ENVIRONMENTAL IMPACT ASSESSMENT (EIA)
OMGEWINGSIMPAKSTUDIE (OIS)
UVAVANYO LWEMPEMBELELO ZOKUSINGQONGILEYO (EIA)
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FOR THE PROPOSED/*VIR DIE VOORGESTELDE*/LWESIKHULULO ESICETYWAYO

Eskom Nuclear Power Station and Associated Infrastructure

Eskom Kernkragsentrale En Gepaardgaande Infrastruktuur

Samandla Enyukliya Nezakhiwo Esingqamene Naso

BACKGROUND INFORMATION DOCUMENT AND INVITATION TO PARTICIPATE

This document introduces the proposed Eskom Nuclear Power Station project and the statutory environmental process to interested and affected parties and the general public, and invites your participation.

AGTERGRONDINLIGTINGSDOKUMENT EN UITNODIGING TOT DEELNAME

Hierdie dokument stel die voorgestelde Eskom Kragsentrale projek en die statutêre omgewingsproses aan belanghebbende en geïnterreseerde partye asook die breë publiek bekend, en nooi u uit om deel te neem.

UXWEBHU LOLWAZI NGEMVELAPHI KUNYE NESIMEMO SOKUTHABATHA INXAXHEBA

Olu xwebhu lwazisa ngeprojekthi yeSikhululo saMandla eNyukliya esiCetywayo sikaEskom, nenkqubo yokusingqongileyo emiswe ngokomthetho kwabo banomdla kwanabo bachaphazelekayo, kwanoluntu jikelele, yaye luyakumema ukuba uthabathe inxaxheba.

Proponent: Eskom Holdings
Environmental Assessment Practioner: ARCUS GIBB (Pty) Ltd
Public Participation Consultant: ACER (Africa) (Pty) Ltd

ACER (Africa)

ARCUS GIBB
CONSULTING • DESIGN • MANAGEMENT

Eskom

PURPOSE OF THIS DOCUMENT

The purpose of this Background Information Document (BID) is to provide you with information about the proposed project, and to obtain comments and contributions from you as an Interested and Affected Party (I&AP) with regard to potential issues and associated impacts on the environment. You are invited to register as an I&AP and to assist the EIA Team in identifying possible issues and to make suggestions for the mitigation of associated impacts.

This BID document will help I&APs to:

- Determine if they are interested and/or affected by the proposed project.
- Better understand the project in order to be able to provide comment.
- Understand the environmental authorisation process so that they are able to participate effectively.

INTRODUCTION

The Eskom Conversion Act, 2001 (Act No. 13 of 2001) established Eskom Holdings Limited (Eskom) as a State Owned Enterprise (SOE), with the Government of South Africa as the only shareholder, represented by the Minister of Public Enterprises. The main objective of Eskom, as indicated in the Memorandum of Association required by the Eskom Conversion Act and the Companies Act, 1973 (Act No. 61 of 1973) (as amended), is to "provide energy and related services including the generation, transmission, distribution and supply of electricity, and to hold interests in other entities".

In October 2004, the South African Cabinet decided that Eskom would build at least 70% of the electricity generating capacity required in the next two decades[1].

In all countries, energy is essential for sustainable development. In many countries, including South Africa, economic growth and social needs are resulting in substantially greater energy demand, even taking into account continuing and accelerated energy efficiency improvements. Electricity demand is growing faster than overall energy demand. Electricity is simply cleaner, and is more flexible and more convenient for many consumers, which is resulting in greater usage than in the past.

[1] DPE Minister's address to Parliament 15 April 2005

DOEL VAN HIERDIE DOKUMENT

Die doel van hierdie Agtergrondsinligtingdokument (AID) is om u aangaande die voorgestelde projek in te lig en om u kommentaar en insette as 'n Belanghebbende en Geaffekteerde Party (B&GP) aangaande die potensiële omgewingsimpakte en –kwessie van die projek te bekom. U word uitgenooi om as B&GP te registreer en die OIS-span by te staan met die identifisering van enige moontlike kwessie en om voorstelle aangaande versagtingsmaatreëls vir die gepaardgaande impakte te maak.

Hierdie AID sal B&GPs help om:

- Te bepaal of die B&GP geïnteresseerd is en/of geaffekteer sal word deur die voorgenome projek.
- Die projek beter te verstaan om sodoende kommentaar te kan lewer.
- Die omgewingsmagtigingproses te verstaan en effektief te kan deelneem.

INLEIDING

Die Eskom Omskakelingswet, 2001 (Wet Nr. 13 van 2001) vestig Eskom Holdings Limited (Eskom) as 'n onderneming in Staatsbesit, met die Regering van Suid-Afrika as die enigste aandeelhouer, wat deur die Minister van die Departement van Openbare Ondernemings verteenwoordig word. Die hoof doelwit van Eskom, volgens die Memorandum van Assosiasie, die Eskom Omskakelingswet en die Maatskappywet, 1973 (Wet Nr. 61 van 1973) (soos gewysig), is om energie en gepaardgaande dienste te lewer. Dit sluit in die opwekking, transmissie, verspreiding en voorsiening van elektristeit.

In Oktober 2004 het die Suid-Afrikaanse Kabinet besluit dat Eskom voorsiening sal tref vir minstens 70% van die elektrisiteitopwekkingskapasiteit wat binne die volgende twee dekades benodig sal word[1].

In alle lande is energie noodsaaklik vir volgehoue ontwikkeling. Ekonomiese groei en sosiale ontwikkeling in verskeie lande, insluitend Suid-Afrika, verhoog die energie aanvraag aansienlik, selfs al word voortdurende en versnelde energie doeltreffendheid in ag geneem. Die behoefte aan elektrisiteit groei vinniger as die algemene behoefte aan energie. Elektrisiteit is skoner, meer buigbaar asook meer gerieflik vir baie verbruikers.

[1] DPE Minister se voorlegging aan die Parlement op 15 April 2005

INJONGO YOLU XWEBHU

Injongo yolu Xwebhu loLwazi lweMvelaphi (i-BID ngamafutshane kwisiNgesi) kukukunika ulwazi malunga neprojekthi ecetywayo, nokufumana izimvo neengcebiso ezivela kuwe njengomntu onomdla nochaphazelekayo (i-I&AP ngamafutshane kwisiNgesi) ngokubhekiselele kwimiba enokuthi ibe khona kwaneempembelelo ezihambelana nayo kokusingqongileyo. Uyamenywa ukuba ubhalise njenge-I&AP ze uncedise iQela le-EIA ekuchongeni imiba enokuthi ibe khona nokunikezela ngeengcebiso zokudambisa iimpembelelo ezingqamene nayo.

Olu xwebhu lwe-BID luza kunceda ii-I&AP koku kulandelayo:

- Ukujonga ukuba zinomdla okanye zikwachatshazelwa kusini na yile projekthi icetywayo.
- Ukuyiqonda ngcono le projekthi ukuze zikwazi ukunika ezazo izimvo malunga nayo.
- Ukuyiqonda inkqubo yokugunyaziswa kokusingqongileyo khon' ukuze bakwazi ukuthabatha inxaxheba ngokupheleleyo.

INTSHAYELELO

UMthetho woGuqulo kaEskom, ka-2001 (UMthetho onguNombolo. 13 ka-2001) wamilisela uEskom Holdings Limited (uEskom) njengeShishini eliphantsi koRhulumente, (i-SOE), nelinoRhulumente woMzantsi Afrika okukuphela komnini-zabelo, nomelwe nguMphathiswa wamaShishini kaWonke-wonke. Eyona njongo iphambili kaEskom, njengoko ichaziwe kwiMemorandam yoBudlelane efunwa nguMthetho woGuqulo kaEskom noMthetho weeNkampani, ka-1973 (uMthetho onguNombolo. 61ka-1973) (njengoko ulungisiwe), "kukunikezela ngamandla ombane kwaneenkonzo ezihambelana nawo kuquka ukuveliswa, ukugqithiselwa, ukuhanjiswa kwanokunikezelwa kombane, nokutsala umdla kwezinye izinto ezikhoyo."

NgoOktobha ka-2004 iKhabhinethi yeloMzantsi Afrika igqibe ekubeni uEskom akhe ubuncinane ama- 70% amandla okuvelisa umbane ofunekayo kumashumi amabini eminyaka ezayo[1].

Kuwo onke amazwe, umbane ubalulekile kuphuhliso oluzinzileyo. Kumazwe amaninzi, kuquka noMzantsi Afrika, ukukhula koqoqosho neemfuno zoluntu ziphela ziyimfuno ephambili yamandla ombane, kwanokuqwalasela ukuphuculwa okuqhubekeka ngesantya esiphezulu kokusebenza kombane ngokuyimpumelelo. Imfuno yombane ikhula ngokukhawuleza kunaleyo yamandla ewonke. Umbane ucocekile noko, yaye uyakwazi ukutshintsha ukwalungele abasebenzisi bawo abaninzi, nokubangela ukusetyenziswa kwawo okukhulu xa kuthelekiswa nexa elidlulileyo.

