational structure. Terms of Reference were developed to provide a basis for strategic departmental processes, as well as lines of

reporting pertaining to nuclear security management. Within the NNR, the duality of nuclear security is such that the NNR takes responsibility for assuring nuclear security at nuclear installations, while also making provision for physical security measures pertaining to other regulated actions, as well as to the NNR premises.

4.7 Pebble Bed Modular Reactor

4.7.1 PBMR Demonstration Power Plant (DPP)



Figure 10: PBMR TRISO Fuel

4.7.1.1 Introduction

The PBMR DPP is a graphite-moderated, helium-cooled reactor, using a direct gas cycle to convert heat, generated by nuclear fission in the reactor (pebble bed reactor core type design) and transferred to the coolant gas, into electrical energy by means of a helium turbo-generator. In July 2000, Eskom applied for a construction licence for a PBMR DPP. In order to determine whether such a design was licensable, the NNR developed requirements for the licensing of a High Temperature Gas Reactor (HTGR) and provided guidance on the processes that must be undertaken to demonstrate compliance with the requirements.

4.7.1.2 PBMR DPP Safety Case Preparation and Review

During the NNR review process, some 25 key licensing safety issues were initially identified, which would require resolution at various stages of the PBMR's licensing process. The PBMR's safety case development and design process has improved significantly during the past few years, because of the lessons learnt during interaction between the NNR, PBMR and Eskom. Difficulties in resolving technical issues, however, resulted in delays in the submission of deliverables associated with KLI resolutions, as well as with an update of the safety case review. Furthermore, minimal progress was made with the resolution of certain design and safety issues during the period under review.

4.7.1.3 PBMR Design Engagement

The NNR is engaged with the PBMR company in the development of a regulatory framework aimed at design engagement on a revised design of the PBMR DPP.

The framework for design assessments takes into consideration legislative requirements (the NNR Act), current international practice (such as the design certification process in the USA, and the generic design assessment process in the UK), the scope of submissions, the regulatory oversight process, and the nature of the authorisation. Discussions pertaining to the engagement framework are ongoing.

4.7.1.4 PBMR Fuel Plant (PFP)

On 8 January 2008, the NNR received an application, dated 14 December 2007, from the South African Nuclear Energy Corporation for a Nuclear Installation Licence for the proposed Pebble Bed Modular Reactor Fuel Manufacturing Plant (PFP). The application was for the siting, construction, operation, decontamination and decommissioning of the

proposed PFP, which is envisaged to be built on the NECSA Pelindaba site in Buildings B-D1, B-D2, B-C3 and B-C5. The proposed nuclear installation is for a plant that will manufacture fuel spheres and graphite spheres (non-fuel) for the proposed Pebble Bed Modular Reactor (PBMR) technology.

The NNR accelerated the review of safety submissions from NECSA, but minimal progress has been made with the resolution of some licensing and safety issues during the period under review.

5. REGULATORY RESEARCH AND DEVELOPMENT

An important element of the regulatory strategy of the NNR is to proactively implement processes to improve its regulatory effectiveness. One of the means to achieve this goal is via the establishment and implementation of a programme of regulatory research. Typically, the regulatory research activities of the NNR focus on selected initiatives, including the review and a survey of international literature; safety standards and regulatory practices, with a view to guiding NNR regulatory strategies; the development of new, or the updating of existing regulatory requirements; and the formulation of regulatory positions. Some of the NNR's in-depth research is conducted by expert consultants on behalf of the NNR. The following regulatory research projects, investigations and initiatives, were undertaken during the period under review.

5.1 Investigation of the Oil and Gas Industry for Possible Authorisation

The oil and gas industry is known world-wide to be associated with elevated levels of radiation exposure, due to the presence of natural radioactivity, and hence the NNR needs to confirm the radiological status in facilities such as crude oil plants and oil refineries. During the period under review, the NNR initiated processes to undertake this study. There was interaction with (NATREF), and a regulatory position paper, clarifying the matter for the oil industry, was compiled and approved. During the next reporting period, the oil industry and the NNR will finalise the implementation plan and the project will be launched.

5.2 Framework for Radiological Protection of the Environment

Internationally, more emphasis is being placed on the radiological protection of the environment, with regard to the protection of non-human species by organisations such as the International Commission on Radiation Protection and the International Atomic Energy Agency. The NNR is monitoring international trends and has developed a conceptual framework in preparation for the implementation of such a framework.

A workshop, during which the framework will be introduced to holders of NNR authorisations and other stakeholders, including the public, is planned to take place during the 2009/10 financial year. The purpose of the workshop will be to provide a forum for the exchange of information on regulatory research work, which the NNR is conducting into the protection of environmental projects, as well as to provide stakeholders with an opportunity to present their input on the work being performed. The outcome of the workshop will be used to refine the NNR processes for the development of the framework.

5.3 Wonderfonteinspruit Catchment Area

Since first reporting on this matter to all the stakeholders of the NNR, significant progress has been made with the development of a comprehensive safety governance framework to address the situation that arose due to contamination from past mining activities in the Wonderfonteinspruit Catchment Area (WCA).

This safety governance framework will ensure that a systematic approach is followed by all affected stakeholders in addressing the situation in the WCA. The framework comprises the following plans and documents:

- A project governance structure, spanning all affected regulators, industry role-players, provincial and local government, and members of the public.
- Terms of Reference for the National Steering Committee that oversees the rehabilitation of the WCA.
- A Stakeholder Engagement and Communication Strategy, applicable to interested and affected parties, as well as the media.
- A NNR project plan, which outlines the work that would need to be performed for the duration of the rehabilitation project.
- A regulatory strategy for the rehabilitation of the WCA, based on international principles.
- An inter-governmental legislative framework, which references the compliance of all those affected, as well as regulators, for their respective legislative requirements.

It is important to note that the issues identified in the WCA pose no immediate danger to any member of the public. However, it is necessary to launch focused interventions to ensure that the radiological risks that prevail in the WCA are minimised. These radiological risks in the WCA comprise the effects of current mine water discharges and diffuse emissions of seepage and run-off

from slimes dams, as well as the legacy of past radioactive contamination, which now manifests as radionuclides stored in sediments and soils.

The directives issued by the NNR to the mines operating in the WCA, ensure that safety of the public is a priority.

The National Steering Committee, which was established during December 2007, is poised to undertake more concrete steps to alleviate the situation that now exists in the WCA. The following tasks need to be performed:

- Engaging the industry role-players in a rehabilitation action plan.
- Ensuring that members of the public are involved in the planning for, and actual rehabilitation of the WCA.
- Ensuring that all activities are undertaken in compliance with the regulatory requirements of all relevant regulators with regard to the rehabilitation of the WCA.

With regard to future progress in the area, the NNR acknowledges that public participation needs to be an integral part of the rehabilitation process. Since the contaminated surface area is vast, it will also be important to ensure that the clean-up activities are managed in accordance with sound project management principles.

5.4 Financial Liability Project

Section 29 of the NNR Act (Act No 47 of 1999), requires the holder of a nuclear installation licence to provide financial security and accept liability for nuclear damage. The financial liability research project, initiated by the NNR, will provide the basis for recommendations to the Minister of Minerals and Energy by the NNR Board, pertaining to the level of financial security to be provided in case of a nuclear accident.

During the period under review, it became apparent that considerable economic and agricultural data was required to calculate the economic consequences of severe nuclear damage. The procurement process of appointing service providers to collect the required data was finalised and the collection of data in the vicinity of the Koeberg Nuclear Power Station has started.

Work progressed well during the 2008/09 financial year. However, during the period under review, challenges were encountered by the service providers, which included the unavailability of data in the required format, as well as difficulties in finding reliable and accurate data. Efforts will be continuing during the next financial year to acquire and customise the necessary data, in order to fill existing gaps in the data. The required data is necessary in order to determine the required quantum of financial provisioning by the holder of a nuclear installation licence.

5.5 Regulatory Emergency Preparedness and Response

5.5.1 Policy on Emergency Preparedness and Response

The streamlining of the NNR emergency planning framework, as well as criteria in the form of an Administration Policy, was finalised during the period under review. The implementation of this policy will ensure a consistent approach by the NNR to the regulation of emergency preparedness and response at all nuclear facilities. Although some of the provisions of the policy were applied during the authorisation process, some aspects of the policy will be included, with a view to optimisation, in the legislative and regulatory framework project that is currently under way.

5.5.2 NNR's Internal Preparedness and Response Arrangements

The development of the NNR's internal emergency preparedness and response facilities and processes are contained in the NNR procedures.

An international peer review of the NNR emergency preparedness and response facilities, systems and processes, was conducted by the French nuclear regulator, the ASN. The NNR prepared an action plan to implement the peer review recommendations, which had been reviewed and approved by NNR management. The peer review actions were prioritised and progress is being made with the implementation. Further improvements to the NNR system will continue to be implemented over the next few years, and will include training, testing and an enhanced infrastructure.

6. STAKEHOLDER RELATIONSHIP MANAGEMENT

6.1 Stakeholder Relations

The NNR recognises the increasing importance of stakeholder engagement and is working hard to optimise regulatory effectiveness, raise awareness levels, strengthen skills, build capacity at all levels within the organisation and assist in improving overall stakeholder relationships. It is of crucial importance that the important strategic and operational advancements being made in these areas are communicated effectively to the NNR's multilevel stakeholder groups.

6.2 Stakeholder Communication

During 2008/09, the NNR reviewed its strategic communication plan, in order to focus on establishing a more systematic and structured approach to communicating with its internal and external stakeholder groups. The revised communications strategy underpins the work already being done in a number of key areas, including, but not limited to employee relations, media liaison, public engagement, stakeholder liaison and issue management. The stakeholder communication strategy will be rolled out in a phased approach over the next three years and reviewed annually to ensure its sustained relevance to business imperatives.

6.3 Local Activities

6.3.1 Media Liaison

In order for the NNR to maintain its credibility and retain public confidence, it has to deal promptly and effectively with nuclear and radiological issues, and any other events that may give rise to significant public concern in the media.

During the period under review, the NNR responded promptly to all media requests and participated in radio and television interviews on all issues relating to nuclear safety.

6.3.2 Public Safety

6.3.2.1 Public Safety Information Forums

In accordance with the provisions contained in Government Notice No. 299, dated 12 March 2004, and Section 26 (4) of the NNR Act, Public Safety Information Forums are held on a quarterly basis by:

- Eskom, regarding the Koeberg Nuclear Power Station; and
- NECSA, pertaining to the Pelindaba and Vaalputs sites respectively.

The main purpose of the Public Safety and Information Forums is to provide information to the persons residing in the relevant municipal areas, in respect of which an emergency plan has been established in terms of Section 38 (1) of the Nuclear Safety Act, as well as in terms of radiation safety matters related to the relevant nuclear installation.

In addition, the holder of a nuclear installation licence must provide information to the forums on nuclear and radiation safety matters, including, but not limited to nuclear incidents or accidents. A total of four meetings per site were held during the 2008/09 period. The NNR attended these meetings and conducted presentations as and when required.

A revised, updated Regulation on the establishment of Public Safety Information Forums was published on 12 September 2008. Amongst other requirements, this updated Regulation required the NNR Board to select and appoint chairpersons and deputy-chairpersons for the Public Safety Information Forums at Koeberg and at NECSA facilities. The NNR Board has adhered to this requirement.

6.3.3 General Public Outreach Initiatives

6.3.3.1 Science Unlimited Expo



The NNR participated in the Science Unlimited Expo, held at the Tshwane Event Centre from 2 to 6 March 2009, in order to raise public awareness of nuclear and radiation safety amongst learners and educators. As part of this project, the NNR identified potential prospects for bursars in the fields of science, engineering and technology.

6.4 International Activities

The NNR continued to participate in statutory and obligatory international activities. These are summarised below.

6.4.1 The International Atomic Energy Agency (IAEA)

The NNR participates actively in the IAEA safety standards committees, working groups and technical committee meetings, so as to develop and approve draft safety standards. The NNR is also represented on the IAEA's International Nuclear Safety Advisory Group (INSAG).

NNR members of staff attended the following meetings at the IAEA Headquarters in Vienna during the period under review:

- Nuclear Safety Standard Committee (NUSSC) meetings.
- Radiation Safety Standard Committee (RASSC) meetings.
- Waste Safety Standard Committee (WASSC) meetings.
- Transport Safety Standard Committee (TRANSSC) meetings.
- Commission on Safety Standard (CSS) meetings.
- The International Nuclear Event Scale (INES) meeting.

IAEA standards have served as references and benchmarks for South African nuclear safety and radiation protection. These largely comprise references to the IAEA standards in regulatory requirements, as well as guidance documents. Furthermore, indirect use of IAEA material is also made in the development of standards and regulations, and sometimes also when dealing with issues for which there is no established South African standard.

The suite of IAEA safety standards, and the current IAEA basic safety standards in particular, were used as references in the development of the South African Regulations on Safety Standards and Regulatory Practices, which were established in terms of the provisions of the National Nuclear Regulator Act.

6.4.2 IAEA General Conference

The IAEA General Conference is an important annual event, during which international regulatory matters are discussed and agreed upon. In addition, the Conference agrees on the scope of work to be undertaken by the IAEA during the year ahead.

The NNR participated in these discussions, as part of the South African delegation, led by the Minister of Minerals and Energy. The 52nd IAEA General Conference was held in Vienna, Austria, during September 2008.

6.4.3 IAEA Convention on Nuclear Safety (CNS)

South Africa is a Contracting Party (CP) to this Convention, which requires CPs to submit a national report on the measures they have taken to implement the obligations of the Convention, as well as to attend meetings of CPs.

As reported in the 2007/08 Annual Report, the NNR coordinated the compilation of the Fourth South African National Report for this Convention, which was submitted to the IAEA on 21 September 2007. In terms of the IAEA CNS review process, the NNR presented the South African National Report at the Fourth CNS Review Meeting on 15 April 2008, where the report was subjected to a peer review process by other CPs. The report was well received by the other CPs and the peer review identified some good practices in the management of nuclear safety in South Africa, and also identified some envisaged measures to improve safety, such as the completion of safety improvements identified in the First Periodic Safety Review; the implementation of the Second Periodic Safety Review at the Koeberg Nuclear Power Station; and the utilisation of technical support organisation/consultants to support the

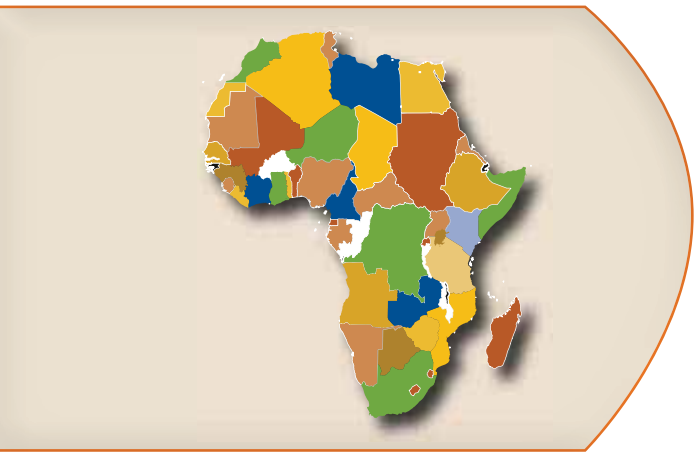
NNR activities in specific areas. These initiatives will be reported on in the next National Report to the CNS, and is scheduled to be compiled by September 2010.

