NRWDI

NATIONAL RADIOACTIVE WASTE DISPOSAL INSTITUTE

Strategic Plan 2020-2025

ACCOUNTING AUTHORITY STATEMENT

The National Radioactive Waste Disposal Institute (NRWDI) is an independent entity established by the National Radioactive Waste Disposal Act (Act 53 of 2008) and is listed as a Schedule 3A national public entity. It has continued to play a pivotal role as the entity is responsible for the long-term management and disposal of radioactive waste on a national basis. This strategic plan 2020-2025 is a bold plan which is closely aligned to address the nation's critical needs as identified and articulated in the National Development Plan's Vision 2030.

Whilst NRWDI has been established for only a few years, it is being challenged to consolidate gains made thus far and to plan diligently in order to actively address the challenges that lie ahead. With South Africa opting for the expansion of its Nuclear Power Programme in an attempt to diversify the energy mix in the country and to achieve security of supply, the emphasis on an entity like NRWDI to manage South Africa's radioactive waste on a national basis cannot be underestimated. This entity has the potential of being on the cutting edge of radioactive waste disposal technologies. This means that NRWDI has to engage in international benchmarking and pivotal research and development in order to be well positioned to confront the challenges.

The long-term sustainability of NRWDI, however, remains a risk for NRWDI. With the competing priorities faced by NRWDI as well as the need for delivery of their mandate, the funding over the MTEF cycle is inadequate to cover both the operational and project related costs. Under the circumstances, a large portion of the allocation will be devoted to operational costs until the situation is normalised. A draft Bill to establish the Radioactive Waste Management Fund (RWMF) for the collection of levies and imposition of penalties on waste generators is currently being drafted. Once the Bill has passed the approval process, NRWDI will be able to source funds from the RWMF, thus providing long term sustainability for NRWDI. The legislation will further provide a platform for a better structured NRWDI, which would continue to respond to radioactive waste disposal in a credible and expeditious manner.

NRWDI will establish various disposal and related storage facilities for all classes of radioactive waste that currently have no such facilities. This will encourage NRWDI to review its work processes and interrogate its efficiencies in order to continue to deliver within the planned timeframes in line with their mandate.

NRWDI has embarked on bold effective mitigation measures which have resulted in delivery within the expected timeframes. Some of these measures included collaborating closely with stakeholders, filling critical positions and ICT enablement. NRWDI continues to re-invigorate their approach to their mandate delivery by leveraging on the benefits of state-of-the-art technologies.

The actual extent and complexity of the core tasks and the challenges that lie ahead for NRWDI and the country will gradually unfold as it dedicatedly works its way forward. It is important to visualize and understand the depth and complexity of the tasks in the context of what has been experienced and achieved by the world's advanced nations such as France, Finland, Sweden, and others in radioactive waste research, management and disposal over a prolonged period of time. South Africa must now commence its journey towards the prudent management and disposal of all its radioactive wastes, including Intermediate Level Waste (ILW) and High-Level Waste (HLW), while continuing its operations with Low Level Waste (LLW) at the Vaalputs site in the Northern Cape.

A key priority in operationalising NRWDI is the Vaalputs functional shift which entails the transfer of staff and assets of the Vaalputs Radioactive Waste Disposal Facility from Necsa to NRWDI in terms of section 30 of the NRWDI Act. It is envisaged that the functional shift will be completed in late 2020.

NRWDI, although cognizant of the complex challenges as outlined above, is however confident that it is ready to begin the journey to lay a solid foundation for the delivery of suitable strategies and solutions for the management and disposal of all of our radioactive waste in a manner that will continue to ensure the protection of the public and the environment, thus making its contribution towards the safe utilization of nuclear energy in our country.

With the aim of continuous improvement and aligned with the Department of Planning, Monitoring and Evaluation's Revised Framework for Strategic Plans and Annual Performance Plans as well as the Guidelines for the Implementation of the Revised Framework for Strategic and Annual Performance Plans, this strategic plan serves as a blueprint for achieving the NRWDI vision and mission. It further focuses on the impact statement, outcomes and the indicators which are all necessary to direct the achievement of the mandate of NRWDI.

As the Accounting Authority for the NRWDI, I take pleasure in presenting this high level plan for the next 5 years to the people of South Africa detailing the outcomes and the outputs as well as providing the necessary assurance of our commitment to these deliverables.

Mr Tshepo Mofokeng

Accounting Authority of NRWDI

ACCOUNTING OFFICER STATEMENT

It gives me immense pleasure to present the Strategic Plan for the National Radioactive Waste Disposal Institute (NRWDI) for the period 2020 - 2025. This Strategic Plan is aligned with the Department of Mineral Resources and Energy (DMRE) strategic outcomes and it contributes towards the delivery of the objectives of the National Development Plan (NDP) as well as the Medium-Term Strategic Framework. It establishes the key areas of focus that will enable the NRWDI to deliver on its legislative and policy mandate.

Since its inception, NRWDI has steadily developed into a hub of organisational excellence. It has strengthened its core competencies of management of radioactive waste disposal to deliver exceptionally well on its mandate.

Key highlights for the previous reporting cycle included the following:

- NRWDI have obtained for two consecutive years a clean audit which will bear testimony to the fact that an institutionalised culture of accountability, trust, honesty and responsibility prevails in NRWDI, thus demonstrating a resilient commitment towards good governance, prudent financial management, operational excellence and leadership based on the highest ethical and moral standards.

- The submission off all the safety case, quality management and organisational description documentation in support of NRWDI's nuclear installation license application requesting the NNR to reissue to NRWDI the nuclear installation licence that was previously issued to Necsa regarding the management and operation of the Vaalputs National Radioactive Waste Disposal Facility was key defining moment in the history of NRWDI.

- Our stakeholder satisfaction index is about 90%, which implies that our stakeholders have confidence and trust in NRWDI to meet or exceed their expectations.

- In developing a workforce that is capable to execute our mission, we have undertaken a skills audit across the NRWDI Divisions. This has helped us to gain a clearer understanding of our skills challenges, and where the opportunities lie to work more collaboratively and innovatively.

- The provision of information on all aspects of radioactive waste management to the public living around the disposal facilities and the public at large is a responsibility of NRWDI that cannot be underrated. Over the previous cycle, NRWDI was able to have public safety information forums with the Vaalputs Community on a quarterly basis.

The long-term nature of our business means that our excellent performance during the previous cycle is a stepping stone for successful future years. NRWDI remains totally committed to fulfilling the vast expectations of South Africans that radioactive waste can be safely managed in a manner that meets or exceeds all applicable regulatory standards and requirements for protecting the health, safety and security of our people and the environment, both now and in the future.

The 2020-2025 Strategic Plan is an ambitious programme of work for NRWDI. The commitments made are cognisant of the challenging times we face and borne out of a collective understanding of the responsibilities and obligations placed on all of us in public service by the Constitution and the aspirations of the people of South Africa.

The key focus areas for the next five year will be the following:

a) The finalisation of Section 30 of the National Radioactive Waste Disposal Institute Act, (Act 53 of 2008) in respect of the Vaalputs nuclear installation licence and Vaalputs functional shift.

b) The development and maintenance of a responsive radioactive waste management and disposal regime that does not compromise public safety and national security.

c) The establishment and roll-out of the Centralised Interim Storage Facility (CISF) for high level waste, in particular spent nuclear fuel.

d) Ensuring that public perceptions, concerns and expectations are adequately addressed and that public education, participation and communication activities in respect of radioactive waste management and disposal issues are placed at the centre-stage and

e) Focus on research and development as well as management and disposal technologies for all classes of radioactive waste.

f) Populating and maintaining a national radioactive waste database and publish a report on the inventory and location of all radioactive waste in the Republic.

NRWDI will continue to engage in research and development and collaborate with national and international counterparts to benchmark and implement cutting edge technologies. We will enhance our capability so that NRWDI can be a centre of excellence in this field.

As the Accounting Officer, I will, together with NRWDI management and staff, be working consistently and tirelessly to ensure that NRWDI continues to operate at a high level of performance, efficiency and effectiveness enabling a solid foundation to be set.

It is my passionate desire that we, together with the colleagues at the DMRE, Necsa, Eskom and NNR as well as all other stakeholders continue to work proactively to ensure that we execute our mandate effectively. These efforts will improve public perception, trust and willingness to accept nuclear science and technology for power and non-power application programmes in South Africa. In this way, the people of South Africa will enjoy the benefits of economic prosperity associated with the applications of nuclear science and technology.

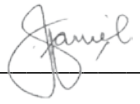
I would like to encourage all to embrace and accept this Strategic Plan and contribute towards realising the impact statement and outcomes contained therein.

Mr Alan Carolissen
Accounting Officer of NRWDI

OFFICIAL SIGN-OFF

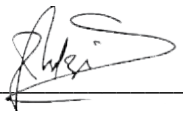
It is hereby certified that this Strategic Plan:

- Was developed by the management of the National Radioactive Waste Disposal Institute (NRWDI) under the guidance of the Accounting Authority;
- Takes into account all the relevant policies, legislation and other mandates for which the NRWDI is responsible, and
- Accurately reflects the Impact, Outcomes and Outputs which the NRWDI will endeavour to achieve over the period 2020/21– 2024/25.

