



Chief Executive Officer
National Nuclear Regulator
PO Box 7106
Centurion
0046

Reference: S-0032-E: LS3.1.5

Dear Sir

APPLICATION FOR A NUCLEAR INSTALLATION SITE LICENCE (NISL) FOR THE THYSPUNT SITE

The meeting of 25 September 2015 between Mr Tyobeka the Chief Executive Officer (CEO) of the National Nuclear 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 was also recently 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 conformance with Government Notice No.1219 of 21 December 2007, Regulations in terms of section 47, read with sections 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.

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.

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Eskom Holdings SOC Ltd Reg No 2002/015527/30

APPLICATION FOR A NUCLEAR INSTALLATION SITE LICENCE (NISL) FOR THE THYSPUNT 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 Thyspunt site.

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

The applicant is Eskom Holdings SOC Limited, Registration No. 2002/015527/06/30

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

Thyspunt Nuclear Power Plant site
Portion 7 of the Farm Langefontein 736
Oyster Bay
Eastern Cape

APPLICATION FOR A NUCLEAR INSTALLATION SITE LICENCE (NISL) FOR THE THYSPUNT 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
PO 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 Thyspunt 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., enveloping characteristics of the nuclear installations will be used in the Thyspunt Site Safety Report (TSSR). Since the TSSR is based on site-specific data in conjunction with preliminary enveloping data on the proposed nuclear installation(s), the conclusions of the TSSR 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) Thyspunt site description

The Thyspunt site is a greenfield for locating a new nuclear installation or installations with planned capacity of 3 000 to 4 000 MWe and an eventual total site capacity of up to 10 000 MWe. The site is a coastal site with no industrial development covering an area of 2 641 ha circa 2008 (Eskom-owned land), possibly expanding to about 5 478 ha with additional land acquisition to allow for the owner-controlled boundary and access roads. The site is situated in the Eastern Cape between the towns of Humansdorp (north), St Francis Bay (east) and Oyster Bay (west). The nearest city is Port Elizabeth located about 80 km to the east. The site is currently accessed from the N2 National route at Humansdorp then via a gravel road to Oyster Bay.



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

The site and its future use for nuclear power generation have been incorporated in the Kouga Spatial Development Framework and Integrated Development Plan.

The site is comprised of rocky promontories and headlands interspersed with sandy beaches. Most of the site is covered with dense thicket and fynbos vegetation with alien infestation. The geomorphology of the site is dominated by a headland bypass dune system running west to east. Mobile dunes form a series of parallel strips lying between Oyster Bay and the Krom River, over a distance of about 18 km.

The area surrounding Thyspunt is comprised of four quaternary catchments K80F, K90D, K90E and K90F. The prominent drainage in the area surrounding Thyspunt is the Krom River which runs from the north-west of Thyspunt to an estuary and drainage into the ocean just north of Sea View. The Krom River occurs at a distance greater than 7 km from Thyspunt and the Impofu Dam is situated on this river.

The Impofu Dam is one of seven sources of water for the Nelson Mandela Bay Municipality. Other perennial rivers occurring in the area are the Slang River which flows into the ocean at Oyster Bay, the Klipdrift River with the small Klipdrift River Dam which flows into the ocean west of Oyster Bay, the Geelhoutboom River which flows into the Krom River and the Seekoei River which flows into the ocean via the estuary at Aston Bay. These rivers follow the north-west to south-east striking geological formations (Bokkeveld and Table Mountain Group rocks) which dominate the area. Small non-perennial rivers occur throughout the area and dry and non-perennial pans occur amongst the younger Quaternary sediments along the coast from west of Oyster Bay to north-east of Sea Vista (see Appendix 3).

The boundaries of the site (circa 2008) and the owner-controlled boundary are presented in Appendix 2. The owner-controlled boundary is a 2 km radius from the boundaries of the nuclear installation footprint.

A more detailed description of the Thyspunt site will be provided in the Thyspunt Site Safety Report (TSSR) 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.



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

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 Thyspunt Site Safety Report, containing such information, as listed in Regulations 5(1) to 5(9), in support of this application in accordance with a schedule to be agreed with the NNR.

- (b) 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 THYSPUNT
SITE (Continued)**

APPENDIX 1 – CERTIFIED COPIES OF DOCUMENTS

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

APPENDIX 2 – THYSPUNT SITE



