

**NRWDI**

NATIONAL RADIOACTIVE WASTE  
DISPOSAL INSTITUTE



# **NATIONAL RADIOACTIVE WASTE DISPOSAL INSTITUTE (NRWDI)**

## **ANNUAL PERFORMANCE PLAN FOR 01 APRIL 2018 TO 31 MARCH 2019**



## FOREWORD

The management of radioactive waste disposal on a national basis is an institutional ministerial obligation and assigned to the National Radioactive Waste Disposal Institute (NRWDI), also referred to as the “Institute”.

NRWDI is an independent entity established by statute under the provision of section 55(2) of the Nuclear Energy Act (No. 46 of 1999) to discharge this institutional obligation of the Minister of Energy. The National Radioactive Waste Disposal Institute Act (NRWDIA) (Act no. 53 of 2008) endorsed the establishment of the National Radioactive Waste Disposal Institute (NRWDI). The NRWDI has been listed as a Schedule 3A national public entity.

Nuclear energy is an essential component of South Africa’s 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 as one of its key functions is research and development.

The financial sustainability of NRWDI, however, remains a risk for the organisation. The funding over the MTEF cycle is inadequate to cover both the operational and project related costs. Given this challenge, a large portion of the allocation will continue to be devoted to operational costs until the situation is normalised. A 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, the Institute will be able to source funds from the RWMF, thus providing long term sustainability for the organisation.

The actual extent and complexity of the core tasks and the challenges that lie ahead for the Institute and the country will gradually unfold as the organization 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 long period of time. South Africa must continue its long journey towards the safe management and disposal of all of 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 to operationalize the Institute is the Vaalputs functional shift which entails the transfer of staff and assets of the Vaalputs Radioactive Waste Disposal Facility from Necsa to the Institute in terms of section 30 of the NRWDI Act. It is envisaged that the functional shift will be completed in the 2018/2019 financial year.


The Institute, 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.

The Annual Performance Plan of NRWDI for the period 2018/19 is informed by the approved five-year Strategic Plan (2017/18 – 2019/20). It reflects government's long-term plans as outlined in the medium-term strategic framework (MTSF). The Plan indicates NRWDI's contribution to service delivery through the link to government's 14 outcomes, as well as NRWDI's contribution to the National Development Plan and the Department of Energy's Strategic Plan and Annual Performance Plan for 2018/19.

Performance targets have been set against each strategic objective outlined in the Strategic Plan. Adequate resourcing of the organisation as well as the quarterly performance reviews will ensure the assessment of the overall performance of each programme against this Annual Performance Plan.

The Board fully endorses this Annual Performance Plan and commits to supporting its implementation. I would like to take this opportunity to acknowledge the important work that the Board Members, management team and staff are executing and would like to encourage a collective and innovative spirit in implementing the legislative mandate of NRWDI and future strategic programmes.

Mr. Tshepo Mofokeng  
**Chairperson: NRWDI Board**

Signature:  \_\_\_\_\_

**OFFICIAL SIGN-OFF**

It is hereby certified that this Annual Performance Plan:

- Was developed by the management of NRWDI under the guidance of the Accounting Authority.
- Was prepared in line with the approved 2017/18-2019/20 Strategic Plan of NRWDI.
- Accurately reflects the performance targets which NRWDI will endeavour to achieve given the resources made available in the budget for the 2018/19 financial year.

**Mr. Alan Carolissen**  
Chief Operating Officer



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Signature

**Mr. Justin Daniel**  
Chief Financial Officer



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Signature

**Dr Wolsey Barnard**  
Chief Executive Officer



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Signature

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## **PART A: STRATEGIC OVERVIEW**

This document provides the NRWDI Annual Performance Plan for the period 2018/19, which has been aligned with the NRWDI Strategic Plan for the period 2017/18 – 2019/20. It sets out the NRWDI's strategic objectives, performance indicators and targets, which the organisation seeks to achieve in the upcoming fiscal year in relation to its policy priorities, programmes and project plans within the scope of its mandate and available resources, towards implementing its Strategic Plan. This plan also includes forward projections for a further three years, consistent with the medium-term expenditure framework (MTEF) period, with annual and quarterly performance targets where applicable.

Concerted efforts have been undertaken to ensure that all performance indicators and targets in this plan are presented in a specific, measurable, achievable, relevant and time-bound (SMART) format, hence enabling the Institute to effectively monitor and evaluate progress and to timeously take corrective actions when necessary. Monitoring and reporting of achievements made against this plan will be undertaken through quarterly performance reviews and annual performance audits.

### **1. VISION, MISSION AND VALUES**

#### **VISION**

To achieve excellence in the safe management and disposal of radioactive waste in a manner that protects the environment for both current and future generations.

#### **MISSION**

To develop and implement a management approach for the long-term care and disposal of radioactive waste that is, safe, technically sound, socially acceptable, environmentally responsible and economically feasible.

#### **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 in Table 1:

**Table 1: Corporate values**

Accountability	We will ensure <b>accountability</b> for all our actions.
Leadership	We will demonstrate <b>leadership</b> in all that we do.
Excellence	We will pursue <b>excellence</b> in every aspect of the business
Integrity	We will conduct ourselves with utmost <b>integrity</b> at all times.
Engagement	We will promote <b>engagement</b> with all our stakeholders continuously.
Professionalism	We will act with <b>professionalism</b> at all times.
Transparency and Open Communication	We shall strive for <b>transparency and open communication</b> at all times.

## 2. LEGISLATIVE AND OTHER MANDATES

### 2.1 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.

### 2.2 LEGISLATIVE MANDATE

The management of radioactive waste disposal on a national basis is assigned to the National Radioactive Waste Disposal Institute. 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 Energy.



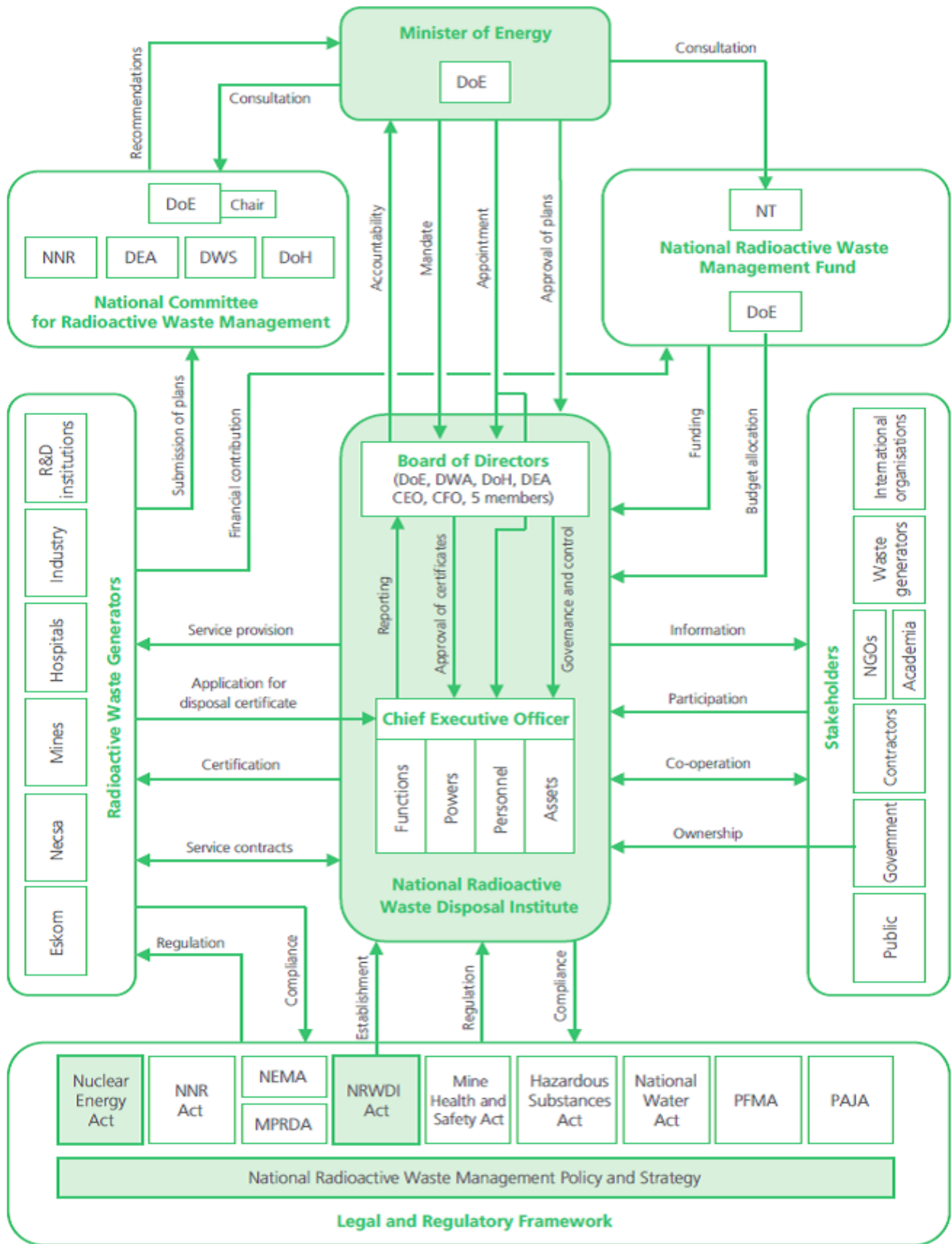
The National Radioactive Waste Disposal Institute Act (NRWDIA) (Act no. 53 of 2008) was proclaimed by the President of the Republic of South Africa in Government Gazette no. 32764 and NRWDIA became effective on the 1<sup>st</sup> December 2009. The NRWDIA endorsed the establishment of the National Radioactive Waste Disposal Institute (NRWDI).