Signature: 

Mr Justin Daniel

Programme 1: Administration

Signature: 

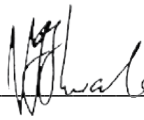
Mr Zweli Ndziba

Programme 1: Administration

Signature: 

Mr Alan Carolissen

Programme 2: Radioactive Waste Disposal Operations

Signature: 

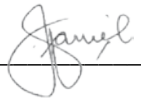
Dr Vusi Twala

Programme 3: Science, Engineering and Technology

Signature: 

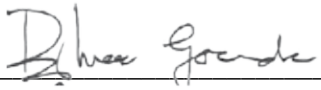
Mr Cobus Beyleveld

Programme 4: Radioactive Waste Compliance Management

Signature: 

Mr Justin Daniel

Chief Financial Officer

Signature: 

Ms Deshnee Govender

Manager: Strategic Planning

Signature: 

Mr Alan Carolissen

Acting CEO of NRWDI

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Table 1: List of Abbreviations

Acronym/Term	Description/Definition
AFRA	African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology
AU	African Union
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CISF	Central Interim Storage Facility
DEA	Department of Environmental Affairs
DMRE	Department of Mineral Resources and Energy
DSRS	Disused Sealed Radioactive Sources
EIA	Environmental Impact Assessment
GHG	Greenhouse Gas Emissions
HLW	High Level Waste
IAEA	International Atomic Energy Agency
ILW	Intermediate Level Waste
IRP	Integrated Resource Plan
ISO	International Standards Organisation
IUDF	Integrated Urban Development Framework
LLW	Low Level Waste
MTEF	Medium Term Expenditure Framework
MTSF	Medium Term Strategic Framework
NDP	National Development Plan
NIL	Nuclear Installation License
NNR	National Nuclear Regulator
NRWDIA	National Radioactive Waste Disposal Institute Act
NRWDI	National Radioactive Waste Disposal Institute
Necsa	South African Nuclear Energy Corporation
PESTLE	Political, Economic, Social, Technological, Legal, Environmental
PFMA	Public Finance Management Act
QMS	Quality Management System
RWMF	Radioactive Waste Management Fund
SADC	South African Development Community
SHEQ	Safety, Health, Environment and Quality
SQEP	Suitably Qualified and Experienced Persons
SWOT	Strengths, Weaknesses, Opportunities and Threats
UNFCCC	United Nations Framework Convention on Climate Change
WAC	Waste Acceptance Criteria

PART A

OUR MANDATE

PART A: OUR MANDATE

1. CONSTITUTIONAL MANDATE

The National Radioactive Waste Disposal Institute (NRWDI) carries out its work having due regard to the fundamental rights as contained in the Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996) and other related legislation. The following sections are extracts from the Constitution which have a direct bearing on the institution in terms of delivering on their constitutional mandate.

The NRWDI mandate is underpinned by Section 24(b) of the Constitution of the Republic of South Africa, Act 108 of 1996 which states that:

Everyone has the right –

(a) To an environment that is not harmful to their health or well-being; and

(b) To have the environment protected for the benefit of present and future generations through reasonable legislative and other measures that:

  (i) Prevent pollution and ecological degradation;

  (ii) Promote conservation; and

  (iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

2. LEGISLATIVE AND POLICY MANDATE

In turn, the above constitutional provisions inform further pieces of legislation that impact the functioning of NRWDI. The governance and regulation of radioactive waste management is also subject to the provisions of the following other acts. These are discussed below.

National Radioactive Waste Disposal Institute Act (NRWDIA), 2008 (Act 53 of 2008)

The National Radioactive Waste Disposal Institute Act (NRWDIA) (Act no. 53 of 2008) was proclaimed by the President of the Republic of South Africa in Government Gazette no. 32764 and NRWDIA became effective on the 1st December 2009. The NRWDIA endorsed the establishment of the National Radioactive Waste Disposal Institute (NRWDI). The functions of NRWDI as per Section 5 of the NRWDI Act (Act 53 of 2008) are summarised as follows:

- Manage radioactive waste disposal on a national basis;
- Operate the national low-level waste repository at Vaalputs;
- Design and implement disposal solutions for all categories of radioactive waste;
- Develop criteria for accepting and disposing radioactive waste in compliance with applicable regulatory safety requirements and any other technical and operational requirements;
- Assess and inspect the acceptability of radioactive waste for disposal and issue radioactive waste disposal certificates;
- Manage, operate and monitor operational radioactive waste disposal facilities including related predisposal management of radioactive waste on disposal sites;
- Investigate the need for any new radioactive waste disposal facilities and to site, design and construct new facilities as required;
- Define and conduct research and development aimed at finding solutions for long-term radioactive waste management;
- Maintain a national radioactive waste database and publish a report on the inventory and location of all radioactive waste in the Republic at a frequency determined by the Board of Directors;
- Manage ownerless radioactive waste on behalf of the Government, including the development of radioactive waste management plans for such waste;
- Assist generators of small quantities of radioactive waste in all technical aspects related to the management of such waste;
- Implement institutional control over closed repositories, including radiological monitoring and maintenance as appropriate;
- Implement any assignments or directives from the Minister regarding radioactive waste management;
- Provide information on all aspects of radioactive waste management to the public living around radioactive waste disposal facilities and to the public in general;

- Advise nationally on radioactive waste management;
- Co-operate with any person or institution in matters falling within these functions; and
- Any other function necessary to achieve the objects of NRWDI.

The majority of the above functions are currently performed within the scope of Low Level Waste (LLW) inventories. In future, the scope would need to be extended to address the national inventory of radioactive waste consisting of Intermediate Level Waste (ILW), High Level Waste (HLW), long-lived waste, Spent/Used Nuclear Fuel and Disused Sealed Radioactive Sources (DSRSs). This implies that alternative disposal concepts would have to be researched, designed and implemented. It is also possible that alternative disposal sites would need to be obtained, characterised, constructed and operated.

Nuclear Energy Act, 1999 (Act 46 of 1999)

The Institute is an independent entity established by statute under the provision of section 55(2) of the Nuclear Energy Act (No. 46 of 1999) to fulfil the institutional obligation of the Minister of Mineral Resources and Energy. In accordance with the provisions of the Nuclear Energy Act, 1999 (Act No. 46 of 1999), the discarding of radioactive waste and storage of irradiated nuclear fuel require the written permission of new Departments such as Department of Mineral Resources and Energy; Department of Environment, Forestry and Fisheries; department of Human Settlements and Water and Sanitation deems fit to impose. The conditions so imposed will be additional to any conditions contained in a nuclear authorisation as defined in the National Nuclear Regulator Act.

National Nuclear Regulator Act, 1999 (Act 47 of 1999)

The Act provides for the establishment of a National Nuclear Regulator in order to regulate nuclear activities, for its objects and functions, for the manner in which it is to be managed and for its staff matters; to provide for safety standards and regulatory practices for protection of persons, property and the environment against nuclear damage; and to provide for matters connected therewith.

National Environmental Management Act (NEMA), 1998 (Act 107 of 1998) and Environment Conservation Amendment Act (ECAA), 2003 (Act 50 of 2003)

In accordance with the requirements of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), an environmental assessment has to be conducted prior to the construction of a spent fuel management or radioactive waste management facility. Furthermore, the Environment Conservation Amendment Act, 2003 (Act No. 50 of 2003) (ECAA) prescribes that no person may establish, provide or operate a disposal site without a permit issued by the Minister of Environmental Affairs.

Mine Health and Safety Act, 1996 (Act 29 of 1996)

The Act provides for protection of the health and safety of employees and other persons at mines and, for that purpose to promote a culture of health and safety; to provide for the enforcement of health and safety measures; to provide for appropriate systems of employee, employer and State participation in health and safety matters; to establish representative tripartite institutions to review legislation, promote health and enhance properly targeted research; to provide for effective monitoring systems and inspections, investigations and inquiries to improve health and safety; to promote training and human resources development; to regulate employers' and employees' duties to identify hazards and eliminate, control and minimise the risk to health and safety; to entrench the right to refuse to work in dangerous conditions; and to give effect to the public international law obligations of the Republic relating to mining health and safety; and to provide for matters connected therewith. It is significant to note that after uranium is extracted from the rocks, the processes leave behind radioactive waste. Uranium is a naturally occurring radioactive element that has been mined and used for more than a thousand years as a fuel for nuclear reactors.

Hazardous Substances Act, 1973 (Act 15 of 1973)

Sealed radioactive sources, including disused sealed sources, are controlled as Group IV Hazardous Substances, in terms of the Hazardous Substances Act, 1973 (Act No. 15 of 1973) and are regulated by the Directorate Radiation Control in the Department of Health.

Currently all disused sealed radioactive sources are temporarily stored at Necsa because the end point (i.e., final disposal) has not yet been defined in radioactive waste management plans. The disposal of all radioactive material falls within the ambit of the National Nuclear Regulator and therefore the regulatory framework to manage the total life cycle of sealed radioactive sources needs to be harmonised.

The safety, security and control of disused radioactive sources is a high priority and in line with international commitment in order to prevent radiation accidents that may be caused by the potential abuse and misuse of such sources for, e.g., malicious purposes. NRWDI will liaise with all role players and stakeholders to mitigate these risks by implementing sustainable disposal options (end points) for various categories of disused sealed radioactive sources.

Mineral and Petroleum Resources Development Amendment Act, 2008 (Act 49 of 2008)

The objectives of this Act are to recognise the internationally accepted right of the State to exercise sovereignty over all the mineral and petroleum resources within the Republic, give effect to the principle of the State's custodianship of the nation's mineral and petroleum resources, give effect to section 24 of the Constitution by ensuring that the nation's mineral and petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development; and promote equitable access to the nation's mineral and petroleum resources to all the people of South Africa.

National Water Act, 1998 (Act 36 of 1998)

The Act ensures that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which take into account amongst other factors: promoting equitable access to water; redressing the results of past racial and gender discrimination; promoting the efficient, sustainable and beneficial use of water in the public interest; facilitating social and economic development; protecting aquatic and associated ecosystems and their biological diversity; meeting international obligations.

Public Finance Management Act, 1999 (Act 01 of 1999 as amended by Act 29 of 1999)

The Act enables public sector managers to manage and improve accountability in terms of eliminating waste and corruption in the use of public funds. NRWDI is listed as a *Schedule 3A* public entity.

