



Chief Executive Officer  
National Nuclear Regulator  
PO Box 7106  
Centurion  
0046

Reference: S-0033\_E; LS3.1.5

Dear Sir

**APPLICATION FOR A NUCLEAR INSTALLATION SITE LICENCE (NISL) FOR THE DUYNEFONTYN SITE**

The meeting of 25 September 2015 between Mr Tyobeka the Chief Executive Officer (CEO) of the National Energy Regulator (NNR) and Mr Masango, Eskom's Group Executive for Group Capital, refers.

Eskom is of the opinion that the anticipated South African nuclear new build programme has reached a significant milestone necessitating the initiation of the site approval process for nuclear installations. In November 2012 Eskom was endorsed by the South African Cabinet as the nuclear power plant owner and operator. This has recently been confirmed by the Department of Energy via correspondence between the two organisations in conjunction with the release of the programme determination in terms of section 34 of the Electricity Regulation Act, 2006 (Act No. 4 of 2006) as was gazetted on 21 December 2015.

Henceforth, in accordance with section 21 of the National Nuclear Regulator Act, (Act No 47 of 1999) application is hereby made for a nuclear installation site licence for the Duynefontyn site.

In conformance with Government Notice No.1219 of 21 December 2007, Regulations in terms of section 47, read with section 21 and 22 of the National Nuclear Regulator Act, 1999 (Act No. 47 of 1999), on the format for the application for a nuclear installation licence or a certificate of registration or a certificate of exemption, the required information is provided in Section 1 below.

**Head Office**  
Megawatt Park Maxwell Drive Sunninghill Sandton  
PO Box 1091 Johannesburg 2000 SA  
Tel +27 11 800 4585 Fax +27 11 800 5803 www.eskom.co.za  
Eskom Holdings SOC Ltd Reg No 2002/015527/30

**APPLICATION FOR A NUCLEAR INSTALLATION SITE LICENCE (NISL) FOR THE DUYNEFONTYN SITE (Continued)**

In conformance with Government Notice No. R. 927 of 11 November 2011, Regulations in terms of section 36 read with section 47, of the National Nuclear Regulator Act, 1999 (Act No. 47 of 1999) on licensing of sites for new nuclear installations, the required information is provided in Section 2 below.

A handwritten signature in black ink, consisting of stylized initials and a surname, located in the bottom right corner of the page.

**APPLICATION FOR A NUCLEAR INSTALLATION SITE LICENCE (NISL) FOR THE DUYNEFONTYN SITE (Continued)**

**1. Information provided in accordance with Government Notice No. 1219**

**Regulation 4(1): An indication of whether the application is made for a nuclear installation licence or a certificate of registration or exemption**

The application is for a nuclear installation site licence for the Duynefontyn Site.

**Regulation 4(2): The full name of the applicant**

The applicant is Eskom Holdings SOC Limited, Registration No. 2002/015527/30

**Regulation 4(3): If the applicant is a juristic person, a certified copy of the certificate of incorporation or founding document or any other establishing document and physical address of its head office or its domicilium citandi et executandi**

Physical address of Head Office:

Eskom Holdings SOC Limited

Megawatt Park

Maxwell Drive

Sunninghill

Sandton

2157

Certified copies of the documents constituting the Memorandum of Incorporation as well as the Notice of Registered and Postal Address of the Company are attached as Appendix 1.

**Regulation 4(4): If the applicant is a natural person, his or her identification number and date of birth**

Not applicable

**Regulation 4(5): The physical address of the proposed nuclear installation or where the proposed action(s) will be carried out**

Duynefontyn Nuclear Power Plant site

R27 off West Coast Road

Melkbosstrand

7441



**APPLICATION FOR A NUCLEAR INSTALLATION SITE LICENCE (NISL) FOR THE DUYNEFONTYN SITE (Continued)**

**Regulation 4(6): The postal address of the applicant**

For the purposes of this application, all correspondence should be addressed to:

Mr Brian Molefe  
Group Chief Executive  
Eskom Holdings SOC Limited  
P O Box 1091  
JOHANNESBURG  
2000

**Regulation 4(7): A description of the nuclear installation or nature of the proposed action(s) and any other relevant information which may be required by the chief executive office**

**i) Nuclear Installation description**

Nuclear installation(s) or prescribed equipment does/do not form part of this application. The purpose of this application is to license the site as a nuclear installation site. It is Eskom's plan to subsequently apply for nuclear installation licences to construct and operate multiple nuclear installations (power reactors) and associated auxiliary nuclear installations, of a plant-type and technology not yet identified, on the Duynefontyn site. However, to show compliance with the NNR requirements, on among others, radiological dose and risk limits, preliminary information on the design and operation of nuclear installations i.e., a postulated envelope will be used in the Duynefontyn Site Safety Report (DSSR). Since the DSSR is based on site-specific data in conjunction with preliminary enveloping data on the nuclear installation(s), the conclusions of the DSSR will be confirmed by the definitive safety analyses conducted in support of the application for the subsequent nuclear installation licences once the plant-type and technology is known.

**ii) Duynefontyn site description**

The Duynefontyn site is an existing nuclear site comprising the Koeberg Nuclear Power Station (KNPS), situated on the farm Duynefontyn No. 1552 situated in the City of Cape Town, Cape Division, Western Cape Province. A total electrical site capacity of 10 000 MWe is planned for.