[1] ISebe lezoShishino loLuntu (DPE) Intetho yoMphathiswa ePalamente ngowe-15 kuEpreli ka-2005

In many applications – for example financial and banking, medical and health care, telephone and cellular phone networks, transport (harbours, airports, railways, traffic control and management, petrol-filling stations) - electricity is essential. It is now common knowledge that the demand for electricity in South Africa is rapidly growing and that South Africa needs to expand its electricity generating capacity.

In South Africa, there is a requirement for more than 40,000 Megawatts (MW) of new electricity generating capacity over the next 20 years. This additional generating capacity could come from a variety of energy sources, for example coal, liquid fuels, gas turbines, natural gas, uranium (nuclear), hydro and pumped storage schemes, wind and solar energy. Eskom evaluates all energy sources available to South Africa in determining an optimum mix for electricity generation.

This EIA entails the construction and operation of a Conventional Nuclear Power Station and associated infrastructure in the Eastern, Northern or Western Cape areas. The sites, which will be investigated during this Environmental Impact Assessment, have been identified based on previous site investigations undertaken since the 1980s.

STRATEGIC BACKGROUND

The total demand for electricity in South Africa is not constant and varies on a 24-hour basis, with peak demand in the early morning and in the late afternoon / early evening. Similarly, it varies on a weekly basis, with the demand during the working week being higher than over the weekends. In most areas, the demand in winter is higher than in summer. To optimally meet the total demand, it is necessary to have both "base load electricity generating power stations[2]" as well as "peaking electricity generating power stations[3]". This is achieved by harnessing different energy sources and applying different technologies. The technologies differ markedly in their generation costs, performance and utilisation characteristics, their suitability for the South African environment and their state of commercial development. The choice of generation technology is multi-faceted and complex. It is conducted within the context of the framework of a multitude of South African policies (for example energy, environmental, Accelerated Shared Growth Initiative for South Africa (ASGISA) and water policies), the legal and regulatory framework and South Africa's international obligations. It also takes into account the required mix of generating technologies to optimally meet the daily, weekly and seasonal variation in demand for electricity.

[2] "Base load electricity generating capacity" refers to power station technology designed specifically to generate electricity continuously for all hours.
[3] "Peaking electricity generating capacity" refers to power station technology designed specifically to generate electricity during periods of high demand for electricity, normally on weekdays from 07:00 to 09:00 and 18:00 to 20:00

In verskeie organisasies is elektrisiteit noodsaaklik, byvoorbeeld die finansiële sektor en bankwese, mediese- en gesondheidsorg, telekommunikasie netwerke, vervoer (hawens, lughawens, spoorweë, verkeersbeheer) asook vulstasies. Dit is algemeen bekend dat die elektrisiteit aanvraag in Suid-Afrika vinnig groei en dat dit noodsaaklik is dat Suid-Afrika se elektrisiteitopwekkingskapasiteit uitgebrei moet word.

In Suid-Afrika is daar 'n behoefte aan meer as 40 000 MW nuwe elektrisiteitopwekkingskapasiteit oor die volgende 20 jaar. Hierdie addisionele opwekkingskapasiteit kan van 'n verskeidenheid energiebronne verkry word, byvoorbeeld steenkool, vloeibare brandstof gas-turbines, aardgas, uraan (kernkrag), hidro- en pompstoorskemas asook wind- en sonkrag. Eskom evalueer alle energiebronne wat in Suid-Afrika beskikbaar is en bepaal die beste kombinasie vir elektrisiteit opwekking.

Hierdie OIS behels die konstruksie en bedryf van 'n Konvensionele Kernkragsentrale en gepaardgaande infrastruktuur in die Oos-, Noord- en Wes-Kaap provinsies. Die identifikasie van terreine wat gedurende die OIS ondersoek word, is gebaseer op vorige terrein ondersoeke wat sedert die 1980's onderneem is.

STRATEGIESE AGTERGROND

Die aanvraag na elektrisiteit in Suid-Afrika fluktueer op 'n 24-uur basis met die piek aanvraag in die vroeë oggend, laat middag en vroeë aand. Dit fluktueer ook op 'n weeklikse basis met die aanvraag gedurende 'n werksweek hoër as oor naweke. In meeste areas is die aanvraag gedurende die winter hoër as gedurende die somer. Ten einde optimaal aan die behoefte te voorsien, word dus beide "basis-lading elektrisiteitopwekkings-kragstasies[2]" en "piek elektrisiteitopwekkings-kragstasies[3]" benodig. Dit kan gedoen word deur die benutting van verskillende tipes energiebronne en deur die aanwending van verskillende tipes tegnologie. Die tegnologie verskil merkbaar in terme van opwekkingskoste, werksverrigting, gebruiks-eienskappe, hul geskiktheid vir die Suid-Afrikaanse omgewing en hul kommersiële ontwikkeling status. Die keuse van opwekkingstegnologie het dus vele fasette, is kompleks en word binne die konteks van die raamwerk van 'n magdom Suid-Afrikaanse beleide gemaak met inagname die nodige kombinasie van opwekkingstegnologie ten einde in die daaglikse, weeklikse en seisoenale variasies in aanvraag te voldoen. Die betrokke beleide sluit in Energie, die Omgewing, Accelerated Shared Growth Initiative for South Africa (ASGISA) en Water, die Wetlike en Regulerende raamwerk asook Suid-Afrika se internasionale verpligtinge.

[2] " Basis-lading elektrisiteitsopwekkingkapasiteit" verwys na kragsentrale tegnologie wat spesifiek ontwerp is om elektrisiteit voortdurend, alle ure, op te wek.
[3] " Piek elektrisiteitsopwekkingkapasiteit" verwys na kragsentrale tegnologie wat spesifiek ontwerp is om elektrisiteit tydens hoë aanvraag periodes op te wek, gewoonlik op weeksdae van 07:00 tot 09:00 en 18:00 tot 20:00.

Kwiindawo ezininzi – umzekelo awemali neebhanki, awonyango nezempilo, awothungelwano lweemfono-mfono neeselula, awezothutho (amazibuko eenqanawe, izikhululo zeenqwelomoya, imizila kaloliwe, ulawulo lweehambo, isikhululo zamafutha ezithuthi) – umbane ubalulekile. Lulwazi oluqhelekileyo ngoku ukuba imfuno yombane eMzantsi Afrika ikhula ngokukhawuleza, yaye uMzantsi Afrika udinga ukwandisa izinga lokuvelisa umbane.

Emzantsi Afrika, kukho imfuneko engaphezulu kwe-40,000 Megawatts (MW) yezinga lokuveliswa kombane ngaphezulu kwama-20 eminyaka ezayo. Eli zinga longezelelekileyo lokuvelisa umbane lingavela kwizinto ezininzi ezivelisa umbane, umzekelo amalahle, iinjini zomsinga wokuvelisa iigesi zamafutha alulwelo, iigesi zemveli, iyuraniyam (inyukliya), ulungiselo lwawamanzi nokugciniweyo, umoya namandla elanga. UEskom uyazihlola zonke izinto ezivelisa amandla ombane ezikhoyo eMzantsi Afrika ukuchonga okona kuxutywa kulungileyo kokuveliswa kombane.

Le EIA iqulathe ulwakhiwo nokusetyenziswa kweSitishi eziQhelekileyo saMandla eNyukliya kwanezakhiwo ezinxulumene naso, kwimimandla yeMpuma, uMntla okanye iNtshona Koloni. Ezi ziza, eziza kukhangelwa ngethuba loHlolo lweMpembelelo kokusingqongileyo, zithe zachongwa ngokusekelezwe kuphando oludlulileyo lweziza obelusenziwa ukusukela ngeminyaka yoo-1980.

IMVELAPHI YOBUCHULE

Imfuno epheleleyo yombane eMzantsi Afrika ayimanga ndawonye; yaye iyatshintsha rhoqo ngama-24 eeyure, iyaxhoma ekuseni okanye ngorhatya. Ngokunjalo ikwatshintsha veki zonke, phakathi evekini iyaxhoma kunangeempela-veki. Kwiindawo ezininzi, imfuno iyaxhoma ngexesha lasebusika kunasehlotyeni. Ukuze sikwazi ukumelana nale mfuno, kubalulekile ukuba sibe nazo zozibini "izitishi ezivelisa umbane onamandla[2]" kwanezo "zivelisa ombane ngamaxesha esiwusebenzisa ngawo kakhulu[3]". Oku kungaphumezeka ngokuthi sisebenzise izinto ezahlukeneyo ezivelisa umbane nangokuthi kusetyenziswe ubugcisa obufanelekileyo. Ubugcisa bahluka ngokuphawulekayo ngokwamaxabiso okuvelisa, umsebenzi neempawu zokusetyenziswa kwabo, ukufaneleka kwabo kwimeko yaseMzantsi Afrika, kwanemeko yokuphuhliso lwezoqoqosho. Ukhetho lobugcisa bokuvelisa luneendidi ezininzi yaye lubanzi. Luqhutywa phantsi kwemeko yobume benyambalala yemigaqo-nkqubo yaseMzantsi Afrika (umzekelo, amandla, okusingqongileyo, iLinge lokuKhula elaBiweyo neliKhawulezisiweyo loMzantsi Afrika (i-ASGISA ngamafutshane kwisiNgesi) nemigaqo-nkqubo yamanzi), ubume bomthetho nolawulo, kwanezibophelelo zoMzantsi Afrika kuZwelonke. Lukwathabathela ingqalelo ukuxubana okufunekayo kweendidi zobuchule bokuvelisa ukuze kumelane neemfuno ezahlukeneyo zombane zamihla yonke, veki zonke namaxesha onke onyaka.