Promotion of Administrative Justice Act, 2000 (Act 03 of 2000)

The Act gives effect to the constitutional right to just administrative action for any member of the public whose rights have been adversely affected and to ensure efficient, effective and legitimate administration within all spheres of government.

Preferential Procurement Policy Framework Act, 2000 (Act 05 of 2000)

The Act gives effect to Section 217 (3) and provides a framework for the implementation of the procurement policy contemplated in Section 217 (2) of the Constitution.

Promotion of Access to Information Act, 2000 (Act 02 of 2000)

The Act gives effect to the constitutional right of access to any information held by the State and any information held by a private person that is required for the exercise or protection of any other right.

Intergovernmental Relations Framework Act, 2005 (Act 13 of 2005)

The Act establishes a framework for national, provincial and local government to promote and facilitate intergovernmental relations and to provide a mechanism and procedure to facilitate the settlement of intergovernmental disputes.

Skills Development Act, 1998 (Act 97 of 1998)

The Act provides an institutional framework to devise and implement national, sector and workplace strategies to develop and improve the skills of the South African workforce.

Employment Equity Act, 1998 (Act 55 of 1998)

The Act serves as a mechanism to redress the effects of unfair discrimination and to assist in the transformation of workplaces, so as to reflect a diverse and broadly representative workforce.

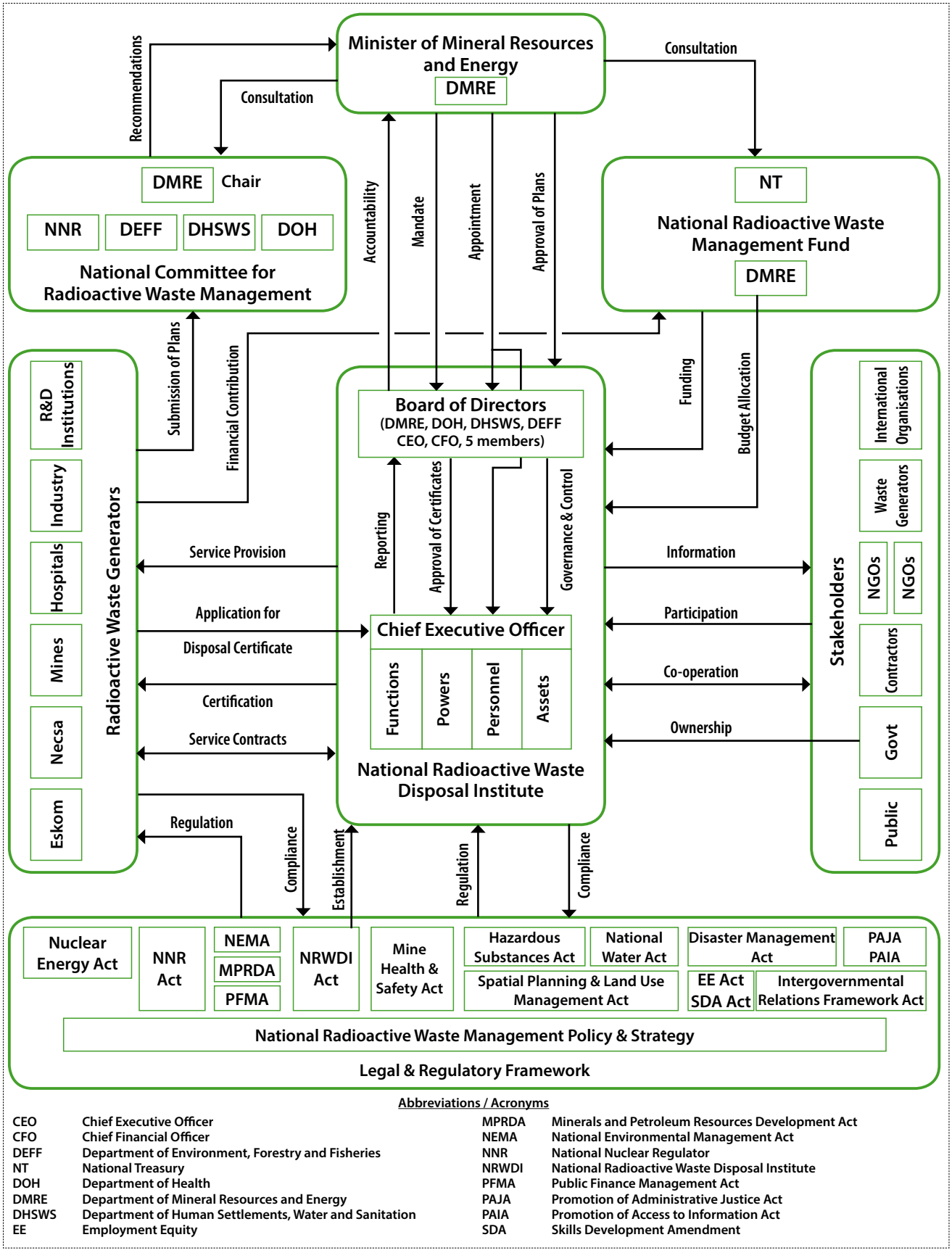
Disaster Management Act, 2002 (Act 57 of 2002)

The Act provides for an integrated and co-ordinated disaster management policy that focuses on preventing or reducing the risk of disasters, mitigating the severity of disasters, emergency preparedness, and rapid and effective responses to disaster and post-disaster recovery.

Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013

The Act makes provision for inclusive developmental, equitable and efficient spatial planning at different spheres of government.

Figure 1 : Depicts the legislative and regulatory environment within which NRWDI operates.



Abbreviations / Acronyms

CEO	Chief Executive Officer	MPRDA	Minerals and Petroleum Resources Development Act
CFO	Chief Financial Officer	NEMA	National Environmental Management Act
DEFF	Department of Environment, Forestry and Fisheries	NNR	National Nuclear Regulator
NT	National Treasury	NRWDI	National Radioactive Waste Disposal Institute
DOH	Department of Health	PFMA	Public Finance Management Act
DMRE	Department of Mineral Resources and Energy	PAJA	Promotion of Administrative Justice Act
DHSWS	Department of Human Settlements, Water and Sanitation	PAIA	Promotion of Access to Information Act
EE	Employment Equity	SDA	Skills Development Amendment

3. INSTITUTIONAL POLICIES AND STRATEGIES OVER THE FIVE-YEAR PLANNING PERIOD

There are a number of key policy mandates that comprehensively capture our vision and thus describe what we do and why we do them. In short, these are programs and plans that seek to address public interest. The policy mandates also provide for a relevant international framework that has a bearing on NRWDI and South Africa's policies.

3.1 National Development Plan, Vision 2030

The National Development Plan sets out the vision for South Africa by the year 2030:

- Chapter 3, 'Economy and employment', sets out the achievement for full employment, decent work and sustainable livelihoods.
- Chapter 13, 'Building a Capable State', sets out a vision of the transformative and developmental role of the state.
- Chapter 14, 'Promoting accountability and fighting corruption', sets out a vision which has zero tolerance for corruption.

3.2 Radioactive Waste Management Policy and Strategy for South Africa (2005)

The cornerstone of South Africa's approach to addressing radioactive waste management issues is the Radioactive Waste Management Policy and Strategy for the Republic of South Africa. The strategic intent of this Policy and Strategy is to ensure a comprehensive radioactive waste governance framework by formulating, in addition to nuclear and other applicable legislation, a policy and implementation strategy in consultation with all role-players and stakeholders.

The development of the national policy and strategy was initiated by the Department of Minerals and Energy during May 2000. Following a process of national public consultation, the Radioactive Waste Management Policy and Strategy for the Republic of South Africa (Policy and Strategy) was published in November 2005. The Policy and Strategy serves as a national commitment to address radioactive waste management in a coordinated and cooperative manner and represents a comprehensive radioactive waste governance framework by formulating, in addition to nuclear and other applicable legislation, a policy and implementation strategy developed in consultation with all stakeholders.

3.3 Integrated Urban Development Framework (IUDF)

IUDF is a central urban policy that seeks to address urban spatial patterns through the creation of compact, co-ordinated cities. In the main, it is geared towards transforming urban spaces, focusing on infrastructure development and unleashing the potential of cities.

3.4 National Energy Efficiency Strategy

A guiding document developed by government to support implementation of energy efficient measures in South Africa

3.5 International Conventions

Apart from South African policies and strategies, the assurance of nuclear safety is reinforced by a number of international instruments. These include certain Conventions such as the Convention on Nuclear Safety and Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management that are legally binding on the participating Member States. South Africa, as a contracting party to these conventions is obliged to adhere to the articles of these conventions and to provide regular reports on compliance to these conventions.

The Joint Convention establishes an international peer review process among Contracting Parties and provides incentives for Member States to improve nuclear safety in line with international best practises. One of the objects of the Institute is to fulfil national obligations in respect of international nuclear instruments relating to management of spent nuclear fuel and radioactive waste management, including disposal, to ensure that the Republic of South Africa is in compliance with the articles of the Joint Convention through existing national legal and regulatory infrastructure.

The South African Joint Convention report provides information on used fuel and waste management facilities, radioactive waste inventories, ongoing decommissioning projects, used fuel and radioactive waste management safety, as well as information on imports/exports of radioactive waste (trans-boundary movements) and disused sealed radioactive sources.

3.6 Sustainable Development Goals

A global agenda with a vision of ending poverty, protecting the planet and ensuring that humanity enjoys peace and prosperity. It appreciates that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development.

3.7 African Union 2063 Agenda

The Africa 2063 Agenda envisages an integrated, prosperous and peaceful Africa through inclusive growth and sustainable development.

3.8 Addis Ababa Agreement

The Addis Ababa Action, primarily provides and informs the implementation of the New Urban Agenda. Its main focus is on infrastructure, technology, micro small and medium enterprises.