As a public entity, NRWDI is also governed by the *Public Finance Management Act, Act 1 of 1999 (as amended by Act 29 of 1999)*, and it is listed as *Schedule 3A* public entity.

In order to play its role in accordance with the legislative and regulatory framework and to focus on delivering its mandate, NRWDI has developed specific outcomes and strategic objectives, around which a number of strategic initiatives and ongoing operational programmes have been planned (and are being implemented) to address the organisation's responsibilities and obligations. In particular is the establishment of an off-site Centralised Interim Storage Facility (CISF) as required by the National Radioactive Waste Management Strategy and Policy of 2005.

Figure 1 depicts the legislative and regulatory environment within which the Institute will operate.

Figure 1: Radioactive Waste Disposal Legislative and Regulatory Framework



## 2.3 POLICY MANDATE

The Institute is mandated to manage radioactive waste disposal and related waste management activities on a national basis. This mandate is articulated in a number of policy documents as reflected below:

- Radioactive Waste Management Policy and Strategy for South Africa (2005); and
- Nuclear Energy Policy and Strategy for South Africa (2008).

In addition to the abovementioned policies, South Africa is also a contracting party and signatory to several international conventions tasked with environmental regulation functions, in particular the Joint Convention on Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

One of the objectives of NRWDI is to fulfil national obligations in respect of the long term management of radioactive waste disposal and related waste management activities as dictated by these international conventions.

## 2.4 FUNCTIONAL MANDATE

The functions of the Institute 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 BOD;
- 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 objectives of the Institute.

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. This implies that alternative disposal concepts would have to be researched, designed and implemented. This might also require that alternative disposal sites be obtained, characterised, constructed and operated.

## **2.5 INTERNATIONAL CONVENTIONS**

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 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 objectives 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 any imports/exports of radioactive waste (trans-boundary movements) and disused sealed radioactive sources.

## **2.6 PLANNED POLICY INITIATIVES**

The sustainability of the Institute is highly dependent on the establishment and implementation of the Radioactive Management Fund as envisaged in the National Radioactive Waste Management Policy and Strategy of 2005. It is therefore imperative that the Radioactive Waste Management Fund Bill is expedited in the MTEF period by the Department of Energy and passing of the Bill will provide for the financial sustainability of the Institute thus reducing its dependence on the fiscus.

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 within the next 12-18 months.

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.

### **3. SITUATIONAL ANALYSIS**

This Annual Performance Plan (APP) which covers the period 1 April 2018 to 31 March 2019 has been developed based on the strategic plan for 2017/18 to 2019/20 which was approved by the Executive Authority. There has been no changes to the mandate of NRWDI in this planning period and the Strategic Plan for the period remains relevant.

The APP sets out the institution's intent in the upcoming 2018/19 financial year and the Medium Term Expenditure Framework (MTEF) period. It outlines performance indicators and targets to assist the entity to realise its goals and objectives as outlined in its Strategic Plan for the period 2017/18 to 2019/20. It includes a breakdown of quarterly targets for the period 1 March 2018 to 31 March 2020.

As a newly-formed public entity, the Institute is currently faced with many developmental and institutional challenges during its transitional establishment phase as it works its way towards achieving maturity and stability.

Owing to the unique nature of the situation that faces the Institute, namely its establishment as a new public entity, with a newly appointed executive management and administrative staff, and limited infrastructural resources to support its activities, the Institute's various short- and medium-term policy initiatives and priorities include the implementation of unique intervention strategies and actions that are necessary to address the situation.

These interventions must also enable the Institute to deliver on its mandate and allow it to implement its functions and exercise its powers as provided for in the NRWDI Act.

#### **3.1 PERFORMANCE ENVIRONMENT**

The performance environment of NRWDI is impacted by both external and internal perspectives. In this regard, NRWDI conducted a PESTEL analysis and the SWOT analysis to scan the environment in which it is operating. Both serve as effective strategic planning tools to ensure that the environment that NRWDI is operating in has been taken into consideration as it is likely to impact on the performance and success of the Institute.

### 3.1.1 PESTEL ANALYSIS

#### **Political**

Nuclear energy is part of the energy mix that has been adopted and supported by the South African Government. Nuclear energy use is increasing around the world seeing that the greenhouse gas emissions emitted from nuclear plants are far less than the coal fired power stations. The need for the safe storage and disposal of radioactive material is likely to increase as a result of the abovementioned both in South Africa and around the world.

#### **Economic**

South Africa's predicted GDP at 1.3% for 2018-2019. The GDP of a country is one the main macroeconomic indicators used to measure the performance of a country's economy. With the predicted GDP being so low, it means that unemployment is on the increase, there is less money to spend and investor confidence is very low. South Africa has competing social, education, infrastructure and health budget priorities. The Institute currently has challenges with regard to its financial sustainability.

#### **Social**

There is a negative perception of nuclear energy due to the perceived risk associated with nuclear energy and radioactive waste. Compelling and comprehensive programmes must be put in place to communicate the safe storage and disposal of radioactive waste to the public. The environmental benefits of nuclear energy must be communicated to the public in order to win their support. Social media can be used as an effective tool for communication with stakeholders (Facebook, twitter, Snapchat).

#### **Technological**

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 a construction licence being granted in Finland in November 2015. Programmes are, however, progressing slowly in many other countries. Mature technologies exist for the off-site dry storage (up to 100 years) for spent fuel.

### **Environmental**

There is this growing environmental agenda. The public is becoming more and more aware of the environment as they would like to preserve the environment for future generations. There is a global drive towards clean energy and carbon footprint reduction, hence there is a need to position nuclear energy as clean energy.

### **Legal**

There are legal challenges from anti-nuclear groups. There are various regulatory requirements set out by the Regulatory bodies. The RWMF Bill needs to follow the parliamentary process to be enacted to provide sustainability for the organisation.

## **3.1.2 SWOT ANALYSIS**

The SWOT analysis also plays a significant part in the Institute's planning as it focuses on the internal and external factors affecting the institute. The application of the analysis to the Institute provides NRWDI with the opportunity to improve operations, discover opportunities and put mitigation strategies in place to address the risks.

### **Strengths**

- NRWDI mandate is legislated and unambiguous.
- Highly skilled and experienced staff.
- World class low level waste disposal facility at Vaalputs, which is in operation for more than 30 years.
- Excellent relationships between the Institute and waste generators for example Eskom and Necsa.
- Board and Management is committed to the open, transparent and accountable management of NRWDI.

### **Weaknesses**

- Lack of brand identity and image.
- Organisational stakeholder communication needs improvement.
- Inability to discharge mandate due to underfunding.
- Internal processes and systems not completely in place.



- Change management process for the Vaalputs functional shift needs to be strengthened
- Shortage of skilled and experienced staff hampers the execution of the Institute's functional mandate.

### **Opportunities**

- Meaningful contribution to radical economic transformation, NDP and MTSF imperatives.
- To become a centre of excellence in radioactive waste management and disposal.
- Rendering advisory services to SADC countries with regard to radioactive waste management and disposal.
- Build strong co-operative partnerships with IAEA and global waste management organisations to enhance NRWDI's competencies.

### **Threats**

- Negative public perception and sentiment regarding nuclear energy and radioactive waste.
- Delays in finalisation of Waste Management Fund Bill will compromise the sustainability and mandate of Institute.
- Global nuclear events and accidents increasingly influence government policy towards nuclear industry.
- Delays in obtaining the Vaalputs Nuclear Installation License and concluding the Vaalputs functional shift.

### **3.1.3 MEDIUM TERM STRATEGIC FRAMEWORK (MTSF) CONSIDERATIONS**

The Government of the Republic of South Africa has adopted five key pillars, derived from government's Medium Term Strategic Framework (MTSF) and policy agenda viz:

- Radical economic transformation, rapid economic growth and job creation;
- Rural development, land and agrarian reform and food security;
- Ensuring access to adequate human settlements and quality basic services;
- Improving the quality of and expanding access to education and training;
- Ensuring quality health care and social security for all citizens;

- Fighting corruption and crime;
- Contributing to a better Africa and a better world; and
- Social cohesion and nation building.

The MTSF has been translated into a set of 14 outcomes that should inform the strategic planning, focus and delivery of government services by state departments and public entities. These Outcomes are:

- Outcome 1 - Quality basic education.
- Outcome 2 - Long and healthy life for all South Africans.
- Outcome 3 - All people in SA feel and are safe.
- Outcome 4 - Decent employment through inclusive growth.
- Outcome 5 - Skilled and capable workforce to support an inclusive growth path.
- Outcome 6 - An efficient, competitive and responsive economic infrastructure network.
- Outcome 7 - Vibrant, equitable, sustainable rural communities contributing towards food security for all.
- Outcome 8 - Sustainable human settlements and improved quality of household life.
- Outcome 9 - Responsive, accountable, effective and efficient local government.
- Outcome 10 - Protect and enhance our environmental assets and natural resources.
- Outcome 11 - Create a better South Africa and contribute to a better Africa and a better world.
- Outcome 12 - An efficient, effective and development-oriented public service.
- Outcome 13 - A comprehensive, responsive and sustainable social protection system.
- Outcome 14- A diverse, socially cohesive society with a common national identity.

The outcomes that are of particular relevance to NRWDI are Outcomes 5, 6,10 and 12 and has been expanded in greater detail as to how it relates to the different strategic orientated goals and programmes in the entity in Section 6 of the 2017/18-2019/20 Strategic Plan.

### **3.2 ALIGNMENT WITH THE DEPARTMENT OF ENERGY'S STRATEGIC PLAN AS WELL AS THE NATIONAL DEVELOPMENT PLAN AND THE MEDIUM TERM STRATEGIC FRAMEWORK**

NRWDI reports into the Department of Energy and it is critical for the organisation to have its strategic plan aligned to that of the Department of Energy. Indicated below are the relevant strategic outcome orientated goals of the Department of Energy which have been integrated into the strategic planning process of NRWDI.