[2] "Umthamo wokuvelisa umbane onomthwalo osisiseko" ubhekisele kubugcisa besitishi sombane obubodwa bokuvelisa umbane ngokuqhubekayo yure zonke.
[3] "Umthamo wokuvelisa umbane ngamaxesha empithizelo" ubhekisele kubugcisa besitishi sombane obubodwa bokuvelisa umbane ngamaxesha ofuneka ngawo, ngokuqhelekileyo phakathi evekini ukusukela ngo-07:00 ukuya ku-09:00 kusasa, nango-18:00 ukuya ku-20:00 ngokuhlwa.

STRATEGIC BACKGROUND (continued)

Base load capacity forms the major component of the 40,000 MW of new generating capacity that is required in the next 20 years. However, only a few energy sources are suitable for base load power stations. The primary energy sources in South Africa that are suitable and available in sufficient quantities are coal and uranium.

The economic lifetime of electricity generating power stations is long – on average 40 to 50 years. It is critical when determining the optimal mix of electricity generating power stations to take into account the contribution that new power stations will make to sustainable development in South Africa.

A central goal of sustainable development is to maintain or increase the overall assets (natural, man-made and human or social assets) available to current and future generations, while minimizing consumption of finite resources and not exceeding the carrying capacities of ecosystems.

The use of nuclear power broadens the natural resource base usable for energy, and particularly electricity production, increases human and man-made capital, and, when safely handled, has little impact on ecosystems. Nuclear power produces virtually no sulphur dioxide, particulates, nitrogen oxides, volatile organic compounds (VOCs) or greenhouse gases (GHGs). Over the full life cycle – from mining of the uranium, iron ore and other minerals, manufacture of the components and construction of the power station, operation and maintenance of the power station through to decommissioning of the station and the management and disposal of waste – nuclear power emits less than 11 grams of carbon equivalent per kilowatt-hour (gC_{eq}/kWh)[4]. This is the same order of magnitude as wind and solar power including construction and component manufacturing, and two orders of magnitude below (i.e. one hundredth of) the average for coal, oil, and natural gas. Therefore nuclear power has the potential to make a substantial contribution to sustainable development and a significant contribution to reducing South Africa's greenhouse gas emissions. Due to South Africa's rich resources of uranium, it makes sense for Eskom to utilise this energy source.

Therefore the Eskom Board has approved the investigation of up to 20,000 MW of nuclear capacity over the next 20 years. The initial phase of this investigation will concentrate on one nuclear power station of approximately 4,000 MW, with provision being made for future expansion, as, when and if, appropriate.

[4] Greenhouse gas emissions from energy systems: Comparison and overview (Dones, et al., 2003)

STRATEGIESE AGTERGROND (vervolg)

Basis-ladingkapasiteit vorm die hoof komponent van die 40,000 MW nuwe opwekkingskapasiteit wat binne volgende 20 jaar benodig word. Baie min energiebronne is egter geskik vir basis-lading kragstasies. Die primêre energiebronne in Suid-Afrika wat geskik en beskikbaar is, is steenkool en uraan.

Die elektrisiteitopwekkings kragsentrales het 'n lang ekonomiese leeftyd van gemiddeld 40 tot 50 jaar. Dit is dus krities dat wanneer die optimale kombinasie van kragsentrales bepaal word dat die bydrae van die nuwe kragsentrales tot volhoubare ontwikkeling in Suid-Afrika in ag geneem word.

'n Hoofdoelwit van volhoubare benutting is om die algehele bates (natuurlike-, mens-gemaakte- en menslike of sosiale bates) wat aan huidge en toekomstige generasies beskikbaar is te volhou of te vermeerder, terwyl die verbruik van eindige hulpbronne verminder word en die drakrag van ekosisteme nie oorskry word nie.

Die gebruik van kernkrag verbreed die natuurlike hulpbron basis vir energie en spesifiek elektrisiteit opwekking. Dit verbreed ook menslike en mensgemaakte kapitaal. Onder streng veiligheidsmaatreëls het kernkrag 'n minimale impak op ekosisteme. Dit produseer basies geen swaeldioksied, partikels, koolstof-oksiede, vlugtige organiese verbindings (VOCs), of kweekhuisgasse (GHGs) nie. Gedurende die lewenssiklus – vanaf die myn van uraan, yster-erts en ander minerale, die vervaardiging van die komponente, die bou van die kragsentrale, bedryf en onderhoud van die kragsentrale tot by die buite diens stelling daarvan en die verwydering van afval – straal kernkrag minder as 11 gram van die koolstof ekwivalent per kilowatt-uur (gC_{eq}/kWh)[4], uit. Dit is gelykstaande aan wind- en sonkrag en een honderdste van die gemiddelde emissies van steenkool, olie of aardgas. Kernkrag het dus die potensiaal om 'n aansienlike bydrae tot volhoubare ontwikkeling, asook die vermindering van Suid-Afrika se kweekhuisgas emissies. Weens Suid-Afrika se rykdom aan uraan, maak dit sin vir Eskom om dit as energiebron te benut.

Die Eskom Raad het dus die ondersoek na soveel as 20,000 MW kernkrag kapasiteit oor die volgende 20 jaar goedgekeur. Die aanvanklike fase van hierdie ondersoek sal op een kernkragsentrale van ongeveer 4,000 MW fokus, maar met voorsiening vir uitbreiding indien dit gepas is.

[4] Greenhouse gas emissions from energy systems: Comparison and overview (Dones, et al., 2003)

IMVELAPHI YOBUCHULE (ukuqhubekeka)

Umthamo womthwalo osisiseko uyinxelenye ebalulekileyo emlinganiselo wayo ungama-40,000 MW omlinganiselo omtsha wokuvelisa ofunekayo kwiminyaka engama-20 ezayo. Kanti, zimbalwa izinto ezivelisa umbane ezithi zilungele izitishi zamandla ombane zomthwalo osisiseko. Izinto ezivelisa amandla ombane eMzantsi Afrika, ezikulungeleyo nezifumaneka ngokwaneleyo ngamalahle neyureniyam.

Ubomi bezoqoqosho besitishi esivelisa umbane bude – ngokomyinge ngama-40 ukuya kuma-50 eminyaka. Kubalulekile ukuchonga izitishi ezahlukeneyo zokuvelisa umbane ukucingela nenkxaso eziza kuthi zibe nayo izitishi ezitsha zombane kuphuhliso oluzinzileyo eMzantsi Afrika.

Eyona njongo iphambili yophuhliso oluzinzileyo kukugcina nokwandisa izinto ezikhoyo (ezandalo, ezenziwe ngabantu okanye ezasekuhlaleni) ezifumanekayo kwisizukulwana sangoku nesizayo, ngeli xa lunciphisa ukusetyenziswa kwezinto zemveliso eziphelayo nokungadluli kwimilinganiselo yezinto eziphilayo nokuzingqongileyo.

Ukusetyenziswa kwamandla enyukliya kwandisa ukusetyenziswa kwezivelisi zendalo ezisetyenziselwa amandla ombane, ingakumbi ukuveliswa kombane, kwandisa izakhono zoluntu, ze xa kuthe kwaphathwa ngendlela eyiyo, kube nempembelelo engephi kwindalo. Amandla enyukliya avelisa i-sulphur dioxide, izinto ezenziwa zizicwibi ezahlukeneyo ingakumbi ungcoliseko ngumoya, i-nitrogen oxides, imbumba yezinto eziphilayo nezitsha msinya (ii-VOC ngamafutshane kwisiNgesi) okanye iigesi ze-greenhouse (ii-GHG ngamafutshane kwisiNgesi). Kubomi obupheleleyo – ukusuka ekugrunjweni kweyureniyam, intsimbi ekrwada kunye nezinye iiminerali, ukwenziwa kwamalungu nokwakhiwa kwesitishi samandla ombane, ukusetyenziswa nokugcinwa kwesitishi samandla ombane sisebenza ukuya kutsho ekuyekisweni kokusebenza kwesitishi samandla ombane, nokulawulwa kwanokulahlwa kwenkuma – amandla enyukliya akhupha ngaphantsi kwe-11 gram zekhabhoni elinganayo nge-kilowatt nganye ngeyure (gC_{eq}/kWh)[4]. Le yindlela efanayo yobukhulu nomoya namandla elanga kuquka ulwakhiwo nokuveliswa kwendawo ethile, kwaneendlela ezimbini zobukhulu ezilapha ngezantsi (o.k.u isinye sayo ekhulwini) umyinge wamalahle, ioyile, negesi yemveli. Ngoko ke amandla enyukliya anakho ukuncedisa ngamandla kuphuhliso oluzinzileyo ekwanakho ukuxhasa ekunciphiseni ukukhutshwa kwegesi ye-greenhouse yoMzantsi Afrika. Ngenxa yokutyeba kwezinto zokuvelisa iyureniyam eMzantsi Afrika, bubulumko ukuba uEskom asebenzise ezi zivelisi zamandla.

