

ATTACHMENT 5: REGULATORY AND LEGISLATIVE FRAMEWORK

REGULATORY FRAMEWORK

R.1 International Atomic Energy Agency Safety Standards

The International Atomic Energy Agency (IAEA) in conjunction with member countries promotes safe and peaceful use of nuclear technologies and South Africa has been a member state since it was established in 1957.

The IAEA has developed numerous safety standards that provide safety fundamentals, requirements and guidelines that are internationally accepted as the basis of providing high safety standards to protect people and the environment from harmful effects of nuclear radiation. The IAEA safety standards must be adopted and complied in the planning, development, construction, operation and decommissioning of nuclear facilities.

The various safety standards and protocols are applicable to all nuclear facilities and activities. These are complemented by specific safety requirements and guides applicable to nuclear facilities and activities including:

- Nuclear power plants;
- Fuel cycle facilities; Research Reactors;
- Radioactive waste disposal facilities;
- Application of radiation sources; and
- Transport of radioactive material.

The design and operation of a MPR has to comply with the relevant general and specific safety requirements applicable to nuclear facilities and safe transport of nuclear material in accordance to the IAEA safety standards.

The IAEA nuclear non-proliferation regime related to technology transfer and the development of nuclear facilities will apply to a proposed MPR. There is likely to be limited scrutiny of geopolitical issues related to a MPR, in contrast to the considerations that enrichment and reprocessing facilities would attract.

A MPR will be subject to all the nuclear material verification and material accounting (quantities, locations and movements) requirements of the IAEA Safeguards Agreements that the Republic of South Africa is party to, and which Necsa is fully appraised of as they apply to its current operations.

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R.2 Relevant South African Legislation

There are regulatory requirements related to nuclear energy, environmental legal requirements Occupational Health and Safety legal requirements to which the Project must comply, and include the following:

- National Environmental Management Act 107 of 1998, as amended (NEMA);
- National Water Act 36 of 1998 (NWA);
- National Environmental Management: Air Quality Act 39 of 2004 (NEM: AQ);
- National Environmental Management: Biodiversity Act 10 of 2004 (NEM: BA);
- National Environmental Management: Waste Act 59 of 2008 (NEM: WA)
- National Nuclear Regulator Act 47 of 1999 (NNRA); and
- Nuclear Energy Act 46 of 1999 (NEA); and
- International Atomic Energy Agency Safety Standards

Below is a summary of the relevant Acts and Regulations and how they apply to the Project. It highlights key legislative requirements and obligations.

R.3 National Environmental Management Act 107 of 1998

NEMA establishes a responsibility on Necsa to ensure that all activities related to the Project conform to the principles that ensure environmental protection from pollution and / or degradation.

Sections 24 and 44 of NEMA provides for the promulgation of regulations that identify activities which may not commence without an Environmental Authorisation (EA) issued by the Department of Environmental Affairs (DEA). The EIA Regulations, which came into effect in 2014, were promulgated in terms of NEMA. The regulations govern the process, methodologies and requirements for the undertaking of EIAs to support EA applications.

EIA Regulations provide for two alternative authorisation processes depending on the environmental impact of the proposed activity, a Basic Assessment or an EIA process. Both approaches have the following requirements:

- Public participation must be undertaken as part of the assessment process;
- The assessment must be conducted by an independent Environmental Assessment Practitioner;
- The relevant authorities must respond to applications and submissions within stipulated time frames;
- Decisions taken by the authorities can be appealed by the applicant or any other Interested and Affected Party; and
- Finally, a draft Environmental Management Programme must be compiled and released for public comment.

The regulations stipulate various procedures to be followed and details to be provided in the reports compiled during the process.

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NEMA regulations make provision for appeal against any decision issued by the DEA. An appeal must be lodged with the DEA in writing within 20 days of the date on which notification of the EA decision is made. Any interested party must submit a responding statement, if any, to the appeal authority and the appellant within 20 days from the date of receipt of the appeal submission.