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

South Africa is a CP to the IAEA Joint Convention on Radioactive Waste Management and Spent Fuel Management, which requires of CPs to submit a national report on the measures they have taken to implement the obligations of the Convention, as well as to attend meetings of CPs.

During the period under review, the NNR coordinated the compilation, in which various South African institutions took part, of the First South African National Report, which was subsequently submitted to the IAEA during October 2008, and presented and discussed at the Third Review Meeting of this Joint Convention, which took place from 11 to 22 May 2009. The outcome of the meeting was a resounding success, as South Africa was assessed by the Country Group to have fully complied with the obligations of the Joint Convention on Radioactive Waste Management and Spent Fuel Management.

6.5 Other Areas of Important International Participation



6.5.1 Participation in the African Regional AFRA Project

The NNR participated in the AFRA Project on Self-Assessment of Regulatory Infrastructure for Safety and Networking of Regulatory Bodies. The project was initiated by member states, as a complementary intervention to strengthen the effectiveness and sustainability of the national regulatory infrastructure. The NNR hosted the Regional Coordination Meeting of this new Regional AFRA Project, which was held from 23 to 27 March 2009.

The main objectives of the meeting were to review the status of the development of regulatory infrastructure in Africa; to identify challenges, opportunities, regional problems and appropriate solutions relevant to the promotion of self-assessment methodology and networking of regulatory bodies; to review and update the project work plan and activities; and to outline arrangements for implementation.

6.5.2 Participation in the Multinational Design Evaluation Programme (MDEP)

The Multinational Design Evaluation Programme (MDEP) is a multinational initiative to develop innovative approaches to leverage the resources and knowledge of the national regulatory authorities that will be conducting a review of new reactor power plant designs. The MDEP is being organised under the auspices of the Nuclear Energy Agency, which performs the technical secretariat function for the programme.

In accordance with the MDEP, nuclear regulators are aiming to enhance safety world wide, via increased cooperation. Enhanced cooperation amongst regulators will improve the efficiency and the effectiveness of the design review process, which is aimed at an increased convergence of regulatory practices. However, the participating countries will retain their sovereign authority over all licensing and regulatory decisions at all times. The programme is directed by a Policy Group, comprising the heads of regulatory authorities of the participating

countries. A Steering Technical Committee (STC), comprising senior level representatives from the ten participating regulatory authorities, was established to implement these activities. The Regulatory Authorities of Canada, China, Finland, France, Japan, the Republic of Korea, the Russian Federation, South Africa, the United Kingdom and the United States participate in this multinational programme.

The continued and active participation of the NNR in this initiative is important for the licensing of the PBMR in terms of benchmarking against other new reactor designs, and also in terms of the expansion of the envisaged construction and operation of new reactors in South Africa, which will have to be licensed by the NNR.

6.6 Cooperation on the African Continent

6.6.1 Forum of African Regulators

During the period under review, the NNR played a key role in the establishment of the Forum of Nuclear Regulatory Bodies in Africa (FNRBA). The FNRBA was established to provide for the enhancement, strengthening and harmonisation of the radiation protection, nuclear safety and security regulatory infrastructure and framework amongst members of FNRBA. Secondly, it was established to facilitate the FNRBA in being an effective and efficient internationally recognised forum for the exchange of regulatory experience and practices amongst the nuclear regulatory bodies of Africa.

On 26 March 2009, the FNRBA was launched at an event hosted by the NNR and attended by representatives of regulatory bodies from 29 African countries, representatives from the IAEA and the USNRC, members of the NNR's Executive Board of Directors, representatives from the Department of Minerals and Energy, as well as representatives from the European ALARA Network of Regulators and the Asian Nuclear Safety Network of Regulators.

The FNRBA established an Executive Committee on which the NNR is represented. The NNR will continue implementation of FNRBA activities, which will be expedited via the established working groups. The NNR is coordinating the activities of one of the established Thematic Working Groups on Regulatory Infrastructure for NPP. A progress report on the working groups' activities is due for presentation to the Executive Committee before the first FNRBA Annual Plenary Meeting, which is envisaged to take place in 2010.

6.6.2 Forum of Regulatory Bodies in the Southern African Development Community (SADC) Region

One of the NNR's strategic objectives is to enhance SADC involvement in regional and international developments, in order to harmonise safety standards and practices – including international cooperation with other regulators. During the period under review, the NNR continued to play a key role in the formation of the Forum of Regulatory Bodies in the SADC region. In this regard, the NNR has been in consultation with other regulatory bodies in the SADC region, on how this matter could be expedited. The NNR also initiated a proposal regarding the first meeting of the SADC region, which is scheduled to take place in Namibia during the second quarter of 2009. The proposed meeting is envisaged to produce important outcomes that will provide a basis for the next step.

6.7 Assistance to Other African Countries

6.7.1 Botswana

During the period under review, NNR was requested by the Waste Safety Section at the IAEA to consult, during an expert mission to Botswana, on the planning, assessment and construction of a waste storage facility for that country. The facility is to be built at a location to the north of Gaborone. The report was submitted to the IAEA during January 2009.

6.8 Bilateral Relations with Other Regulators

Technical discussions were held with the Dutch Regulator (KFD), regarding operational experience and the safety review and ageing aspects of nuclear research reactors, with specific focus on HFR Petten and Safari-1.

6.8.1 Bilateral Cooperation with the French Nuclear Safety Authority: ASN

As part of the bilateral agreement between the French ASN and the NNR, the annual Steering Technical Committee meeting took place at the NNR Head Office in Centurion from 7 to 9 October 2008. The topics discussed included Legislative and Regulatory Frameworks, the Regulation of Power Reactors, Research Reactors, NORM, Emergency Planning and Regulatory Research Programmes. A visit to a gold mine followed on 9 October 2009.

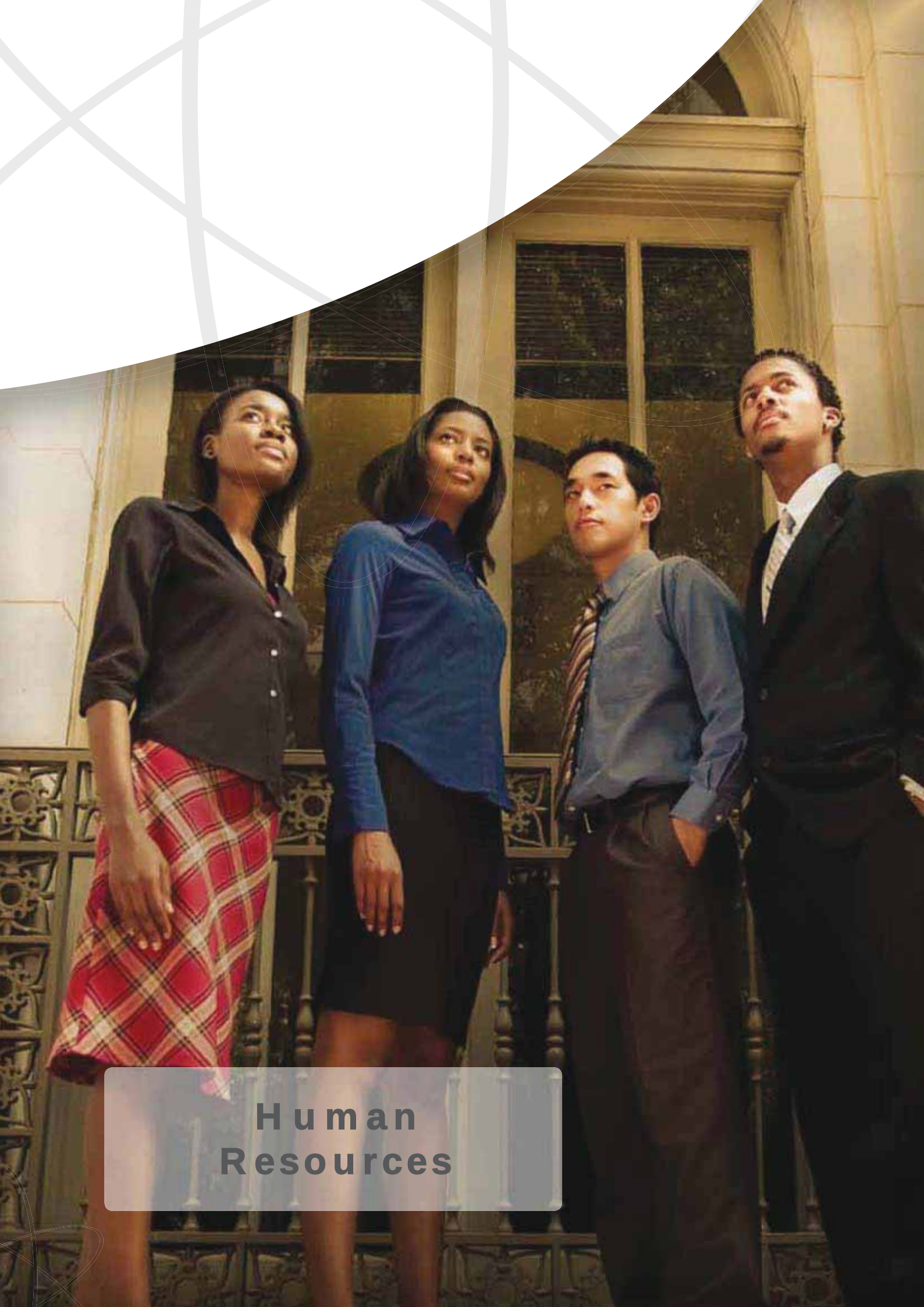
Within the framework of the French ASN-NNR bilateral agreement, a working group on emergency planning, comprising representatives from both regulatory bodies, was established about five years ago, for purposes of benchmarking to exchange information. Following the last bilateral meeting in October 2008, the NNR received an invitation from the ASN to observe an emergency exercise at the Bugey Nuclear Power Plant. The visit took place from 25 March to 27 March 2009 and was attended by a board member and a senior NNR official. The exercise tested the implementation of the recommendations from the CODIRPA (Committee for the Post-Accident Management Phase) Policy, which is being developed by the ASN. The purpose of the visit was to learn from the French experience on late-phase (post-accident) testing, exchange information and identify similarities and improvements relating to emergency reparedness and response topics. A detailed report has since been compiled, which outlines the observations, recommendations and conclusions of the NNR team during the emergency exercise, as well as the discussions that took place with the French ASN.

6.8.2 Bilateral Discussions with the US Nuclear Regulatory Commission

In March 2009, the NNR held bilateral meetings with staff members of the US Nuclear Regulatory Commission (NRC), which included a meeting between the acting NNR CEO and USNRC Chairman. Delegates to the meetings discussed the establishment of the programme of work that could be implemented within the framework of the bilateral agreement between the two organisations. Possible areas for cooperation that were discussed included an exchange on Light Water Reactor (LWR) technology, PBMR, nuclear security and nuclear research. The meeting also discussed the possibility of more detailed technical discussions pertaining to these areas prior to a visit by the USNRC Chairman, who will be the President of the Regulatory Effectiveness Conference that is to be hosted by the NNR in December 2009. The finalisation of the framework for further interaction with the NRC is progressing.

6.9 NNR, South Africa to Host International Nuclear Regulatory Conference

A request was sent to the International Atomic Energy Agency (IAEA), via the Minister of Minerals and Energy and the Department of Foreign Affairs, proposing to the IAEA that South Africa should host the next IAEA International Conference on Effective Nuclear Regulatory Systems, scheduled for 2009. The IAEA has agreed that South Africa could host the conference, scheduled to take place in Cape Town from 14 to 18 December 2009, and the NNR is coordinating the organisation of the conference on behalf of the South African Government.



Human Resources

7. HUMAN RESOURCES

7.1 Introduction

Against the backdrop of the global energy crisis, which is due to dwindling oil and natural gas reserves, recent interest in the nuclear energy sector, which is increasingly being regarded as an alternative source of energy, has grown. The South African government's fundamental position on the diversification of energy resources and the security of supply, has put the spotlight on the nuclear industry as the key to fulfilling the country's growing demand for energy. The NNR therefore plays a central role in ensuring the regulation of the industry and maintaining high safety standards.

Furthermore, recent developments in the nuclear sector, and the ensuing competition for skilled and experienced staff, have crucial implications for the recruiting, retention and development of trained staff for the nuclear regulatory function. This situation, coupled with the realisation that Human Resources is central in supporting the NNR's overarching strategy, resulted in the repositioning of Human Resources as a value-adding mainstream business partner within the organisation, and the development of a comprehensive Human Resources Strategy, which places more focus on talent acquisition, development and retention.

7.2 Talent Acquisition

With the expansion of South Africa's nuclear programme, the demand for talented employees is increasing. The success of meeting this demand depends on the NNR's ability to recruit and retain people with the necessary skills and experience. The NNR implemented a process of the conversion of salaries to total-cost-to-company packages, so as to facilitate greater salary package flexibility, competitiveness in the market-place, as well as an equitable remuneration rate for employees. This conversion facilitates the recruitment and retention of talent by providing employees with an opportunity to structure their remuneration packages according to their individual needs.

During the period under review, a new organisational structure was approved and the following positions have been filled; Executive Human Resources, Chief Financial Officer, ICT Manager, HR Manager, Audit Manager and Stakeholder Communications Manager.

7.3 Training and Development

During the period under review a comprehensive skills audit was undertaken to ascertain the difference in the skills required, compared to the existing skills in the organisation. In addition, a competency framework was developed. These served as feeders for personal development plans.

The NNR participated in the training offered by ARECSA Human Capital (Pty) Ltd., which is a joint venture between NECSA and the French AREVA, established as a result of government's commitment to filling the void in nuclear skills. During the period under review, 49 employees benefited from attending these nuclear-related training courses. A total of 79% of those trained were black, while 34% were female.

In support of its capacity-building strategy, the NNR offers an internship programme and bursaries, which are of assistance in addressing the challenge of an inadequate supply of appropriate technical capacity to deliver in terms of its core business.

7.4 Retention

A robust Talent Management Framework was established and implemented.