**Table 2: Other planning instruments integrated into NRWDI planning**

DoE Strategic Outcome Orientated Goal	NRWDI Strategic Outcome Orientated Goal	NRWDI Strategic Objective	Linkages to the NDP Proposals	Linkages to the MTSF (2014 – 2019) (Outcomes)	NRWDI Programme
SOOG1: Corporate Governance	SOOG 1: Effective resource utilisation and good governance	SO1.1 Improved payment system  SO1.2 Highly motivated team of employees  SO1.3 Good image of NRWDI  SO1.4. National Radioactive Waste Management System	Creating a basis for making choices about how to best use limited resources  Chapter 15 of the NDP relates to the eradication of corruption.	<b>Outcome 5:</b> Skilled and capable workforce to support an inclusive growth path'  <b>Outcome 12:</b> An efficient, effective and development-oriented public service	Programme1 Administration

DoE Strategic Outcome Orientated Goal	NRWDI Strategic Outcome Orientated Goal	NRWDI Strategic Objective	Linkages to the NDP Proposals	Linkages to the MTSF (2014 – 2019) (Outcomes)	NRWDI Programme
SOOG 2: Environmental Assets	SOOG 2: Safe management and disposal of radioactive waste	<p>SO2.1 Excellent radioactive waste management and disposal service on a national basis</p> <p>SO2.2 Environmentally sound management and disposal of radioactive waste</p> <p>SO2.3 Transparent waste disposal site management</p>	<p>Creating a basis for making choices about how to best use limited resources</p> <p>Chapter 5 of the NDP relates to ensuring environmental sustainability and transition to a low carbon economy</p>	<p><b>Outcome 5:</b> Skilled and capable workforce to support an inclusive growth path</p> <p><b>Outcome 10:</b> Protect and enhance our environmental assets and natural resources</p> <p><b>Outcome 12:</b> An efficient, effective and development-oriented public service</p>	Programme 2: Radwaste Operations
SOOG3: Infrastructure	SOOG 3: Comprehensive site selection, site characterisation and design of radioactive waste disposal storage and related facilities	SO3.1 Effective scientific and technical support for development and maintenance of safety cases	<p>Creating a basis for making choices about how to best use limited resources</p> <p>Chapter 5 of the NDP relates to ensuring environmental sustainability and transition to a low carbon economy</p>	<p><b>Outcome 6 :</b> An efficient, competitive and responsive economic infrastructure network</p> <p><b>Outcome 10:</b> Protect and enhance our environmental</p>	Programme 3: Radwaste Technology and Siting

DoE Strategic Outcome Orientated Goal	NRWDI Strategic Outcome Orientated Goal	NRWDI Strategic Objective	Linkages to the NDP Proposals	Linkages to the MTSF (2014 – 2019) (Outcomes)	NRWDI Programme
				assets and natural resources	
SOOG 4: Regulations	SOOG 4: Effective compliance with national nuclear legislative and regulatory requirements	SO4.1. Quality management system  SO4.2. Nuclear Installation Licence	Creating a basis for making choices about how to best use limited resources  Chapter 5 of the NDP relates to ensuring environmental sustainability and transition to a low carbon economy	<b>Outcome 5:</b> Skilled and capable workforce to support an inclusive growth path  <b>Outcome 10:</b> Protect and enhance our environmental assets and natural resources  <b>Outcome 12:</b> An efficient, effective and development-oriented public service	Programme 4 : Radwaste Compliance Management

### 3.3 ORGANIZATIONAL ENVIRONMENT

NRWDI is registered as a public entity in terms of section 38(1) (m) of the PFMA, and classified as a Schedule 3A entity.

The governance of the Institute is entrusted to a Board appointed in accordance with the Act, with the Minister of Energy being the Executive Authority responsible for the Institute.

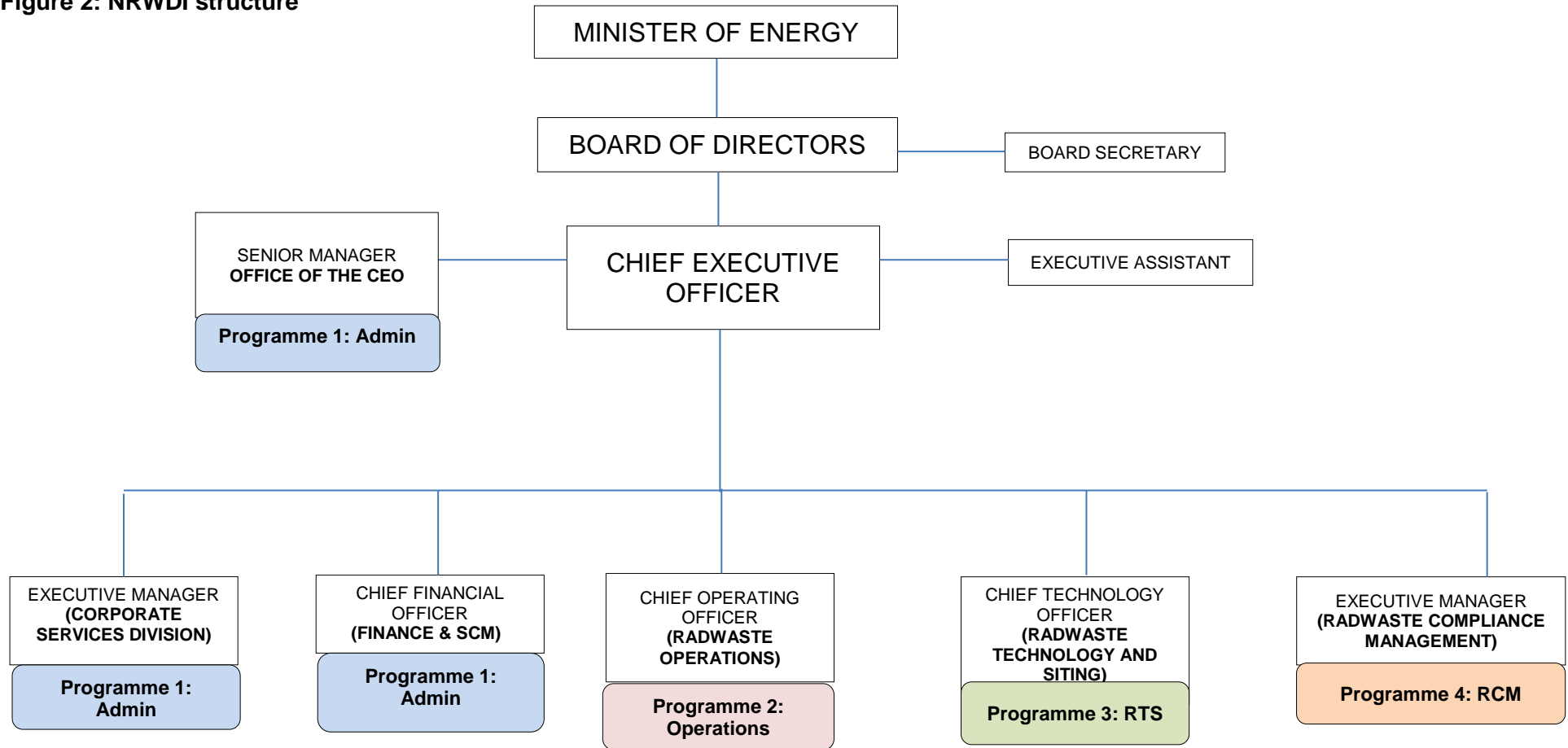
The Board provides policy and strategic leadership and is the Accounting Authority of NRWDI. The Chief Executive Officer and the Chief Financial Officer are ex-officio members of the Board.

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 Institute (see Section 3.5).

### 3.4 ORGANIZATIONAL STRUCTURE

The Institute's macro-organisational structure reflects the key operational functions to oversee the core operational component of the Institute, as well as the key support capacity for effective delivery on the Institute's mandate. The structure is aligned to the Institute's strategic programmes, namely: Administration, Radwaste Operations, Radwaste Technology and Siting, and Radwaste Compliance Management.

Figure 2: NRWDI structure





### **3.5 VAALPUTS FUNCTIONAL SHIFT**

The legislative mandate of the National Radioactive Waste Disposal Institute is to discharge a ministerial institutional obligation relating to the disposal of all radioactive waste classes on a national basis.

Section 30 (1) (a) of the NRWDIA states that all assets, rights, liabilities, obligations, licenses and authorisations of the South African Nuclear Energy Corporation regarding the Vaalputs National Radioactive Waste Disposal Facility vest in the Institute with effect from 1<sup>st</sup> December 2009.

In this regard, NRWDI and Necsa had constructive engagements with regard to the transfer of all assets, rights, liabilities, obligations, licenses and authorisations which will effectively conclude the transfer of the Vaalputs business unit as a going concern from Necsa to NRWDI by 31 March 2019.

According to National Radioactive Waste Disposal Institute Act (“NRWDIA”) (Act No. 53 of 2008), Section 30 (b) states that all employees of the South African Nuclear Energy Corporation (Necsa) at the Vaalputs Waste Disposal facility, appointed in terms of Section 25 of the Nuclear Energy Act (Act No 46 of 1999), must be deemed to be employees of NRWDI with effect from 1 December 2009.

As a new entity however, the Institute was not in a position to immediately comply with all the regulatory requirements of the NNR to manage and operate Vaalputs. Section 30 (8) of the NRWDI Act places a legal obligation on Necsa to continue maintaining the nuclear installation license for Vaalputs, using existing government budget allocations, until such a time as the NRWDI is in a position to take over these functions to the satisfaction of the National Nuclear Regulator (NNR).