R.3.1 Legal Requirements for the Project

Necsa is obliged to ensure that the proposed activities and the EIA process are undertaken according to NEMA principles, and to take actions to prevent pollution and / or degradation of the environment and ensure that the environmental impacts associated with the Project are considered and mitigated where possible.

R.4 National Water Act 36 of 1998

Water use in South Africa is controlled by the NWA under the auspices of the Department of Water and Sanitation (DWS). The NWA recognises that water is a scarce and unevenly distributed national resource. It seeks to achieve sustainable and equitable use of water to the benefit of all users and to ensure protection of the aquatic ecosystems associated with water resources. The provisions of the Act are aimed at discouraging pollution and wastage of water resources.

Any land user, occupier or owner of land where an activity that causes or has the potential to cause pollution of a water resource is obliged to take measures to prevent pollution from occurring. If these measures are not taken, the responsible authority may do whatever is necessary to prevent the pollution or remedy its effects, and to recover all reasonable costs from the responsible party.

Section 21 of the NWA specifies numerous water uses, including:

- (a) taking water from a water resource; and
- (b) discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit.

These water uses require authorisation in terms of Section 22 (1) of the Act, unless they are listed in Schedule 1 of the NWA or are an existing lawful use, fall under a General Authorisation issued under section 39 or if the responsible authority waives the need for a licence.

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R.5 Legal Requirements for the Project

The proposed plant activities will trigger water use activities in terms of Section 21 (f) of the NWA. If part of the water removed for this reason is not disposed of or discharged into a water resource, but used for some purpose, this water use may, in terms of Section 21 (a), be deemed a water resource. A Water Use Licence (WUL) from DWS will be required for the Project.

R.6 National Environmental Management: Air Quality Act 39 of 2004

The protection and management of air quality is regulated by NEM: AQ, with the application of the relevant provisions of the Act guided by the principles set out in section 2 of NEMA. No person or entity may undertake any listed activity without an Atmospheric Emission License.

Section 36(1) charges Metropolitan and District Municipalities (Relevant Authority) with implementing the emission licensing system. The Department of Environmental Affairs (DEA) published the list of activities which result in atmospheric emissions in 31 March 2010.

Regional environmental management plans developed by provinces are required to include the requirements of NEMA and must include air quality management plans in their integrated development plans that will give effect to air quality standards and the regulation thereof.

The Atmospheric Emission Licence will detail the maximum allowed amount, volume, emission rate or concentration of pollutants that may be discharged in the atmosphere under normal working conditions and under normal start-up, maintenance and shut-down conditions.

R.6.1 Legal Requirements for the Project

Due to the various processes within a MPR, the facility will require an Atmospheric Emission License from the Relevant Authority.

R.7 National Environmental Management: Biodiversity Act 10 of 2004

The NEM:BA provides for the management and conservation of biodiversity and the protection of species and ecosystems that are considered to warrant national protection. The Act provides for the publication of regional spatial plans that profile the terrestrial and aquatic features of a specific landscape and determine those that are essential to conserve the biodiversity of the area by ensuring a sustainable maintenance of the functioning of the ecosystem (bioregional plans). NEM:BA classifies these areas as Critical Biodiversity Areas (CBAs).

In addition, these plans must list the ecosystems and species that are threatened or in need of protection. The Act provided for the promulgation of: i) regulations relating to threatened and protected species, ii) guidelines to determine bioregions and inform the publication of bioregional plans and, iii) the formulation and publication of threatened ecosystems that need protection. These were respectively gazetted in 2007, 2009 and 2011.

Bioregional plans provide guidelines for avoiding the loss or degradation of natural habitat in CBAs and are critical to informing: a) land-use planning by relevant authorities and, b) EIA Scoping.

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Consequently, it is essential that the EIA process undertakes a meticulous assessment of risks and potential impact of proposed activity/ies on biodiversity. Permits to carry out a restricted activity in CBAs are issued after an assessment has been undertaken.

R.7.1 Legal Requirements for the Project

During site location, potential dangers to the ecosystem and the impact of the Project on the biodiversity of the area needs to be assessed.