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**APPLICATION FOR A NUCLEAR INSTALLATION SITE LICENCE (NISL) FOR THE DUYNEFONTYN SITE (Continued)**

The site is 3 038 ha in extent and falls within the Cape Metropolitan Area (CMA), which covers an area of 2 159 km<sup>2</sup> in the southwestern portion of the Western Cape Province. It is located on the West Coast approximately 25 km north of Cape Town, the largest nearby metropolitan area and falls within the Cape Town District Municipality. The N1, N2 and N7 national routes radiate out from Cape Town in northeasterly, southeasterly and northerly directions, respectively.

The site is bounded to the west by the Atlantic Ocean. The sandy shoreline is oriented northwest-southeast and comprises a wave-cut platform. The landform inland for a distance of up to 10 km is comprised of a dune field which is mainly vegetated. Two main areas of non-vegetated, mobile dunes occur, one covering the central part of the enveloping footprint and the other to the northeast of the site, the so-called Witzand area. These dunes are labelled as Shifting Sand Dunes on the 1:50 000 scale topographic map of the area. The highest point of the dune field is approximately 6 km from the coastline and has an elevation of 124.4 m above mean sea level (m amsl). The coastal plain undulates between approximately 20 to 60 m amsl with a terrace approximately 20 m above the mainly sandy shore.

The site adjoins the dormitory town of Duynfontein to the south and is 8 km southwest of Atlantis (distances measured from the site centroid to nearest town boundary). The R27 national route, known as the West Coast Road, runs in a north-south to northwest direction on the eastern boundary of the site. A tarred access road leads from the R27 to the existing KNPS and an alternative access route is via the township of Duynfontein to the south.

The land within the 5 km radius of the site is predominantly covered by tall shrubland (Strandveld), fynbos and sand dunes. The 5 to 10 km band reflects the first significant agricultural activity, with wheat, fodder crops and dairy farming being predominant and these land uses continue to dominate to the north and east of the site. Vineyards for wine production predominate in the Stellenbosch and Paarl areas, with patches of such cultivation in the Darling and Malmesbury areas.



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The site is situated between two rivers, i.e. the Sout to the south and the Modder to the north in quaternary catchment G21B. There are no rivers on the site itself but there are ecologically important wetlands present to the south of the KNPS and on the northern part of the enveloping footprint for the new nuclear installations indicated in Appendix 2. Koeberg Nature Reserve, which is 3 000 ha in area, is contained within the site boundaries.

The nearest major airport to the site is Cape Town International Airport which is located 40 km to the south-southeast.

Cape Town Harbour (25 km south) is the largest commercial harbour in the region, with Yzerfontein Harbour, a small craft harbour, and located 25 km to the northwest.

A 400 kV power line connects the area to the national grid and the main source of electricity in Mpumalanga, with the KNPS feeding electricity into the grid for local use and export back up the grid system, depending on demand.

Eskom will control access to all areas within the owner-controlled boundary, as described below. The owner-controlled boundary will have a minimum radius of 2 km from the extremities of the nuclear installations. There will be an exclusion zone (EZ) with an 800 m radius from the extremities of the nuclear installations; a 2 km exclusion zone seawards from the site parallel to the coast and a 750 m height restriction on airspace over the owner-controlled area.

A more detailed description of the Duynefontyn site will be provided in the Duynefontyn Site Safety Report (SSR) which will be submitted to the NNR in support of this application as required by Regulations R. 927 on licensing of sites for new nuclear installations.

### **2. Information provided in accordance with Government Notice R. 927**

#### **Regulation 3(2): An application must:**

(a) be supported by a Site Safety Report containing such information as listed in Regulation 5.

Eskom will provide the Duynefontyn Site Safety Report, containing such information, as listed in Regulations 5(1) to 5(9) once the Seismic Hazard Assessment has been completed, in support of this application in accordance with a schedule to be agreed with the NNR.



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**APPLICATION FOR A NUCLEAR INSTALLATION SITE LICENCE (NISL) FOR THE DUYNEFONTYN SITE (Continued)**

(b) and be accompanied by the prescribed application fee, if any

Eskom commits to pay the application fee in accordance with the applicable Government Notice in terms of section 28 of the National Nuclear Regulator Act, 1999 (Act no. 47 of 1999), on fees for nuclear authorisations.

Should you have any queries, please do not hesitate to contact MR MERVIN THERON, MANAGER (REGULATORY AND LICENSING) Nuclear Build at 011 800 2093.

Yours sincerely



Brian Molefe  
GROUP CHIEF EXECUTIVE  
Date: 22.2.16.

**APPLICATION FOR A NUCLEAR INSTALLATION SITE LICENCE (NISL) FOR THE  
DUYNEFONTYN SITE (Continued)**

**APPENDIX 1 – CERTIFIED COPIES OF DOCUMENTS**



APPLICATION FOR A NUCLEAR INSTALLATION SITE LICENCE (NISL) FOR THE DUYNEFONTYN SITE (Continued)

APPENDIX 2 – DUYNEFONTYN SITE

Note that all these farms are now consolidated into Duynefontyn no 1552