Necsa and NRWDI have agreed to transfer the Vaalputs staff to NRWDI and that NRWDI will second the Vaalputs staff to Necsa to maintain the Vaalputs nuclear installation license until such time that the Institute has been authorised to fulfil this function independently. To give effect to this arrangement, a Joint NRWDI/Necsa Management Committee (JMC) will be established to inter alia, but not limited to, jointly manage the

operational, compliance, licensing and related matters with regard to the functional shift of Vaalputs from Necsa to NRWDI.

A Terms of Reference (ToR) for the Joint Management Committee is in the process of been finalised. The ToR provides the governance framework for the Necsa-NRWDI arrangements with regard to inter alia the Technical Support Organisation (TSO) and Integrated Management system as required by RD-0034: Quality and Safety Management requirements for nuclear installations.

The Institute, as an intelligent customer, will follow due process to ensure that the Nuclear Installation License will be developed and implemented to the satisfaction of the NNR. The process will entail the following:

- (i). NRWDI to invoke Section 30(8) of NRWDI Act and request the NNR to re-issue the Vaalputs Nuclear Installation License (NIL-28) in the name of NRWDI when NRWDI can demonstrate that it is in a position to take over the functions and responsibilities relating to NIL-28 to the satisfaction of the NNR.
- (ii). NRWDI to notify the NNR of the change in management of Vaalputs after the Vaalputs staff have been transferred to NRWDI.
- (iii). NRWDI to submit a licensing strategy for NNR acceptance.
- (iv). NRWDI to determine the SHEQ-system documents required and formalize an agreement with Necsa to this effect.
- (v). NRWDI, with the support and assistance of Necsa, to commence with revising licensing related documents in a format that will include the NRWDI logo, branding, management structure and titles.
- (vi). NRWDI to re-submit, on a scheduled basis, all licensing documents to the NNR for approval.
- (vii). NRWDI to establish a TSO in parallel with the activities mentioned in (i) to (vi) above.
- (viii). After approval of licensing submissions, the NNR to approve the ACR.
- (ix). NRWDI to conduct an internal readiness audit (which may also be a third party independent audit).
- (x). NRWDI to request the NNR to assess the readiness of NRWDI to manage the NIL and operate Vaalputs to the satisfaction of the NNR.

### **3.6 FINANCIAL SUSTAINABILITY**

Over and above the annual MTEF grant allocation made by National Treasury (NT), a Radioactive Waste Management Fund (RWMF) Bill has to be finalised in order to ensure financial sustainability of the Institute. The RWMF Bill is in progress and the Institute is involved in its conceptualisation.

### 3.7 OVERVIEW OF BUDGET AND MTEF ESTIMATES

Statement of financial performance	Budget	Audited outcome	Budget	Audited outcome	Budget	Revised estimate	Medium-term estimate			
	2015/16	2015/16	2016/17	2016/17	2017/18	2017/18	2018/19	2019/20	2020/21	
<b>R thousand</b>										
Non-tax revenue	1030	1030	413	413	683	1167	1416	1526	1636	
Interest received	1030	1030	413	413	683	1167	1416	1526	1636	
Waste Disposal Fees	0	0	5112	5112	0	0	0	0	6000	
Other non tax revenue(CISF and OSG)	0	0	0	0	9550	0	0	0	0	
Transfers received	0	0	10000	10000	30000	30000	45532	43499	39433	
<b>Total revenue</b>	<b>1030</b>	<b>1030</b>	<b>15524</b>	<b>15524</b>	<b>40233</b>	<b>31167</b>	<b>46948</b>	<b>45025</b>	<b>47069</b>	
<b>Expenses</b>										
Current expenses	7039	7039	24925	24925	40233	31167	46948	45025	47069	
Compensation of employees	396	396	15465	15465	26625	26256	33998	36038	38200	
Leave provision	0	0	0	0	0	0	539	563	597	
Incentives	0	0	0	0	0	0	502	532	564	
Relocation allowance	0	0	0	0	0	0	100	100	100	
Directors remuneration	1570	1570	842	842	450	279	294	309	325	
Goods & Services of which:	5044	5044	8540	8540	13048	3874	10470	7073	6852	
Travel & Subsistence	810	810	872	872	500	560	1200	1200	1200	
Training	0	0	2	2	0	0	1375	708	760	
Audit Fees	0	0	0	0	1072	1018	1181	1207	1400	
Consultant Fees	3107	3107	402	402	0	4	4	4	5	
Bank Charges	0	0	2	2	5	52	52	55	58	
Cleaning Services	12	12	0	0	25	0	0	0	0	
Contracted-out Services	132	132	418	418	350	92	250	250	250	
Entertainment Costs	15	15	13	13	0	11	13	12	13	
Ent: Staff Refresh	0	0	0	0	0	6	4	11	11	
IT Costs	0	0	1	1	120	230	250	250	250	
Events	0	0	0	0	0	20	25	27	28	
Legal costs	47	47	26	26	0	12	340	300	300	
Branding material	0	0	0	0	0	98	800	150	100	
Advertisement & recruitment	451	451	407	407	0	0	250	0	0	
Licences	0	0	0	0	0	147	0	0	0	
Membership Fees	0	0	0	0	96	96	105	116	122	
Computer services	0	0	0	0	50	98	55	61	64	
Newspapers	0	0	0	0	0	13	0	0	0	
Workshops/Conferences	145	145	100	100	140	96	154	154	154	
Rental Buildings	80	80	862	862	768	720	764	811	860	
Postage & Courier services	0	0	2	2	0	16	15	16	17	
Stationery and Printing	49	49	27	27	50	42	68	41	43	
External printing	0	0	0	0	0	255	284	205	305	
Telecommunication	8	8	0	0	346	136	188	277	296	
Consumable Materials	80	80	26	26	30	67	60	64	68	
Electricity charges	17	17	95	95	151	0	0	0	0	
Impairment of receivables	0	0	5132	5132	0	0	0	0	0	
Small Capital	0	0	0	0	118	52	150	50	68	
Repair and Maintenance	0	0	140	140	30	16	33	36	38	
PSiF	0	0	0	0	0	0	250	250	250	
Safety Case Support	0	0	0	0	0	0	2600	531	123	
Operating Material	0	0	0	0	9200	0	0	0	0	
Capital costs	0	0	0	0	0	530	716	0	0	
Depreciation	28	28	78	78	110	226	329	410	431	
<b>Total expenses</b>	<b>7039</b>	<b>7039</b>	<b>24925</b>	<b>24925</b>	<b>40233</b>	<b>31167</b>	<b>46948</b>	<b>45025</b>	<b>47069</b>	
Surplus/(Deficit)	-6009	-6009	-9401	-9401	0	0	0	0	0	

### 3.7.1 Resource Allocation per Division

Programme	Audited Outcome	Audited Outcome	Audited Outcome	Revised estimate	Medium-term estimate			Average growth rate (%)	Expenditure/ total: Average (%)
					2018/19	2019/20	2020/21		
R thousand	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2017/18 - 2020/21	
1. Administration	3 605	7 039	24 925	20 781	29 361	28 672	30 238	13,3%	64,3%
2. Radwaste Operations	-	-	-	2 926	4 309	4 536	4 778	17,8%	9,7%
3. Radwaste, Technology and Siting	-	-	-	3 920	4 566	4 825	5 099	9,2%	11,0%
4. Radwaste Compliance Management	-	-	-	3 540	8 712	6 991	6 955	25,2%	15,1%
<b>Total expense</b>	<b>3 605</b>	<b>7 039</b>	<b>24 925</b>	<b>31 167</b>	<b>46 948</b>	<b>45 025</b>	<b>47 069</b>	<b>14,7%</b>	<b>100,0%</b>

The expenditure of the Institute is expected to increase from R40.2 million in 2017/18 to R47.06 million in 2020/21. The majority of the Institute's expenditure will be associated with the Vaalputs functional shift, Vaalputs Nuclear Installation License, setting up of internal processes and systems, research and development activities; and to provide information on all aspects of radioactive waste management to the public living around radioactive waste disposal facilities and to the public in general.

The number of personnel in the Institute is expected to increase from 25 in 2017/18 to 36 in 2018/19 due to the filling of critical vacant posts required to operationalise the Institute, and thereafter remain constant over the medium term. Expenditure on compensation of employees is expected to increase from R33.99 million in 2018/19 to R38.20 million in 2020/21 due to annual adjustments associated with general inflationary increases.

The NRWDI is expected to derive its revenue from transfer payments received from government and other non-tax revenue received for providing waste disposal and related services to waste generators, in particular Necsa and Eskom upon transfer of the Vaalputs low level waste disposal function and related assets to NRWDI.

Total revenue is projected to grow from R1.42 million in 2018/19 to R7.64 million to 2020/21 over the medium term mainly as a result of interest received over this period, in addition to waste disposal fees of R6.0 million in the 2020/21 financial year post the transfer of Vaalputs to the Institute

### **3.8 RELATING EXPENDITURE ESTIMATES TO STRATEGIC OUTCOME ORIENTATED GOALS**

The focus of the MTEF will be on NRWDI's legislative mandate imperatives and its responsiveness to Government's developmental priorities, as encapsulated in the MTSF's 14 priority outcomes in support of the NDP. It goes without saying that the four strategic goals are rooted in these priority outcomes, which have been converted into four APP Programmes, each with its relevant projects and budget.

The strategic outcome goals are further unpacked into strategic objectives. These are long term organisational outputs that help to convert the broad vision into specific plans and projects.

These strategic objectives are further developed into programmes, whose components are outputs, performance indicators and targets which are articulated in Part B of this Annual Performance Plan.

### **3.9 STAKEHOLDER ANALYSIS AND ENGAGEMENT**

The primary aim of communicating with stakeholders is to share and gather information with the aim to address and implement actions, thus addressing problems, determining strategy and influencing the allocation of resources. Stakeholder engagement forms the basis for good corporate governance and is critical to the successful operations of NRWDI. There are four groups of stakeholders namely:

#### ***Normative Stakeholders***

These are associations or groups with which the Institute has a common interest. These stakeholders share similar values, goals or problems and often include competitors that belong to industrial or professional associations/societies, political groups and peer institutions.