R.8 National Environmental Management: Waste Act 59 of 2008

NEM: WA seeks to protect the environment, human health and well-being by minimising the consumption of natural resources through the reduction, re-use, recycling and the recycling of waste and the safe disposal of waste materials (waste management activities) as a last resort.

Waste management activities regulated by NEM: WA were gazetted by the Minister of the Department Environmental Affairs (DEA) on 29 November 2013, and the application of NEM: WA provisions is guided by the principles set out in section 2 of NEMA. Any waste that is likely to cause pollution of the environment or harm human health and well-being cannot be stored, transported and disposed of without legal authorisation. The DEA Minister is the licensing authority unless they gazette a provincial department or some other statutory body (Relevant Authority).

No listed waste management activity may be undertaken without conducting a Scoping and Environmental Impact reporting process set out in the EIA Regulations made under section 24(5) of NEMA as part of a Waste Management License application. Category B of the list of waste management activities likely to be harmful to the environment includes the treatment of hazardous waste or the re-use, recycling or recovery of waste that average 1 ton per day.

R.8.1 Legal Requirements for the Project

The storage and waste management activities of the proposed plant outlined in paragraph 4.5.4 will require a Waste Management License from the Relevant Authority.

R.9 National Nuclear Regulator Act 47 of 1999

The NNRA established and enforces procedures to protect people who work with radioactive materials.

The National Safety Standards and Regulatory Practices of South Africa require that authorised practices involved in nuclear related activities shall perform a prospective radiological public hazard assessment. Radiological protection standards are criteria set to ensure compliance with the basic principles of radiation safety. The NNR has adopted these standards and promulgated regulations to ensure the protection of individual members of the public and their surrounding environment.

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Nuclear activities are regulated by the NNR and its responsibilities include exercising regulatory control related to safety over the siting, design, construction, operation, manufacture of component parts, and decontamination, decommissioning and closure of nuclear installations.

R.9.1 Legal Requirements for the Project

Section 20(1) of the National Nuclear Regulator Act states that “No person may site, construct, operate, decontaminate or decommission a nuclear installation, except under the authority of a nuclear installation license”.

Necsa needs to apply for a Nuclear Installation Site Licence. The process will include undertaking a radiological assessment (safety case) to determine the potential radiological effects on the public. Although the duration of the process could be less, subject to a pro-active effort to develop and agree a licencing timeline with the NNR, the preliminary review of the site and installation safety report and case to be submitted by Necsa is likely to take about 24 months

R.10 Nuclear Energy Act 46 of 1999

The NEA stipulates that the Minister of Energy has the authority over the management and disposal of radioactive waste and the storage of used nuclear fuel.

Section 34 (b) (v) stipulates that authorisation by the Minister is required for any person, institution, organisation or body to be in possession of a nuclear-related equipment and material.

R.10.1 Legal Requirements for the Project

Necsa is required to secure written permission from the Minister of Energy to establish a MPR throughout every licensing lifecycle.

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LEGISLATIVE FRAMEWORK

The applicable legal provisions and the legal context for the Environmental Impact Assessment process required for a proposed MPR is described below. It provides a review of relevant legislation, regulations, policies and guidelines, which are applicable to, or have implications, for the proposed project.

The contents of this report are based on a review of the information that was available at the time of the compilation of the report. The discussion in this section is by no means an exhaustive list of the legal obligations of the applicant in respect of environmental management for a proposed MPR Project.

L.1 Legislation Review

L.1.1 Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996)

The environmental right is mentioned in Section 24 of the Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996). This states the following:

“...everyone has the right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation, and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development”.

The State must therefore respect, protect, promote and fulfil the social, economic and environmental rights of everyone and strive to meet the basic needs of previously disadvantaged communities.

The Constitution therefore recognises that the environment is a functional area of concurrent national and provincial legislative competence, and all spheres of government and all organs of state must cooperate with, consult and support one another if the State is to fulfil its constitutional mandate.

