



IAEA INIR MISSION IN SOUTH AFRICA

Integrated Nuclear Infrastructure Review

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South African INIR

The IAEA implemented the INIR mission, which is a holistic coordinated peer review conducted by a team of IAEA and international experts (the INIR team) who have experience in specialized nuclear infrastructure areas, from 30 January to 8 February 2013.

The INIR team acknowledges that the Republic of South Africa is the first IAEA Member State with an operating nuclear power plant to invite an INIR mission to review its nuclear power infrastructure for new build, which is a good example for other IAEA Member States with nuclear power expansion programmes.

Key Role Players

Department of Mineral resources and Energy is the executive authority for all nuclear matters.

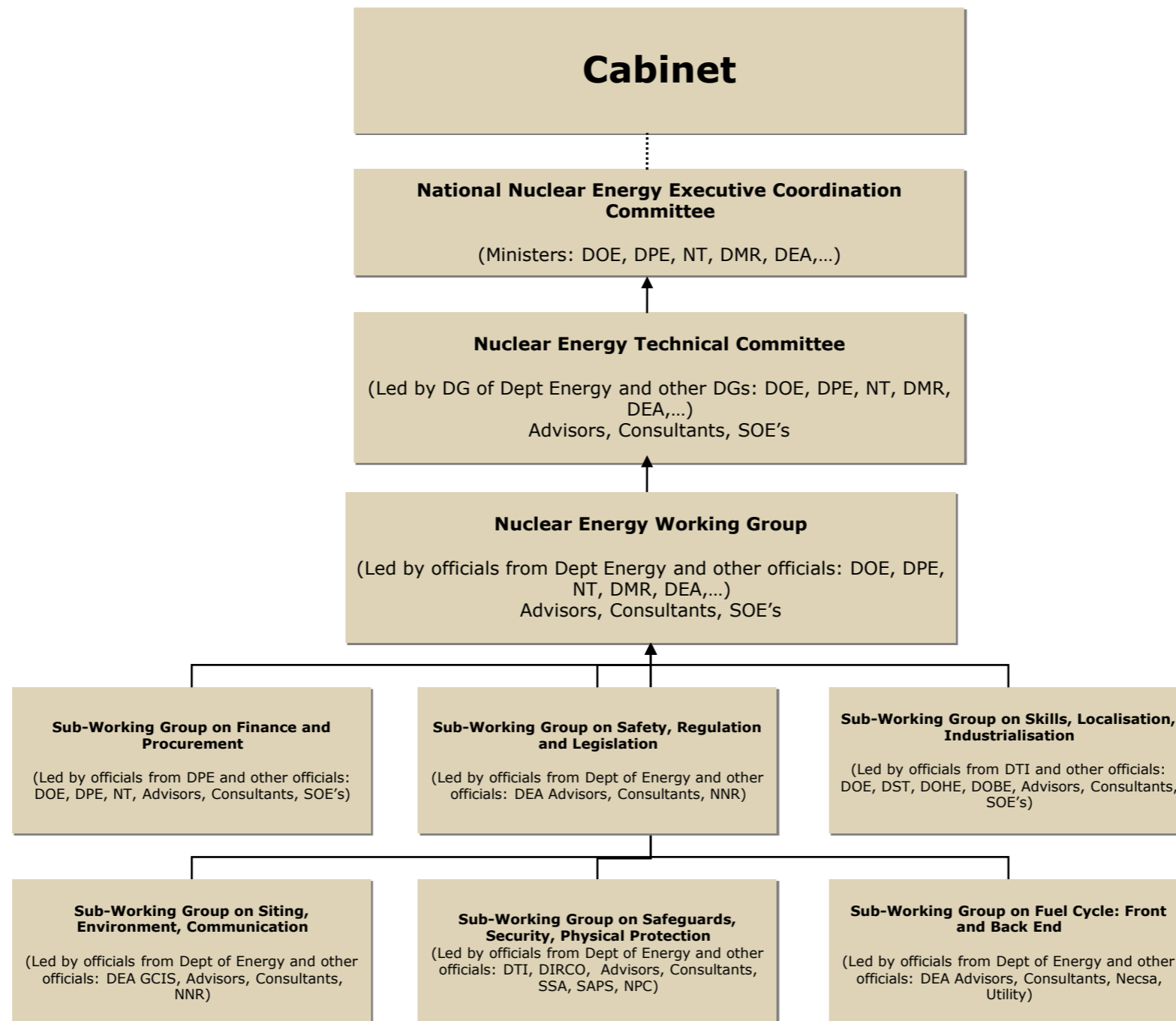
The National Nuclear Regulator (NNR) was established according to the National Nuclear Regulator Act, 1999 (Act No. 47, 1999).

Eskom is the owner and operator of NPPs in South Africa. Eskom has over 30 years of experience of the existing Koeberg nuclear power plants.

The South African Nuclear Energy Corporation Limited (NECSA) was established according to the Nuclear Energy Act, 1999 (Act No. 46 of 1999) to undertake nuclear energy research, development and innovation in South Africa.

The National Radioactive Waste Disposal Institute was established as an independent entity by statute under the provision of section 55(2) of the Nuclear Energy Act (No. 46 of 1999) and the National Radioactive Waste Disposal Institute Act, (No. 53 2008) to provide professional Nuclear Waste Management and Disposal Services in South Africa on behalf of the state.

National Nuclear Energy Executive Coordination Committee (NNEECC) (South African NEPIO)



INIR Recommendations

R-1.2.1 South Africa should finalize its contracting strategy for new nuclear build.

R-2.1.1 In consideration of the future amendment to its nuclear legislation South Africa should explicitly address the Fundamental Safety Principles, including assigning prime responsibility for safety to the operator.