Normative stakeholders need to be engaged and encouraged to actively participate in the Institute's processes by being accessible, honest and transparent at all times. This will create credibility and confidence of NRWDI's ability to effectively execute its mandate.

### ***Enabling Stakeholders***

These stakeholders provide the authority for the Institute to function and it is dependent on their co-operation and goodwill. They have some control and authority over the NRWDI. Enabling stakeholders are NRWDI's strategic stakeholders and are critical to NRWDI in the achievement of its objectives.

### ***Functional Stakeholders***

Functional stakeholders are essential to the operations of the Institute and are divided between input and output.

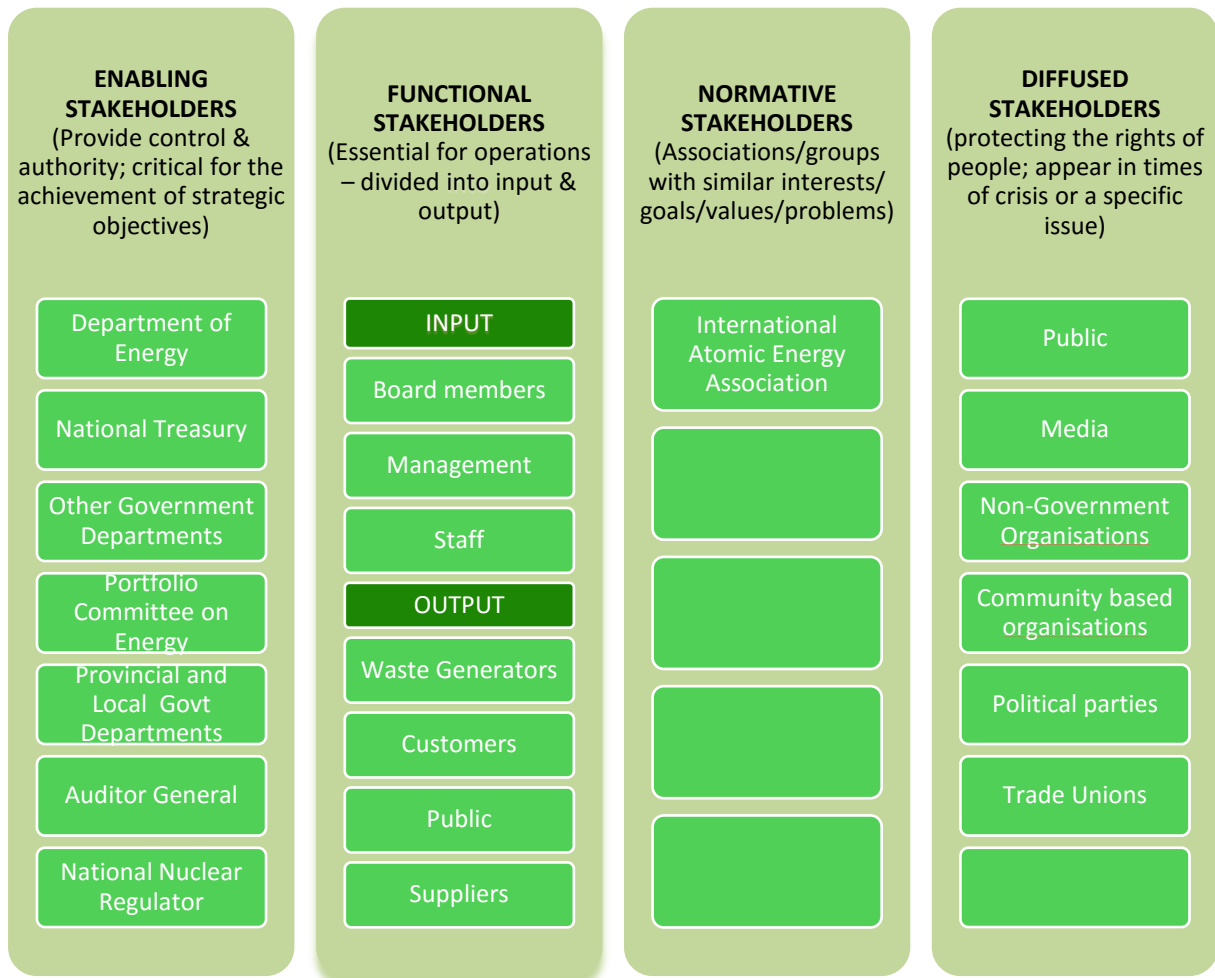
Board, Management and staff form part of the input stakeholders. It is important to increase the level of awareness within the organisation regarding NRWDI's work and latest developments in order to improve staff engagement and job satisfaction. It is important that they are regularly informed of decisions taken by the Institute, enabling them to better understand their role and to have a broader knowledge of NRWDI's activities. The better informed they are, the more efficient and credible NRWDI will be as an Institute. This will ultimately also improve engagement and communication with external stakeholders.

The NRWDI's output stakeholders are the waste generators, customers, the public and suppliers. The approach in dealing with the input and output stakeholders is to keep them informed through regular consultation and monitoring of developments within the organisation and the energy industry.

### ***Diffused Stakeholders***

These stakeholders are sometimes difficult to identify because they include the public who have infrequent interaction with the organisation and become involved based on the actions of the organisation. These groups are particular types of stakeholders who are concerned about protecting the rights of other people. They often arise in times of a crisis or a specific issue and would be different groups depending on the situation.

The approach is to keep them informed about the issues they are interested in. NRWDI needs to engage and interact with these stakeholders as partners. In this regard, proactive actions will be taken to clarify NRWDI's role and functions



**Figure 3:** Stakeholder analysis matrix



## PART B: PROGRAMME AND SUB PROGRAMME PLANS

### 4. STRATEGIC OUTCOME ORIENTED GOALS OF NRWDI AND STRATEGIC OBJECTIVES

#### 4.1 PROGRAMME 1: ADMINISTRATION

##### 4.1.1 Programme Overview

To ensure that NRWDI is operationally efficient, cost-effective, properly managed, and complies with good corporate governance principles.

##### 4.1.2 Sub Programmes

The core outcome is achieved through the provision of key corporate functions under the following sub-programmes:

- **Office of CEO** (*Strategic Planning, Risk Management Organisational Performance Management; Internal Audit; Communications and Stakeholder Relations; Corporate Social Investment*).

The Office of the CEO is established to ensure that NRWDI has processes and systems that are efficient, integrated, quality controlled and cost effective which will enable the Institute to deliver on its mandate. Strategic planning coordinates the translation of policy priorities agreed upon by the Board into actionable strategic plans with clear objectives, performance measures and resource commitments. It also carries out monitoring and evaluation of the strategy as articulated in the annual performance plan and institutional operational plan to ensure that the Institute delivers on its strategic objectives and improves and sustains its performance by ensuring the enhancement of the risk management culture. Internal Audit plays a pivotal role in the combined assurance framework by providing independent assurance over, risk management and systems of internal control. Communications and stakeholder relations aims to remove existing constraints by achieving alignment through effective stakeholder engagement and value-adding partnerships that are mutually beneficial which will result in the organisation meeting and exceeding its strategic goals and objectives whilst corporate social investment focuses on the upliftment and development initiatives that are shaped around the wider socio-economic needs of our society.

- **Finance and Supply Chain Management**

Finance and Supply Chain Management ensures compliance with all relevant financial statutes and regulations, the most important of which is the Public Finance Management Act (PFMA). It ensures that goods and services are procured taking into consideration the procurement legislation as well as with due cognizance to the principles of corporate governance.

- **Corporate Services** (*Human capital management; Information and communications technology management; Legal services management; and General administration and Facilities management*)

The Corporate Services sub-programme primarily provides integrated strategic and operational business enabling services. Legal Services is responsible for providing a comprehensive legal advisory service to enable the entity to execute its mandate effectively within the rule of law. Human Resources (HR) Management provides transformational HR support enabling the entity to attract, develop and retain skilled people across the organisation. Information and Communication Technology (ICT) provides long term planning and day to day support in respect of ICT needs, services and systems. Facilities Management ensures physical and information security. It provides accommodation and its maintenance and servicing.

**Programme 1 Strategic Outcome Oriented Goal: Effective resource utilisation and good governance.**

<b>Strategic Objective SO1.1</b>	Effective payment system in place ensuring timely settlement of creditors
<b>Objective statement</b>	To ensure that 100% of creditors are paid within 30 days after relevant documents are received.
<b>Baseline</b>	None

<b>Strategic Objective SO1.2</b>	Highly motivated team of employees
<b>Objective statement</b>	To ensure staff are managed according to best practice so that each employee makes a valuable contribution to the achievement of organisational objectives.
<b>Baseline</b>	None

<b>Strategic Objective SO1.3</b>	Good image of NRWDI
<b>Objective statement</b>	To position and promote NRWDI as custodian for the safe management of radioactive waste so that its stakeholders are aware and appreciate and support the role and actions of the Institute.
<b>Baseline</b>	None

<b>Strategic Objective SO1.4</b>	National Radioactive Waste Management Inventory System
<b>Objective statement</b>	The Radioactive Waste Management Inventory System is an IAEA requirement as well as a requirement of the NRWDI Act. The system will be used to monitor the waste generated, stored and disposed nationally.
<b>Baseline</b>	None

Table 3: Programme 1: Administration: Programme Performance Indicators and annual targets 2018/2019 – 2020/2021