The application for Environmental Authorisation for a proposed MPR will ensure that the environmental right enshrined in the Constitution contributes to the protection of the biophysical and social environment.

L.1.2 National Environmental Management Act, 1998 (Act No. 107 of 1998)

In order to bring section 24 of the Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996) into realisation, the National Environmental Management Act, 1998 (NEMA) (Act No. 107 of 1998) was promulgated to serve to *‘provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance and procedures for co-*

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ordinating environmental functions exercised by organs of state; to provide for certain aspects of the administration and enforcement of other environmental management laws; and to provide for matters connected therewith'. NEMA is the main Environmental Legislation in South Africa and other Specific Environmental Management Acts (SEMA's) support its objectives. Examples of SEMA's include the following:

- National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008);
- National Water Act, 1998 (Act No. 36 of 1998);
- National Heritage Resources Act, 1999 (Act No. 25 of 1999);
- National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004);
- National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004); and
- National Forests Act, 1998 (Act No. 84 of 1998).

The key principles of NEMA can be summarised as follows:

- sustainability must be pursued in all developments to ensure that biophysical and socio-economic aspects are protected or;
- there must be equal access to environmental resources, services and benefits for all citizens including the disadvantaged and the vulnerable. Adverse environmental impacts shall be distributed fairly among all citizens;
- environmental governance must include the participation of all interested and affected parties who must be catered for to allow their effective participation;
- environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
- the polluter pays principle must be applied in all cases where any person has caused pollution or undertaken any action that led to the degradation of the environment.

L.1.3 National Environment Management Act, 1998 (Amendments)

The National Environmental Management Act (Act No. 107 of 1998) has been amended numerous times to better meet its overall objective of the protection of the environment.

The amendments to NEMA include but are not limited to:

- National Environmental Management Act (Act No. 56 of 2002);
- National Environmental Management Act (Act No. 8 of 2004);
- National Environmental Management Act (Act No. 46 of 2003);

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L.1.4 NEMA Environmental Impact Assessment Regulations

In terms of section 24(2) of NEMA, the Minister and or any MEC in concurrence with the Minister may identify activities which require authorisation as these activities may negatively affect the environment. The Act requires that in such cases the impacts must be considered, investigated and assessed prior to their implementation and reported to the organ of state charged by law with authorising, permitting, or otherwise allowing the implementation of an activity. The NEMA EIA Regulations guide the processes required for the assessment of impacts of Listed Activities.

The requirement for the undertaking of Environmental Impact Assessments and Basic Assessments began in 1997 with the promulgation of the EIA Regulations under the Environment Conservation Act, 1989 (ECA) (Act No. 73 of 1989). These were followed by the 2006, 2010 and 2014 regulations. Table C.1 is a summary of the progression of the EIA regulations to date.

Table L.1: Summary of the South African EIA regulations from inception to date

EIA Regulations	Government Gazette
EIA Regulations promulgated in terms of the ECA, Act No 73 of 1989	GNR 1182 & 1183: Government Gazette No 18261, 5 September 1997
Amendment of the ECA EIA Regulations	GNR 670 and GNR 672 of 10 May 2002, Government Gazette No 23401
2006 EIA Regulations promulgated in terms of the NEMA, Act No 107 of 1998	GNR 385, 386 and 387 Government Gazette No 28753, Pretoria, 21 April 2006
2010 EIA Regulations promulgated in terms of the NEMA, Act No 107 of 1998	GNR 543, 544, 545 and 546 Government Gazette No 33306, Pretoria, 18 June 2010
2014 EIA Regulations promulgated in terms of the NEMA, Act No 107 of 1998	GNR 982, 983, 984 and 985 Government Gazette No 38282, Pretoria, 04 December 2014
Current Amendment of the 2014 EIA Regulations promulgated in terms of the NEMA, Act No 107 of 1998	GNR 982, 983, 984 and 985 Government Gazette No 40772, Pretoria, 07 April 2017

The Environmental Impact Assessment (EIA) for a proposed MPR is undertaken in terms of the NEMA EIA Regulations, 2014, as amended. These came into effect on the 07th April 2017.