A 360 degree evaluation was conducted for Managers, with the aim of strengthening the NNR's leadership capacity, so as to become better equipped for dealing with the current, as well as future challenges facing the organisation. A leadership development programme will be developed to address gaps in this regard.

In addition, a Culture and Employee Satisfaction Survey was conducted to determine the strength of the organisational culture, and interventions, aimed at improvements where necessary, took place

The Employee Assistance Programme was relaunched, with the aim of recreating an awareness of the services that are provided to employees, with the objective of supporting staff members in their pursuit of increased effectiveness.

7.5 Employee Relations

During the period under review, continuous engagement resulted in agreements with recognised trade unions on a number of issues. These included the reviewing of policies, salary increases, performance management and a shift towards a new organisational structure.

7.6 Staff Complement and Employment Equity

The total number of employees for the period under review was 90, compared to the approved staff complement of 122. During this period, there were nine resignations, one retirement, one dismissal and 20 new appointments.

The instability of the Human Resources Division resulted in constant challenges in the implementation of the latest Employment Equity Plan. The NNR is aware of the challenges facing the organisation in addressing the imbalances of gender representation, and is committed to creating an enabling training and development-friendly environment, aimed at empowering women employees at the NNR.

Table 9: Employment Equity 2008/2009 in Numbers

	Male		Female		
	White	Black	White	Black	Total
Senior Managers	1	1	0	2	**4**
Departmental Management	1	7	1	1	**10**
Professionals	15	28	2	10	**55**
Admin/Support Staff	2	4	7	8	**21**
Composition of Staff Race	**19**	**40**	**10**	**21**	**90**
Composition of Staff by Gender	**59**		**31**		**90**

Table 10: Employment Equity 2008/2009 in Percentage

	Male		Female	
	White	Black	White	Black
Senior Managers	25%	25%	0%	50%
Departmental Management	10%	70%	10%	10%
Professionals	27%	51%	4%	18%
Admin/Support Staff	10%	19%	33%	38%
Composition of Staff Race	**21%**	**45%**	**11%**	**23%**
Composition of Staff by Gender	**39%**		**61%**	

Chief Executive Officer - Black Male (Resigned July 2008)

7.7 Regulatory Capacity

During the period under review, the NNR continued to experience difficulties in sustaining an appropriate level of in-house technical capacity (engineers and scientists), which would enable the organisation to deliver in terms of its core business. This challenge is expected to increase as a result of the envisaged expansion of South Africa's nuclear programme, and the resulting increased competition for scarce skills. Therefore, as a matter of priority, the NNR developed and implemented several best practice human resources initiatives, with the objective to recruit, develop and retain skilled members of staff.

Notwithstanding these challenges faced by the organisation, the NNR managed to successfully execute its core business mandate of providing for the protection of workers, the public and the environment against nuclear damage.

8. PERFORMANCE MEASURED AGAINST OBJECTIVES FOR THE PERIOD 2008 TO 2009

In terms of performance objectives, the NNR achieved approximately 65% of its planned strategic initiatives during 2008/09. It can be reported that the balance of objectives not progressed during the year under review was mainly due to these being mid and long term initiatives.

This section details achievements during the period under review and accounts for progress made during the reporting period, measured against annual targets, as outlined in the Strategic Plan for 2008/11.

Table 11: Legend Explaining Scorecard Headings

Strategic Goals	Broad, long-term aims that define accomplishment of the strategic objective (as defined in the Strategic Plan 2008/2011)
Initiatives	Specific activities to be undertaken in order to achieve the goal (as defined in the Strategic Plan 2008/2011)
Measures	Indicators of measuring the success of achieving the goal (as defined in the Strategic Plan 2008/2011)
Targets	Targets that measure the accomplishment of a goal (as defined in the Strategic Plan 2008/2011)

The annual performance and achievements are captured under the column labelled "Status", and also under the "Comments" column, which provides commentary in cases where a deliverable was not achieved or where special circumstances existed.

Table 12: Legend Explaining the Status Column in the Scorecards

Achieved	Planned tasks were completed and approved.
Not Achieved	The planned tasks were not fully achieved. The percentage achievement will be reflected in the "Comments" column.
Not Applicable	Tasks were not due in the period under review.

In summary, the performance against the strategic objective scorecard, is as follows:

- Achieved = 33
- Not achieved = 18
- Not applicable = 9, as these were not due in the period under review.

Safety and Regulation Scorecard

	Strategic Objective: (a)	Develop, Review and Implement an Appropriate Regulatory Philosophy and Framework (Including Standards Policies, Practices and Effective Compliance Monitoring) that Provide for the Protection of Persons, Property and the Environment Against Nuclear Damage				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
1.	Optimise the legislative and regulatory framework in order to improve regulatory efficiency and effectiveness.	Review and update the NNR licensing philosophy and approach.	Updated regulatory philosophy and approach, based on past experience and best international practice.	Framework for updating philosophy and approach, and implementation plan developed. Implementation according to the plan and timelines to be completed by December 2010.	Achieved. Achieved.	
		Review and update the legislation, requirements and guidelines in line with the philosophy.	Updated legislation, requirements and guidelines.	Proposal for the updated legislation, in line with the implementation plan, to be finalised by 2010.	Not applicable to this reporting period.	Proposal for the updated legislation, in line with the implementation plan, to be finalised by 2010.
			Develop a suite of internal guidance documents and procedures.	Updated requirements and guidelines document, in line with the implementation plan.	Not applicable to this reporting period.	These internal guidance documents and procedures will be updated, according to the implementation plan, in the next financial year.

Safety and Regulation Scorecard (continued)

	Strategic Objective: (a)	Develop, Review and Implement an Appropriate Regulatory Philosophy and Framework (Including Standards Policies, Practices and Effective Compliance Monitoring) that Provide for the Protection of Persons, Property and the Environment Against Nuclear Damage				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
2.	Enforce regulatory standards and practices to ensure that an acceptable level of safety and full compliance with conditions of nuclear authorisation and regulatory requirements is being maintained by the regulated operating organisations.	Develop and implement a harmonised system of safety indicators (including specific measures regarding administrative compliance).	Harmonised system of safety indicators in place.	Updated harmonised system in place by December 2010.	Not applicable to this reporting period.	Updated harmonised system in place by December 2010.
			% Compliance in terms of reporting by regulated operating organisations.	100% Compliance.	Achieved	(Koeberg)
					Not achieved.	RENS 90%.
					Achieved.	NTWP
3.	Strengthen regulatory oversight role related to the protection of the environment.	Develop a harmonised compliance assurance policy and programme for the regulatory oversight function related to the protection of the environment.	Policy developed.	Framework for the protection of the environment and implementation plan for development of policy by September 2008.	Achieved.	Framework developed.
				Policy developed in accordance with the plan.	Not achieved.	Finalisation pending inputs from the workshop on the protection of the environment workshop, planned for April 2009.

Safety and Regulation Scorecard (continued)

	Strategic Objective: (a)	Develop, Review and Implement an Appropriate Regulatory Philosophy and Framework (Including Standards Policies, Practices and Effective Compliance Monitoring) that Provide for the Protection of Persons, Property and the Environment Against Nuclear Damage				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
			Compliance assurance programmes developed and implemented.	Compliance assurance programmes developed in accordance with the implementation plan's timescales.	Not achieved.	A scan of international practices was performed, resulting in a draft framework being developed for internal review. Implementation of the framework will include the enhancement of environmental protection measures to strengthen compliance programmes.
4.		Establish new laboratory.	New laboratory established.	September 2008.	Not achieved.	The initial approach proposed by the Executive has changed and was approved by the NNR Board. A new strategy is being developed for the medium to long-term establishment of the NNR's independent laboratory verification capabilities.
			Fully functional laboratory in place.	March 2009.	Not achieved.	
		Accreditation of new laboratory.	New laboratory accredited.	March 2010.	Not applicable to this reporting period.	Interim arrangements implemented. Samples collected, transported to, and analysed at accredited NECSA laboratory. A NNR laboratory technician is deployed to the NECSA laboratory for regulatory development and overseeing of sample analytical activities.

Safety and Regulation Scorecard (continued)

	Strategic Objective: (a)	Develop, Review and Implement an Appropriate Regulatory Philosophy and Framework (Including Standards Policies, Practices and Effective Compliance Monitoring) that Provide for the Protection of Persons, Property and the Environment Against Nuclear Damage				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
5.	Strengthen the regulatory enforcement regime.	Develop and apply an effective Enforcement Policy.	Enforcement Policy to be in place.	Draft proposal for implementation upon promulgation of the amended legislation by April 2008.	Achieved.	NNR proposal to update legislation was provided, but legislation was not updated.
			Implement Enforcement Policy.	100% Achievement of milestones planned for period May 2008 – 2011.	N/A.	Dependent on completion of initiative above, once legislation has been updated.
6.	Strengthen the NNR's regulatory research programmes in support of the regulatory process.	Develop and implement a regulatory research plan.	Plan developed.	July 2008.	Achieved.	
			Numbers of research projects completed against plan.	100% Achievement of milestones against plan.	Achieved.	
7.	Implement Process-Based Licensing (PBL).	Roll out PBL implementation at authorisation holders.	% Implementation of PBL at holders.	30% By April 2008.	Achieved (Koeberg).	
			% Of milestones met against plan.	100% By December 2008.	Not achieved (NECSA).	Human Resources constraints resulted in delays in the approval of PBL documents
		Develop a tool to measure the efficiency of implementation (PBL Efficiency Index) and monitor its output.	% PBL Efficiency Index.	30% by April 2008.	Achieved (Koeberg only).	PBL currently only implemented at Koeberg.

Safety and Regulation Scorecard (continued)

	Strategic Objective: (a)	Develop, Review and Implement an Appropriate Regulatory Philosophy and Framework (Including Standards Policies, Practices and Effective Compliance Monitoring) that Provide for the Protection of Persons, Property and the Environment Against Nuclear Damage				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
8.	Ensure effective implementation of Cooperative Governance Agreements.	Implement the Cooperative Agreements.	Cooperative Agreements implemented.	Schedule and confirm agreement meetings by April 2008/2009/2010 respectively.	Not achieved.	Challenges were encountered in scheduling meetings due to the lack of a stakeholder manager in the organisation for the major part of 2008/09.
				Meetings held to implement the agreements as per schedule.	Not achieved.	A schedule for 2009/10 will be prepared by mid-June 2009.

Stakeholder Management Scorecard

	Strategic Objective: (b)	Build Stakeholder Confidence in South Africa's Nuclear Regulatory System				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
1.	Create an environment where the NNR is recognised as a credible custodian of public health and safety with regard to nuclear and radioactive material, as well as nuclear technology applications.	Implement a profile-building initiative.	% Of profile-building milestones met.	100% Achievement of milestones planned for each financial year (2008/09/10/11).	Not achieved.	50% Achieved. A revised activity plan was compiled and approved. Twelve key activities re identified to support profile-building initiatives during this financial year.
2.	Implement an effective Communication Policy to improve public understanding of the issues related to nuclear and radiation safety.	Update and implement the current Communication Policy.	% Policy completed and approved.	100% By June 2008.	Not achieved.	60% Achieved. Update of Communication Policy completed. Implementation of Communication Policy has started in the 4th Quarter of the 2008/09 financial year and will be expedited in the next financial year.
3.	Enhance the efficacy and frequency of face-to-face stakeholder engagement processes.	Implement a stakeholder engagement plan.	Stakeholder engagement plan implemented.	100% Achievement of milestones planned for each financial year (2008/09/10/11).	Not achieved.	25% Achieved. A revised activity plan for stakeholder engagement was compiled and approved. Four key activities have been identified to support stakeholder engagement initiatives during this financial year.

Stakeholder Management Scorecard (continued)

	Strategic Objective: (b)	Build Stakeholder Confidence in South Africa's Nuclear Regulatory System				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
						Presentations at Public Safety Information Forums completed in 3rd Quarter of 2008/09. A Public Participation Strategy is currently being developed.
4.	Provide accurate and timely information on the safety performance of authorisation holders to stakeholders.	Collect necessary and accurate information regarding the safety performance of authorisation holders.	Reports factually correct.	100% Achievement of milestones planned for each financial year (2008/09/10/11).	Not achieved.	Report on safety performance of authorisation holders is provided in each quarterly report, but need to be made available to outside stakeholders in specific reports, for example on the NNR Website. This is presently being addressed by the newly appointed Stakeholder Manager.
		Prepare and submit reports in a timely fashion.	Reports submitted on time.	100% Achievement of milestones planned for each financial year (2008/09/10/11).	Not achieved.	
5.	Address the public need for information, and pressure for greater stakeholder involvement in decision-making.	Review the public participation process document. Implement the public participation process.	Approved public participation process. Public participation process implemented.	Process approved by April 2008. 100% Achievement of milestones planned for each financial year (2008/09/10/11).	Not achieved.	A public participation process is being revised by the newly appointed Stakeholder Manager.

Stakeholder Management Scorecard (continued)

	Strategic Objective: (b)	Build Stakeholder Confidence in South Africa's Nuclear Regulatory system				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
6.	Implement programmes to promote regional collaboration in support of NEPAD and the African initiatives of the IAEA.	Develop and implement a plan to facilitate NNR initiatives in support of NEPAD.	Plan developed.	December 2008.	Not achieved.	25 % Completed.
			Plan implemented.	100% Achievement of milestones planned for each financial year (2009/2010/2011).	Not achieved.	A plan is being developed by the newly appointed Stakeholder Manager.
		Establish an African Regulators Forum.	Forum established.	March 2009.	Achieved.	Forum successfully launched in South Africa on 26 March 2009.
		Actively participate in the African initiatives of the IAEA, e.g. AFRA, RASIA missions, etc.	Participation in response to IAEA requests.	100% Compliance with IAEA request for each financial year (2009/2010/2011).	Achieved.	IAEA - Waste Safety Section NNR was requested to consult to Botswana.
7	Participate in activities related to harmonisation of international standards and practices, in order to bring about regulatory effectiveness.	Compile and implement a plan for participation in activities related to forums such as the IAEA Safety Standards Committees, the Multinational Design Evaluation Programme (MDEP), bilateral meetings with other regulators, etc.	Plan compiled.	April 2008.	Achieved.	Annual list of international visits was compiled and implemented.

Stakeholder Management Scorecard (continued)

	Strategic Objective: (b)	Build Stakeholder Confidence in South Africa's Nuclear Regulatory System				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
8.	Fulfil international obligations on behalf of the country with respect to international conventions and instruments on nuclear safety matters.	Compilation of National Reports to the IAEA Conventions.	Report for the Convention on Nuclear Safety presented at the 4th Review Meeting.	April 2008.	Achieved.	
			Report for the Joint Convention on the Management of Radioactive Waste and Spent Fuel.	October 2008.	Achieved.	