	Programme Performance Indicator	Strategic Plan Target	Estimated Performance	Medium Term Targets		
			2017/18	2018/19	2019/20	2020/21
1.	Percentage of creditors paid within 30 days after all relevant documents are received	100% of all creditors paid within 30 days after relevant documents are received	100% of creditors paid within 30 days after relevant documents are received	100% of creditors paid within 30 days after relevant documents are received	100% of creditors paid within 30 days after relevant documents are received	100% of creditors paid within 30 days after relevant documents are received
2.	Number of HR policies developed	HR policies and procedures which will ensure that employees are managed equally and according to best practice so that each employee makes a valuable contribution to the achievement of organisational objectives	21 policies developed (HR policy list available)	Policies implemented and reviewed where necessary	Policies implemented and reviewed where necessary	Policies implemented and reviewed where necessary
3.	Percentage positive feedback from stakeholder surveys	80% positive feedback from stakeholders	60% positive feedback from stakeholders	70% positive feedback from stakeholders	80% positive feedback from stakeholders	80% positive feedback from stakeholders

	Programme Performance Indicator	Strategic Plan Target	Estimated Performance	Medium Term Targets		
4.	Document on waste database inventory system design  Coding waste database inventory system  Functional waste database inventory system	Fully functional waste database inventory system utilised for waste generators, disposal and storage	Document detailed Waste database inventory system design	Develop and code Waste database inventory system	Test and operationalise the waste database inventory system	Ongoing waste database inventory system support, maintenance, and enhancements

Table 4: Programme 1: Programme Performance Indicators and Quarterly Targets for 2018/2019

	Programme Performance Indicator	Reporting Period	Annual Targets	Quarterly Targets			
				2018/19	Q1	Q2	Q3
1.	Percentage of creditors paid within 30 days	18/19	100% of creditors paid within 30 days after relevant documents are received	100% of creditors paid within 30 days after relevant documents are received	100% of creditors paid within 30 days after relevant documents are received	100% of creditors paid within 30 days after relevant documents are received	100% of creditors paid within 30 days after relevant documents are received
2.	Number of HR policies implemented and reviewed	18/19	Policies implemented and reviewed	100%	100%	100%	100%
3.	Percentage feedback from stakeholder surveys	18/19	70% positive feedback from stakeholders	Develop draft stakeholder survey questionnaire	Finalise stakeholder survey questionnaire	Distribute stakeholder survey questionnaire	Stakeholder feedback through surveys: 70% satisfaction
4.	Document on waste database inventory system design Waste database inventory coding system  Waste database inventory Functional system	18/19	Develop and code Waste database inventory system	Present Business Case option to the three major waste generators and achieve synergies	Procure hardware infrastructure and software platforms for Dev, Test, QA, DRP and Production hosting environments, and commence with coding.	Continue developing and coding the system as per NRWDI URS, and develop any required integration for waste producers	Install and configure the system, and conduct performance testing, internal functionality testing, and Quality Assurance

## 4.2 PROGRAMME 2: RADWASTE OPERATIONS

### Programme Overview

The aim of the programme is to provide radioactive waste disposal and related services on a national basis that is, safe, technically sound, socially acceptable, environmentally responsible and economically feasible ensuring that no undue burden is placed on future generations due to past, present and future involvement in nuclear programs.

The future of the environment is a global agenda item and management and disposal of radioactive waste material must be carried out in such a manner that human health and the environment are protected.

**Table 5: Programme 2: Radwaste Operations Strategic objectives**

**Programme 2 : Strategic Outcome Orientated Goal : Safe Management and disposal of radioactive waste**

<b>Strategic Objective SO.2.1</b>	Excellent radioactive waste management and disposal service on a national basis
<b>Objective statement</b>	To provide waste disposal services on a national basis that is safe, technically sound and cost effective.
<b>Baseline</b>	None

<b>Strategic Objective SO2.2</b>	Environmentally sound management and disposal of radioactive waste
<b>Objective statement</b>	To minimise the physical, chemical and biological stresses on the environment, thus ensuring the long-term integrity of the environment.
<b>Baseline</b>	None

<b>Strategic Objective SO2.3</b>	Transparent waste disposal site management
<b>Objective statement</b>	Meetings need to be held on a quarterly basis with the communities around the Vaalputs area to educate and make them aware of nuclear safety and other issues relating to Vaalputs
<b>Baseline</b>	None



**Table 6: Programme 2: Radwaste Operations: Programme Performance Indicators and Annual Targets 2018/2019 -2020/21**

	Programme Performance Indicator	Strategic Plan Target	Estimated Performance	Medium Term Targets		
				2017/18	2018/19	2019/20
1.	Percentage of compliance rate	Increased compliance rate with regards to the annual SHEQ audit	80% compliance rate with regards to annual SHEQ audit	80% compliance rate with regards to annual SHEQ audit	85% compliance rate with regards to annual SHEQ audit	85% compliance rate with regards to annual SHEQ audit
2.	ISO 9001 and ISO 14001 Certification	ISO 9001 and ISO 14001 certification maintained	Maintain ISO 9001 and 14001 certification	Maintain ISO 9001 and 14001 certification	Maintain ISO 9001 and 14001 certification	Maintain ISO 9001 and 14001 certification
3.	Number of meetings held with Vaalputs communities in Kamiesberg	12 meetings held with communities	4 Community Meetings	4 Community Meetings	4 Community Meetings	4 Community Meetings

**Table 7: Programme 2: Radwaste Operations: Programme Performance Indicators and Quarterly Targets for 2018/2019**

Programme Performance Indicator		Reporting Period	Annual Target	Quarterly Targets			
				Q1	Q2	Q3	Q4
1.	Percentage of compliance rate	18/19	80% compliance rate with regards to annual SHEQ audit	No target	No target	No target	80% compliance rate with regards to annual SHEQ audit
2.	ISO 9001 and ISO 14001 Certification	18/19	Maintain ISO 9001 and ISO 14001 Certification ISO 9001 and ISO 14001 Certification	Maintain ISO 9001 and ISO 14001 Certification	Maintain ISO 9001 and ISO 14001 Certification	Maintain ISO 9001 and ISO 14001 Certification	Maintain ISO 9001 and ISO 14001 Certification
3.	Number of meetings held with Vaalputs communities in the Kamiesberg	18/19	4 community Meetings held	1 community Meeting held	1 community Meeting held	1 community Meeting held	1 community Meeting held

#### 4.3 PROGRAMME 3: RADWASTE TECHNOLOGY AND SITING

The aim of the programme is to develop and implement programmes for safe storage and disposal of spent nuclear fuel or high level radioactive waste and long lived intermediate level waste on a national basis.

Specific criteria needs to be developed for the siting of suitable sites for the safe management and disposal of possible repositories. There are also various technologies for the safe management of radioactive waste material and the technology that is applicable for South Africa needs to be employed after consultative process has taken place.

**Table 8: Programme 3: Strategic objectives: Radwaste Technology and Siting**

**Programme 3 : Strategic Outcome Orientated Goal : Radwaste Technology and Siting**

<b>Strategic Objective SO3.1</b>	Efficient scientific and technical support for development and maintenance of safety cases
<b>Objective statement</b>	Scientific and technical support is required in the development and maintenance of safety cases for storage and disposal facilities for regulatory compliance purposes.
<b>Baseline</b>	None

**Table 9: Programme 3: Radwaste Technology and Siting: Programme Performance Indicators and Annual Targets 2018/2019**

	Programme Performance Indicator	Strategic Plan Target	Estimated Performance	Medium Term Targets		
				2017/18	2018/19	2019/20
1.	Number of research and development reports	3 Research and development reports	1 Research and Development report	1 Research and Development report	1 Research and Development report	1 Research and Development report

**Table 10: Programme 3: Radwaste Technology and Siting: Programme Performance Indicators and Quarterly targets for 2018/2019**

	Programme Performance Indicators	Reporting Period	Annual Target	Quarterly Targets			
				Q1	Q2	Q3	Q4
1.	Number of research and development reports	18/19	1 R&D report	Submit scope of the report for approval by Manco & EXCO	Draft report completed.	Final draft tabled at MANCO	Final draft report tabled at EXCO for approval.

#### 4.4 PROGRAMME 4: RADWASTE COMPLIANCE MANAGEMENT

The aim of the programme is to ensure that NRWDI's core mandate (disposal of radioactive waste on a national basis) is executed in compliance with regulatory requirements, relevant international standards and best practices. The programme also seeks to provide management systems and resources are required to discharge the obligations associated with holding a nuclear authorisation. The Compliance Management Division provides a support function to the Institute in terms of developing and ensuring compliance with the nuclear installation licence including the required safety, health, environment and quality management systems.