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L.1.5 National Water Act, 1998 (Act No. 36 of 1998)

The National Water Act, 1998 (Act No. 36 of 1998) aims to provide for management of the national water resources in order to achieve sustainable use of water for the benefit of all water users. This act requires that the quality of water resources is protected as well as the integrated management of water resources with the delegation of powers to institutions at the regional or catchment level. The purpose of the Act is to ensure that the nation's water resources are protected, used, developed, conserved and managed in ways which take into account:

- Meeting basic human needs of present and future generations;
- Promoting equitable access to water;
- Redressing the results of past racial discrimination;
- Promoting the efficient, sustainable and beneficial use of water in the public interest; facilitation social and economic development;
- Providing for the growing demand for water use;
- Protecting aquatic and associated ecosystems and their biological diversity;
- Reducing and preventing pollution and degradation of water resources;
- Meeting international obligations;
- Promoting dam safety; and
- Managing floods and drought.

In pursuit of these objectives, Chapter 4 of the act regulates water use, while Section 21 lists eleven water use types that are regulated [Section 21 (a) – (k)] . Watercourses and wetlands are protected in terms of this section, as both are regarded as water resources.

L.1.6 National Heritage Resources Act, 1999 (Act No. 25 of 1999)

The objective of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) is to introduce an integrated system for the management of national heritage resources. The identification, evaluation and assessment of any cultural heritage site, artefact or find in South Africa is required by this Act.

Section 38(1) of this Act states that: "...any person who intends to undertake a development categorised as...any development or other activity which will change the character of a site-

- exceeding 5 000 m² in extent; or
- involving three or more existing erven or subdivisions thereof; or
- involving three or more erven or divisions which have been consolidated within the past 5 years; or
- the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;

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- The rezoning of a site exceeding 10 000m² in extent; or
- any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development”.

Section 38(3) further states that the responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a). The Act stipulates that cultural heritage resources may not be disturbed without authorisation from the relevant heritage authority. Section 34(1) of the Act states that “no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority...”

Section 35 of the Act pertains to the protection of archaeological and palaeontological sites or material as well as meteorites. Section 35(4)(1)(a) states that

“No person may, without a permit issued by the responsible heritage resources authority—destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite”.

L.1.7 National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)

The purpose of this Act is to provide for the:

- Management and conservation of South Africa’s biodiversity within the framework of the National Environmental Management Act, 1998;
- The protection of species and ecosystems that warrant national protection;
- The sustainable use of indigenous biological resources;
- The fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources;
- The establishment and functions of a South African National Biodiversity Institute

The NEMBA regulations govern the ‘*PERMIT SYSTEM FOR LISTED THREATENED OR PROTECTED SPECIES*’. In order to remove or relocate any Threatened species or Protected species identified on the site, the relevant permits must be applied for. According to the North West biodiversity Sector Plan, the proposed site falls within a Critical Biodiversity Area. A MPR project will involve the removal of vegetation as well as trees. Therefore, the impacts on the biodiversity of the project will have to be assessed.

L.1.8 National Forests Act, 1998 (Act No 84 of 1998)

The purpose of the Act is to promote the sustainable management and development of forests and to provide protection for certain forests and trees in terms of:

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- Section 15 (1) of the National Forest Act (Act 84 of 1998), any person wishing to cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected tree must apply for a license from the Minister or any delegated institution or authority.
- Government Notice 38215, Notice of the List of Protected Tree Species under the National Forests Act, 1998 (Act No 84 of 1998) was gazetted in November 2014.

The proposed project will require the removal of trees, an Ecological assessment will be required to determine if any protected tree species will potentially be affected by the proposed extension. Should the proposed project require the removal of any protected tree species, then the application will have to be lodged with DEFF.