3.9 Paris Agreement

The Paris agreement guides international efforts towards reducing and limiting greenhouse gas emissions and the associated approach towards low carbon development. Article 4.19 of the Agreement encourages its signatories to formulate and communicate long term – low GHG emission development to UNFCC by 2020.

3.10 Sendai Framework for Disaster Risk Reduction 2015-2030

The Sendai Framework is a non-binding voluntary framework; whose main focus is on the reduction of disaster risk.

4. RELEVANT COURT RULINGS

There are no current court rulings that may have an influence on NRWDI's operations and/or service delivery obligations.

PART B

OUR STRATEGIC FOCUS

PART B: OUR STRATEGIC FOCUS

5. VISION

To be a world-class radioactive waste disposal organisation.

6. MISSION

To provide environmentally safe and technologically innovative radioactive waste disposal solutions for the benefit of current and future generations.

7. VALUES

NRWDI has adopted the following corporate values, which serve as guiding principles around which its corporate culture and actions are governed and shaped. These corporate values are listed as follows:

Table 2: NRWDI Core Values

Nurturing	We will make the well-being of people and the environment, a priority.
Respect	We will respect all and obey the laws and legislation that govern our country and regulates our industry
Work-life-balance	We are committed to the creation of a culture that supports the achievement of both life and work.
Dedication	We will demonstrate passion, commitment and care in all that we do being fully aware of the impact that our actions may have on current and future generations.
Integrity	We will conduct ourselves with openness, honesty and respect for all stakeholders

NRWDI will strive to be a learning organisation, continuously evolving and developing to improve and to find the safest efficient radioactive waste disposal solutions. All NRWDI employees are consistently encouraged to live the NRWDI's values in all that they do. The NRWDI will continue to encourage staff to do so until such time as the values form an integral part of the work life of all staff at the NRWDI. Regular communication sessions will continue to be held detailing the NRWDI's purpose, mandate, role, functions and ways of working. This will ensure that the NRWDI's strategy and values remain relevant and become firmly institutionalised.

8. SITUATIONAL ANALYSIS

The situational analysis is a narration of prevailing facts and their implications for NRWDI and the execution of its mandate. It is a logical step that follows any form of planning. The NRWDI has performed a PESTLE analysis, a SWOT analysis, and a Stakeholder Analysis.

The NRWDI's macro-environment was assessed, taking into consideration the **Political**, **Economic, Social, Technological, Legal / Ethics & Environmental aspects**. These trends have informed the development of the impact statement, outcomes, and outcome indicators to steer the Institute on its path to deliver on its mandate.

8.1 External Environment Analysis

Table 3 : Political & Technological aspects

Political	Technological
• In terms of the Integrated Resource Plan (IRP), nuclear energy has been incorporated as a part of the energy mix for the country. With the expansion of the Koeberg Nuclear Power Plant life extension as well as the replacement of Safari Research Reactor, which is a multi-purpose reactor, the need for radioactive disposal solutions increases. Nuclear energy use is increasing around the world seeing that the greenhouse gas emissions emitted from nuclear plants are far less than coal and other hydrocarbon fired power stations. • Disposal of radioactive waste is an apex priority and NRWDI thus has the necessary political support. • There is committed political will to embrace nuclear technology and science for various power and non-power applications. • Reconfiguration and possible consolidation of SOEs	• Disposal facilities for very low level and low-level waste are already in operation in several countries. The most important remaining challenge is the development of disposal facilities for high level waste and spent nuclear fuel. Significant progress is being made in a few countries, such as Finland where the construction for a disposal site for spent nuclear fuel is currently under way making Finland the first country to have this technology. Partnerships with IAEA, France, Sweden, Finland and Switzerland also need to be forged to learn more about different waste disposal technologies and ensure that skills are transferred. • There is a need to keep abreast of advances in technology as well as new trends and methodologies in respect of disposal of radioactive waste. • Mature technologies exist for the off-site dry storage (up to 100 years) for spent nuclear fuel. • The infrastructure of the NRWDI is inadequate. • Cyber and Information security challenges.

Table 4 : Economic & Legal/Ethics aspects

Economic	Legal/Ethics
• South Africa has competing social, education, infrastructure and health budget priorities. NRWDI currently has financial challenges with regards to the establishment of waste disposal and related infrastructure for the long-term management, including disposal of radioactive waste. NRWDI needs to diversify its income streams to meet the needs of its waste generators. • Potential for economic opportunities and employment due to establishment of new waste disposal and storage related infrastructure. • A Funding Model to ensure long term sustainability of NRWDI can be outlined. • Cost cutting through consolidation of public entities.	• Current changes in the legislative environment might potentially influence operations. • There will always be legal challenges from anti-nuclear lobby groups. There are various regulatory frameworks set out by the Regulatory bodies since the nuclear space is a highly regulated one. • The RWMF Bill needs to follow the parliamentary process to be enacted to provide sustainable funding for the long-term management and disposal of all classes of radioactive waste. The nuclear authorisation to manage and operate the Vaalputs low level waste repository by NRWDI needs to be finalised urgently taking due cognisance from the nuclear regulatory regime and governance framework.

Table 5: Social & Environmental aspects

Social	Environmental
• The perceived risk associated with nuclear energy and radioactive waste has led to nuclear having a negative perception as an energy source in the energy mix. Comprehensive programmes and other interventions must be put in place to communicate the safe and secure storage and disposal of radioactive waste to the public. • Increased corporate social responsibility needs to take place. • There is an increased awareness of social media and digital connectedness. Social media like (Facebook, Twitter, Snapchat, blogs) can be used as an effective tool for communication with stakeholders to demystify and debunk the perceived risk associated with radioactive waste. • With urban migration taking place at a rapid rate, land will become available for siting for new waste disposal infrastructure. • There are high levels of unemployment in the country and the implementation of new waste management and disposal technologies will make a positive impact on socio- economic empowerment by alleviating poverty through job creation.	• Nuclear energy use is increasing around the world seeing the greenhouse gas emissions emitted from nuclear plants are far less than the coal fired power stations. The need for the safe storage of radioactive material is likely to increase as a result of the abovementioned both in SA and around the world. • Climate change and global warming has led to the environment becoming a global agenda item. The public is becoming more and more aware of the environment as they would like to preserve the environment for future generations. NRWDI plays a key role in protecting the environment for the current and future generations through its safe management and disposal of radioactive waste. • Need to minimise its Carbon Footprint. Reduced consumption - printing, water and electricity. Rise in environmentally friendly practices

The NRWDI will continue to monitor the ongoing changes in its external environment in order to respond timeously, appropriately and with relevance to any significant shifts or changes.

8.2 Internal Environment Analysis

A SWOT analysis is a powerful tool for sizing up an organisation's resource capabilities and deficiencies. The NRWDI's internal strengths and weaknesses, together with the external opportunities and threats were evaluated to provide a basis for re-aligning, re-prioritising and refining the NRWDI's impact statement, outcomes and outcome indicators. The purpose is for the NRWDI to optimise identified strengths, harness opportunities, offset identified weaknesses and mitigate threats.

Strengths are factors that give the NRWDI a distinctive advantage or competitive edge within the environment within which it operates. NRWDI can use such factors to accomplish its strategic objectives.

The weaknesses refer to a limitation, fault, or defect within NRWDI that prevent it from achieving its objectives; it is what the Institute does poorly or where it has inferior capabilities or limited resources as compared to other organisations within which it operates.

Opportunities include any favourable current or prospective situation which could be facilitated to allow the organisation to enhance its competitive edge. Threats may be a barrier, constraint, or anything which may inflict challenges, damages, harm or injury to the organisation.

Table 6 : SWOT: List of Strengths, Weaknesses

Strengths	Weaknesses
• NRWDI mandate is legislated and unambiguous. • Core staff is suitably qualified and have generally experienced staff. • Technical expertise in radioactive waste disposal. • World-class low-level waste disposal facility, Vaalputs, which is in operation for more than 30 years. • Board and management are committed to the open, transparent and accountable management of NRWDI • International partnerships and connectedness. • Clean audits as part of good reputation. • ISO 9001 certification. • Staff contingent, dedicated, innovative and open to embrace change.	• Sustainability of funding – this negatively influences acting on the mandate. • Lack of a Project management capability • Sustainable leadership • Lack of brand identity and image • Internal processes and systems not completely in place • Change management processes for the Vaalputs functional shift needs to be strengthened.

Table 7: SWOT: List of Opportunities and Threats

Opportunities	Threats
• Evolving culture. • Funding opportunities: offer professional services, project waste consultation services, AFRA training opportunities. • Meaningful contribution to South Africa's socio-economic transformation, NDP and MTSF imperatives. • Centre of excellence in radioactive waste management and disposal. • Render advisory services to the AU and SADC countries with regard to radio-active waste. • Build strong co-operative partnerships with IAEA, global and local waste management organisations to enhance and complement NRWDIs competencies. • Efficiency gains – other waste currently stored at Necsa and Ithemba labs. • Reallocation of resources: Vaalputs staff and asset transfer. • Innovation for the disposal of other radioactive waste classes.	• Possibility to lose highly qualified staff due to brain drain and poaching from other organisations in the very small nuclear industry • Communication with stakeholders not adequate • Negative public perception and sentiment regarding nuclear energy and radioactive waste • Delays in finalisation of Waste Management Fund Bill will compromise sustainability and mandate of NRWDI • Global nuclear events and accidents increasingly influence government policy and regulation towards the nuclear industry • Delays in obtaining the Vaalputs Nuclear Installation License and concluding the Vaalputs functional shift • Lack of critical mass of skilled and suitable qualified individuals in the nuclear energy sector. • Change in regulatory requirements • Loss of mandate due to non-delivery

8.3 Stakeholder Analysis

Achieving societal and political acceptance is one of the largest challenges with regard to the management and disposal of radioactive waste. This relates in particular to dealing with the myriad of perceptions and fears associated with nuclear disasters in the world e.g., nuclear bomb explosions and weapons programmes, nuclear reactor accidents, health effects associated with cancer and genetic birth effects. Therefore, demonstrating technical competence and regulatory compliance alone are not enough to instill stakeholder confidence and trust. Thus, it is imperative to ensure public participation and stakeholder engagement in a meaningful way. NRWDI's stakeholder management strategy ensures that the advancement of enhanced stakeholder participation and corporate transparency go hand in glove. Stakeholder confidence building strategies and policies are regional specific and take into account cultural diversities.