R-3.1.1 The BIS and related BIS evaluation criteria should be completed as a prerequisite for the tendering and procurement process.

R-3.2.1 The designation of the Procuring Agency should be made in the near future so that it can initiate the necessary organizational provisions, including HR development.

R-4.1.1 Once the Contracting Strategy has been finalized, South Africa should complete its financing arrangements for the new build programme.

R-5.1.1 South Africa should join the relevant international legal instrument(s) on civil liability for nuclear damage.

R-5.2.1 South Africa should complete the process of revising its legislative framework to address the independence of the regulatory body, nuclear security and civil liability for nuclear damage.

R-7.1.1 South Africa should complete regulations on nuclear security and safeguards.

R-10.1.1 South Africa should develop and implement a national human resources strategy and plan to address required improvements in: technical subjects at secondary school level; graduation rates for university engineering programmes; and training of artisans in areas relevant to nuclear industry.

R-16.1.1 South Africa should develop an integrated national Nuclear Fuel Cycle strategy, including Spent Fuel/High Level Waste disposal.

INIR Suggestions

S-1.1.1 South Africa should consider inviting Eskom to be a member of the Nuclear Energy Working Group (NEWG).

S-2.1.1 NNR should consider formally including safety culture in its management system.

S-4.2.1 South Africa should consider finalizing its funding arrangements for expansion of NNR to undertake early licensing activities for the new nuclear power program.

S-5.1.1 South Africa should join the Amendment to the CPPNM adopted in 2005.

S-7.1.1 South Africa should continue the work to ensure timely completion of the actions identified from the NNR Self-Assessment, and consider inviting an IRRS mission.

S-11.1.1 South Africa should improve engagement with neighbouring countries on its nuclear expansion plans within a reasonably short time frame.

S-12.1.1 The owner/operator should determine the approach to licensing (site license or combined license).

S-13.1.1 South Africa should complete its planned work on the Environmental Impact Report, following national requirements and seek the approvals required for the site.

S-14.1.1 South Africa should consider including arrangements for bilateral communication with neighbouring countries in its national emergency plan.

S-14.1.2 NNR should consider activating its Emergency Control Centre during national level emergency exercises.

S-18.1.1 South Africa should define the desired extent of local industrial involvement, to be included in the BIS.

RSA Nuclear Build Program

On 9 Nov 2012 the SA-NNBP was initiated by a Cabinet resolution whereby Cabinet endorsed the establishment of the National Nuclear Energy Executive Coordination Committee (NNEECC) which was later replaced by the Energy Security Cabinet Subcommittee (ESCS), the Nuclear Energy Technical Committee (NETC) which endorsed the phased decision making approach.

Section 34(1)(a) of the Electricity Regulation Act, No 4 of 2006 allows the Minister of Energy, in consultation with the National Energy Regulator of South Africa (NERSA), to make Ministerial Determinations for new generation capacity to be added to the grid

Ministerial Determinations are also influenced by the Electricity Regulations on New Generation Capacity (New Generation Regulations), that requires Ministerial Determinations to provide information on various issues such as the identity of the procurer, and whether new generation capacity will be procured through a bidding programme.

RSA Nuclear Build Program

In **2013** DoE was declared as the procuring agency of the nuclear power plants for the SA-NNBP in terms of the Section 34 Determination, which was gazetted in December 2015.

In **2014** the DoE then commenced with pre-procurement activities. These included the hosting of vendor parades to gain a better understanding of the prospective vendor country technology offerings as well as the signing of Inter-Governmental Agreements (IGA's). In terms of requirements stemming from the Treaty on the Non-Proliferation of Nuclear Weapons of 1968, the DoE signed IGA's with Russia, France and China. Agreements were already signed with the United State of America (1995) and the Republic of South Korea (2010). During this process, Eskom's role was to provide support and requisite inputs to DoE.

In December **2016** a new Section 34 Determination was released, designating Eskom as the procurer of 9600MW of nuclear power for the SA-NNBP.

On 20 December **2016** Eskom issued a Request for Information (RFI) to the market in terms of the Section 34 Determination to gain a better understanding of the vendor country technology offerings. This RFI was open until 28 April 2017.

Western Cape High Court Decision

Earthlife Africa and Southern African Faith Communities Environmental Institute (SAFCEI) challenged the signing of Inter-Governmental Agreements (IGA) and the initiation of the procurement process of the SA-NNBP in court. On **26 April 2017** the Western Cape High Court made a ruling as summarized below:

- The section 34 Determination of 2013, allocating DoE as the procurer of nuclear power plants, is unlawful and unconstitutional and is reviewed and set aside;
- The section 34 Determination of 2016, allocating Eskom as the procurer of nuclear power plants, is unlawful and unconstitutional and is reviewed and set aside;
- Any request for proposal or request for information issued pursuant to the 2013 or 2016 Determinations are set aside;
- The Minister's decision to table the Russian Intergovernmental Agreement in terms of section 231(3) of the Constitution is unconstitutional and unlawful and is reviewed and set aside;
- The Minister's decisions to table the US and South Korea Intergovernmental Agreements in terms of section 231(3) of the Constitution is unlawful and unconstitutional and are reviewed and as such set aside.

The Minister of Energy (the first respondent) did not appeal the court decision.

The RFI issued by Eskom in December 2016 had no legal force or effect, and Eskom could not access any of the information contained in the RFI responses.

Next Steps

- Eskom continuing with its preparatory activities as the owner operator of nuclear plants albeit at a scale and pace that the country can afford. This includes the completion of the NISL and EIA processes currently underway.
- Department of energy is standardizing and pursuing new IGAs.
- Latest Integrated Resources Plan for South Africa published and calls for the planning of 2500 MW of nuclear power as a no regret option.

THANK YOU!