L.1.9 National Environmental Management; Waste Act, No 59 of 2008

The National Environmental Management; Waste Act, no 59 of 2008 came into effect on 1 July 2009. The Waste Act places a general duty on a holder of waste to avoid the generation of waste and where such generation cannot be avoided, to minimise the toxicity and amounts of waste that are generated; reduce, re-use, recycle and recover waste; where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner; manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts; prevent any employee or any person under his or her supervision from contravening the Act; and prevent the waste from being used for an unauthorised purpose. All waste that will be generated during the construction phase of the development must be managed in accordance with this Act.

It must however be noted that radioactive waste is not governed by the National Environmental Management Waste Act. Nuclear waste is regulated under the National Nuclear Regulator Act, 1999 (Act 47 of 1999).

L.1.10 National Environmental Management Air Quality Act (Act 39 of 2004)

The purpose of the act is to reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto. Construction/building waste generated during the construction phase will be managed in accordance with this Act.

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L.1.11 National Nuclear Regulator Act, 1999 (Act 47 of 1999)

The National Nuclear Regulator 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.

The National Nuclear Regulator (NNR) was established and governed in terms of Section 3 of the National Nuclear Regulator Act, (Act No 47 of 1999). The NNR regulates the operation of nuclear power reactors, Research Reactors, nuclear technology applications, radioactive waste management, mining and processing of radioactive ores, users of small quantities of radioactive material, transport of radioactive materials, vessels propelled by nuclear power or having radioactive material on board and to any other actions capable of causing nuclear damage to which the National Nuclear Regulator Act applies. In terms of the National Nuclear Regulated Act, the NNR has powers to grant, amend and revoke authorisations.

L.1.12 Nuclear Energy Act (Act 46 of 1999)

The Act establishes the South African Nuclear Energy Corporation Limited (Necsa), a public company owned by the State, and defines the Necsa functions and powers, and its financial and operational accountability. The Act sets out Necsa's main functions which include:

- To undertake and promote research and development in the field of nuclear energy and radiation sciences and technology and, subject to the Safeguards Agreement, to make these generally available;
- To process source material, special nuclear material and restricted material and to reprocess and enrich source material and nuclear material; and
- To co-operate with any person or institution in matters falling within these functions subject to the approval of the Minister.

L.1.13 Radioactive Waste Management Policy and Strategy for the Republic of South Africa (2005)

The Radioactive Waste Management Policy and Strategy for the Republic of South Africa (2005) established a national radioactive waste policy framework setting out principals and structures for the management of radioactive waste in a coordinated and cooperative manner. The policy does make reference to the challenges regarding the disposal of high-level waste. Government plans to investigate the options for safe management of used fuel and high-level radioactive waste. However, the policy states that in the interim used nuclear fuel is and shall continue to be stored in authorised facilities within the generators sites.

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L.1.14 National Radioactive Waste Disposal Institute (Act 53 of 2008)

Became effective on the 1st December 2009 endorsing the establishment of the National Radioactive Waste Disposal Institute (NRWDI). The management of radioactive waste disposal on a national basis is assigned to the National Radioactive Waste Disposal Institute. The functions of the NRWDI are as follows:

- 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,
- 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

Currently the majority of the functions mentioned above are related to Low Level Waste inventories. The scope of the NRWDI at this stage does not cover High-Level waste such as the spent fuel from the SAFARI-1 reactor and a proposed MPR. It is however the South African government's plan to extend the scope of the NRWDI.

L.1.15 International Atomic Energy Agency Safety Standards

The International Atomic Energy Agency (IAEA) is a United Nations body tasked to assist countries and disseminate information for the use of atomic energy for peaceful purposes, and to develop a system of controls to prevent the diversion of atomic materials for military use. The IAEA works with its members to promote the safe, secure and peaceful use of nuclear technologies. South Africa is a member of the IAEA.

A MPR will be designed and operated to comply with the specific safety requirements in accordance with the IAEA safety standards.