Internal Business Processes Scorecard

	Strategy Objective: (c)	Improve and Strengthen Internal Business Processes, Aligned to Best Practices and Responsive to Environmental Dynamics				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
1.	Develop and implement an integrated management system to ensure organisational excellence in internal business processes.	Develop and implement an integrated and accredited management system, covering safety, quality, corporate governance, etc. Business requirements identified. Systems selected. Implementation initiated.	% Of management system implementation milestones met.	75% By March 2009. 100% By March 2010.	Achieved. Not applicable to this reporting period.	Development of business processes (mapping) completed as per Project Plan. Training on mandatory procedures completed as planned.
		Implement the NNR's ICT Strategy, including developing and implementing an effective Electronic Document Management System (EDMS) and a Library Management System.	% Of ICT Strategy implementation milestones met (22).	50% (11) By March 2008. 75% By March 2009.	Not achieved. Not achieved.	The strategic objectives were not met due to the reallocation of funds to other areas, as well as the absence of a Supply Chain Management Policy. 22 Milestones were identified in the ICT Strategy. As at the end of March 2009, only six of these have been achieved, representing 27%.

Internal Business Processes Scorecard (continued)

	Strategy Objective: (c)	Improve and Strengthen Internal Business Processes, Aligned to Best Practices and Responsive to Environmental Dynamics				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
2.	Ensure sound corporate governance and financial administration.	Implementation of an effective system of internal control (financial).	% Compliance with financial targets. Budget vs Actual less than 5% variance.	100% Annually.	Achieved.	
		Implement sound corporate governance.	% Compliance with PFMA requirements. % Compliance with King II.	100% Compliance annually. 100% Compliance by 2010.	Achieved. Achieved.	
3.	Develop and implement a knowledge management system, including retention of corporate memory.	Implement a know-ledge-based system organisation-wide. Key processes and technical detail documented.	Process maps for key activities. Technical manuals compiled.	50% By March 2009. 75% By March 2010. 100% By March 2011.	Achieved. Not applicable to this reporting period. Not applicable to this reporting period.	Workshops conducted. More than 50% of processes mapped as planned. Remaining processes scheduled for completion by July 2009 (ahead of schedule).
4.	Develop and implement strategic alignment processes to assess and ensure effectiveness and efficiency of delivery against NNR mandate.	Develop strategic map, outlining strategic objectives, in line with the NNR mandate. Translate strategic objectives into measurable goals and targets. Ensure operational plans, performance management systems and budget are aligned to the Strategic Plans.	Planned milestones achieved per year.	April 2008. June 2008. September 2008.	Achieved. Achieved. Achieved.	

Internal Business Processes Scorecard (continued)

	Strategy Objective: (c)	Improve and Strengthen Internal Business Processes, Aligned to Best Practices and Responsive to Environmental Dynamics				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
5.	Develop and implement strategic alignment processes to assess and ensure effectiveness and efficiency of delivery against NNR mandate.	Develop strategic map, outlining strategic objectives, in line with the NNR mandate. Translate strategic objectives into measurable goals and targets. Ensure operational plans, performance management systems and budget are aligned to the Strategic Plans.	Planned milestones achieved per year.	April 2008. June 2008. September 2008.	Achieved. Achieved. Achieved.	

Human Resources Scorecard

	Strategy Objective: (d)	Attract, Develop and Retain Staff				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
1.	Use of an innovative Human Resources Management Strategy to achieve a high quality, diverse work-force with the skills needed to achieve the NNR's vision.	Develop and implement a Pipeline Management Strategy to address skills gaps.	% Of Pipeline Management Strategy milestones met.	100% Achievement of milestones planned for each financial year. (2009/2010/2011)	Achieved.	A Pipeline Management Strategy (Talent Management Strategy) was developed and rolled out to the rest of the employees in the organisation.
			Pipeline Management Strategy implemented.	100% Achievement of milestones planned for each financial year. (2009/2010/2011)	Achieved.	The final phase implementation of the pipeline management strategy was done through training employees on the pipeline management strategy and the Talent Management Forum where employees performance and potential to perform at a higher level were evaluated and action plans for development were put in place.
		Develop and implement a robust retention strategy, which includes succession planning.	Succession plans in place for critical positions and Exco Members to be completed.	April 2008.	Achieved.	

Human Resources Scorecard (continued)

	Strategy Objective: (d)	Attract, Develop and Retain Staff				
	Strategic Goals	Initiatives	Measures	Targets	Status	Comments
		Improve existing management capacity.	360° Assessment for Management and Exco Members completed.	June 2008.	Achieved.	Critical positions werer identified. Succesors fro critical positions were identified. Mentors were identified for employees. 360° assessment was conducted for all managers and senior managers, aimed at enhancing leadership capabilities. Common trends were identified and leadership development plans developed. These included quick wins and medium- term plans to improve on the negative aspects highlighted by employees. Although this deliverable was due by end April 2009, it was achieved ahead of schedule by March 2009.
		Research, develop and implement a dual career-path programme (Managerial and Technical).	Feasibility study completed.	April 2009.	Achieved.	Feasibility study completed and aligned to the Talent Management Strategy.
			Detailed programme developed.	September 2009.	Not applicable to this reporting period.	Detailed programme will be developed by September 2009.
			Dual career-paths implemented.	December 2009.	Not applicable to this reporting period.	
2.	Reduce NNR reliance on external technical support by building capacity within the organisation.	Develop and implement a comprehensive capacity-building plan to strengthen in-house technical capacity as part of employee Personal Development Plans (PDPs).	Update PDPs annually, based on actions from capacity-building plan.	100% Achievement of actions from capacity-building plan, planned for each financial year.	Achieved.	The implementation of training and capacity-building is a continuous process. During the 2008/09 Financial Year, the capacity-building strategy was developed, a skills audit was conducted in all Departments and 80 % of PDPs related to the most critical areas of the organisation were updated.
3.	Realignment of policies, procedures and practices to take the transformation imperative forward.	Review organisational policies and procedures in line with legislative requirements.	% Completion of review.	100% By June 2008.	Achieved.	Policies reviewed and aligned with legislation. The consultation process with internal stakeholders to be finalised in April 2009. The process of Board approval has been initiated.



Financial Reports

Report of the Auditor-General to Parliament on the Financial Statements and Performance Information of the National Nuclear Regulator for the Year Ended 31 March 2009

Report on the Financial Statements

Introduction

1. I have audited the accompanying financial statements of the National Nuclear Regulator which comprise the statement of financial position as at 31 March 2009, the statement of financial performance, the statement of changes in net assets and the cash flow statement for the year then ended, a summary of significant accounting policies and other explanatory notes, as set out on pages 91 to 119.

The 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 the basis of accounting determined by the National Treasury, as set out in accounting policy note 1 and in the manner required by the Public Finance Management Act (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.

The Auditor-General's Responsibility

3. As required by section 188 of the Constitution of the Republic of South Africa, 1996 read with section 4 of the Public Audit Act, 2004 (Act No. 25 of 2004) (FAA), my responsibility is to express an opinion on these financial statements based on my audit.
4. I conducted my audit in accordance with the International Standards on Auditing read with General Notice 616 of 2008, issued in Government Gazette No. 31057 of 15 May 2008. Those standards require that 1 comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.
5. 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.
6. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

7. In my opinion the financial statements present fairly, in all material respects, the financial position of the National Nuclear Regulator as at 31 March 2009 and its financial performance and cash flows for the year then ended, in accordance with the basis of accounting determined by the National Treasury, as set out in accounting policy note 1 and in the manner required by the PFMA.

Emphasis of Matter

Without qualifying my opinion, I draw attention to the following matters:

Basis of Accounting

8. The National Nuclear Regulator's policy is to prepare financial statements on the basis of accounting determined by National Treasury, as set out in accounting policy note 1.

Irregular Expenditure

9. As disclosed in note 21 to the financial statements, irregular expenditure to the amount of R1.9 million was incurred.

Other Matters

Without qualifying my opinion, I draw attention to the following matters that relate to my responsibilities in the audit of the financial statements:

Non-Compliance with Applicable Legislation

10. Surplus funds were not invested with the Corporation for Public Deposits as required by Treasury Regulation 31.3.3.

Governance Framework

11. The governance principles that impact the auditor's opinion on the financial statements are related to the responsibilities and practices exercised by the accounting authority and executive management and are reflected in the key governance responsibilities addressed below:

Key Governance Responsibilities

12. The PFMA tasks the accounting authority with a number of responsibilities concerning financial and risk management and internal control. Fundamental to achieving this is the implementation of certain key governance responsibilities, which I have assessed as follows:

No.	Matter	Y	N
Clear trail of supporting documentation that is easily available and provided in a timely manner			
1.	No significant difficulties were experienced during the audit concerning delays or the availability of requested information.	✓	
Quality of financial statements and related management information			
2.	The financial statements were not subject to any material amendments resulting from the audit.	✓	
3.	The annual report was submitted for consideration prior to the tabling of the auditor's report.	✓	
Timeliness of financial statements and management information			
4.	The annual financial statements were submitted for auditing as per the legislated deadlines as set out in section 55 of the PFMA.	✓	

Availability of key officials during audit			
5.	Key officials were available throughout the audit process.	✓	
Development and compliance with risk management, effective internal control and governance practices			
6.	Audit committee		
	• The entity had an audit committee in operation throughout the financial year.	✓	
	• The audit committee operates in accordance with approved, written terms of reference.	✓	
	• The audit committee substantially fulfilled its responsibilities for the year, as set out in section 77 of the PFMA and Treasury Regulation 27.1.8.	✓	
7.	Internal audit		
	• The entity had an internal audit function in operation throughout the financial year.	✓	
	• The internal audit function operates in terms of an approved internal audit plan.	✓	
	• The internal audit function substantially fulfilled its responsibilities for the year, as set out in Treasury Regulation 27.2.	✓	
8.	There are no significant deficiencies in the design and implementation of internal control in respect of financial and risk management.	✓	
9.	There are no significant deficiencies in the design and implementation of internal control in respect of compliance with applicable laws and regulations.	✓	
10.	The information systems were appropriate to facilitate the preparation of the financial statements.	✓	
11.	A risk assessment was conducted on a regular basis and a risk management strategy, which includes a fraud prevention plan, is documented and used as set out in Treasury Regulation 272.	✓	
12.	Powers and duties have been assigned, as set out in section 56 of the PFMA.	✓	
Follow-up of audit findings			
13.	The prior year audit findings have been substantially addressed.	✓	
Issues relating to the reporting of performance information			
15.	The information systems were appropriate to facilitate the preparation of a performance report that is accurate and complete.	✓	
16.	Adequate control processes and procedures are designed and implemented to ensure the accuracy and completeness of reported performance information.		✓
17.	A strategic plan was prepared and approved for the financial year under review for purposes of monitoring the performance in relation to the budget and delivery by the National Nuclear Regulator against its mandate, predetermined objectives, outputs, indicators and targets as set out in Treasury Regulation 29.1.	✓	
18.	There is a functioning performance management system and performance bonuses are only paid after proper assessment and approval by those charged with governance.	✓	

13. There was satisfactory improvement in the financial management and internal control environment, however weaknesses were identified in the internal audit function and processes and procedures implemented to ensure accurate and complete performance information. At the conclusion of the audit, these issues were currently being addressed and should have a positive impact in the 2009/10 financial year.

Report on Other Legal and Regulatory Requirements

Report on Performance Information

14. I have reviewed the performance information as set out on page 64 - 78.

The Accounting Authority's Responsibility for the Performance Information

15. The accounting authority has additional responsibilities as required by section 55(2)(a) of the PFMA to ensure that the annual report and audited financial statements fairly present the performance against predetermined objectives of the public entity.

The Auditor-General's Responsibility

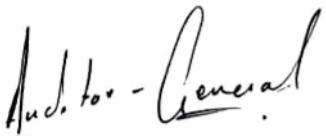
16. I conducted my engagement in accordance with section 13 of the PAA read with *General Notice 616 of 2008*, issued in *Government Gazette No. 31057* of 15 May 2008.
17. In terms of the foregoing my engagement included performing procedures of an audit nature to obtain sufficient appropriate evidence about the performance information and related systems, processes and procedures. The procedures selected depend on the auditor's judgement.
18. I believe that the evidence I have obtained is sufficient and appropriate to provide a basis for the findings reported below.

Lack of Effective, Efficient and Transparent Systems and Internal Controls Regarding Performance Management

19. The accounting authority did not sure that the National Nuclear Regulator has and maintains an effective, efficient and transparent system and internal controls regarding performance management, which describe and represent how the entity's processes of performance planning, monitoring, measurement, review and reporting will be conducted, organised and managed, as required in terms of section 51(1)(a)(i) of the PFMA.

Appreciation

20. The assistance rendered by the staff of the National Nuclear Regulator during the audit is sincerely appreciated.



Pretoria

31 July 2009

AUDITOR-GENERAL
SOUTH AFRICA

Auditing to build public confidence

REPORT OF THE AUDIT AND RISK MANAGEMENT COMMITTEE

It is with pleasure that we present this report for the financial year ended 31 March 2009.

Audit and Risk Committee Members and Attendance

The Audit and Risk Committee comprises the members listed on page 17 of the Annual Report, and is required to meet three times per annum, as per its approved Terms of Reference. During the period under review, the Committee met four times. The committee members' meeting attendance is disclosed on page 17 of the Annual Report.

Responsibilities of the Audit and Risk 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 the Charter. The Charter had been approved by the Board of Directors.

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

Effectiveness of Internal Control

The system of intern control, applied by the NNR in terms of Financial and Risk Management, proved to be effective, efficient and transparent.

In line with the PFMA and the King II Report on Corporate Governance requirements, Internal Audit provided the Audit 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 the controls and processes. From information gathered from reports received from the Internal Auditors, from the Audit Report on the Annual Financial Statements, and from the Management Report of the Auditor-General of South Africa, it was noted that no matters had been reported, indicating any material deficiencies in the system of internal control, and no major deviations either. 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.

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 Officer.
- Reviewed the Auditor-General of South Africa's Management Report, as well as Management's response towards the Report.
- Reviewed changes in accounting policies and practices.
- Reviewed significant 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 annual financial statements should be accepted, read together with the Report of the Auditor-General of South Africa.

Internal Audit

During the period under review, the internal audit function was outsourced. The Committee confirmed the company's programme of work and reviewed its reports. During the period under review, the head of the internal audit activity was recruited, and had direct access to both the Chairperson of the Audit and Risk Management Committee, and the

Chairperson of the Board of Directors. The Committee is satisfied with the progress made in the affairs of the internal audit activity, in assisting to address the risks pertinent to the NNR.