Ngoko ke iBhodi kaEskom ivumele uphando lomyinge ofikelela kuma-20,000 MW enyukliya kwisithuba seminyaka engama-20 ezayo. Isigaba sokuqla solu phando siza kugxila kwisitishi senyukliya esinye esimalunga ne-4,000 MW, nesibekelwe ukwanda kwexa elizayo, xa ithuba lianelekile, nokuba oko kuyenzeka kusini na.

[4] Ukukhutshwa kwegesi ye-Greenhouse kwiinkqubo zamandla ombane: Uthelekiso nesishwankathelo sikaDones nabanye (Dones et al ngo-2003)

SITE SELECTION

Thermal power stations, whether coal-fired, gas, oil or nuclear, require large quantities of water for cooling purposes. However, South Africa is a water stressed country, which poses challenges for the supply of water. For example, Eskom's coal-fired power stations are located near to the coal fields, which are situated inland, in order to minimise the transportation of the coal.

Large nuclear power stations, such as the Koeberg type, which do not need to be close to the source of their fuel (uranium) are, therefore, ideally located at the coast to use sea water for cooling. Such stations do, however, require specific geological conditions for safety reasons and, similarly, licensing authorities require population and infrastructure management measures to be in place for effective emergency planning.

Accordingly, in the early 1980's, Eskom considered it prudent to commission extensive (desktop) and intensive (field) pre-feasibility studies in order to identify sites in South Africa that would be suitable for possible future nuclear power generation. Subsequently, the Eskom Nuclear Site Investigation project, lead by a team of independent consultants, investigated sites along the South African coastline. Based on various social, economic and environmental criteria, the following potential sites were identified:

- Thyspunt (Eastern Cape located west of Port Elizabeth near Cape St Francis)
- Bantamsklip (Western Cape located 10 km south-east of Pearly Beach)
- Duynefontein existing Koeberg Power Station (Western Cape located adjacent to the existing Koeberg Power Station, Cape Town)
- Brazil (Northern Cape located in Kleinsee/Port Nolloth area)
- Schulpfontein (Northern Cape located in Hondeklipbaai/Kleinsee area)

The potential generating carrying capacity varies for each site. Subsequently, the maximum generating capacity that is considered practical for each individual site will be evaluated as part of this Environmental Impact Assessment (EIA).

TERREIN SELEKSIE

Termiese kragsentrales, hetsy steenkool, gas, olie, of kern gedrewe, benodig groot hoeveelhede water vir verkoeling. Suid-Afrika is egter arm aan water en dit stel uitdagings vir water voorsiening aan byvoorbeeld Eskom se steenkool gedrewe kragsentrales wat naby aan die steenkoolvelde geleë is om vervoerkoste te verminder.

Groot kernkragsentrales, soos byvoorbeeld Koeberg, wat nie naby die bron van hul brandstof (uraan) hoef te wees nie, kan dus ideaal naby die kus geplaas word om sodoende seewater vir verkoeling te gebruik. Vir veiligheidsredes benodig sulke kragsentrales spesifieke geologiese toestande. Soortgelyk, vereis die lisensieerings-owerhede dat bevolking- en infrastruktuur beheer maatreëls in plek moet wees vir effektiewe noodgeval beplanning.

Gevolglik het Eskom gedurende die vroeë 1980's dit belangrik geag om 'n omvattende en intensiewe pre-lewensvatbaarheidsstudies te doen, ten einde terreine in Suid-Afrika te identifiseer wat geskik is vir moontlike toekomstige kernkrag opwekking. Gevolglik, is die Eskom Kernkragondersoek projek van stapel gestuur en het onder leiding van 'n span onafhanklike konsultante, terreine langs die Suid-Afrikaanse kuslyn ondersoek. Gebaseer op verskeie sosiale-, ekonomiese- en omgewingskriteria is die volgende potensiële terreine geïdentifiseer:

- Thyspunt (Oos-Kaap, wes van Port Elizabeth naby Kaap St Francis)
- Bantamsklip (Wes-Kaap, 10 km suidwes van Pearly Beach)
- Duynefontein (Wes-Kaap, langs die bestaande Koeberg Kragsentrale, Kaapstad)
- Brazil (Noord-Kaap in die Kleinsee/Port Nolloth area)
- Schulpfontein (Noord-Kaap in die Hondeklipbaai/Kleinsee area)

Die potensiële opwekkingskapasiteit verskil van terrein tot terrein. Gevolglik sal die maksimum opwekkingsvermoë wat as prakties vir die onderskeie terreine geag word, deel vorm van hirdie OIS.

UKUKHETHWA KWESIZA

Isitishi samandla obushushu, nokuba ngamalahle atshiswayo, igesi, ioyile okanye inyukliya, sidinga amanzi amaninzi athi asetyenziselwe ukupholisa. Kanti, uMzantsi Afrika lilizwe elingqingqwa kwicala lokusetyenziswa kwamanzi, nto leyo ithi ibe nemiceli-mngeni ekuhanjisweni kwamanzi. Umzekelo, izitishi zamandla ombane ezitshisa amalahle zibekwe kufutshane neendawo zamalahle, nesisemhlabeni, ukuze kuncitshiswe ukuthuthwa kwawo.

Izitishi ezukhulu zenyukliya, ezifana nohlobo lweKoeberg, ekungadingeki ukuba zibe kufutshane nendawo ekuvela kuyo amafutha azo (iyureniyam) zibekwe elunxwemeni ukuze zisebenzise amanzi olwandle ukuzipholisa. Nangona kunjalo, ezo zitishi ziyazifuna iimeko ezizodwa zolwakheko lomhlaba ngezizathu zokhuselo, kwanamagunya afanayo okukhutshwa kweelayisenisi afuna kube kho imithetho yolawulo lwabemi nezakhiwo ukucwangcisela ixesha likaxakeka.

Ngokunjalo, ebutsheni boo-1980, uEskom uyibone ibubulumko ukuqhuba uphando lokunokwenzeka olubanzi (oluqhutywa ngokusebenzisa iincwadi neekhompyutha) nolunzulu (oluqhutywa kulo ndawo ubuqu) ukuze achonge iziza eMzantsi Afrika ezinokufanela imveliso yamandla enyukliya enokuba khona kwixa elizayo. Okulandelayo, iprojekthi yoPhando ngeSiza seNyukliya sikaEskom, ikhokhelwa liqela labacebisi abazimeleyo, iye yaphanda iziza ezikwunxweme loMzantsi Afrika. Ngezizathu ezahlukeneyo zeendlela ezisetyenziswayo zezentlalo, ezoqoqosho nezokusingqongileyo, kuye kwachongwa ezi ziza zilandelayo njengeziza ezinokufumaneka ze zisetyenziswe:

- I-Thyspunt (eMpuma Koloni, imi kwiNtshona yeBhayi ngaseCape St Francis)
- I-Bantamsklip (eNtshona Koloni, imi kwiikhilomitha ezili-10 kuMzantsi-mpuma wePearly Beach)
- I-Duynefontein (eNtshona Koloni imi ijongene neSitishi saMandla oMbane saseKoeberg, eKapa)
- I-Brazil (ekuMntla Koloni imi kummandla weKleinsee nePort Nolloth)
- I-Schulpfontein (ekuMntla Koloni imi kummandla weHondeklipbaai neKleinsee)

Umthamo wokuvelisa umbane onokuba khona uyohluka ngokwesiza ngasinye. Okulandelayo, awona mandla maninzi okuvelisa umbane abonwa njengawona anokuba khona kwisiza ngasinye aza kuvavanywa njengenxalenye yoHlolo lweeMpembelelo zokusiNgqongileyo (iEIA ngamafutshane kwisiNgesi).

PROJECT DESCRIPTION

Eskom proposes to construct a nuclear power station of the Pressurised Water Reactor type technology. In many ways the structure of the nuclear plant resembles that of a conventional thermal power plant. The difference between such plants is in the manner in which heat is produced. In a fossil plant, oil, gas or coal is fired in the boiler, which means that the chemical energy of the fuel is converted into heat. In a nuclear power plant, however, energy from the fission chain reaction is utilized. Cooling water for the nuclear power station will be utilised directly from the sea.

Although detail design still needs to be completed, it is estimated that the entire development will require of the order of 31 ha, including all auxiliary infrastructure. The proposed nuclear power station will include a nuclear reactor, turbine complex, spent fuel nuclear fuel storage facilities, waste handling facilities, intake and outfall basin, and various auxiliary service infrastructure.

Should the proposed project be authorised, it is estimated that the construction of the nuclear power station could commence in 2009/10 with the first unit being commissioned in 2016.