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L.1.16 Madibeng Local Municipality Draft Spatial Development Framework (2015)

The Spatial Development Framework aims to provide guidance with regards to physical development of Madibeng Local Municipality so as to improve the manner in which activities are arranged in the physical space. By enhancing the ways in which activities are situated in Madibeng Local Municipality as well as interrelation of several activities with others will eventually improve the efficient and effective functioning of Madibeng Local Municipality. The object of the SDF is to provide the following:

- Direction to private investors with regard to where certain developments will be allowed as well as where they won't be allowed;
- Creates a conducive environment for the implementation of municipality's Integrated Development Plan;
- Provide guidance in terms of spatial location of Madibeng capital interventions in ensuring that the maximum benefits are attained from investment in place.

Through the SDF the Madibeng Local Municipality has declared the Necsa facility a Nuclear Area and it has a 5 km restricted development buffer zone. The SDF also defines the Pelindaba Nuclear Area as a natural form giving element, in which development may not take place. This area is regarded as conserved and protected with minimal to no development allowed. The Pelindaba Nuclear plant are not natural structuring elements, but they have a structuring function due to their functionality, hence the 5km buffer. The SDF does however recommend that commercial and light industrial activity may take place within the 5km buffer.

L.1.17 Madibeng Local Municipality Integrated Development Plan (2017)

The Madibeng Local Municipality's Integrated Development Plan (2017-2021) is a strategic plan used to guide and provide the overall development within the municipality. The core focus areas of the IDP is as follows:

- Priority 1: Water and Sanitation
- Priority 2: Roads and Storm water
- Priority 3: Electricity
- Priority 4: Social Services
- Priority 5: Land and Housing
- Priority 6: Local Economic Development

The IDP does make reference to the Pelindaba Nuclear Facility (Necsa) and the 5km restricted development buffer zone. Reference is also made to the Pelindaba Nuclear Facility as part of the tertiary economy of the municipality.

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L.1.18 Other National Legislation Concerning or Related to the Environment

- Environment Conservation Act, 1989 (Act No. 73 of 1989) (as amended);
- Hazardous Substances Act, 1973 (Act No. 15 of 1973);
- Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983);
- Occupational Health and Safety Act, 1993 (Act 85 of 1993).

L.1.18.1 Project Management & Administration

- Line management authorization of the project and project registration.
- Acceptance of liabilities and insurance cover and or financial provision for decommissioning and rehabilitation.
- Project Overview/Scope/Justification Report(s). **Project Overview and Scope** to be compiled, followed by a **Project Justification**. Define **project principles** which would be applicable to ALL phases.
- Project Licensing Strategy Document.
- Project/Quality Plan(s).
- Project Organisation Description including structure, staffing, responsibilities, authorities and communication.
- Appointment of SQEPs for critical project quality and safety functions. Appointment of SQEPs according to project organisation and structure (see 1.6).
- Project Schedule. For whole project

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L.1.18.2 Conceptual Design

- Project Design Plan. Include design control as part of specification.
- Appointment of SQEPs for the various design-related activities and responsibilities.
- Preliminary Facility and Process Description.
- Preliminary Hazard Analyses (e.g. HAZOP-1; FMEA; DBA). To be covered as a requirement in the facility specification. SHEQ-INS-0881
- Hazard Level screening assessment. To be covered as a requirement in the facility specification. SHEQ-INS-0865.
- Preliminary Environmental Impact Study (PEIS). To be covered as a requirement in the facility specification.
- Engineering Design Safety Principles including SHEQ Basis of Design. To be covered as a requirement in the facility specification. SHEQ-INS-0233.

L.1.18.3 Environmental Impact Assessment (EIA) Process

The Department of Environmental Affairs process will be followed to perform the Environmental Impact Assessment.

L.1.18.4 Siting

- Assessment (fire, seismic, structural, etc) of the proposed site(s). Siting Strategy.
- Site Justification Report.
- Decommissioning of the proposed site prior to occupation (If applicable).
- Nuclear Installation License for Site.