**Table 11: Programme 4: Compliance Management: Strategic Objectives**

**Programme 4 : Strategic Outcome Orientated Goal : Compliance Management**

<b>Strategic Objective SO4.1</b>	Quality Management System
<b>Objective statement</b>	To ensure policies and procedures are developed and effectively implemented to give effect to compliance with regulatory requirements with regards to safety, health, environment and quality management systems.
<b>Baseline</b>	None

<b>Strategic Objective SO4.2</b>	Nuclear Installation Licence
<b>Objective statement</b>	To ensure that resources (both human resources and financial resources) are effectively utilised for the development, implementation, compliance assessment, review and continual improvement of the nuclear installation license for Vaalputs.
<b>Baseline</b>	None

**Table 12: Programme 4: Radwaste Compliance Management: Programme Performance Indicators and Annual Targets 2018/2019**

	Programme Performance Indicator	Strategic Plan Target	Estimated Performance	Medium Term Targets		
				2017/18	2018/19	2019/20
<b>1.</b>	Quality Management System completed	Quality Management system in place	25% of the QMS completed	50% of the QMS completed	100% of the QMS completed	Management system implemented and maintained
<b>2.</b>	Nuclear Installation Licence development	NIL issued in the name of NRWDI	New target	50% of licencing documents completed	100% of licencing documents completed	NIL issued in name of NRWDI

**Table 13: Programme 4: Radwaste Compliance Management: Programme Performance Indicators and Quarterly Targets for 2018/19**

Programme Performance Indicator		Reporting Period	Annual Target	Quarterly Targets			
				Q1	Q2	Q3	Q4
1.	Quality Management System completed	18/19	100% of Quality Management System completed and implemented as per project schedule	25% of annual target achieved	50% of annual target achieved	75% of annual target achieved	100% of annual target achieved
2.	Nuclear Installation Licence development	18/19	50% of the nuclear installation licence developed as per project schedule.	25% of annual target achieved	50% of annual target achieved	75% of annual target achieved	100% of annual target achieved

**ANNEXURE A: TECHNICAL INDICATORS**

**PROGRAMME 1: ADMINISTRATION**

**SO1.1 Improved payments system**

<i>Indicator Title</i>	<i>Percentage of creditors paid within 30 days</i>
<b>Short definition</b>	100% of creditors must be paid within 30 days after relevant documents are received
<b>Purpose/importance</b>	The President in his 2017 state of the nation address reiterated that all creditors to the state must be paid within 30 days. This relates to the achievement of Government's socio- economic goals like the growing the economy and promoting SMME development.
<b>Source or collection of data</b>	Payments requests, invoices, proof of payments payment reports
<b>Method of calculation</b>	Proper record keeping
<b>Data limitations</b>	Accuracy of filing systems
<b>Type of Indicator</b>	Output
<b>Calculation type</b>	Cumulative
<b>Reporting Cycle</b>	Quarterly
<b>Desired Performance</b>	100% of creditors paid within 30 days after relevant documents are received
<b>Indicator Responsibility</b>	Chief Financial Officer

**SO1.2 Highly motivated team of employees**

<i>Indicator Title</i>	<i>Number of HR policies developed</i>
<b>Short definition</b>	In order to maximise the potential of employees it is necessary to manage them in terms of best practice
<b>Purpose/importance</b>	A strategic goal for a new entity is to have the necessary policies and procedures in place relating to the management of human capital as a motivated team of employees will contribute optimally to the achievement of organisational goals.



<b>Indicator Title</b>	<b>Number of HR policies developed</b>
<b>Source or collection of data</b>	Policies, procedures, approval of policies and procedures, information sessions
<b>Method of calculation</b>	Proper record keeping
<b>Data limitations</b>	Accuracy of filing systems
<b>Type of Indicator</b>	Output
<b>Calculation type</b>	Cumulative
<b>Reporting Cycle</b>	Quarterly
<b>Desired Performance</b>	Policies and procedures developed and kept updated in line with best practice
<b>Indicator Responsibility</b>	Executive Manager: Corporate Services

SO1.3 Good image of NRWDI

<b>Indicator Title</b>	<b>Percentage feedback from stakeholder surveys</b>
<b>Short definition</b>	Stakeholder relations needs to be managed to ensure that relationships are conducted transparently, ethically and in the best interest of the entity.
<b>Purpose/importance</b>	The principles of good governance has been adopted by the public service. The management of stakeholder relations in a transparent and ethical manner contributes to good governance.
<b>Source or collection of data</b>	Stakeholder database, minutes from stakeholder engagements, feedback from stakeholders, stakeholder surveys
<b>Method of calculation</b>	Proper record keeping
<b>Data limitations</b>	Accuracy of filing systems
<b>Type of Indicator</b>	Output
<b>Calculation type</b>	Cumulative
<b>Reporting Cycle</b>	Quarterly
<b>Desired Performance</b>	80% of feedback from stakeholders
<b>Indicator Responsibility</b>	Senior Manager : Office of CEO

**SO1.4 Radioactive Waste Management Inventory System**

<b>Indicator Title</b>	<b>Document on system design , Coding system , Functional system</b>
<b>Short definition</b>	The Radioactive Waste Management Inventory System is an IAEA requirement to monitor the waste generated, stored and disposed nationally.
<b>Purpose/importance</b>	One of the responsibilities in the NRWDI Act is to have a database system in place which will give the entity insight into how much radioactive waste is being generated, stored and disposed of.
<b>Source or collection of data</b>	Documents relating the business requirements, URS , detailed system design, coding of system
<b>Method of calculation</b>	Proper record keeping
<b>Data limitations</b>	Accuracy of filing systems
<b>Type of Indicator</b>	Output
<b>Calculation type</b>	Cumulative
<b>Reporting Cycle</b>	Quarterly
<b>Desired Performance</b>	Document detailed system design
<b>Indicator Responsibility</b>	Senior Manager: IT

**PROGRAMME 2: RADWASTE OPERATIONS**

**SO2.1 Excellent radioactive waste management and disposal service on a national basis**

<b>Indicator Title</b>	<b>Percentage of compliance rate</b>
<b>Short definition</b>	A waste disposal service that is safe, technically sound , socially acceptable and environmentally friendly will be implemented and the compliance rate will be measured in terms of the SHEQ audit

<b>Indicator Title</b>	<b>Percentage of compliance rate</b>
<b>Purpose/importance</b>	The health and safety of the public as well as the protection of the environment is critical to the safe disposal of radioactive waste disposal
<b>Source or collection of data</b>	Documents relating to the SHEQ audit
<b>Method of calculation</b>	Proper record keeping
<b>Data limitations</b>	Inadequate filing system
<b>Type of Indicator</b>	Compliance
<b>Calculation type</b>	Cumulative
<b>Reporting Cycle</b>	Annually
<b>Desired Performance</b>	80% compliance
<b>Indicator Responsibility</b>	Chief Operations Officer

**SO2.2** Environmentally sound management and disposal of radioactive waste

<b>Indicator Title</b>	<b>ISO 9001 and ISO 14001 Certification</b>
<b>Short definition</b>	A quality and environmental management system for Vaalputs must be maintained for ISO 9001 and ISO 14001 certification
<b>Purpose/importance</b>	The health and safety of the public as well as the protection of the environment is critical to the safe disposal of radioactive waste disposal
<b>Source or collection of data</b>	Documents relating to ISO 9001 and 14001 certification
<b>Method of calculation</b>	Proper record keeping
<b>Data limitations</b>	Inadequate filing system
<b>Type of Indicator</b>	Compliance
<b>Calculation type</b>	Cumulative
<b>Reporting Cycle</b>	Quarterly
<b>Desired Performance</b>	ISO 9001 and 14001 certification maintained
<b>Indicator Responsibility</b>	Chief Operations Officer

**SO2.3** Transparent waste disposal site management

<b>Indicator Title</b>	<b>Number of meetings held (minutes)</b>
<b>Short definition</b>	The communities in Kamiesberg Municipality area must be kept informed about nuclear safety and other related issues to gain their support
<b>Purpose/importance</b>	Regular communication with the necessary stakeholders are likely to lead to informed decisions being made, better objectives being set and the opposition is likely to become your supporters.
<b>Source or collection of data</b>	Presentations, pamphlets and brochures that were distributed, flight tickets
<b>Method of calculation</b>	Proper record keeping
<b>Data limitations</b>	Inadequate filing system
<b>Type of Indicator</b>	Output
<b>Calculation type</b>	Cumulative
<b>Reporting Cycle</b>	Quarterly
<b>Desired Performance</b>	4 meetings held
<b>Indicator Responsibility</b>	Chief Operations Officer

**PROGRAMME 3: RADWASTE TECHNOLOGY AND SITING**

**SO 3.1** Efficient scientific and technical support in the development and maintenance of safety cases for storage and disposal facilities

<b>Indicator Title</b>	<b>Number of research and development reports</b>
<b>Short definition</b>	R&D reports need to be compiled for the development and maintenance of safety cases
<b>Purpose/importance</b>	Scientific and technical support is required in the development and maintenance of safety cases for storage and disposal facilities for regulatory compliance purposes

<b>Source or collection of data</b>	R&D reports
<b>Method of calculation</b>	Proper recording of reports
<b>Data limitations</b>	Accuracy of filing systems
<b>Type of Indicator</b>	Output
<b>Calculation type</b>	Cumulative
<b>Reporting Cycle</b>	Quarterly
<b>Desired Performance</b>	1 R&D reports compiled
<b>Indicator Responsibility</b>	Chief Technology Officer

## PROGRAMME 4: RADWASTE COMPLIANCE MANAGEMENT

### SO4.1 Quality management system

<b>Indicator Title</b>	<b>Percentage of QMS completed</b>
<b>Short definition</b>	To be the holder of nuclear authorisation, a number of policies and procedures need to be developed regarding safety, health, environment and a quality system
<b>Purpose/importance</b>	The development of policies and procedures to give effect to implementing regulatory requirements with regards to safety, health, environment and quality system will assist the Institute in becoming the holder of a nuclear authorisation
<b>Source or collection of data</b>	Set of policies and procedures for the QMS
<b>Method of calculation</b>	Proper recording of reports
<b>Data limitations</b>	Accuracy of filing systems
<b>Type of Indicator</b>	Output
<b>Calculation type</b>	Cumulative
<b>Reporting Cycle</b>	Quarterly
<b>Desired Performance</b>	50% of the QMS developed
<b>Indicator Responsibility</b>	Executive Manager: Radwaste Compliance Management

**SO4.2 Nuclear Installation License**

<b>Indicator Title</b>	<b>% of documents completed for Vaalputs NIL</b>
<b>Short definition</b>	To be the holder of nuclear authorisation, a number of policies, procedures and documents need to be developed and accepted by the National Nuclear Regulator.
<b>Purpose/importance</b>	NRWDI becoming the holder of a Nuclear Installation License to dispose low level waste at Vaalputs
<b>Source or collection of data</b>	Set of policies and procedures for the Vaalputs Nuclear Installation License
<b>Method of calculation</b>	Proper recording of reports
<b>Data limitations</b>	Accuracy of filing systems
<b>Type of Indicator</b>	Output
<b>Calculation type</b>	Cumulative
<b>Reporting Cycle</b>	Quarterly
<b>Desired Performance</b>	50% of the licensing documents developed
<b>Indicator Responsibility</b>	Executive Manager: Radwaste Compliance Management