NUCLEAR LICENSING PROCESS

In addition to the EIA process, which serves to identify, assess and mitigate potential environmental impacts that may be associated with the proposed nuclear power plant, authorisation from the National Nuclear Regulator (NNR) is required to provide for the protection of persons, property and the environment against nuclear damage, and to exercise regulatory control related to safety. The NNR establishes standards, based on international practice, limiting radiation exposure and risk to the public and workforce.

National Nuclear Regulator (NNR) Legislation

In terms of Section 20 of the National Nuclear Regulator Act (NNRA),1999 (Act No 47 of 1999), no person may site, construct, operate, decontaminate or decommission a nuclear installation, except under the authority of a nuclear installation licence. Section 21 of the Act makes provision for a person wishing to engage in any of these activities to apply to the Chief Executive Officer of the NNR for such a licence.

PROJEKBESKRYWING

Drukvaste Water Reaktor tipe tegnologie gaan gebruik word vir die voorgenome kernkragsentrale wat deur Eskom opgerig gaan word. Die struktuur van hierdie kernkragsentrale stem ooreen op vele maniere met dié van 'n konvensionele termiese kragsentrale. Die verskil tussen sulke aanlegte is die wyse waarop hitte gegenereer word. In 'n fossielbrandstof-aanleg word olie, gas of steenkool gebruik om die stoomketels te stook. Dit beteken dat die chemiese energie van die brandstof in hitte omgeskakel word. In 'n kern-aanleg daarenteen, word energie van die klowings-kettingreaksie gebruik. Verkoelingswater vir die kernkragsentrale kan direk vanuit die see onttrek word.

Alhoewel 'n detail ontwerp nog gedoen moet word, word daar na raming ongeveer 31 ha vir die hele ontwikkeling asook verwante infrastruktuur benodig. Die voorgestelde kernkragsentrale sal 'n kernreaktor, turbine kompleks, uitgeputte kernbrandstof bergingsfasiliteite, afval hanteringsfasiliteite; inlaat- en uitlaatkom en verskillende verwante infrastrukture insluit.

Daar word geraam dat die konstruksie van die voorgestelde kernkragsentrale teen 2009/2010 kan begin met die ingebruikneming van die eerste eenheid teen 2016.

KERNLISENSIEERINGSPROSES

Tesame met die OIS-proses wat potensiële omgewingsimpakte wat met die voorgestelde kernkragsentrale gepaard gaan identifiseer, bestudeer en versag, word goedkeuring van die Nasionale Kern Regulering (NKR) benodig ten einde beskerming te verleen aan persone, eiendom en die omgewing teen kernskade. Die NKR vestig en stel standaarde gebaseer op internasionale praktyke, wat blootstelling aan bestraling en risiko's vir die publiek en personeel verminder.

Nasionale Kernreguleerder Wetgewing

In terme van Afdeling 20 van die Wet op die Nasionale Kern Regulering, Wet Nr. 47 van 1999, mag geen persoon 'n kern-installasie bou, bedryf, ontsmet of buite diens stel sonder die magtiging van 'n kern-installasie lisensie nie. Afdeling 21 van die Wet maak voorsiening vir 'n persoon wat sulke aktiwiteite wil onderneem om by die Hoof Uitvoerende Beampte van die NKR aansoek te doen vir 'n lisensie.

INGCACISO YEPROJEKTHI

UEskom uceba ukwakha isitishi samandla enyukliya sobugcisa bohlobo lwe-Pressurised Water Reactor (isxhobo sokwenza amandla ngee-atom sisebenzisa amanzi). Ubume balo mzimveliso wenyuklliya bufana ngeendlela ezininzi nobo bomzimveliso womsinga wamandla oshushu onyukayo noqhelekileyo. Umahluko phakathi kwale mizimveliso ukwindlela ekuveliswa ngayo ubushushu. kumzimveliso ongasesebenziyo, ioyile, igesi okanye amalahle zitshiswa kwibhoyila, nto leyo ithetha ukuba amandla eekhemikhali zamafutha aguqulwa abe bubushushu. Kanti, kumzimveliso wamandla enyukliya, kusetyenziswa amandla enziwe ngokucandeka kwee-atom. Amanzi okupholisa kwisitishi samandla enyukliya aza kusetyenziswa evela ngqo elwandle.

Nangona uyilo olupheleleyo lusafuna ukuqukunjelwa, kuqikeleleka ukuba uphuhliso lulonke luza kufuna malunga nama-31 eehektare, kuquka zonke izakhiwo ezixhasayo. Isitishi samandla enyukliya esicetywayo siza kubandakanya isixhobo sokwenza amandla ngee-atom, indawo enezakhiwo zenjini ejikeleziswa ngumsinga wamanzi, womphunga oshushu, izixhobo zokugcina amafutha asele esetyenzisiwe enyukliya, izixhobo zokujongana nenkunkuma, isikhongozelo sokwamkela nokukhupha, kwanezakhiwo ezixhasayo nezahlukeneyo.

Ukuba le projekthi icetywayo ithe yaphunyezwa, kuqikelelwa ukuba ulwakhiwo lwesitishi samandla enyukliya lungaqala ngo-2009 okanye u-2010, ngeli xa icandelo lokuqala liza kuyilwa ngo-2016.

INKQUBO YOKUNIKEZELWA KWEELAYISENISI ZENYUKLIYA

Ukongeza kwinkqubo ye-EIA, nemsebenzi wayo ikukuchonga, ukuhlola nokudambisa iimpembelelo zokusingqongileyo ezinokuba kho, nezinokwayanyaniswa nomzimveliso wamandla enyukliya ocetywayo, ugunyaziso oluvela kuLawulo lweNyukliya lweSizwe (iNNR ngamafutshane kwisiNgesi) luyafuneka ukukhusela abantu, izakhiwo kunye nokusingqongileyo ekonakalisweni yinyukliya, kwanokuphumeza ulawulo olunxulumene nokhuselo. I-NNR ithi iseke imigangatho, esekelezwe kwimisebenzi kaZwelonke, ithi iseke imida ukunqanda ukungakhuseleki ekusasazweni kwemitha kwanobungozi kuluntu nabasebenzi.

UWiso-Mthetho loLawulo lweNyukliya lweSiwe (iNNR ngamafutshane kwisiNgesi)

NgokweCandelo 20 loMthetho woLawulo lweNyukliya lweSizwe (iNNRA ngamafutshane kwisiNgesi), ka-1999, (uMthetho ongunombolo 47 ka-1999), akukho mntu unokumisela, akhe, asebenzise, asuse ukungcoliseka okanye ajike ugunyaziso lokufakelwa kwenyukliya, ngaphandle kwaphantsi kogunyaziso lwelayisenisi yokufakelwa kwenyukliya. ICandelo21 lalo Mthetho liyababonelela abantu abanqwenela ukuzibandakanya nawo nawuphi na umsebenzi ukuba bafake izicelo kwiGosa eliyiNtloko yoLawulo leNNR ukuzuza loo layisenisi.

The Licensing Process

The licensing process entails the evaluation of the design, construction, manufacture of component parts, operation and maintenance to ensure compliance with regulatory standards. The applicants for nuclear installation licences must carry out a comprehensive safety assessment and submit this to the NNR for evaluation. Should the safety assessment demonstrate that the installation will comply with the laid down standards, conditions are then set down in the licence which will ensure that the installation is properly constructed, commissioned, operated and eventually decommissioned. The NNR then conducts extensive compliance assurance activities including extensive inspections and review of operating data to ensure that the licensee complies with the conditions of the licence.

Similar to the EIA process, the NNR process makes allowance for public participation. The NNR public participation process makes allowance for the discussion of nuclear safety matters. These public participation processes will be conducted separately.

ENVIRONMENTAL AUTHORISATION REQUIREMENTS

In terms of the National Environmental Management Act, Act No. 107 of 1998 (NEMA) and its EIA regulations published in April 2006, listed activities require environmental authorisation before they can proceed. For this proposed project, these proposed activities are:

- (1a) The construction of facilities or infrastructure, including associated structures or infrastructure, for the generation of electricity where the energy generation is greater than 20 Megawatts and the facility exceeds an area of one hectare;
- (1b) The construction of facilities or infrastructure, including associated structures or infrastructure, for nuclear reaction including the production, enrichment, processing, reprocessing storage or disposal of nuclear fuels, radioactive products and waste

Lisensieeringsproses

Die lisensieeringsproses behels die evaluering van die ontwerp, konstruksie, vervaardiging van onderdele, bedryf en onderhoud, ten einde te verseker dat daar aan die regulasies voldoen word. Aansoeke vir kern-installasie lisensies moet gepaard gaan met 'n omvattende veiligheidstudie en moet vir evaluering aan die NKR voorgelê word. Indien die veiligheidstudie toon dat die installasie aan die vasgestelde standaarde voldoen, word voorwaardes in die lisensie gestel wat sal verseker dat die installasie deeglik gebou, in gebruik geneem, bedryf en uiteindelik buite diens gestel sal word. Die NKR pas omvattende beheermaatreëls toe om te verseker dat daar aan die standaarde en voorwaardes voldoen word. Dit word gedoen deur middel van deeglike inspeksies en hersiening van bedryfsdata ten einde te verseker dat die gelisensieerde aan die voorwaardes van die lisensie voldoen.