L.1.18.5 Basic Design

- Safety Assessment of the Basic Design (with feedback to the design process). SHEQ-INS-0862, SHEQ-INS-0863, SHEQ-INS-0870, SHEQ-INS-0881, SHEQ-INS-7120, SHEQ-INS-0866, SHEQ-INS-0867.
- Safety and quality classification of SSCs. To be covered as a requirement in the facility specification. SHEQ-INS-0890
- “Frozen” Basic Design Package (which includes the Facility and Process Description). To be covered as a requirement in the facility specification. SHEQ-INS-0233, SHEQ-INS-0234, SHEQ-INS-0235, SHEQ-INS-0801.
- Pre-construction SAR. To be covered as a requirement in the facility specification. SHEQ-INS-0863, SHEQ-INS-0864.

ATTACHMENT 5: REGULATORY AND LEGISLATIVE FRAMEWORK

- Balance of Safety Case Documents required for Procurement/Construction (To be specified in the Licensing Strategy). E.g. Construction plan, Security procedure, Conceptual decommissioning strategy.
- Establishment of the Configuration Management Database of the “frozen” Basic Design before start of Procurement/Construction.

L.1.18.6 Procurement and Manufacturing

- Review and, if necessary, revise documents 1.4 to 1.7 w.r.t procurement/manufacturing.
- Project Procurement Plan/framework to be prepared.
- Supplier Qualification for safety classified SSCs.
- NNR authorization to proceed with procurement/manufacture of safety classified SSCs.
- Factory Acceptance Testing (FAT) of Safety classified SSC if applicable.

L.1.18.7. Construction & Installation

- Review and, if necessary, revise documents 1.4 to 1.7 w.r.t the construction phase.
- Radiation Protection Programme of the area to be handed over to the contractor.
- Pre-construction audit of compliance with all applicable Safety Case and SHEQ requirements, including the Construction Regulations, and close-out of any findings.
- NNR authorization to proceed with construction.
- Audit of conformance to the post-construction requirements.
- Construction Plan and Manual
- Site Acceptance Testing (SAT) of Safety classified SSCs if applicable
- Construction & Installation Report.

L.1.18.8 Cold Commissioning

- Review and, if necessary, revise the Pre-construction SAR (possible SHEQ impact of any changes to safety-classified SSCs during construction).
- Balance of Safety Case Documents required for Cold Commissioning: e.g. Cold Commissioning Plan, Facility SHEQ Manual (prepare/review/revise, as applicable), Hazardous Chemical Substance Control Programme, Waste Management Programme, Building Emergency Plan, Work instructions and procedures, Training procedure, Facility Security procedure, Maintenance procedure, etc.

ATTACHMENT 5: REGULATORY AND LEGISLATIVE FRAMEWORK

- Review and, if necessary, revise documents 1.4 to 1.7 w.r.t the cold commissioning phase.
- Pre-cold-commissioning SHEQD audit of compliance with all applicable Safety Case and SHEQ requirements.
- NNR authorization to proceed with cold commissioning.
- Cold commissioning Report.
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L.1.18.9 Hot Commissioning

- Prepare the Hot Commissioning SAR (revision of the Pre-construction SAR).
- Balance of Safety Case Documents required for hot commissioning: e.g. HC Plan, OTS, ISI&MP, RPP, Solid Waste Management Programme, Emissions Management Programme, Effluent Management Programme, Hazardous Chemical Substance Control Programme, Building Emergency Plan, Work instructions and procedures, Training procedure, Facility Security procedure, Maintenance procedure, etc.
- Review and, if necessary, revise documents 1.4 to 1.7 w.r.t. the hot commissioning phase.
- Pre-hot-commissioning SHEQ audit of compliance to all applicable Safety Case and SHEQ requirements.
- NNR authorization to proceed with hot commissioning.
- Hot Commissioning Report.

L.1.18.10 Operations

- Prepare the Operations SAR (revision of the Hot Commissioning SAR).
- Balance of Safety Case Documents required for operations: E.g. Review and, if necessary, revise the documents prepared for Hot Commissioning, Nuclear Criticality Safety Programme.
- Pre-operations SHEQ audit of compliance with all applicable Safety Case and SHEQ requirements.
- NNR authorization to proceed with operations.