Figure 2 below reflects the NRWDI's stakeholder map whilst Table 8: Stakeholder Analysis Matrix depicts the variety of stakeholders who assume substantial influence over the operation of the organisation. These stakeholders have respective expectations that must be fulfilled as tabulated below.

Figure 2: NRWDI Stakeholder Map

ENABLING STAKEHOLDERS	FUNCTIONAL STAKEHOLDERS	NORMATIVE STAKEHOLDERS	DIFFUSED STAKEHOLDERS
Literature and historical data from past similar project. **(Provide control and authority – critical for the achievement of strategic objectives)**	**(Essential for operations – divided into inputs and outputs)**	**(Associations / groups with similar interests, goals, values and problems**	**(Protecting the rights of people - appear in times of crisis or a specific issue)**
Department of Mineral Resources and Energy Parliamentary Portfolio Committee National Treasury Auditor General National Nuclear Regulator and other Regulators Safety and Quality Advisory Bodies	Board and Board Committees Management Staff Suppliers Radioactive Waste Generators Customers Licensees	International Atomic Energy Agency and other international bodies such as the EU Forum etc. Scientific and Academic Institutions Related Government Departments and Public Entities	Media Organised Labour Public / Public Interest Groups

Table 8 : Stakeholder Analysis Matrix

Stakeholder	Influence	Expectation
The Board and Governance Committees e.g. Technical Operations Committee, Social and Ethics Committee, Audit and Risk Committee	• Strategic direction	• Transparency • Accountability • Governance, Integrity, Ethics
Department of Mineral Resources and Energy	• Policy Setting • Administrative and governance oversight	• Conformance • Governance Continuity and Reporting • Synergy and effective collaboration • Fulfilment of legislative mandate
Parliamentary Portfolio Committees	• Sanction • Legislation • Oversight budget and reporting	• Accountability • Governance, Integrity, Ethics • Contribution to National Priorities • Provision of direction
Waste generators	• Public Perception • Risk Profile • Waste Disposal Infrastructure	• Provision of information to establish waste disposal solutions • Clarity on waste management processes • Waste management plans • Fair in operation • Consistent feedback • Good turnaround times • Honesty • Accountability • Integrity • Comply with their own license agreements • Transparency • Responsiveness • Guidance • Interaction • Accessibility, Fairness, Consistency, Feedback

Stakeholder	Influence	Expectation
Staff	• Productivity • Morale • Public Perception • Performance Effectiveness	• Fairness • Respect of Worker Rights • Equity and equality • Involvement • Best Practice HRM policies/ practices • Conducive work environment • Adequate resourcing • Transparency • Ethical Behaviour
Media	• Public Perception	• Regular Communication • Transparency • Access to Information
Organized Labour	• Policies • Productivity	• Framework for engagement • Willingness to work • Transparency • Communication • Fairness • Enabling environment for association
The Public/Public interest groups/ Licensees	• Operations • Strategy • Culture	• Transparency • Fairness • Consistent delivery • Integrity • Values orientation • Information sharing • CSI
Suppliers	• Risk • Effectiveness • Turnaround	• Transparency • Fairness • Consistency • Ethical Behaviour
National Treasury (NT)	• Regulatory environment • Financial Prudency • Budgeting	• Reporting • Governance • Compliance
Auditor General (AG)	• Regulatory environment • Compliance	• Reporting • Governance • Audit outcomes • Performance

Stakeholder	Influence	Expectation
International Atomic Energy Agency and other international bodies such as EU Forum etc.	• Policy • Guidance • Safety standards • Direction	• Compliance • Implement international best practice • Capacity building • Research and Development • Collaboration
NNR/ regulators	• Source of regulation	• Regulatory Compliance • Efficiency • Fairness • Regulate • Transparency • Due process • Cooperation
Scientific and Academic Institutions	• Research agenda	• Partnerships • Collaboration • Compliment the Research and development mandate

9. ORGANISATIONAL STRUCTURE

9.1 Governance structure

The NRWDI is a Schedule 3A public entity that reports to the Executive Authority i.e., the Minister of Mineral Resources and Energy. The NRWDI's activities are funded by the provision of a budget from funds voted annually to the DMRE. The governance of the NRWDI is entrusted to a Board appointed in accordance with the NRWDI Act, Section 7(1), by the Minister of Mineral Resources and Energy.

Good governance is crucial to business sustainability and growth of the organisation. The NRWDI has committees that advise the Accounting Authority on matters pertaining to governance. These are the Audit and Risk Committee, the Social and Ethics Committee which also has oversight of the Human Resources and Remuneration aspects, and the Technical Operations Committee. These committees function by way of formal Charters.

The Acting Chief Executive Officer, assisted by a senior management team which comprises of the Chief Financial Officer and Divisional Managers, are responsible for the day-to-day running of the NRWDI. The operational component of NRWDI has to be delivered through the Vaalputs National Radioactive Waste Disposal Facility, whose functional shift from Necsa to NRWDI is a key imperative for full operationalization of the NRWDI.

9.2 Operational structure

The current operational structure of the NRWDI was approved by the Board. The structure has been adjusted over time to ensure that it remains relevant and appropriate to organisational requirements. It ensures that the NRWDI continues to have the right people, with the right skills and competencies available at the right time, at the appropriate level to deliver on its mandate.

The NRWDI will continue to embrace Total Quality Management (TQM) by creating a total quality culture based on continuously improving the performance of every task and value chain activity.

The organogram that follows represents the organisational structure for 2020/21 of the NRWDI. It sets out the operational structures, based on the NRWDI's Strategy 2020-2025 and Annual Performance Plan 2020/21, which will best enable it to deliver on its mandate.

The key driver with regard to the number and type of future resources required is related to the types and volume of waste generated for disposal in authorised nuclear facilities.structure. The organisational structure of the NRWDI has been designed according to the design principles of consistency, continuity, accountability, flexibility and efficiency.

In order to ensure consistency and continuity, the NRWDI will embark upon a full Workforce Planning exercise or scenario forecasting (quantitative and qualitative) exercise that will determine its specific resourcing requirements (as contained within a Workforce and Strategic Sourcing Plan) for coming years.

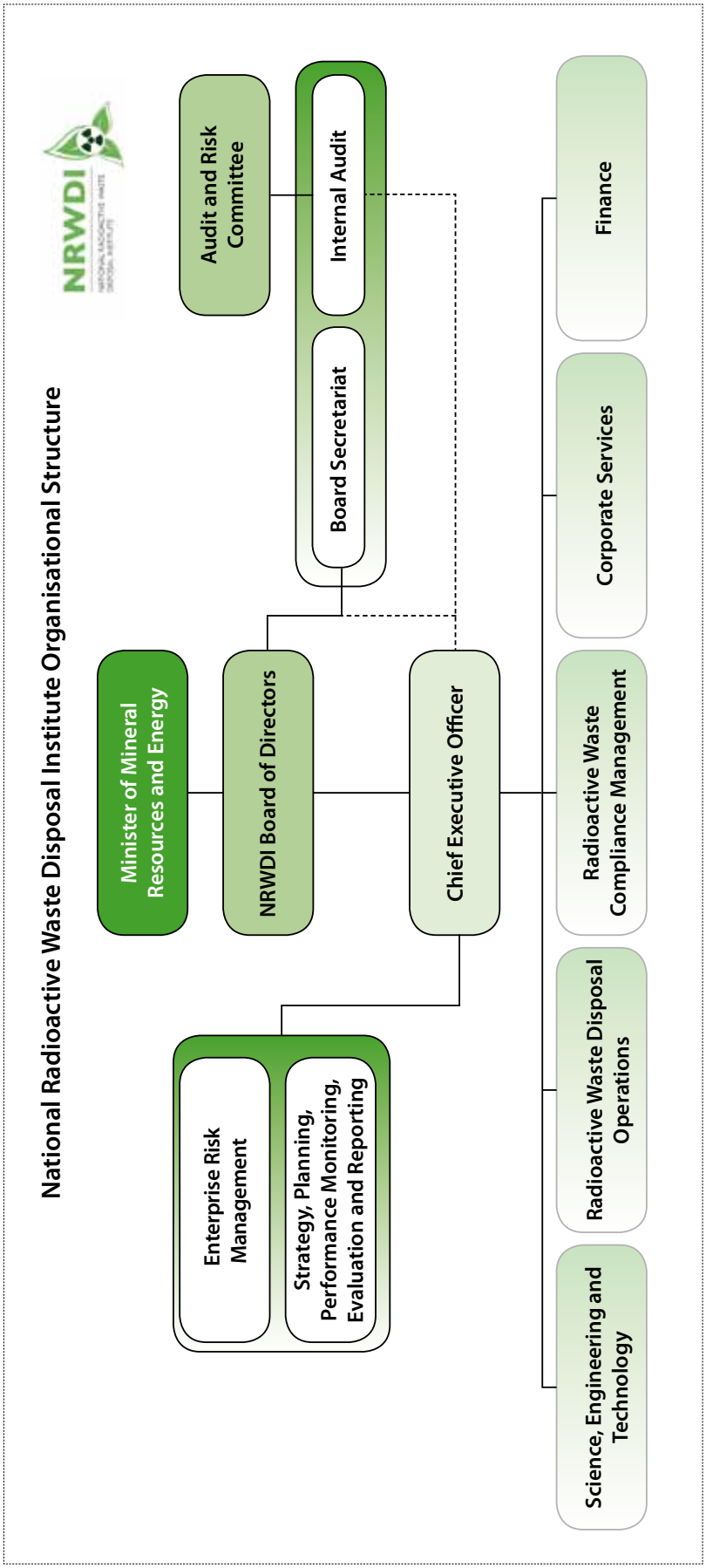
To ensure accountability, the NRWDI, wherever possible, ensures that whole work processes with discrete work products are owned 'end to end' by functional teams will also use Project Management principles in managing their projects. In order to ensure efficiency, the NRWDI will be structured with a combination of permanent and contingent employees. This allows for the work-force, and the consequent employment cost, to flex and adjust to the NRWDI's variable types and amount of radioactive waste. It also provides an opportunity for the NRWDI to carefully manage the transition process.