Soortgelyk aan die OIS se proses, maak die NKR se proses voorsiening vir publieke deelname met betrekking tot kernveiligheid kwessies.

OMGEWINGSMAGTINGSVEREISTES

In terme van die Wet op Nasionale Omgewingsbestuur, Wet Nr. 107 van 1998 en die OIS regulasies wat gedurende April 2006 gepubliseer is, word daar vir sekere gelyste aktiwiteite omgewingsmagtiging vereis, alvorens daar met hulle voortgegaan kan word. Hierdie aktiwiteite is soos volg:

- (1a) Die konstruksie van fasiliteite of infrastruktuur, insluitend gepaardgaande strukture en infrastruktuur, vir die opwekking van elektrisiteit, waar die elektrisiteitsopwekking meer as 20 Megawatt is en die fasiliteit 'n area groter as een hektaar beslaan;
- (1b) Die konstruksie van fasiliteite of infrastruktuur insluitend gepaardgaande strukture en infrastruktuur vir kernreaksies, insluitend die produksie, verryking, verwerking, her-verwerkingstoring of weggooi van kernbrandstof, radio-aktiewe produkte of afval.

INkqubo yokunikezelwa kwamaphepha-mvume

Inkqubo yokufumana iphephamvume iquka ukuvavanywa koyilo, ulwakhiwo, ukwakheka kwezinto ezibandaknywayo kulo, ukusetyenziswa nokugcinwa isebenza ukuqinisekisa ukuthobela kwayo imigangatho yolawulo. Abafaki-zicelo zamaphephamvume okufakelwa kwenyukliya kufuneka benze uhlolo olubanzi lokhuselo, ze balunikezele kwi-NNR ukuze luvavanywe. Ukuba uhlolo uhlolo lokhuselo lubonisa ukuba ukufakelwa luza kuhambelana nemigangatho ebekiweyo, kuye kubekwe imiqathango kwiphephamvume eza kuqinisekisa ukuba ufakelo luqhutywa ngendlela eyiyo, lugunyazisiwe, lwasetyenzwa ze ekugqibeleni lwapheliswa. I-NNR ke ngoko ithi iqhube imisebenzi ebanzi yokuyokuthobela kuquka uhlolo olubanzi kwanokuvavanywa ngokutsha kolwazi lokusebenzisa ukuqinisekisa ukuba umnini-phephamvume uyayithobela imiqathango yephephamvume elo.

Ngokunjalo nakwinkqubo ye-EIA, inkqubo yeNNR iyaluvumela uluntu ukuba luthabathe inxaxheba. INkqubo yeNxaxehba yoLuntu yeNNR ivumela iingxoxo zemiba yezokhuselo lwenyukliya. Ezi nkqubo zenxaxheba yoluntu ziza kuqhutywa ngokwahlukenyo.

IIMFUNEKO ZOLAWULO LOKUSINGQONGILEYO

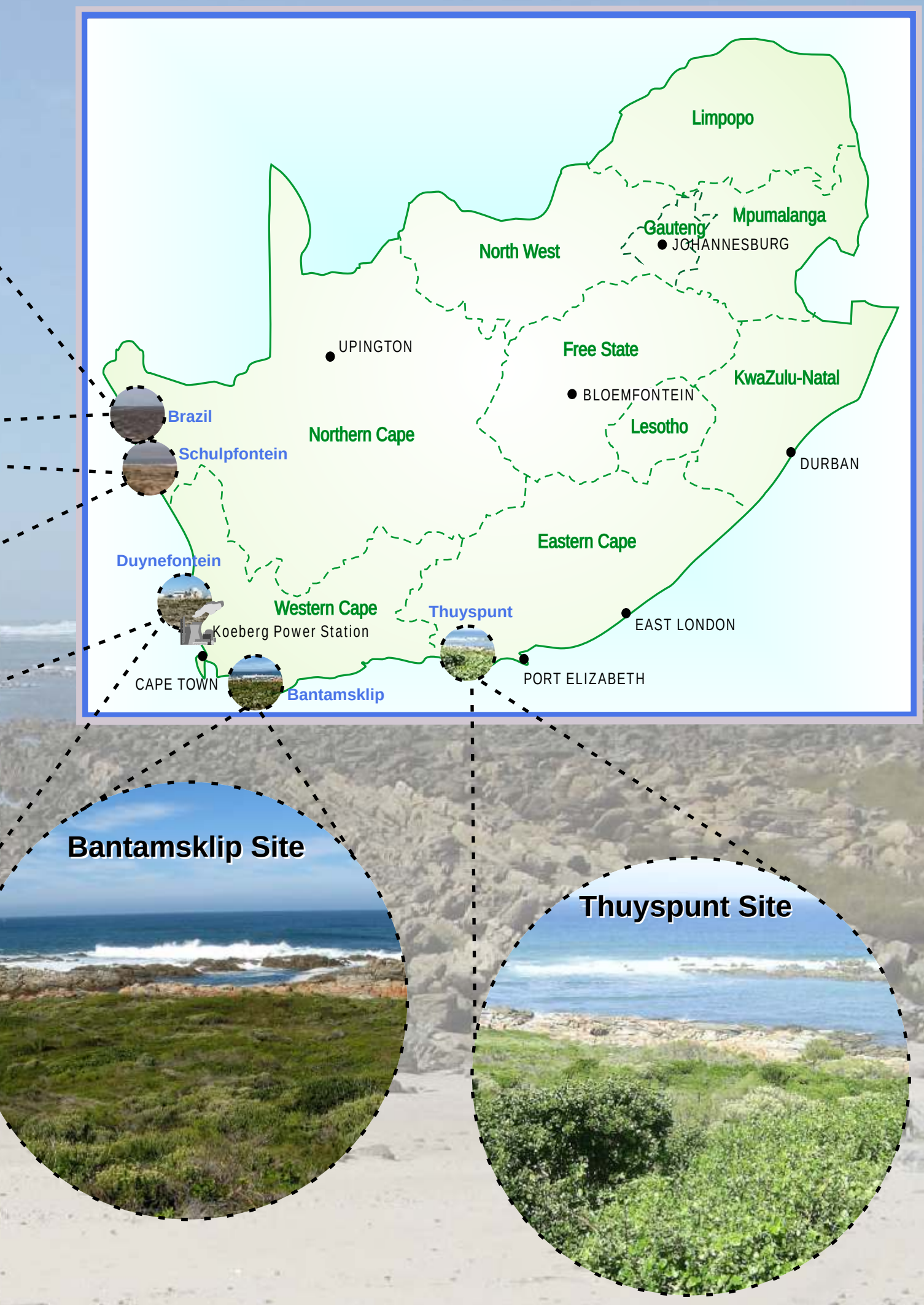
NgokoMthetho woLawulo lokusiNgqongileyo weSizwe, uMthetho ongunombolo 107 ka-1998 (iNEMA ngamafutshane kwisiNgesi) nezigunyaziso zawo zeEIA ezipapashwe ngoEpreli ka-2006, imisebenzi efakwe kuluhlu ifuna ugunyaziso lokusingqongileyo phambi kokuba iqhubekele phambili. Ukwenzela le projekthi icetywayo, kukho imisebenzi le misebenzi ilandelayo icetywayo:

- (1a) Ulwakhiwo lwezixhobo okanye izakhiwo, kuquka nobume obuhambelana nalo okanye izakhiwo, ukuze kuveliswe umbane apho kuveliswa ngaphezulu kwama-20 eeMegawatts sibe isixhobo singaphezulu kommandla oyihektatre enye;
- (1b) Ulwakhiwo lwesixhobo okanye isakhiwo, kuquka nobume obuhambelana nalo okanye izakhiwo, zezixhobo zokwenza amandla enyukliya ngeeatom kuquka imveliso, ukuphuculwa, ukusetyenzwa kwakhona kwendawo yokugcina okanye ukulahlwa kwamafutha enyukliya, iimveliso ezinemitha ebangwa kukuqhekeka kwee-atom nenkunkuma.

Map indicating the locations of the proposed Conventional Nuclear Power Station sites

Kaart van die studie-area wat die ligging van die voorgestelde Konvensionele Kernkragsentrales aandui.

IMaphu ebonisa iindawo zeziza ezicetywayo zeSitishi esiQhelekileyo saMandla eNyukliya.