**PART C: RISK MANAGEMENT**

**Table 14: Risk analysis**

Objective	Risk Description	Root Cause	Consequence	Impact (1-5)	Likelihood (1-5)	Risk Level (Residual Risk)	Mitigation Action
Ensure sustainable funding of Institute	Lack of sustainable funding RWMF	<p>Delay in drafting the RWMF Bill.</p> <p>Cost recovery system not in place</p> <p>Incorrect budget baseline allocations</p>	Inability to operate efficiently and a high probability of staff turnover leading to further inefficiencies	5	4	20	<p>Motivation to MTEC for budget baseline correction by 30 June 2018</p> <p>Development of project funding model by 30 September 2018</p> <p>Develop waste disposal tariff framework based on total disposal life cycle cost to prevent the underestimate of disposal tariffs by 30 September 2018</p>
Functional Quality Management System	Inability to establish and implement a functional quality management system	<p>Lack of funding</p> <p>Lack of suitably qualified and experienced staff</p>	Inability to obtain the Vaalputs Nuclear Installation License	5	4	20	Establish a Technical Support Organisation by 31 March 2019 and appoint suitably experienced and qualified staff
NRWDI to be the holder of Vaalputs Nuclear Installation License.	Inability to obtain Vaalputs Nuclear Installation License	<p>Lack of quality QMS and Technical Support Organisation</p> <p>Lack of sustainable funding</p>	<p>Inability to fulfill mandate as per Section 4 of the NRWDI Act</p> <p>Non-compliance to NRWDI Act.</p>	5	4	20	<p>Implement QMS by 31 March 2019</p> <p>Establish a Technical support organisation by 31 March 2019</p>

Objective	Risk Description	Root Cause	Consequence	Impact (1-5)	Likelihood (1-5)	Risk Level (Residual Risk)	Mitigation Action
Establish a national radioactive waste inventory database	Delay in establishment of a national radioactive waste inventory databasis	Lack of funding	Inability to discharge disposal obligation under the Joint Convention  Reputational Risk	4	4	16	Funding allocation from limited operation budget to operationalize the National radioactive Waste Inventory Database. To be included in MTEF submission by 30 June 2018
Provide on a national basis waste disposal services that are safe , technically sound , socially acceptable and environmentally friendly	Inability to provide on a national basis waste disposal services that are safe , technically sound , socially acceptable and environmentally friendly	Inability to obtain the Vaalputs Nuclear Installation License	Inability to fulfill mandate as per Section 5 of the NRWDI Act  Loss of stakeholder trust and confidence	5	4	20	Implement QMS by 31 March 2019  Establish a Technical support organisation by 31 March 2019  Develop and implement an integrated and comprehensive licensing strategy to obtain Vaalputs license by 30 June 2018
Provide information on all aspects of radioactive waste disposal to the Vaalputs communities living in the Kamiesberg	Inability to provide information on all aspects of radioactive waste disposal to the Vaalputs communities living in the Kamiesberg	Lack of funding  No stakeholder engagement management strategy	Reputational risk  Increase in anti-nuclear sentiment	4	3	12	Mobilise funding for engagement with stakeholders on a professional level by 30 June 2018  Develop and implement comprehensive communication and stakeholder management Strategy by 30 June 2018



Objective	Risk Description	Root Cause	Consequence	Impact (1-5)	Likelihood (1-5)	Risk Level (Residual Risk)	Mitigation Action
Prudent Financial Magement.	Failure to comply with SCM regulations	Limited knowldege of SCM  Dependency on partner's SCM systems	Irregular Expenditure	4	3	12	Establish and implement own SCM system by 30 September 2018
Efficient scientific and technical support in the development and maintenance of safety cases for storage and disposal facilities	Inability to provide efficient scientific and technical support in the development and maintenance of safety cases for storage and disposal facilities	Lack of appropriate skills and experience	Reputational risk  Operational risk  Strategic risk	4	4	16	Develop and implement Individual Development Plans by 30 April 2018
Highly skilled and experienced employees	Inadequate pool of highly skilled and experienced employees	Intense competition for scarce skills in the nuclear industry	Operational risk  Strategic risk	5	4	20	Implement a talent management strategy by 30 June 2018  Develop and implement an employee value proposition that will include the incentive scheme for rewarding excellence by September 2018

21-25 (5): Very high – Red	
16-20 (4): High – Light orange	
11-15 (3): Medium – Light yellow	
6-10 (2): Low – Sea green	
1-5 (1): Very low – Light blue	

**ANNEXURE B: CHANGES TO THE NATIONAL RADIOACTIVE WASTE DISPOSAL  
INSTITUTE STRATEGIC PLAN FOR 2017/2018 TO 2019/2020**

The Strategic Plan 2017/18 to 2019/2020 for the National Radioactive Waste Disposal Institute (NRWDI) was approved by the Minister of Energy, the Honourable Tina Joemat – Pettersson on 25 June 2017.

Page 51 of the Strategic Plan relates to targets of the Central Interim Storage Facility (CISF) which need to be amended based on the following:

As part of its mandate, the National Radioactive Waste Disposal Institute (NRWDI) is responsible for the establishment of a CISF for long-term storage of spent nuclear fuel from nuclear reactors existing in the country. The continuous accumulation of spent fuel on the nuclear reactor sites necessitates the expansion of storage capacities, resulting in increased spent fuel inventories and storage burden on the sites which is unsustainable in the long term.

A CISF, established away from nuclear reactors sites, would continue to provide a safe interim solution and bridge the gap in the South African spent fuel management programme until a deep geological repository, which is an unavoidable endpoint of spent fuel management, is established and implemented. The CISF will accept and store spent fuel from current and future reactors on a national basis.

The CISF project was included in the NRWDI Strategic Plan and APP with two performance targets, namely, CISF siting plan and CISF conceptual design. However, the delivery of these targets, however are highly unlikely to be achieved within the Strategic Plan time framework because funding constraints. It should be noted that the funding of the CISF will be provided from the Radioactive Waste Management Fund Bill which has not yet been finalised.

Against this backdrop, the targets for the CISF, as reflected in the 2017/18-2019/20 NRWDI Strategic Plan have been amended as follows:

	Strategic Objective	Strategic Plan Target	Medium Term Targets		
			2017/2018	2018/2019	2019/2020
1.	<b>SO 3.1</b> Excellent site selection and investigations for the establishment of storage and disposal facilities	Sites development strategy in place	No Target	No Target	No Target
2.	<b>SO 3.2</b> Advanced design and construction of storage and disposal facilities	Operational storage facility	No Target	No Target	No Target
3.	<b>SO 3.3</b> Efficient scientific and technical support for development and maintenance of safety cases	3 Research and Development reports	1 Research and Development reports	1 Research and Development report	1 Research and Development report

**6.3 PROGRAMME3: RADWASTE TECHNOLOGY AND SITING**

	Strategic Objective	Strategic Plan Target	Estimated Performance	Medium Term Targets		
				2016/17	2017/2018	2018/2019
1.	<b>SO 3.1</b> Excellent site selection and investigations for the establishment of storage and disposal facilities	Sites development strategy in place	New target	CISF siting project plan developed	Prepare a safety case	Safety case submitted to Regulator
2.	<b>SO 3.2</b> Advanced design and construction of storage and disposal facilities	Operational storage facility	New target	Conceptual design developed	Detailed design developed	Detailed Design submitted for approval to NNR
3.	<b>SO 3.3</b> Efficient scientific and technical support for development and maintenance of safety cases	3 Research and Development reports	New target	1 Research and Development reports	1 Research and Development report	1 Research and Development report

## LIST OF ABBREVIATIONS

ACR	Authorisation Change Request
BoD	Board of Directors
CEO	Chief Executive Officer
DRP	Disaster Recovery Plan
ESS	Executive Support Services
HLW	High Level Waste
ILW	Intermediate Level Waste
LLW	Low Level Waste
NDP	National Development Plan
NIL	Nuclear Installation License
NRWDIA	National Radioactive Waste Disposal Institute Act
NRWDI	National Radioactive Waste Disposal Institute
SHEQ	Safety, Health, Environment and Quality
COO	Chief Operations Officer
CTO	Chief Technology Officer
DoE	Department of Energy
GDP	Gross Domestic Product
HR	Human Resources
ICT	Information and Communication Technology
ISO	International Standards Organisation
MANCO	Management Committee
MTEF	Medium Term Expenditure Fund
MTSF	Medium Term Strategic Framework
Necsa	South African Nuclear Energy Corporation
NNBP	Nuclear New Build Programme
NRWDI	National Radioactive Waste Disposal Institute
PESTEL	Political, Economic, Social, Technological, Environmental, Legal
PFMA	Public Finance Management Act
QMS	Quality Management System
R&D	Research and Development
RWMF	Radioactive Waste Management Fund

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SA	South Africa
SLA	Service Level Agreement
SMART	Specific, Measurable, Achievable, Realistic, Time bound
SO	Strategic Objective
SOE	State Owned Entity
SOOG	Strategic Outcome Orientated Goal
SWOT	Strengths, Weaknesses, Opportunities and Threats
TSO	Technical Support Organisation
URS	User Requirement Specification

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# NRWDI



NATIONAL RADIOACTIVE WASTE  
DISPOSAL INSTITUTE

**Building X, Necsas Offices  
Elias Motsoaledi Street Extension (Church Street West)  
R104 Pelindaba  
North West  
0240**

**Private Bag X1  
Pretoria  
0001  
Gauteng Province  
South Africa**

**Tel : 012 305 3222  
Email : [info@nrwdi.org.za](mailto:info@nrwdi.org.za)  
Website : [www.nrwdi.org.za](http://www.nrwdi.org.za)**



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