The CEO oversees the day to day operations of NRWDI. The key divisions within the Institute are Administration, Radioactive Waste Disposal Operations, Science, Engineering and Technology; Radioactive Waste Compliance Management. The Administration division drives the Human Resource Strategy and Plan. HR's focus has shifted from a traditional "support unit" to one that is now a strategic delivery partner. Human resources functions incorporate amongst others, organisational design, strategic workforce planning and sourcing as well as human resource development, inclusive of a focus on ongoing learning.

To ensure the consistent communication of business objectives and changes, as well as the engagement of all staff at all levels, Administration manages internal & external communications. The role of Administration in the NRWDI also includes ensuring employment-related regulatory compliance as well as the appropriate design and utilisation of all aspects of its physical space in order to create an optimal, safe and cost-effective environment for NRWDI employees. This is accomplished by managing the core facilities management activities which include Occupational Health and Safety (OHS), maintenance, and cleaning.

The NRWDI has a reasonably stable management core enjoying a degree of continuity. This core is tasked with managing employees whose numbers vary according to organisational requirements. The evolving profile of the NRWDI workforce indicates a transition to a predominantly younger workforce over time. Managing this young, largely contingent workforce will require leadership within the NRWDI to develop the necessary skills to manage millennial employees.

Figure 3 NRWDI Structure



10. MULTI-YEAR FINANCIAL PROJECTIONS

Allocations have been made to the NRWDI by National Treasury for the specific periods indicated in the table below. The following table sets out the budget and cash flows of the NRWDI for the next MTEF period (up until 2023).

Table 9: Income and Expenditure

Statement of Financial Performance - NRWDI Consolidated								
Revenue	**Audited Outcome**	**Audited Outcome**	**Audited Outcome**	**Approved budget**	**Revised estimate**	**Medium-term estimate**		
Rand Thousand	**2016/17**	**2017/18**	**2018/19**	**2019/20**		**2020/21**	**2021/22**	**2022/23**
Non-Tax revenue	5,525	1,211	1,908	1,526	2,282	2,094	2,364	2,666
Commission received	1	1	1	0	1	0	0	0
Waste disposal fees	5111	0	0	0	0	0	0	0
Interest	413	1210	1907	1526	2281	2094	2364	2666
Transfers received	10,000	30,000	45,532	47,499	47,499	49,397	51,564	54,039
Total revenue	**15,525**	**31,211**	**47,440**	**49,025**	**49,781**	**51,491**	**53,928**	**56,705**

Expenses	**Audited Outcome**	**Audited Outcome**	**Audited outcome**	**Approved budget**	**Revised estimate**	**Medium-term estimate**		
Rand Thousand	**2016/17**	**2017/18**	**2018/19**	**2019/20**		**2020/21**	**2021/22**	**2022/23**
Current payments	24,925	30,320	36,800	49,025	54,426	51,491	53,928	56,705
Compensation of employees	15,465	26,192	31,105	40,171	34,651	42,169	44,301	46,549
Salaries and wages	15,465	26,192	31,105	40,171	34,651	42,169	44,301	46,549
Goods and services	4,251	3,861	5,192	8,444	19,079	8,890	9,171	9,696
Of which								
Advertising	0	72	221	0	103	0	0	0
Agency and support/ outsourced services	0	0	53	31	15	32	34	36
Assets less than R5 000	0	0	0	59	209	68	70	72
Audit costs	0	782	532	1,293	728	1,452	1,200	1,244
Bank charges	0	48	22	55	26	58	61	63
Board costs	0	324	203	309	256	325	342	355
Catering: internal activities	0	11	18	11	16	11	12	12
Communication	0	174	228	364	327	366	367	381
Computer services	0	304	378	602	840	638	676	701
Consultants	402	4	0	4	4	5	5	5
Contractors	418	279	1,080	750	4,210	750	750	778
Entertainment	0	12	11	12	6	13	14	14
Lease Payments	862	724	783	811	816	860	907	1,498
Legal fees	0	53	32	300	212	300	250	259
Non life insurance	0	0	0	120	120	127	134	139
Printing and publication	0	231	118	295	268	305	322	334
Repairs and maintenance	140	4	39	36	28	38	40	42
Training and staff development	0	11	67	798	691	1,400	1,997	1,700
Travel and subsistence	872	587	940	1,200	1,200	1,200	1,000	1,037
Venues and facilities	0	73	96	181	147	181	191	198
Other unclassified expenditure	1,557	168	370	1,214	8,857	762	799	829
Annual licence fees	1,557	0	32	37	37	39	41	43
Vaalputs NIL	0	0	0	0	7,661	0	0	0
Safety support case	0	0	68	531	531	123	130	135
PSI forums	0	0	0	250	250	250	264	274

Expenses	Audited Outcome	Audited Outcome	Audited outcome	Approved budget	Revised estimate	Medium-term estimate		
Rand Thousand	**2016/17**	**2017/18**	**2018/19**	**2019/20**		**2020/21**	**2021/22**	**2022/23**
Stationery	0	29	50	41	43	43	46	48
Postal costs	0	13	7	16	15	17	17	18
Consumables	0	97	137	64	63	68	69	72
Branding material	0	0	45	159	159	100	100	104
Sundries	0	0	6	0	0	0	0	0
Membership fees	0	28	26	116	96	122	132	137
Depreciation	78	267	492	410	696	431	455	460
Losses from	5,132	0	11	0	0	0	0	0
Disposal of fixed assets	0	0	11	0	0	0	0	0
Impairments to non-financial assets	5,132	0	0	0	0	0	0	0
Total Expenditure	**24,925**	**30,320**	**36,800**	**49,025**	**54,426**	**51,491**	**53,928**	**56,705**
Surplus/(Deficit)	**(9,401)**	**891**	**10,640**	**0**	**(4,645)**	**0**	**0**	**0**

11. DESCRIPTION OF THE PLANNING PROCESS

The NRWDI is committed to an ongoing, inclusive process of strategy crafting, planning, alignment and review. As an important part of this process, the NRWDI engages with its key stakeholders and obtains structured inputs into its planning and review process. The following workshops have been held to provide relevant input into the NRWDI Strategy and Annual Performance Plan:

- On 14th and 15th November 2019, the NRWDI leadership team and strategic stakeholders participated in a workshop to craft the current NRWDI Strategy and to plan the APP going forward.
- On the 27th November 2019 and 9th December 2019, the NRWDI Leadership team reviewed and refined further the content of the Strategy and APP.
- On the 30th January 2020, at a Board meeting, the five 2020-2025 Strategic Plan and 2020/2021 Annual Performance Plan were reviewed and approved by the Board for submission to the Executive Authority.

PART C

MEASURING OUR PERFORMANCE

PART C: MEASURING OUR PERFORMANCE

12. INSTITUTIONAL PERFORMANCE INFORMATION

12.1 Measuring the impact

Impact Statement	Safe, secure, socially acceptable and environmentally sustainable solutions for radioactive waste disposal

12.2 Measuring Outcomes

MTSF Priority	**Priority 6: Capable, ethical and development state**		
Outcome	**Outcome Indicator**	**Baseline**	**Five-year target**
1. An effective, efficient and responsive NRWDI.	Percentage implementation of the support services strategic deliverables	No baseline (new target)	80% implementation of support services strategic deliverables
2. Safe disposal of all classes of radioactive waste.	Percentage execution of waste disposal operational activities	No baseline (new target)	100% execution of waste disposal operational activities
3. Centralised storage of spent nuclear fuel.	Percentage of project plan implementation towards state of readiness for centralised storage of spent fuel	No baseline (new target)	100% of project plan implemented
4. Compliance with applicable legislative and regulatory requirements.	Percentage compliance with the applicable legislative and regulatory requirements.	No baseline (new target)	100% compliance with the applicable legislative and regulatory requirements.

12.3 Explanation of Planned Performance over the Five-Year Planning Period

a) All the selected outcomes contribute directly towards the achievement of the NDP Five- Year Implementation Plan, the Monitoring Framework for the NDP Five- Year Implementation Plan, the mandate of the institution and priorities of women, children and people with disabilities.

CHAPTER IN THE NDP	**Contribution of the outcomes towards the achievement of the NDP 5-year Implementation Plan, Monitoring Framework for the NDP 5-year Implementation Plan, mandate of NRWDI, priorities of women, children and people with disabilities, provincial priorities**
Chapter 4 of the NDP: Economic Infrastructure	Outcome 3 contributes to this achievement. In order for the country to support the long term economic objectives and development goals, South Africa needs to extensively invest in economic infrastructure. NRWDI will conduct site selections and investigations for the establishment of storage and disposal facilities. Site selections will include the identification, evaluation, characterisation and selection of suitable sites to make them available for the establishment and installation of storage and disposal facilities for all classes of waste not only from safety and environmental protection considerations but from all other aspects such as access, transportation and community and stakeholder acceptance. These facilities must be designed to receive, store and dispose all the high level waste and spent nuclear fuel from the country's power reactors and long lived intermediate level radioactive waste from the decommissioning of nuclear power plants. NRWDI will also provide scientific and technical support facilities for regulatory compliance purposes.