Limpopo
Mpumalanga
Gauteng
JOHANNESBURG
North West
UPINGTON
Free State
KwaZulu-Natal
BLOEMFONTEIN
Brazil
Northern Cape
Lesotho
Schulpfontein
DURBAN
Eastern Cape
Duynefontein
Western Cape
Thuyspunt
Koeberg Power Station
EAST LONDON
CAPE TOWN
Bantamsklip
PORT ELIZABETH
Bantamsklip Site
Thuyspunt Site

ENVIRONMENTAL AUTHORISATION REQUIREMENTS (continued)

The proposed establishment of a Nuclear Power Station will also involve additional activities and the construction of ancillary infrastructure, which are also identified in the EIA Regulations. These include:

- The recycling, re-use, handling, temporary storage or treatment of general waste with a throughput capacity of 20 cubic metres or more daily average measured over a period of 30 days, but less than 50 tons daily average measured over a period of 30 days.
- The temporary storage of hazardous waste.
- The treatment of effluent, wastewater or sewage with an annual throughput capacity of more than 2,000 cubic metres but less than 15,000 cubic metres.
- The dredging, excavation, infilling, removal or moving of soil, sand or rock exceeding 5 cubic metres from a river, tidal lagoon, tidal river, lake, in-stream dam, floodplain or wetland.
- The removal or damaging of indigenous vegetation of more than 10 square metres within a distance of 100 metres inland of the high-water mark of the sea.
- The excavation, moving, removal, depositing or compacting of soil, sand, rock or rubble covering an area exceeding 10 square metres in the sea or within a distance of 100 metres inland of the high-water mark of the sea.
- The above ground storage of a dangerous good, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic metres but less than 1,000 cubic metres at any one location or site.
- The transformation or removal of indigenous vegetation of 3 hectares or more or of any size where the transformation or removal would occur within a critically endangered or an endangered ecosystem listed in terms of section 52 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).
- The construction of masts of any material or type and of any height, including those used for telecommunication broadcasting and radio transmission.
- The construction of a road that is wider than 4 metres or that has a reserve wider than 6 metres, excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 metres long.
- The transformation of undeveloped, vacant or derelict land to establish infill development covering an area of 5 hectares or more, but less than 20 hectares or; residential, mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare.

OMGEWINGSMAGTINGSVEREISTES (vervolg)

Die voorgestelde vestiging van 'n kernkragsentrale sal ook addisionele aktiwiteite en die konstruksie van aanvullende infrastruktuur behels wat ook in die OIS regulasies geïdentifiseer word. Dit sluit in:

- Die herwining en hergebruik, hantering, tydelike berging of die behandeling van algemene afval met 'n daaglikse deurvloei kapasiteit van 20 m^3 of meer oor 'n periode van 30 dae, maar met 'n daaglikse gemiddeld van minder as 50 ton, oor 'n periode van 30 dae.
- Die tydelike berging van gevaarlike afval.
- Die behandeling van afvalwater of riool met 'n jaarlikse deurvloei kapasiteit van meer as 2,000 m^3, maar minder as 15,000 m^3.
- Die baggering, uitgrawing, opvulling, verwydering of verskuiwing van meer as 5 m^3 grond, sand of klip vanuit 'n rivier, gety-strandmeer, gety-rivier, meer, in-stroom dam, vloedvlakte of vleiland.
- Die verwydering of beskadiging van inheemse plantegroei van meer as 10 m^2 binne 100 meter binnelands van die see se hoogwatermerk.
- Die uitgrawing, verskuiwing, verwydering, storting of kompaktering van grond, sand, klip of rommel van meer as 10 m^2 binne 100 meter binnelands van die see se hoogwatermerk.
- Die bo-grondse berging van gevaarlike stowwe soos petrol, diesel, LPG, of paraffien, in houers met 'n gesamentlike kapasiteit van meer as 30 m^3, maar minder as 1,000 m^3 op enige enkele terrein.
- Die omvorming of verwydering van inheemse plantegroei van 3 hektaar of meer, of enige grootte waar die omvorming of verwydering binne 'n kritieke bedreigde of bedreigde ekosisteem plaasvind wat in terme van seksie 25 van die Nasionale Omgewingsbestuur: Biodiversitietwet, 2004 (Wet Nr. 10 van 2004), gelys is.
- Die konstruksie van masste van enige materiaal of tipe en van enige hoogte, insluitende masste wat vir telekommunikasie- en radio uitsendings gebruik word.
- Konstruksie- of grondverskuiwings aktiwiteite in die see of binne 100 meter binnelands van die see se hoogwatermerk.
- Die konstruksie van 'n pad wyer as 4 meter of met 'n reserwe van meer as 6 meter. Dit sluit paaie wat binne die strekking van enige ander gelyste aktiwiteit val, asook toegangspaaie van minder 30 meter lank, uit.
- Omskakeling van on-ontwikkelde, kaal, of verlate grond om 'n ontwikkeling van meer as 5 hektaar, maar minder as 20 hektaar te vestig, of vir residensiële, gemengde, handel, kommersiële, industriële, of institusionele gebruik waar die ontwikkeling nie 'n area groter as 1 hektaar beslaan nie.

IIMFUNEKO ZOLAWULO LOKUSINGQONGILEYO (ukuqhubekeka)

Lo mzi ucetywayo weSitishi saMandla eNyukliya uza kubandakanya imisebenzi eyongezelelweyo nolwakhiwo lwezakhiwo ezincedisayo, nezichongiweyo kwizigunyaziso ze-EIA. Kuquka ezi zilandelayo:

- Ukwakhiwa ngokutsha kwanokusetyenziswa kwezinto kusetyenziswa ebezilahliwe,ukugcinwa okwexeshana okanye ukusetyenzwa kwenkunkuma enomyinge ongama-20 cubic metres okanye ngaphezulu ngesithuba esiziintsuku ezingama-30, kodwa singaphantsi kwama-50 eetoni ntsuku zonke ngokomyinge olinganiselwe kwisithuba sentsuku ezingama-30.
- Ukugcinwa okwexeshana kwenkunkuma enobungozi.
- Ukusetyenzwa komjelo ovela kwesi sitishi ohambisa amanzi amdaka, amanzi amdaka, okanye ilindle ezinomlinganiselo wama-2,000 cubic metres, kodwa ungekho ngapahntsi kwe-15,000 cubic metres.
- Ukugutyulwa, ukugxunjwa, nokusususwa kwentlabathi, isandi okanye amatye angaphezulu kwe-5 cubic metres ezisuka emhlanjeni, ichweba lokuzala nokurhoxa kolwandle, idama eliphakthi kumsinga, ithafa lezikhukhhula okanye umhlaba omanzi.
- Ukusususwa okanye ukonakaliswa kwezityalo zaloo ndawo ezingaphezulu kwe-10 square metres kumgama oziimitha ezili-100 emhlabeni okumlinganiselo wamanzi aphezulu olwandle.
- Ukugrunjwa, ukusususwa okanye ukubunjwa kwentlabathi, Isanti, amatye okanye inkunkuma egqume ummandla ongaphezulu kwe-10 square metres elwandle okanye kumgama oli-100 leemitha emhlabeni womlinganiselo wamanzi aphezulu olwandle.
- Ukugcinwa kwezinto ezinobungozi ngaphezu komhlaba, kuquka ipetroli, idizili, ulwelo, igesi yeptroliyam okanye iparafini, ezikwizikhongozi ezinomlinganiselo ongaphezulu kwwama-30 cubic metres, kodwa zingaphantsi kwe-1,000 cubic metres kuyo nayiphi na indawo enye okanye isiza.
- Ukutshintshwa okanye ukusususwa kwezityalo zaloo ndawo ezizihektare ezintathu okanye ngaphezulu, zabo nabuphi na ubukhulu, aphoukutshintshwa okanye ukusususwa kunokuqhubeka ngezinto zisemngcipekweni eziphilileyo ezifakwe kuluhlu ngokwecandelo loMthetho ongunombolo 52 woLawulo lokusiNgqongileyo lweSizwe: UMthetho ongezinto eziphilayo (iBiodiversity Act), ka-2004 (uMthetho onguNombolo 10 ka-2004).
- Ukwakhiwa kweentsika ezakhiwe nangayo nayiphi into okanye ezinabo nabuphi na ubude, kuquka ezo zisetyenziselwa usasazo lonxibelelwano nokuhanjiswa kwamaza eradiyo.
- Ulwakhiwo lwendlela ebubanzi bungaphezulu kweemitha ezine, nelelalela elibude bungaphezulu kweemitha ezintandathu, kungabalwa iindlela ezikumda zomnye umsebenzi obaliweyo, okanye eziziindlela ezisetyenziswayo nezingaphantsi kweemitha ezingama-30 ubude.

- Any development activity, including associated structures and infrastructure, where the total area of the developed area is, or is intended to be, 20 hectares or more.
- The route determination of roads and design of associated physical infrastructure, including roads that have not yet been built for which routes have been determined before the publication of this notice and which has not been authorised by a competent authority in terms of the Environmental Impact Assessment Regulations, 2006 made under section 24(5) of the Act and published in Government Notice No. R 385 of 2006.
- Construction or earthmoving activities in the sea or within 100 metres inland of the high-water mark of the sea.
- Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).
- Prevention of free movement of sand within 100 metres inland of the high-water mark of the sea.
- Transformation of land zoned for a conservation purpose.

Authorisation in this case has to be granted by National DEAT in consultation with the provincial environmental authorities. An application for authorisation for the Conventional Nuclear Power Station was submitted to the Environmental Authorities in May 2007. The process of environmental assessment that will be followed is illustrated in the BID.