Risk Management Arrangements

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

- The results of the risk management workshops;
- Management strategies and initiatives in managing the risks facing the NNR;
- Period and year-end reports on the status of risk management within the NNR;
- The report from the Chief Financial Officer in terms of business risks, and his positive assurance with regard to operating controls and corporate policies, as well as a quarterly review of business risks and safeguards; and
- The review of the fraud prevention plan and other anti-fraud measures.

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.

Other Matters

The organisation's Code of Conduct was reviewed, updated and implemented during the period under review. This Code provides guidance to individuals on how to behave and conduct themselves in an ethical manner in the performance of the NNR's activities.

Assessment of the Audit and Risk Management Committee

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



Mr TM Mofokeng
Chairperson: Audit and Risk Management Committee
31 July 2009

STATEMENT OF RESPONSIBILITY

The directors are responsible for the preparation of the Annual Financial Statements of the entity. The directors are also responsible for maintaining a sound system of internal control to safeguard the assets of the entity.

The external auditors are responsible for independently auditing and reporting on the financial statements. The Office of the Auditor-General has audited the NNR's financial statements and the Auditor-General's report is included on Page 80.

The Annual Financial Statements have been prepared in accordance with South African Statements of Generally Accepted Accounting Practice including any interpretations of such Statements issued by the Accounting Practices Board, with the prescribed Standards of Generally Recognised Accounting Practices (GRAP) issued by the Accounting Standards Board replacing the equivalent GAAP Statement. These Annual Financial Statements are based on appropriate accounting policies, supported by reasonable and prudent judgements and estimates.

In order for the directors to discharge their responsibilities, management continues to develop and maintain a system of internal control aimed at reducing the risk of error or loss in a cost-effective manner.

The internal controls include a risk-based system of internal auditing and administrative controls designed to provide reasonable but not absolute assurance that assets are safeguarded and that transactions are executed and recorded in accordance with generally accepted practices and the entity's policies and procedures.

The directors, primarily through the Audit and Risk Management Committee, which consists of non-executive directors, meet periodically with the external and internal auditors, as well as executive management to evaluate matters concerning accounting policies, internal controls, auditing and financial reporting.

Nothing has come to the attention of the directors to indicate that any material breakdown in the functioning of these controls procedures and systems has occurred during the year under review.

The directors are satisfied that the entity has adequate resources to continue in operational existence for the foreseeable future. Accordingly, NNR continues to adopt the going concern basis in preparing the Annual Financial Statements.

Against this background, the directors of the entity accept responsibility for the Annual Financial Statements, which were approved by the Board of Directors on July 28, 2009 and are signed on their behalf by:



Prof. MA Hermanus
Chairperson



Mr. GA Clapisson
Acting Chief Executive Officer

Centurion
July 28, 2009

DIRECTORS' REPORT

1. Introduction

The directors have pleasure in submitting the Annual Financial Statements of the entity for the year ended March 31, 2009.

The National Nuclear Regulator is listed as a national public entity in Schedule 3 Part A of the Public Finance Management Act (Act 1. of 1999, as amended). It was established in terms of Section 3 of the National Nuclear Regulator Act (Act No 47 of 1999) 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 Board of Directors is the accounting authority in terms of the Public Finance Management Act.

Nature of Business

The NNR carries out effective regulatory control by developing and implementing regulatory standards and practices that are comparable to internationally accepted standards and practices. Quantitative and qualitative assessment techniques and safety assurance programmes are applied in an efficient and cost-effective manner.

In the course of implementing its mandate, the NNR maintained focus on its transformation objectives, which are captured in the NNR Strategic Plan. In this regard, the Report on Performance against Objectives following reflects NNR performance relating to core business, alignment of internal processes to strategy, improvement of stakeholder relations, as well as training and capacity development, employment equity, and preferential procurement.

Review of Operations

The total income for the NNR was R85.8 million (2008: R71.3 million) including the Government Grant of R20.3 million (2008: R18.0 million) and the operating costs amounted to R 93.8 million (2008: R72.4 million). This resulted in operating deficit of R8.0 million (2008: R1.1 million).

Events Subsequent to Reporting Date

The Executive Authority to which the NNR is accountable for has changed after 31 March 2009 from the Minister of Minerals and Energy to the Minister of Energy. This is not expected to change the normal operations of the entity.

Materiality and Significance Framework

For purposes of materiality [as per PFMA sections 50(1) and 55(2)] and significance [as per PFMA section 54(2)] the following framework of acceptable levels was agreed with the Executive Authority in consultation with the Auditor General:

- Section 50(1) – Material facts to be disclosed to the Executive Authority are considered to be facts that may influence the decisions or actions of the Stakeholders of the Public Entity.

- Section 55(2) – Disclosure of material losses in the Annual Financial Statements will be for all losses through criminal conduct and any irregular expenditure and fruitless and wasteful expenditure that occurred during the year.

- Section 54(2) – The criteria to determine the level of significance was based upon the guiding principles as set out in the "Practice Note on applications under Section 54 of the PFMA no 1 of 1999 (as amended) by Public Entities" as published by National Treasury during 2006 subject to adjustments for any Section 54(4) exemptions.

Stakeholder Relations

A great deal of interaction, as part of the NNR's outreach initiatives, was carried out during the current reporting year through meetings and forums. The NNR maintained good relations with stakeholders, including the regulated industry (Minerals, Energy and Allied Industries Forum on Radiation), and policy/decision makers (the Parliamentary Portfolio Committee on Minerals and Energy, the Department of Minerals and Energy, Department of Water Affairs and Forestry, Department of Environmental Affairs and Tourism, and the Department of Health. Cooperative agreements were concluded with the afore-mentioned government departments as required by the NNR Act, No 47 of 1999. The NNR further interacted with Civil Society and Organised Labour, and maintained relations with other strategic cooperatives such as the media, Non-governmental Organisations (NGOs), international organisations, nuclear regulatory authorities in other countries, and the general public.

Shareholder Relations

The NNR reported to and held discussions with the Executive Authority on significant events, including interaction with the DME with regard to the publication of regulations in terms of the National Nuclear Regulator Act, such as regulations on the keeping of records of all persons in a nuclear accident area, prescribed content of the NNR Annual Report, and improvements required on the enforcement regime.

Social Responsibility and Capacity-Building

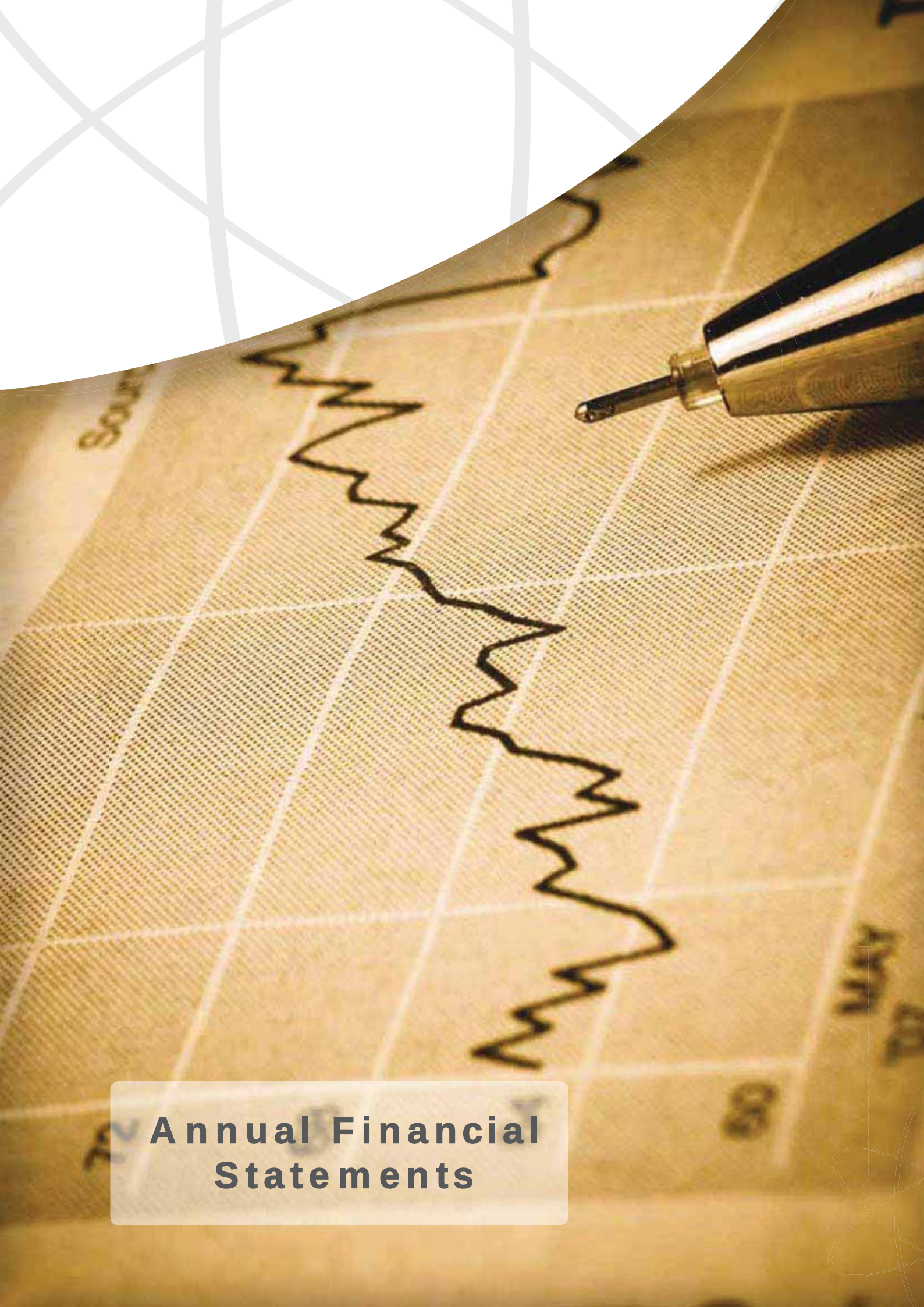
For some time, the NNR has been involved in various national capacity building initiatives. These continued during the reporting period, and included participation in ARECSA, the MARST programme at the University of North West and participation in the post-graduate course in radiation protection at the University of the Witwatersrand. NNR staff provided lectures and training materials in support of the course and also made available a number of young recruits to gain valuable exposure.

The NNR actively participated in the Department of Minerals and Energy's joint initiative on Learners Focus Week in Energy, with other associated organisations within the DME. The objective of the initiative was to promote and stimulate awareness of and interest in mathematics, science and engineering career opportunities related to energy. The NNR also provided financial support to the South African Young Nuclear Professionals Society.

In addition the NNR continues to place great value on experiential learning for young graduates in nuclear related fields. Specifically, the NNR continued to provide internship opportunities to deserving graduates.



Mr. GA. Clapisson
Acting Chief Executive Officer



Annual Financial Statements

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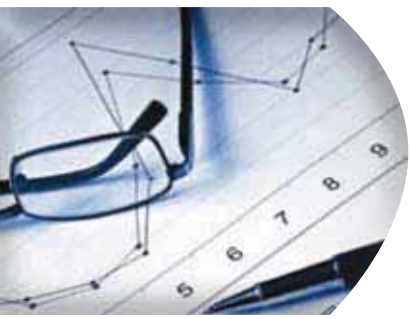
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Statement of Financial Performance

for the year ended at 31 March 2009

	Notes	2009 R	2008 R
Operating income	9	**85,803,993**	71,276,259
Operating expenses	10	**93,802,960**	(72,342,525)
Operating deficit		**(7,998,967)**	(1,066,266)
Finance income	11	**8,717,316**	6,644,578
Finance charge	12	**(274,341)**	(158,058)
Net surplus for the year		**444,008**	5,420,254

Statement of Financial Position

for the year ended at 31 March 2009

ASSETS	Notes	2009 R	2008 R
Non-current assets		**5,503,983**	5,164,008
Property, plant and equipment	2	**4,961,884**	4,284,781
Intangible assets	3	**542,099**	879,227
Current assets		**82,146,932**	82,714,353
Trade and other receivables	4	**6,037,729**	7,076,146
Cash and cash equivalents	5	**76,109,203**	75,638,207
		87,650,915	87,878,361
EQUITY AND LIABILITIES			
Reserves			
Accumulated surplus		**29,827,290**	29,383,273
Non-current liabilities		**30,322,297**	29,128,148
Finance lease liability	14	**424,643**	628,281
Retirement medical benefits	6	**29,897,654**	28,499,867
Current liabilities		**27,501,328**	29,366,940
Finance lease liability	14	**209,614**	310,213
Trade and other payables	7	**5,256,596**	6,405,581
Provisions	8	**4,035,118**	4,651,146
Deferred income	19	**18,000,000**	18,000,000
		87,650,915	87,878,361

Statement of Change in Net Assets

for the year ended at 31 March 2009

	Accumulated surplus R	Total R
Balance at 31 March 2007	23,986,219	23,986,219
Prior year adjustment	(23,191)	(23,191)
	23,963,028	23,963,028
Surplus for the period as previous reported	5,420,254	5,420,254
Surplus for the period as previous reported	5,313,569	5,313,569
Prior year adjustment	106,685	106,685
Balance at 31 March 2008 as restated	29,383,282	29,383,282
Surplus for the period	444,008	444,008
Balance at 31 March 2009	29,827,290	29,827,290

Cash Flow Statement

for the year ended at 31 March 2009

	Notes	2009 R	2008 R
Cash flow from operating activities		**3,055,293**	13,345,434
Cash receipts from authorisation holders and applicants		**85,261,559**	72,054,639
Cash payments to suppliers and employees		**(90,721,257)**	(65,186,725)
Cash generated from operations	17	**(5,459,698)**	6,858,914
Interest paid		**(122,054)**	(158,058)
Interest received		**8,637,045**	6,644,578
Cash flow from investing activities		**(2,280,060)**	(3,478,446)
Acquisition of property, plant and equipment		**(2,115,743)**	(2,508,199)
Acquisition of intangible assets		**(164,317)**	(970,247)
Cash flow from financing activities			
Finance lease		**(304,237)**	(171,431)
Net increase in cash and cash equivalents		**470,996**	9,695,557
Cash and cash equivalents at the beginning of the year		**75,638,207**	65,942,650
Cash and cash equivalents at the end of the year	5	**76,109,203**	75,638,207

Notes to the Annual Financial Statements
for the year ended at 31 March 2009

1. Significant Accounting Policy

The Annual Financial Statements have been prepared in accordance with South African Statements of Generally Accepted Accounting Practice (GAAP) including any interpretations of such Statements issued by the Accounting Practices Board, with the prescribed Standards of Generally Recognised Accounting Practices (GRAP) issued by the Accounting Standards Board replacing the equivalent GAAP Statement as follows:

Standard of GRAP	Replaced Statement of GAAP
GRAP1: Presentation of Financial Statements	AC101: Presentation of Financial Statement
GRAP2: Cash Flow Statements	AC118: Cash Flow Statements
GRAP3: Accounting Policies, Changes in Accounting Estimates and Errors	AC103: Accounting Policies, Changes in Accounting Estimates and Errors

The recognition and measurement principles in the above GRAP and GAAP statements do not differ or result in material differences in items presented and disclosed in the financial statements. The implementation of GRAP1,2 and 3 has resulted in the following significant changes in the presentation of the financial statements:

Terminology	
Standard of GRAP	**Replaced Statement of GAAP**
Statement of Financial Performance	Income Statement
Statement of Financial Position	Balance Sheet
Statement of Changes in Net Assets	Statement of Changes in Equity
Net Assets	Equity
Surplus/Deficit for the Period	Profit/Loss for the Period
Accumulated Surplus/Deficit	Retained Earnings
Contribution from Owners	Share Capital
Distribution to Owners	Dividends
Reporting Date	Balance Sheet Date

Specific information, such as that documented directly below, must be presented separately in the Statement of Financial Position:

a) Receivables from non-exchange transactions, including taxes and transfers;
b) Taxes and transfers payable; and
c) Trade and other payables from non-exchange transactions.