CHAPTER IN THE NDP	Contribution of the outcomes towards the achievement of the NDP 5-year Implementation Plan, Monitoring Framework for the NDP 5-year Implementation Plan, mandate of NRWDI, priorities of women, children and people with disabilities, provincial priorities
Chapter 5 of the NDP: Environmental Sustainability and Resilience	All outcomes contribute to this achievement. Developmental challenges must be addressed in a manner that ensures environmental sustainability and builds resilience to the effects of climate change. The overarching mandate of NRWDI is to develop and implement a management approach for the long-term care of South Africa's radioactive waste that is technically sound, socially acceptable, environmentally responsible and economically feasible. In order to give effect to the overarching mandate, the following management approaches will be pursued by NRWDI: A *technically* sound management approach which is informed by the best technical and scientific knowledge and experience available. At a minimum it must ensure: public health and worker safety; and security of nuclear material. It must also meet international safeguards and non-proliferation obligations. A *socially* acceptable management approach which must emerge from a process of collaboration with all stakeholders. It will take into account the best available knowledge and expertise, and be responsive to the values and objectives which are imperative for stakeholders. An *environmentally* responsible management approach in which the physical, chemical and biological stresses on the environment, including the cumulative effects over prolonged periods, and the potential consequences of failure of any part of the containment system, are within the natural capacity of the environmental processes to accept and adjust to. This will ensure the long-term integrity of the environment. An *economically* feasible management approach that ensures that adequate economic resources are available, now and in the future, to pay the costs of the selected approach. The cost must be reasonable. This approach ensures that funding shortfalls will not occur that would threaten the assured continuation of the necessary processes. A net-benefit management approach to ensure that disposal activities do not exceed the benefits of the practice that generates the waste and that waste producers fully cover the cost of the disposal cycle.
Chapter 5 of the NDP: Environmental Sustainability and Resilience	NRWDI will develop a quality management system for the NRWDI head office to discharge the obligations and regulatory requirements associated with holding a nuclear authorisation. The development of operating policies and procedures will give effect to implementing regulatory requirements with regards to safety, health, environment and a quality system. The development of these policies and procedures will assist in protecting the health and safety of people and the environment from the harmful effects of radiation. Furthermore, adaptation strategies in conjunction with national development strategies would be implemented, including disaster preparedness, investment in more sustainable technologies and programmes to conserve and rehabilitate ecosystems and biodiversity assets.
Chapter 8 of the NDP: Transforming Human Settlements	Outcome 2 and 3, contribute towards this chapter as it emphasises the need for effective and coordinated spatial planning systems. By 2025, NRWDI will strive to achieve measurable progress towards breaking apartheid spatial patterns with significant advances made towards identifying specific sites for NRWDI projects.

CHAPTER IN THE NDP	Contribution of the outcomes towards the achievement of the NDP 5-year Implementation Plan, Monitoring Framework for the NDP 5-year Implementation Plan, mandate of NRWDI, priorities of women, children and people with disabilities, provincial priorities
Chapter 13 of the NDP: Building a Capable and Developmental State	All outcomes contribute to this achievement. The emphasis is on building a capable state to eliminate poverty, reduce inequality and unemployment by 2030. The outcomes contribute towards building a capable state through working towards the following: • Stabilisation of the political administrative interface; • Development of technical and specialist professional skills; and • Improving relationships between the spheres of government.
Chapter 14 of the NDP: Fighting Corruption	All outcomes contribute to this achievement. Prevention focuses on the effectiveness of the available systems, institutional arrangements and accountability in NRWDI. Education in society is about the society understanding the social dimensions of corruption and reporting it. Good governance, sound financial management and accountability remain the priority for NRWDI.
Chapter 15 of the NDP: Transforming Society and Uniting the Country	All outcomes contribute to this achievement. People must unite around a vision of a better South Africa. This indicates that citizens have an important role to play in bringing about transformation and holding government accountable for the services they deliver. NRWDI will work towards strengthening the functionality of oversight structures; improve timeous consultation, communication and feedback across stakeholders.

12.4 Rationale for the choice of the outcome indicators relevant to the respective outcomes

Outcome 1: An effective, efficient and responsive NRWDI

Outcome Indicator: *Percentage implementation of the support services strategic deliverables*:

Strategic support at NRWDI comprises of a multitude of activities which are conducted by specific units within NRWDI. All of these activities need to be timeously co-ordinated and meticulously implemented in order to ensure that NRWDI is able to execute its mandate. Financial viability and sustainability (compliance to the PFMA and Treasury Regulations) must be tracked and monitored to ensure sustainable operations, support effective asset management, and deliver appropriate levels of service to stakeholders. NRWDI seeks to ensure that governance protocols are adhered to by employing robust internal control systems. Key contributions to such will be made by the Risk and Internal Audit departments and the Board Secretariat. Performance Planning, Reporting, Monitoring and Evaluation will determine the effectiveness of NRWDI in terms of meeting its mandate and the requirements of the Shareholder. The monitoring and evaluation processes are a strategic imperative, executed via the Office of the CEO, Strategy and Planning department and reported on, at defined intervals. The Human Capital strategy seeks to understand and anticipate the organisations talent needs. The strategy will focus on attracting, maintaining and retaining appropriate human capital and providing opportunities for employee growth and advancement.

Outcome 2: Safe disposal of all classes of radioactive waste

Outcome indicator "*Percentage execution of waste disposal operational activities.*

This outcome indicator contributes directly the safe disposal of all classes of radioactive.

The following activities are inherently part of this outcome indicator:

- Operate the national low level waste repository at Vaalputs;
- Manage, operate and monitor operational radioactive waste disposal facilities including related predisposal management of radioactive waste on disposal sites;
- Provide information on all aspects of radioactive waste management to the public living around radioactive waste disposal facilities and to the public in general; and

- Maintain the Vaalputs Waste Disposal Inventory Database and submit annually a report to the NNR relating to waste inventory disposed of at Vaalputs.

Outcome 3: Centralised storage of spent nuclear fuel

Outcome Indicator: *Percentage of project plan implementation towards state of readiness for centralised storage of spent fuel:*

This outcome indicator will ensure that a centralised interim spent fuel storage facility is license and operate by 2025 for the safe storage of Koeberg spent fuel and other high level. A project plan will be required to provide a roadmap, milestones and schedules as well as indicate resources required for achieving this outcome by 2025. Key activities and milestones will include, inter alia, pre-feasibility studies, feasibility studies, technology selection, environmental impact assessment, licensing, construction, cold and hot commissioning as well as the nuclear license to operate this facility.

Outcome 4: Compliance with the applicable legislative and regulatory requirements.

Outcome Indicator: *Percentage compliance with the applicable legislative and regulatory requirements.*

There are specific legislative and regulatory requirements that govern the establishment of waste disposal and related infrastructure and the operations and management of these waste disposal infrastructure and disposal repositories. This outcome indicator will provide assurance that the disposal of the radioactive waste on a national level is executed in compliance with all applicable legislative and regulatory requirements such as quality, health, conventional safety, environmental, nuclear and radiological safety and relevant international standards and best practices.

12.5 Enablers to achieve the five-year targets

The key enablers to achieve the five-year targets is funding, an adequately capacitated workforce at NRWDI with the requisite experience and skills, sound monitoring and evaluation systems which will allow for evidence-based planning and decision making. There must be a strong focus on compliance verification, self-assessments, data management, analysis and modelling. In addition, sound policies and procedures, modernized information communication technology platforms; political will; and buy-in from stakeholders are also required. This will require the involvement of the private sector and other key stakeholders including civil society. Co-ordination and the harmonization of different sector plans-is needed for alignment and consistency.

12.6 Outcomes contribution to the achievement of the impact

Impact Statement	Safe, secure, socially acceptable and environmentally sustainable solutions for radioactive waste disposal

Outcome	How It Contributes to the Achievement of the Impact	Linkage with the MTSF 2019 -2024
1. An effective, efficient and responsive NRWDI	NRWDI must be adequately structured, and resourced with skilled personnel who have the correct tools of trade and who work within a supportive, conducive and innovative environment so that they can provide support and expertise towards enhancing service delivery. Good governance and sound financial management are also imperative to achieving the outcome and ultimately the impact.	Priority 6: Capable, ethical and development state

Outcome	How It Contributes to the Achievement of the Impact	Linkage with the MTSF 2019 -2024
2. Safe disposal of all classes of radioactive waste	This outcome focuses directly on the safe, secure and environmentally sustainable disposal of all classes of radioactive waste.	Priority 6: Capable, ethical and development state Priority 1: Economic Transformation and Job Creation
3. Centralised storage of spent nuclear fuel	This outcome will contribute towards the establishment of a disposal related facility for the safe and secure storage of spent nuclear fuel and high level waste, which needs to be established.	Priority 6: Capable, ethical and development state Priority 1: Economic Transformation and Job Creation
4. Compliance with the applicable legislative and regulatory requirements	This outcome forms the basis to ensure that our overall waste disposal impact statement will be achieved.	Priority 6: Capable, ethical and development state

13. KEY RISKS

Outcome	Key Risk	Risk Mirigation
1. An effective, efficient and responsive NRWDI	Lack of developed, documented and implemented policies and procedures.	• Ensure that robust policies and procedures are developed and implemented in line with applicable legislation.
	Inadequate capacity and capability (people, systems and processes)	• Implement effective talent management strategies • Drive organisational culture change. • Strengthen internal capacity to deliver on the mandate. • Ensure development and implementation of robust processes and systems. • Build strategic partnerships
	Inadequate budget appropriation to implement plans.	• Develop revenue generation strategy.
2. Safe disposal of all classes of radioactive waste	Inability of waste generators to comply with the waste acceptance criteria	• Pre-shipment compliance inspections. • Audit waste generators management systems.
	Ageing of infrastructure	• Develop and implement an ageing infrastructure management program.