The amount and nature of any restrictions on cash balances is required to be disclosed. Paragraph 11-15 of GRAP1 has not been implemented as the budget reporting standard is in the process of being developed by the international and local standard authorities. Although the inclusion of budget information would enhance the usefulness of the financial statements, non-disclosure will not affect fair presentation.

Details of the entity's significant accounting policies are set out below, and are consistent with those applied in the previous financial year.

1.1 Basis of Preparation

The financial statements have been prepared on the historical cost basis.

1.2 Going Concern Assumption

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

1.3 Accounting Pronouncements

The entity has not early adopted the following standards that have been issued and are not yet effective for 3A public entities :

GRAP 4: The effects of change in foreign exchange rates
GRAP 5: Borrowing cost
GRAP 6 Consolidated and separate financial statements
GRAP 7: Investment in associate
GRAP 8: Interest in joint ventures
GRAP 9: Revenue from exchange transaction
GRAP 10: Financial reporting in Hyperinflationary economies
GRAP 11: Construction Contracts
GRAP12: Inventories
GRAP 13: Leases
GRAP14: Events after the reporting date
GRAP16: Investment property
GRAP17: Property, plant and equipment
GRAP19: Provisions, contingent liabilities and contingent assets
GRAP 100: Non-current assets held for sale and discontinued operations
GRAP 102: Intangible assets

1.4 Significant Accounting Judgements and Estimates

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

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

1.5 Revenue Recognition

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

1.6 Government Grants

Government grants are recognised initially when there is reasonable assurance that they will be received and that the entity will comply with the conditions associated with the grant. On receipt of a grant, it is classified as Unutilised Government Grants and recognised as deferred income. On utilisation of portions of the grant, the portions are recognised in accordance with the policies below:

Government Grant Related to the Operational Costs
The portion of the grant that compensates the entity for operational expenses incurred to oversee the entity initiatives is recognised as operating income in the Statement of Financial Performance in the same period in which the entity qualifies to receive it.

Government Grants Related to Assets
The portion of the grant that compensates the entity for the cost of an asset is recognised in the Statement of Financial Performance as operating income on a systematic basis over the useful life of the asset.

1.7 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.

1.8 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.

1.9 Interest Received

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

1.10 Property, Plant and Equipment

Property, plant and equipment are initially recognised at cost and are carried at cost less accumulated depreciation and accumulated impairment losses. An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected from its use. Gains and losses arising on derecognition of the asset are included in the statement of financial performance in the year it is derecognised.

1.10 Property, Plant and Equipment (continued)

The useful lives of the assets are based on management's estimation. Management considers the impact of changes in technology, service requirements and availability of capital funding to determine the optimum useful life expectation for each of the individual categories of property, plant and equipment. Due to the rapid technological advancement in the scientific, research and information technology industry the estimation of useful lives could differ significantly on an annual basis. The impact of the change in the expected useful life of property, plant and equipment is described more fully in Note 10.3. The estimation of residual values of assets is also based on management's judgement whether the assets will be sold or used to the end of their useful lives and what their condition will be like at that time.

The assets are depreciated on a straight line basis as follows:

	Years
Freehold land	Not depreciated
Building	20
Furniture	10 -15
Office equipment	5-7
Computer equipment	3-5
Scientific and Technical equipment	5
Capitalised leased asset	5

1.11 Intangible Assets

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

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

Computer Software
Acquired computer software licences are capitalised on the basis of the costs incurred to acquire and bring to use the specific software. The cost of minor software and licences are recognised in the Statement of Financial Performance as an expense when incurred.

Subsequent Expenditure
Subsequent expenditure on capitalised intangible assets is capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure is recognised in the Statement of Financial Performance as an expense when incurred.

Amortisation
Amortisation is charged to the Statement of Financial Performance on a straight-line basis over the estimated useful lives of intangible assets unless, the estimated useful lives are as follows:

	Years
Computer Software	3

1.12 Impairment

At each reporting date management assesses whether there are indicators of impairment. If such evidence exists, the estimated present value of the future cash flow of that asset is determined.

Management is required to make judgement concerning the cause, timing and amounts of impairment. In the identification of impairment indicators, management considers the availability of funding, technological obsolescence, discontinuance of services and other circumstances that could indicate that impairment exists. This requires management to make significant judgements concerning the existence of impairment indicators, remaining useful lives of assets and fair value less costs to sell and value in use. Management judgement is also required when assessing whether a previously recognised impairment loss should be reversed.

Where impairment indicators exist, the determination of the recoverable amount of cash generating unit requires management to make assumptions to determine the fair value less costs to sell and value in use. In assessing the expected future cashflows, the assets are discounted to their present value using a discount rate that reflects the current market assessments of the time value of money and the risks specific to the asset. The judgements, assumptions and methodologies used can have a material impact on the fair value and ultimately the amount of any impairment.

1.13 Accounting for Leases

Finance leases are recognised as assets and liabilities at the lower of the fair value of the asset and the present value of the minimum lease payments at the date of acquisition. Finance costs represent the difference between the total leasing commitments and the fair value of the assets acquired. Finance costs are charged to profit or loss over the term of the lease at interest rates applicable to the lease on the remaining balance of the obligations.

Leases for assets under which all the risks and benefits of ownership are effectively retained by the lessor are classified as operating leases. Operating lease payments are recognised in profit or loss on a straight-line basis over the term of the relevant lease taking into account any fixed escalation clauses except where another systematic basis is more representative of the time pattern of the user's benefit.

1.14 Financial Instruments

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

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.

1.14 Financial Instruments (continued)

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

Cash and Cash Equivalent
Cash comprises cash on hand and demand deposits. Cash equivalents are short-term, highly liquid investments that are readily convertible to a known amount of cash and that are subject to insignificant risk of change in value.

Trade and Other Receivables
Trade and other receivables, are classified as receivables and are subsequently measured at amortised cost less provision for doubtful debts. Write-down of these assets is expensed in profit or loss.

Trade and Other Payables
All financial liabilities are measured at amortised cost, comprising original debt less principle payments and amortisation.

1.15 Employee Benefits

The NNR provides defined benefit plans for certain post-employment 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 actuarial valuation relies heavily on assumptions as disclosed in Note 6. The assumptions determined by management make use of information obtained from the entity's employment agreements with staff and pensioners, market related returns on similar investments, and market related discount rates and other available information. The assumptions concerning the expected return on asset and expected change in liabilities are determined on a uniform basis, considering long-term historical returns and future estimates of returns and medical inflation expectations. In the event that further changes in assumptions are required, the future amounts of post-retirement benefits may be affected materially.

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

Post-Employment Benefits
The NNR provides defined benefit and defined contribution plans for 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 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

1.15 Employee Benefits (continued)

result of an actuarial loss or past service cost in the current period and no loss is recognised solely as a result of an actuarial gain or past service cost in the current period. The entity recognises actuarial gains and losses for all its defined plans in the period in which they occur.

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

Short-Term Employee Benefits
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.

1.16 Provisions and Contingent Liability

Management judgement is required when recognising and measuring provisions and when measuring contingent liabilities as set out in Notes 8 and 14 respectively. The probability that an outflow of economic resources will be required to settle the obligation must be assessed and a reliable estimate must be made of the amount of the obligation.

The entity is required to recognise provisions for claims arising from litigation when the occurrence of the claim is probable and the amount of the loss can be reasonably estimated. Liabilities provided for legal matters require judgements regarding projected outcomes and ranges of losses based on historical experience and recommendations of legal counsel. Litigation is however unpredictable and actual costs incurred could differ materially from those estimated at the reporting date.

1.17 Comparatives

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

1.18 Events after Reporting Date

Recognised amounts in the Annual Financial Statements are adjusted to reflect events arising after the reporting date that provide evidence of conditions that existed at the reporting date. Events after the Statement of Financial Position that are indicative of conditions that arose after the reporting date are dealt with by way of a note.

1.19 Presentation Currency

All amounts have been presented in the currency of South African Rand which is the functional currency of the entity.

2. Property, Plant and Equipment

	2009			2008		
	Cost	**Accumulated Depreciation**	**Carrying Value**	Cost	Accumulated Depreciation	Carrying Value
	R	**R**	**R**	R	R	R
Property, Plant and Equipment						
Furniture	**1,406,885**	**542,153**	**864,732**	1,188,677	531,387	657,290
Office equipment	**1,133,746**	**809,077**	**324,669**	1,222,663	838,189	384,474
Computer equipment	**3,285,803**	**1,345,447**	**1,940,355**	6,317,494	4,162,108	2,155,386
Scientific and Technical equipment	**1,530,670**	**479,330**	**1,051,340**	2,528,891	2,434,158	94,733
Capitalised Leased Asset	**1,006,292**	**535,771**	**470,521**	1,006,292	334,349	671,943
Building	**213,750**	**117,233**	**96,517**	213,750	106,545	107,205
Freehold land	**213,750**	**-**	**213,750**	213,750	-	213,750
	8,790,896	**3,829,012**	**4,961,884**	12,691,517	8,406,736	4,284,781

Fully depreciated assets with a cost of R7,016,076 were derecognised in the 2009 financial year. This has reduced both the cost price and accumulated depreciation of property, plant and equipment.

The carrying amounts of property, plant and equipment can be reconciled as follows:

2009	**Carrying Value at the Beginning of the Year**	**Additions**	**Depreciation**	**Impairment Losses and Write-offs**	**Carrying Value at the End of the Year**
Furniture	**657,290**	**287,208**	**(79,417)**	**(349)**	**864,732**
Office equipment	**384,474**	**96,718**	**(109,023)**	**(47,500)**	**324,669**
Computer equipment	**2,155,386**	**528,393**	**(630,896)**	**(112,528)**	**1,940,355**
Scientific and Technical equipment	**94,733**	**1,203,424**	**(239,699)**	**(7,118)**	**1,051,340**
Capitalised Leased Asset	**671,943**	**-**	**(201,422)**	**-**	**470,521**
Building	**107,205**	**-**	**(10,688)**	**-**	**96,517**
Freehold land	**213,750**	**-**	**-**	**-**	**213,750**
	4,284,781	**2,115,743**	**(1,271,146)**	**(167,495)**	**4,961,884**

2. Property, Plant and Equipment (continued)

The carrying amounts of property, plant and equipment can be reconciled as follows:

2008	Carrying Value at the Beginning of the Year	Additions	Depreciation	Prior Year Adjustment	Carrying value at the End of the Year
Furniture	461,391	117,786	(83,686)	161,799	657,290
Office equipment	227,807	514,392	(166,334)	(191,391)	384,474
Computer equipment	501,358	1,876,021	(358,270)	136,277	2,155,386
Scientific and Technical equipment	142,563	-	(47,830)	-	94,733
Capitalised Leased Asset	873,365	-	(201,422)	-	671,943
Building	117,894	-	(10,689)	-	107,205
Freehold land	213,750	-	-	-	213,750
	2,538,127	2,508,199	(868,230)	106,685	4,284,781

The Freehold land and building consist of an office block situated on erf 3187 Melkbosch Strand in the Blaauberg Municipality, Cape Division, Western Cape.

The recoverable amount for certain items of property, plant and equipment assets was estimated, and an impairment loss of R119,973 was recognised in order to reduce the carrying amount of those assets to their recoverable amount. The impairment has been included in impairment and write-offs.

3. Intangible Asset

	2009			2008		
	Cost	**Accumulated Depreciation**	**Carrying Value**	Cost	Accumulated Depreciation	Carrying Value
	R	**R**	**R**	R	R	R
Computer Software	**1,946,175**	**(1,404,076)**	**542,099**	2,781,570	(1,902,343)	879,227

Fully amortised assets with a cost of R999,172 were derecognised in the 2009 financial year. This has reduced both the cost price and accumulated amortisation of intangible asset.

The carrying amounts of intangible assets can be reconciled as follows:

2009	**Carrying Value at the Beginning of the Year**	**Additions**	**Amortisation**	**Impairment Losses and Write-offs**	**Carrying Value at the End of the Year Value**
Computer Software	**879,227**	**164,317**	**(473,048)**	**(28,397)**	**542,099**

2008	Carrying Value at the Beginning of the Year	Additions	Amortisation	Impairment losses and write-offs	Carrying value at the end of the year value
Computer Software	350,774	970,247	(441,795)	-	879,227

4. Trade and Other Receivables

	2009 R	2008 R
Trade receivables	**5,205,470**	6,625,698
Less: Provision for doubtful debts	**(145,498)**	(641,481)
Less: Fair value adjustment	**(42,927)**	(80,271)
Net trade receivables	**5,107,045**	5,903,947
Other receivables	**1,020,684**	1,172, 201
	6,037,729	7,076,146

5. Cash and Cash Equivalent

	2009 R	2008 R
Bank balance	**39,910,391**	39,630,707
Call Account	**36,191,312**	36,000,000
Petty cash	**7,500**	7,500
	76,109,203	75,638,207

6. Employee Benefits

The NNR provides a benefit for all its permanent employees through the National Nuclear Regulator Retirement Fund, membership which is compulsory. The fund consists of both defined benefit and defined contribution funds. The fund is governed by the Pension Fund Act (Act no.24 of 1956).

In addition, certain retired employees receive medical aid benefits. The liabilities for all of the benefits are actuarially determined in accordance with accounting requirements each year. In addition, a statutory funding valuation for the retirement is performed at intervals not exceeding three years.

At March 31, 2009, the entity employed 91 employees (2008: 82).

Actuarial valuations were performed by qualified actuaries to determine the benefit obligation, plan asset and service costs for the pension and retirement funds for each of the financial periods presented.

The National Nuclear Regulator Retirement Fund

The latest actuarial valuation performed at March 31, 2009 indicates that the pension fund is in a surplus position of R1, 421,000, after unrecognised gains. The recognition of the surplus is limited due to the application of the asset limitation criteria in IAS19 (revised).

The last statutory funding valuation of the fund performed in March 2009, indicated that the fund is fully funded. The current contributions are based on that valuation.

As of 1 April 2009, the NNR Retirement Fund became a hybrid defined benefit and defined contribution plan. The existing employees were given the option to either remain in the defined benefit plan or be transferred to the defined contribution plan. Seventy-five members were transferred to the defined contribution plan. The defined plan was closed for all new employees. New members joining the fund after 1 April 2009 could only belong to the defined contribution plan. There are six members on the defined benefit plan.

6. Employee Benefits (continued)

The funded status of the National Nuclear Regulator Fund is disclosed below.

6.1 Defined Benefit Plan	2009 R	2008 R
The net periodic retirement costs include the following components:		
Service cost	**2,873,000**	5, 551,000
Interest costs	**4,434,000**	3,613,000
Expected return on plan asset	**(6,892,000)**	(9,425,000)
Recognised actuarial loss	**193,960**	-
Recognised actuarial loss on curtailment	**4,770,000**	-
Net periodic retirement costs	**5,288,960**	(261,000)
Retirement fund contribution (refer Note 10.1)		
Movement in liability		
Opening balance	**64,740,000**	46,920,000
Amounts recognised in income statement	**19,106,000**	20,374,000
Current service cost	**2,873,000**	5,551,000
Interest cost	**4,434,000**	3,613,000
Recognised actuarial loss on curtailment	**4,770,000**	-
Actuarial loss	**7,029,000**	11,210,000
Curtailment	**(36,671,000)**	-
Benefit paid	**(5,659,000)**	(2,554,000)
Closing balance	**41,516,000**	64,740,000
Plan asset at fair value:		
Opening balance		
Expected return on plan asset	**89,931,000**	76,699,000
Benefit paid	**6,892,000**	7,071,000
Curtailment	**(5,659,000)**	(2,554,000)
Contributions	**(36,671,000)**	-
Actuarial (loss)/gain	**2,991,000**	6,361,000
Closing balance	**(14,547,000)**	2,354,000
	42,937,000	89,931,000
Status of the Retirement Fund:		
Present value of funded obligation	**(41,516,000)**	(64,740,000)
Fair value of plan assets	**(42,937,000)**	(89,931,000)
Fund status	**1,421,000**	25,191,000
	(1,421,000)	25,191,000
Net liability	**-**	-
Net liability limited as per IAS19 paragraph 58		
Expected return on plan asset	**6,892,000**	7,071,000
Actuarial (loss)/gain on plan asset	**(14,547,000)**	2,354,000
Actual return on plan asset	**7,655,000**	9,425,000

Principal Actuarial Assumptions were as Follows:	2009 R	2008 R
Discount rate %	**8.90%**	9.30%
Expected return on plan assets %	**9.90%**	10.80%
General inflation rate	**5.90%**	6.80%
Salary inflation rate %	**6.80%**	7.80%
Pension increase %	**4.00%**	6.50%
Valuation rate of interest and expected return on investment were determined in reference to the current market yield of government bonds. The discount rate is based on the yield of R186 government bond.		
General inflation rate is based on the yield of R186 fixed interest government bond and the R197 index linked to government bond as at each valuation date.		
Funding Levels	**103.4%**	138.9%

6.2 Defined Contribution Plan

All new employees and existing employees that selected to be transferred to the defined contribution plan are members of the defined contribution plan. The plan is administered by ABSA Consultants and Actuaries (Proprietary) Limited. The current contributions to the retirement fund amounted to R4, 120,510 (2008: R0).

6.3 Post-Retirement Medical Benefits

The NNR makes certain contributions to medical funds in respect of current and retired employees. The expense in respect of current employees' medical aid is disclosed in Note 10.1. The NNR has terminated future post-retirement medical benefits in respect of employees joining after December 31, 1995.

The entity pays 100% of the membership subscriptions for staff members who had retired from the services of the NNR (the then Council of Nuclear Science) on or before July 30, 1990 and also for those staff members retiring from the services of the entity on or after July 1, 1990 who were in the continuous employment of the entity before July 1, 1990 to the date of retirement.

The NNR introduced a sliding scale for membership subscriptions for staff joining after July 1, 1990. Subsidy reduced stepwise from 100% each six months to a minimum of 60% for employees that joined the NNR after July 1, 1990 and before December 31, 1995.

Eligible employees must be employed by NNR until retirement age to qualify for the post-retirement medical aid benefit. The most recent actuarial valuation of the benefit was performed as at March 31, 2009.

The obligation is unfunded.

6. Employee Benefits (continued)

6.3 Movement in liability

Defined Benefit Plan	**2009 R**	2008 R
Opening balance	**28,499,867**	27,937,000
Amounts recognised in profit and loss	**1,397,787**	562,867
Current service cost	**431,039**	2,756,592
Interest cost	**2,613,907**	1,781,000
Actuarial loss/(gain)	**(374,144)**	(2,850,295)
Benefit paid	**(1,273,015)**	(1,124,430)
Closing balance	**29,897,654**	28,499,867
Present value of unfunded obligation	**29,897,654**	28,499,867
Principal actuarial assumptions were as follows:		
Discount rate %	**8.60%**	9.30%
Medical inflation rate %	**7.60%**	7.80%
Number of members in active employment	**20**	21
Number of pensioners	**33**	33
Average retirement age	**65**	65

No mortality rate has been used in respect of the period before retirement. In respect of the period after retirement, the published PA90 (ultimate) mortality tables for males and females respectively were used.

7. Trade and Other Payables

	2009 R	2008 R
Trade payables	**2,361,300**	5,270,807
Less: Fair value adjustment	**(32,179)**	(152,287)
Net trade payables	**2,329,121**	5,118,520
Other payables	**2,927,475**	1,287,061
	5,256,596	6,405,581

8. Provisions

	2009 R			2008 R		
	Annual Leave	**Bonus**	**Book Value**	Annual Leave	Bonus	Total
Opening balance	**3,177,513**	**1,473,633**	**4,651,146**	1,936,886	604,093	2,540,979
Charge to employee costs	**1,184,531**	**1,183,431**	**2,367,962**	1,519,457	869,540	2,388,997
Utilisation of provisions	**(1,029,493)**	**(1,954,497)**	**(2,983,990)**	(287,830)	-	(287,830)
	3,332,551	**702,567**	**4,035,118**	3,177,513	1,473,633	4,651,146

9. Operating Income

	2009 R	2008 R
Authorisation fees	**64,513,264**	52,663,136
Other income	**957,729**	584,123
	65,470,993	53,247,259
Government Grant	**20,333,000**	18,029,000
	85,803,993	71,276,259

10. Operating Expenses

	2009 R	2008 R
Operating expenses comprise:		
10.1 Employee Expenses		
Salaries and allowances	**58,240,963**	42,614,727
Post-retirement retirement fund: defined benefit	**2,991,000**	(6,499,000)
Current service costs	**2873,000**	5,551,000
Interest costs	**4,434,000**	3,613,000
Loss on curtailment	**4,770,000**	-
Actuarial loss	**21,576,000**	-
Expected return on plan asset	**(6,892,000)**	(9,425,000)
Reversal of prior-year unrecognised post-retirement benefit asset		
Unrecognised post-employment benefit asset	**(25,191,000)**	(31,429,000)
Contribution	**1,421,000**	25,191,000
Post-retirement retirement fund: defined contribution	**2,214,000**	6,355,664
Contribution		
Post-retirement medical benefit	**4,120,510**	-
Current service costs	**2,670,802**	1,687,297
Interest costs	**431,039**	2,756,592
Actuarial gain	**2,613,907**	1,781,000
Post-retirement medical benefit	**(374,144)**	(2,850,295)
	(1,273,015)	(1,218,133)
10.2 Service Fees		
Technical services	**6,376,104**	9,289,525
Administration services	**1,707,440**	980,832
Auditors' remunerations	**879,916**	1,028,688
External audit	**586,494**	599,642
Internal audit	**293,422**	459,046
	8,963,460	10,270,357
10.3 Depreciation, Amortisation, Write-Offs and Impairment		
Depreciation (refer Note 2)	**1,271,146**	868,230
Prior year adjustment on depreciation (refer Note 2)		106,685
Amortisation (refer Note 3)	**473,048**	441,795
Write-offs & impairment on property, plant and equipment(Note 2)	**167,495**	-
Write-offs & impairment on intangible asset (Note 3)	**28,397**	-
	1,940,086	1,416,710

In recognition of the changed usage patterns of certain items of property, plant and equipment the entity reviewed their remaining useful lives as at March 31. The assets affected were furniture, office equipment and computer equipment. The revised estimated useful lives of these assets as set out below resulted in a decrease of the current year depreciation charges of R999,792.

10.3 Depreciation, Amortisation, Write-Offs and Impairment (continued)

	2009 Revised Lives Years	2008 Previous Lives Years
Property, Plant and Equipment		
Furniture	**10-15**	10
Office equipment	**5-20**	5
Computer equipment	**3-20**	3

	2009 R	2008 R
10.4 Operating Leases		
Office building	**4,881,015**	4,120,641
Equipment	**681,005**	133,466
Vehicles	**57,289**	42,414
	5,619,309	4,296,521
10.5 Directors' Emoluments		
Non-executive directors - for services as directors	**539,138**	235,877
11. Finance Income		
Interest received	**8,637,045**	6,644,578
Fair value adjustment on financial instrument	**80,271**	-
	8,717,316	6,644,578
12. Finance Charges		
Interest on finance lease	**122,054**	158,058
Fair value adjustment on financial instrument	**152,287**	-
	274,341	158,058

13. Directors' Emoluments

2009	Fees	Bonus	Retirement Fund Contribution	Other Benefits	Total
Non-executive Directors					
Prof. MA Hermanus	**60,220**	-	-	-	**60,220**
Mr DP Elbrecht	**84,178**	-	-	-	**84,178**
Mr K Govender	**31,046**	-	-	-	**31,046**
The Rev. PJ Grové	**28,806**	-	-	-	**28,806**
Mr WN Lesufi	**60,166**	-	-	-	**60,166**
Ms TN Mgoduso	**78,230**	-	-	-	**78,230**
Adv. BM Mkhize	**73,606**	-	-	-	**73,606**
Mr BA Ramahlo	**66,886**	-	-	-	**66,886**
Prof. DG van der Merwe	**56,000**	-	-	-	**56,000**
	539,138	-	-	-	**539,138**
Independent Audit Committee Member					
Ms P Mzizi	**25,191**	-	-	-	**25,191**

2009	Salary	Bonus	Retirement Fund Contribution	Other Benefits	Total
Executive Director					
Mr MT Magugumela (CEO) #	**473,078**	-	-	-	**473,078**
Mr GA Clapisson (Acting CEO) ##	**496,410**	-	**69,720**	**16,243**	**582,373**
	969,488	-	**69,720**	**16,243**	**1,055,455**
Executive Management					
Mr GA Clapisson	**354,579**	**116,834**	**49,800**	**11,602**	**532,815**
Mr ME Khoahli *	**194,156**	**29,593**	**31,624**	**7,913**	**263,286**
Ms R Moloto ***	**446,410**	**4,833**	**37,500**	**10,819**	**499,999**
Ms LG Mashishi **	**661,301**	**20,334**	**49,707**	-	**731,342**
Mr CO Phillips	**768,398**	**116,606**	**89,029**	**33,038**	**1,007,071**
Dr T Hill (Acting)	**749,760**	**121,344**	**126,234**	**15,473**	**1,012,811**
Mr AE Muller (Acting)	**585,269**	**113,978**	**101,729**	**33,038**	**834,014**
	3,759,873	**523,522**	**485,623**	**111,883**	**4,881,338**

* Mr ME Khoali resigned at the end of June 2008.
\# Mr MT Magugumela resigned as CEO at the end of June 2008.
Mr GA Clapisson was appointed acting CEO as from July 2008.
** Ms LG Mashishi was appointed on 1 July 2008.
*** Ms R Moloto was appointed on 1 November 2008.

13. Directors' Emoluments (continued)

2008	Fees	Bonus	Retirement Fund Contribution	Other Benefits	Total
Non-executive Directors					
Prof. MA Hermanus	24,899	-	-	-	24,899
Mr DP Elbrecht	20,594	-	-	-	20,594
Mr K Govender	31,000	-	-	-	31,000
The Rev. PJ Grové	12,498	-	-	-	12,498
Mr WN Lesufi	20,358	-	-	-	20,358
Ms TN Mgoduso	39,986	-	-	-	39,986
Adv. BM Mkhize	24,524	-	-	-	24,524
Mr BA Ramahlo	28,926	-	-	-	28,926
Prof. DG van der Merwe	33,092	-	-	-	33,092
	235,877	-	-	-	235,877
Independent Audit Committee Member					
Ms P Mzizi	10,415	-	-	-	10,415

2008	Salary	Bonus	Retirement Fund Contribution	Other Benefits	Total
Executive Director					
Mr MT Magugumela (CEO)	1,029,871	-	-	-	1,029,871
Executive Staff					
Mr GA Clapisson	713,951	40,560	109,092	26,341	889,944
Mr ME Khoahli	240,882	-	31,624	10,550	283,056
Mr CO Phillips	697,432	49,919	109,092	29,342	885,785
Dr T Hill	688,034	36,972	99,958	15,470	840,434
	2,340,299	127,451	349,766	81,703	2,899,219

14. Commitment

14.1 Operating Lease

2009	Total	Up to 1 Year	1 to 5 Years
Building	**4,881,015**	**4,881,015**	**-**
Equipment	**1,248,509**	**681,005**	**567, 504**
Vehicles	**109,803**	**57,289**	**52,514**
	6,239,327	**5,619,309**	**620,018**

The lease commitment relates to the NNR's Centurion building lease agreement which is due to expire on April 30, 2010. Plans are in place to source future accommodation for the entity.

2008			
Building	8,241,282	4,120,641	4,120,641
Equipment	1,013,944	133,466	880,478
Vehicles	42,414	42,414	-
	9,297,640	4,296,521	5,001,119

14.2 Finance Lease

2009	Future Minimum Lease Payments	Finance Charges	Present Value of Minimum Lease Payments
Less than One Year	**277,597**	**67,983**	**209,614**
Between 1-5 years	**439,609**	**14,966**	**424,643**
	717,206	**82,949**	**634,257**

2008			
Less than One Year	426,289	116,076	310,213
Between 1-5 years	711,229	82,949	628,280
	1,137,518	199,025	938,493

Finance leases are in respect of photocopiers. Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee.