Outcome	Key Risk	Risk Mirigation
3. Centralised storage of spent nuclear fuel	Delay in licensing due to NNR processes	Regular communication with NNR.
	Delay in EIA authorisation due to DEA processes	Regular communication with DEA.
	Lack of project funding	Explore joint ventures and public-private partnerships.
	Lack of SQEP to plan and implement the CISF.	Explore secondments, hiring of SQEP, and training of existing staff.
	Public opposition to the CISF project.	Establish public/stakeholder awareness and engagement programmes.
4. Compliance with the applicable legislative and regulatory requirements.	Delays in issuing NRWDI with the Nuclear Installation License.	• Liaison with the National Nuclear Regulator (NNR).
	Failure to implement Integrated Management Systems	• Regular internal inspections and audits of Integrated Management System.

14. PUBLIC ENTITIES

There are no public entities reporting to NRWDI.

PART D

TECHNICAL INDICATOR DESCRIPTION

PART D: TECHNICAL INDICATOR DESCRIPTION

15. Programme 1: Technical Indicator Description (TID)

Indicator Title	Percentage Implementation of the Support Services Strategic Deliverables
Definition	Support Services has strategic deliverables which need to be implemented for NRWDI to operate efficiently and effectively ensuring the achievement of its outputs and outcomes thus delivering on its mandate as contained in the NRWDIA.
Source of data	Electronic filing system (Financial statements, policies, procedures, quarterly reports)
Method of Calculation / Assessment	% implementation = Number of support services strategic deliverables achieved /total number in plan x 100
Assumptions	• All supporting documents including policies, procedures are in place. • Governance structures are in place and are operational. • Management and Board are well versed with the PFMA and other legislation and frameworks applicable to schedule 3A entities. • NRWDI strategic plan, APP and AOP are approved. • Human Capital strategy and implementation plan are approved.
Disaggregation of Beneficiaries (where applicable)	• Target for women: N/A • Target for youth: N/A • Target for disabled persons: N/A
Spatial Transformation (where applicable)	• Contribution to spatial transformation priorities: N/A • Spatial impact area: N/A
Reporting Cycle	Annual progress against the five year target
Desired performance	100% implementation of the support services strategic deliverables
Indicator Responsibility	Chief Financial Officer/Executive Manager: Corporate Services

16. Programme 2: Radioactive Waste Disposal Operations

Indicator Title	Percentage Execution of Waste Disposal Operational Activities
Definition	Waste disposal activities include implementation of SHEQ system, implementation of NIL, number of drums disposed that comply with the WAC, number of Public Safety Information Forums conducted as dictated by the NNR Act, and environmental monitoring.
Source of data	SHEQ audit reports, Waste package disposal records, attendance registers for VPSIF, environmental monitoring reports, NNR inspection reports.
Method of Calculation / Assessment	% implementation = number of activities completed /number of activities on action plan x 100.
Assumptions	• Nuclear Installation License approved • Implemented SHEQ management system • Functional SHEQ management system • Adequate resources to manage NIL implementation
Disaggregation of Beneficiaries (where applicable)	• Target for woman: N/A • Target for youth: N/A • Target for disabled persons: N/A

Indicator Title	Percentage Execution of Waste Disposal Operational Activities
Spatial Transformation (where applicable)	• Contribution to spatial transformation priorities: N/A • Spatial impact area: N/A
Reporting Cycle	Annual progress against five year target
Desired performance	100% execution of waste disposal operational activities
Indicator responsibility	Chief Operations Officer

17. Programme 3: Science, Engineering and Technology

Indicator Title	Percentage of Project Plan Implementation Towards State of Readiness for Centralised Storage of Spent Fuel
Definition	The "percentage of CISF project plan implementation towards state of readiness for centralised interim storage of spent fuel" is a measure of progress in the implementation of the project plan from the conceptual phase, through the siting, design, licensing and construction phases, to the commissioning phase. This outcome indicator is measured on an annual basis from a 0%-base in the first year to 100% in the final year. The project plan will be a formal document that contains a project scope and objective and shows the basis upon which to assess performance of the project and measure its results, while the state of readiness will be a measure of preparedness for commencing the safe storage of spent fuel in the CISF or for the CISF to begin operating and accepting spent fuel for interim storage.
Source of Data	Literature and historic data from past similar project/s. Also consider status/feedback reports; presentations, or any other documentation that will indicate whether you have achieved the milestones as set out in the project plan.
Method of Calculation/ Assessment	% implementation = Number of deliverables achieved /total number of deliverables in project plan x 100
Assumptions	• Funding will be obtained • Regulatory requirements satisfied • Regulatory approvals obtained
Disaggregation of Beneficiaries (where applicable)	Target for Women: N/A Target for Youth: N/A Target for People with Disabilities: N/A
Spatial Transformation (where applicable)	Contribution to spatial transformation priorities: N/A Spatial impact area: N/A
Reporting Cycle	Annual progress against the five year target
Desired Performance	100% of the project plan implemented
Indicator Responsibility	Chief Technology Officer

18. Programme 4: Radioactive Waste Compliance Management

Indicator Title	Percentage Compliance with the Applicable Legislative and Regulatory Requirements
Definition	The NIL comprises the regulatory conditions and requirements (safety standards and practises) for authorisation to manage and operate a nuclear facility and to execute nuclear related projects. Implementation is the pre-requisite for compliance with the regulatory conditions and requirements. Implementation includes development, compliance verification, monitoring and measurement, compliance oversight, awareness training and review.
Source of data	Action plan on compliance status with applicable statutory conditions and requirements, safety case documents, management system documents, project plan.
Method of Calculation / Assessment	% implementation = number of activities completed /number of activities on action plan x 100
Assumptions	• NIL issued in the name of NRWDI • Non-conformance reports (NCR's) generated for non-compliances
Disaggregation of Beneficiaries (where applicable)	• Target for woman: N/A • Target for youth: N/A • Target for disabled persons: N/A
Spatial Transformation (where applicable)	• Contribution to spatial transformation priorities: N/A • Spatial impact area: N/A
Reporting Cycle	Annual progress against the five year target
Desired Performance	100% percentage compliance with the applicable statutory requirements.
Indicator Responsibility	Executive Manager: Radioactive Waste Compliance Management

INTERVENTIONS TO IGNITE ECONOMIC GROWTH POST COVID-19

The National Radioactive Waste Disposal Institute (NRWDI) is responsible for the disposal of radioactive waste on a national basis that may have a profound impact on nuclear safety and radiological safety.

The achievement of safe operating conditions, prevention of nuclear accidents or mitigation of nuclear accident consequences is imperative to ensure the protection of workers, the public and the environment against the potential harmful effects of ionizing radiation or radioactive material. The services provided by NRWDI are designated as essential services.

NRWDI does not significantly contribute to the GDP of our country, however it is an enabling SOE that supports SOCs such as Necsa and NTP, which manufacture radioisotope and radiopharmaceuticals, which are used globally for the diagnosis and management of some cancers and other chronic diseases. In addition, NRWDI also provides radioactive waste disposal services to Eskom's Koeberg Nuclear Power Plant.

These SOCs generate radioactive waste that needs to be disposed of in a secure, safe and sustainable manner to ensure that these SOCs can operate on a continuous basis. The safety and wellbeing of our employees, service providers and the public at large remains our top overriding priority. We have therefore implemented a range of measures and strict protocols to ensure that our employees can continue to perform essential work safely.

At this stage, our key strategy is the reduction of COVID-19 transmissions and therefore contributing to flattening the curve by adopting a work from home strategy where possible to enhance social distancing in the workplace.

NRWDI welcomes our President's Risk Adjusted Strategy that will ignite economic activity, restoring investor confidence and protect and create new jobs. In order for the staggered approach for employees to return to work, NRWDI will strengthen its current health and safety protocols by aligning it to the newly envisaged DOH Regulations that will be published.

The Post COVID-19 era will be defined a "new normal" with respect to our business and operational strategies, including the following:

- Strategic workforce planning, including remote workforce planning, flexible contracts, employee efficiency best practices and HR policies;
- Crisis response and business continuity planning, risk containment policies and procedures.
- Financial resources to weather future unexpected events; and
- Cloud-enabled IT infrastructure, including an enhanced cyber security protocol.

At this stage NRWDI does not foresee any job losses. In addition to the aforementioned, NRWDI will endeavour to create more opportunities for SMMEs and ensuring that payments to these SMMEs are effected within 30 days.

For the post-COVID-19 lockdown economy:

- NRWDI will engage with waste generators such as Necsa, NTP and Koeberg to accelerate their waste disposal shipments to Vaalputs in order to create additional sustainable employment opportunities,
- NRWDI will also use its R&D capability to site, design, build and operate new radioactive waste disposal and related infrastructure for particularly the Koeberg Nuclear Power Plant's Spent Nuclear Fuel.
- In this regard Ministerial approval has been obtained for the establishment of the Centralised Interim Storage Facility (CISF) for the long-term storage of spent nuclear fuel on a national basis, in terms of Sections 46(2) and 46(3) of the Nuclear Energy Act No.46 of 1999. NRWDI will use this critical and national infrastructure project as a catalyst and an enabler to forge durable partnerships and social compacts between government, business, labour, communities and civil society that will result in job creation, skills development, inclusive growth and economic transformation in order to give impetus to the creation of a capable, ethical and developmental state that is at the cutting-edge of the Fourth Industrial Revolution.

In conclusion, the coronavirus pandemic has started a revolution on how entities will strategically approach their business model going forward as they deal with day-to-day operations. This crisis has forced entities to adapt in how they operate, manage their work force, adhere to governmental mandates, and react to customer and employee needs. We expect the world to look different post COVID-19 and while the short-term outlook might be gloomy, history shows markets and society can not only recover after a crisis, it comes back stronger.

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