The average term of finance leases is 3.33 years. The interest rate inherent in the leases is at the prime interest rate for the duration of the lease term. The effective interest rate contracted is approximately 8%.

14. Commitment (continued)

14.3 Capital Expenditure

	2009 R	2008 R
Commitments against authorised capital expenditure	**305,403**	1, 203,424
Authorised capital expenditure not yet contracted	**605,490**	-
Capital commitment authorised	**910 893**	1,203,424

The following capital commitments will be financed through the approved budget and the accumulated surplus provided the National Treasury approve NNR's request to retain the surplus.

15. Contingent Liability

Surplus	**444,008**	5,420,254

A contingent liability has arisen as a result of NNR having a surplus for the reporting period. The extent to which an outflow of funds will be required is dependent on the outcome of the application to retain the funds in terms of Section 53 (3) of the PFMA.

16. Related Parties

During the year under review, the NNR, in the ordinary course of its business, entered into various transactions with related parties which terms are no less favourable than with third parties.

Directors
Details of directors' emoluments are disclosed under ***Note 13.***

Transactions with Directors
All directors have given general declarations of interest in terms of section 243 (3a) of the Companies Act. These declarations indicate that no member of the Board holds other directorships in South African entities with whom transactions are conducted by NNR in terms of a customer/supplier relationship.

Transactions with National Departments of Government
All National Departments of Government are regarded to be related parties in accordance with Circular 4 of 2005: Guidance on the term "State controlled entities" in the context of IAS 24 (AC 126) - Related Parties, issued by the South African Institute of Chartered Accountants. No transactions are implicated by simply the nature of the existence of the relationship between entities. However, the following transactions were recorded relating to transactions with related parties as defined above.

16. Related Parties (continued)

Name of Related Party	Nature of the Transaction	2009	2008
Income			
Department of Minerals and Energy	Contribution	**20,333,000**	18,029,000
Eskom-Koeberg Power Station	Authorisation fees	**32,712,413**	27,452,740
Eskom	Special projects	**25,273,719**	16,922,408
Eskom - Pebble Modular Reactor	Authorisation fees	**11,029,751**	8,974,934
PBMR - Fuel Fabrication Plant	Authorisation fees	**2,524,177**	2,111,749
NECSA – Pelindaba	Authorisation fees	**6,947,000**	967,885
NECSA – Vaalputs	Authorisation fees	**2,488,775**	351,958
The SA Navy	Authorisation fees	**79,288**	-
Transnet Port Terminals	Authorisation fees	**9,298**	-
Expenses			
Eskom	Special projects	**25,273,719**	16,922,408
Telkom	Telephone	**683,553**	669,543
SARS	PAYE	**16,361,005**	11,897,307
NECSA	Sample analysis	**46,179**	-
Account Receivable			
Eskom	Special projects	**642,638**	472,952
The SA Navy	Authorisation fees	**79,288**	-
Transnet Port Terminals	Authorisation fees	**9,298**	-

17. Reconciliation of Surplus for the Year to Cash Generated from Operations

	2009 R	2008 R
Operating deficit for the year	**(7,998,967)**	(1,066,266)
Non-cash items	**6,787,411**	2,308,741
Depreciations	**1,271,146**	1,310,021
Prior year adjustment on depreciation	**-**	106,685
Amortisations	**473,048**	-
Write-offs and impairment on property, plant and equipment	**167,495**	-
Write-offs and impairment on intangible assets	**28,397**	-
Fair value adjustment on financial instruments	**(72,016)**	-
Increase/(Decrease) in provision for leave pay and bonuses	**2,367,962**	2,110,168
Provision for doubtful debt	**495,983**	-
Bad debt	**657,609**	-
Increase/(Decrease) in provision for retirement medical benefit	**1,397,787**	(1,218,133)
Working capital changes	**(4,248,142)**	5,616,439
(Increase)/Decrease in accounts receivables	**(115,173)**	778,380
Increase/(Decrease) in provision for leave and bonus	**(2,983,990)**	-
Increase/(Decrease) in accounts payables	**(1,148,979)**	4,838,059
	(5,459,698)	6,858,914

18. Financial Instruments

Financial instruments consist of cash and cash equivalents, trade and other receivables, and trade and other payables.

18.1 Credit Risk

Financial assets, which potentially subject the NNR to concentrations of credit risk, consist principally of cash and trade receivables. Trade receivables are presented net of the allowance for doubtful debts. Credit risk with respect to trade receivables is limited owing to the large number of license holders being dispersed across different industries. Accordingly the NNR has no significant concentration of credit risk.

The carrying amounts of financial assets included in the Statement of Financial Position represent the exposure of the NNR to credit risk in relation to those assets. Trade and other receivables are controlled by policies and procedures. The NNR does not have any significant exposure to any individual license holder or counterparty.

18.2 Interest Rate Risk

The level of exposure to interest rate fluctuation is very low as NNR does not have debt. The interest on assets is also very limited.

18. Financial Instruments (continued)

18.3 Fair Value of Financial Instruments

At 31 March 2009 the carrying amounts of cash, accounts receivable and accounts payable approximated their fair values due to the short-term maturities of these assets and liabilities. The net fair value of the assets and liabilities of the NNR are stated below:

	2009 **R**	2008 R
Assets		
Cash and cash equivalent	**76,109,203**	75,638,207
Trade and other receivables	**6,037,729**	7,076,146
Liabilities		
Trade and other payables	**5,256,596**	6,405,581

19. Deferred Income

19.1 Nature and extent of Government Grant
The Department of Minerals and Energy has approved the allocation of the funds towards the establishment of a laboratory.

19.2 Unfulfilled conditions in terms of the Grant

Government Grant received	**18,000,000**	18,000,000

20. Special Project

In terms of section 5(b)(i) of the NNR Act (Act No 47 of 1999) the Regulator should exercise regulatory control related to safety over the siting, design, construction, operation, manufacture of component parts, and decontamination, decommissioning and closure of nuclear installations. In compliance with the aforegoing during the financial year the NNR had an arrangement with Eskom, the applicant for the Pebble Bed Modular Reactor nuclear installation licence, for certain fees, disbursements and expenses necessarily incurred and not provided for in the licence application fee as contemplated in section 28 of the National Nuclear Regulator Act project. The full income and expenditure associated with the project has been:

Fees received from Eskom	**25,273,719**	16,922,408
Fees paid for the project to consultants	**(25,273,719)**	(16,922,408)
	-	-

21. Irregular Expenditure

	2009 R	2008 R
Opening balance	**4,426,064**	-
Add: Irregular Expenditure – current year	**1,891,491**	4,426,064
Less: Amounts condoned	**(2,774,129)**	-
Less: Amounts recoverable (not condoned)	**-**	-
Irregular Expenditure awaiting condonation	**3,543,426**	4,426,064

Details of the Irregular Expenditure

21.1	Finance Lease Office Equipment	**634,257**	910,411

Irregular expenditure was identified in the prior year and has been recognised due to the reclassification of operating leases to finance leases. The expenditure has been treated as an asset in the statement of financial position until it is recovered, written off as irrecoverable, or the lease is terminated or condoned by the National Treasury.

		2009 R	2008 R
21.2	Consultancy Services		
	Printing Works	**282,081**	209,918
	Technical Work	**-**	450,505
	Communication	**-**	222,215
	Human Resources	**94,000**	2,633,015
	Actuarial Services	**43,320**	-
	Asset Valuation Services	**103,856**	-
	Accounting Services	**412,908**	-
	Internal Audit Services	**294,241**	-
	Insurance Services	**275,902**	-
	Meeting, Venue Coordinator	**173,269**	-
	Salary Restructuring Process	**211,914**	-
		1,891,491	3,515,653

Irregular expenditure has been recognised as a result of non-compliance with Treasury Regulation Practice note 8 of 2007/08. The total expenditure has been treated as operating expenses in the statement of financial performance. The expenditure will be disclosed until it is condoned by the relevant authority.

22. Taxation

The entity is exempted from income tax as more than 80% of the expenditure is defrayed from funds voted by Parliament. The entity also exempted from Value Added Tax (VAT) on grants received and authorisation fees as they comprises, funds voted by Parliament. As a result, any VAT paid to the entity is also non-refundable from SARS.

23. Comparatives

Comparative figures have been restated to account for the effect of residual value and change in useful lives of property, plant and equipment. Prior depreciation and amortisation was based on cost and not cost less residual value. The impact is as follows:

	2009 R	2008 R
Statement of Financial Performance		
Decrease in depreciation on property, plant and equipment	-	106,685
Statement of Financial Position		
Increase in carrying balance of property, plant and equipment	-	106,685
Changes in Net Asset		
Accumulated reserve at the beginning of the period	**106,685**	-

24. Post-reporting Date Event

The Executive Authority to which NNR is accountable for has changed after 31 March 2009 from Minister of Minerals and Energy to Minister of Energy. This is not expected to change the normal operations of the entity.

10. ABBREVIATIONS / ACRONYMS

AADQ	Annual Authorised Discharge Quantity
AFRA	African Regional Co-operative Agreement
ALARA	As Low as Reasonably Achievable
AECC	Alternative Emergency Control Centre
ARN	Argentinean Nuclear Regulatory Authority
ARPANSA	Australian Radiation Protection and Nuclear Safety Authority
ASN	French Nuclear Regulatory Authority
ASME	American Society of Mechanical Engineers
BEP	Best Environmental Practice
BBBEE	Broad-based Black Economic Empowerment
Bq	Becquerel
CAA	Civil Aviation Authority
CBO	Community-Based Organisations
CEO	Chief Executive Officer
CMC	Cape Metropolitan Council
CNS	Convention on Nuclear Safety
CoCT	City of Cape Town
CODIRPA	Committee for the Post-Accident Management Phase
COM	Chamber of Mines
COR	Certificate of Registration
CP	Contracting Party
CSS	Commission on Safety Standards
DEAT	Department of Environmental Affairs and Tourism
DGSNR	Directorate of Nuclear and Radiation Protection
DME	Department of Minerals and Energy
DoA	Department of Agriculture
DOC	Disaster Operations Centre
DOE	US Department of Energy
DoL	Department of Labour
DPP	Demonstration Power Plant
DWAF	Department of Water Affairs and Forestry
ECC	Emergency Control Centre
EdF	Electricité de France
EPR	European Pressurised Reactor
EPSOC	Emergency Planning, Steering and Oversight Committee
FNRBA	Forum of Nuclear Regulatory Bodies in Africa
GAAP	Generally Accepted Accounting Practice
GRAP	Generally Recognised Accounting Practices
HEU	Highly Enriched Uranium
HPC	Health Physics Controller
HTGR	High Temperature Gas-Cooled Reactor
IAEA	International Atomic Energy Agency
ICRP	International Commission on Radiation Protection
ICT	Information Communication and Technology
INES	International Nuclear Event Scale
INPO	International Nuclear Power Operations
INSAG	International Nuclear Safety Group of the IAEA
IRRS	Integrated Regulatory Review Service
IRSN	Institute of Radiation Protection and Nuclear Safety
INLA	International Nuclear Law Association
INLEX	International Nuclear Liability Expert Group
ISI	In-service Inspection
KEDC	Koeberg Environs Development Committee
KLI	Key Licensing Issue
KNPS	Koeberg Nuclear Power Station
LEU	Low Enriched Uranium
LOCA	Loss of Coolant Accident
LPM	Licensing Project Meeting
LSA	Low Specific Activity
LUA	Lead Use Assembly
MDEP	Multinational Design Evaluation Programme
µSv	microSievert
mSv	milliSievert
MIG	Mining Interest Group
MoA	Memorandum of Agreement
MTR	Material Test Reactors
MWe	Megawatt Electrical

NATREF	National Petroleum Refinery
NDE	Non-destructive Evaluation
NECSA	South African Nuclear Energy Corporation
NEPROC	Nuclear Emergency Preparedness Regulatory Oversight Committee
NERS	Network of Regulators of Countries with Small Nuclear Programmes
NGO	Non-governmental Organisation
NIA	National Intelligence Agency
NSM	Nuclear Security Management
NILs	Nuclear Installation Licences
NLM	Nuclear Liabilities Management
NNR	National Nuclear Regulator
NNR Act	National Nuclear Regulator Act
NORM	Naturally Occurring Radioactive Material
NRC	Nuclear Regulatory Commission
NSM	Nuclear Security Management
NTWP	Nuclear Technology and Waste Products
NUSSC	Nuclear Safety Standards Committee
OTS	Operating Technical Specification
PAM	Protective Action Management System
PAZ	Protective Action Zone
PBL	Process-Based Licensing
PBMR	Pebble Bed Modular Reactor
PBMR DPP	Pebble Bed Modular Reactor Demonstration Power Plant
PFMA	Public Finance Management Act
PFP	Proposed Pebble Bed Modular Reactor Fuel Manufacturing Plant
PHA	Public Hazard Assessment
PN	Problem Notification
PRPP	Public Radiation Protection Programme
PSA	Public Safety Assessments
PWR	Pressurised Water Reactor
QFD	Quartz Fibre Dosimeter
RaSIA	Radiation Safety Infrastructure Appraisal
RASSC	Radiation Safety Standards Committee
RD	Requirement Document
RENS	Regulation of Natural Sources
RO	Regulatory Officers
RPM	Radiation Protection Monitor
RPO	Radiation Protection Officer
RPS	Radiation Protection Specialist
RPV	Reactor Pressure Vessel
RSR	Railway Safety Regulator
RSRP	Regulations on Safety Standards and Regulatory Practices
RTMC	Road Transport Management Corporation
SADC	Southern African Development Community
SAG	European Union Safety Advisory Group
SAMSA	South African Maritime Safety Authority
SAR	Safety Analysis Report
SCM	Special Case Mine
SEA	Separation Element Assemblies
SHEQ	Safety, Health, Environmental and Quality Management System
SRSM	Safety-Related Surveillance Manual
SSC	Structure, System, Component
SSRP	Safety Standards and Regulatory Practices
STC	Steering Technical Committee
TLD	Thermo-Luminescent Dosimeter
TSC	Technical Support Centre
TRANSSC	Transport Safety Standards Committee
TSO	Technical Support Organisation
US-NRC	United States Nuclear Regulatory Commission
UTS	Upgraded Technical Specification
WANO	World Association of Nuclear Operators
WASSC	Waste Safety Standards Committee
WCA	Wonderfonteinspruit Catchment Area
WGCMO	Working Group on Component Manufacturing Oversight
WHO	World Health Organization

11. GLOSSARY

Term	Definition
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.

Term	Definition
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.

Term	Definition
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.
Safety Culture	The assembly of characteristics and attitudes in organisations and individuals, which establishes that, as an overriding priority, protection and safety issues receive the attention warranted by their significance.
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.

NOTES

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