The construction and operation of the required Transmission Power lines will be subject to a separate environmental authorisation process. However, it should be noted that the processes will run as far as practical in parallel with this EIA. All information will be shared with the public as it becomes available.

- Enige ontwikkelingsaktiwiteit, wat gepaargaande strukture en infrastruktuur insluit, waar die totale area van die ontwikkeling nie meer as 20 hektaar is nie.
- Die bepaling van die roetes van paaie en die ontwerp van fisiese infrastruktuur, wat paaie insluit wat nog nie gebou was nie, maar waarvoor roetes bepaal as voor die publikasie van hierdie kennisgewing en wat nog nie deur die bevoegde owerheid, in terme van die Omgewingstudie Regulasies, 2006, wat onder seksie 24(5)van die Wet en Goewermentskennisgewing Nr. R 385 van 2006, gemagtig is nie.
- Konstruksie of grondwerke in die see of binne 100 meter binnelands van die see se hoogwatermerk.
- Enige proses of aktiwiteit wat in terme van seksie 53(1) van die Wet of Nasionale Omgewingsbestuur: Biodiversiteit, 2004 (Wet Nr. 10 van 2004) geïdentifiseer is.
- Voorkoming van die vry beweging van sand binne 100 meter binnelands van die see se hoogwatermerk.
- Omskakeling van grond wat vir bewaring doeleindes gezoneer is.

Magtiging moet in hierdie geval deur die Nasionale DEAT in konsultasie met die provinsiale omgewingsowerhede verleen word. 'n Magtigings-aansoek vir die Konvensionele Kernkragsentrale is gedurende Mei 2007 by die omgewingsowerhede ingedien. Die omgewingstudieproses wat gevolg sal word, word in AID uiteengesit.

Die konstruksie en bedryf van die transmissie kraglyne wat benodig sal word, sal die onderwerp van 'n afsonderlike omgewingsmagtigingsproses wees. Daar moet egter gelet word dat die prosesse sover prakties moontlik parallel met hierdie OIS sal geskied. Alle inligting sal met die publiek gedeel word, sodra dit beskikbaar is.

- Ukuguqulwa komhlaba ongaphuhliswanga ngokupheleleyo, ongenanto okanye oyekiweyo ukuzinzisa uphuhliso, nokubandakanya ummandla oziihektare ezintlanu okanye ngaphezulu, kodwa zingaphantsi kwama-20 okanye indawo ehlala abantu exubeneyo, eyokuthengisa, eyoshishino, esetyneiselwa ushishino okanye amaziko apho olo phuhliso lungaquki ukufakelwa nalapho ummandla uwonke oza kuguqulwa ungaphezulu kwehejtare enye.
- Nawuphi na umsebenzi wophuhliso, kuquka isakhiwo esingqamene nawo, apho ummandla opheleleyo wommandla ophuhlileyo uziihektare ezingama-20, okanye kujongwe ukuba ube nobukhulu obungako okanye ngaphezulu.
- Ukuchongwa kweendlela nobume bezakhiwo ezimiyo ezingqamene nazo, kuquka iindlela ezingekakhiwa, beendlela esele zighongiwe phambi kopapasho lwesi saziso, nezingekagunyaziswa ngabalawuli abanobuchule ngokweMithetho yoHlolo lweMpembelelo kokusiNgqongileyo, ka-2006, nemiswe phantsi kwecandelo 24 (5) loMthetho yaze yapapashwa kwiSaziso sikaRhulumente esingunombolo R 385 ka-2006.
- Ulwakhiwo lwemisebenzi yokuhambisa intlabathi elwandle okanye kwiimitha ezili-100 emhlabeni ezikumlinganiselo wamanzi aphezulu olwandle.
- Nayiphi na inkqubo okanye umsebenzi ochongwe ngokwecandelo 53(1) loLawulo lokusiNgqongileyo weSizwe: (iBiodiversity Act) ka-2004 (uMthetho onguNombolo 10 ka-2004).
- Ukunqandwa kokuhamba kwesanti ngokukhululekileyo kumgama oziimitha ezili-100 emhlabeni kumqondiso wamanzi ophezulu wolwandle
- Ukuguqulwa komhlaba obekelwe iinjongo zolondolozo.

Ugunyaziso kule imeko luye lwanikezelwa yi-DEAT yeSizwe icebisana nabasemagunyeni abajongene nokusingqongileyo kwiPhondo. Isicelo sokugunyaziswa kwesitishi saMandla eNyukliya esiqhelekileyo safakwa kubaLawuli bokusiNgqongileyo ngoMeyi ka-2007. Inkqubo yohlolo lokusingqongileyo eza kuthi ilandelwe ibonakalisiwe kwi-BID.

Ulwakhiwo nokusetyenziswa kweentambo zokuDlulisela aMandla oMbane okufunekayo kuya kuxhomekeka kwinkqubo eyahlukileyo yogunyaziso lwezokusingqongileyo. Kanti, kufuneka kuqatshelwe ukuba ezi nkqubo ziza kuhamba ngokunxuseneyo ngokomsebenzi kunye nale EIA. Lonke ulwazi luya kunikezelwa kuluntu nje ukuba lufumaneke.

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

ARCUS GIBB (Pty) Ltd (ARCUS GIBB) has been appointed by Eskom as the Environmental Assessment Practitioner to conduct the environmental assessment process for the proposed Conventional Nuclear Power Station. This will be done in terms of the legal requirements of the National Environmental Management Act, 1998 (Act No 73 of 1998) and Government Notices R385, R386 and R387 of 2006.

The following specialist studies will be commissioned as part of the EIA investigations:

- Climatology
- Geotechnical and Geology (marine and land)
- Marine Biology
- Air Quality and Health Risk Assessment
- Noise
- Visual and Aesthetics
- Fauna (Invertebrates)
- Fauna (Vertebrates)
- Flora (South Coast)
- Flora (West Coast)
- Freshwater Ecology
- Archaeology and Heritage
- Hydrology
- Socio Economics
- Oceanography
- Traffic and Transportation

Curricula vitae of independent specialists and reviewers are available on the project website (www.eskom.co.za/eia). Issues identified during Scoping that require further investigation will be dealt with during the Impact Assessment.

OMGEWINGSTUDIEPROSES

ARCUS GIBB (Pty) Ltd (ARCUS GIBB) is deur Eskom as omgewingskonsultant aangestel om die omgewingstudieproses vir die Konvensionele Kragsentrale te onderneed. Dit sal in terme van die wetlike vereistes van die Wet op Nasionale Omgewingsbestuur, 1998 (Wet Nr 73 van 1998) en Goewernmentskennisgewing R385, R386 en R387 van 2006, geskeid.

Die volgende spesialisstudies sal as deel van die OIS ondersoek onderneem word:

- Klimatologie
- Geo-tegniese en Geologie (see en land)
- Marine Biologie
- Luggehalte en Gesondheidsrisiko
- Geraas
- Visuele en Estetika
- Fauna (ongewerweldes)
- Fauna (gewerweldes)
- Flora (Suidkus)
- Flora (Weskus)
- Varswater ekologie
- Argeologie en erfenis
- Hidrology
- Sosio-ekonomies
- Oseanografie
- Verkeer en vervoer

Curricula vitae van die onafhanklike spesialiste is op die projek webwerf beskikbaar (www.eskom.co.za/eia). Kwessies wat gedurende Omvangsbepaling geidentifiseer is, sal gedurende die Impakstudie ondersoek word.

INKQUBO YOKUHLOLWA KWEEMPEMBELELO KOKUSINGQONGILEYO

I-ARCUS GIBB (Pty) Ltd (ARCUS GIBB) ithe yonyulwa nguEskom njengamaGcisa oHlolo lokusiNgqongileyo ukuba iqhube inkqubo yohlolo lweSitishi esiQhelekileyo saMandla oMbane esicetywayo. Oku kuza kwenziwa ngokweemfuneko ezisemthethweni zoMthetho weSizwe woLawulo lokusiNgqongileyo, ka-1998 (UMthetho onguNombolo 73 ka-1998) kunye neZaziso zikaRhulumente u-R385, u-R386 no-R387 zika-2006.

Ezi zifundo zobungcali zilandelayo ziza kugunyaziswa njengenxalenye yophando lwe-EIA:

- Inzululwazi ngezemozulu
- Ubuchwephesha ngezomhlaba kunye neNzululwazi ngokwakhiwa komhlaba (elwandle nasemhlabeni)
- INzululwazi ngezilwanyana nezityalo zaseLwandle
- UHlolo loMgangatho woMoya kunye noloMngcipheko wezeMpilo
- Noise
- Ezibonakalayo nenzululwazi ngemithetho yobuhle
- Izilwanyana zenwado ethile (Izilwanyana ezingenathambo lomqolo)
- Izilwanyana zendawo ethile (Izilwanyana ezinethambo lomqolo)
- Izityalo (UNnxweme olusemaZantsi)
- Izityalo (UNxweme oluseNtshona)
- Ufundo ngezinto eziphilileyo malunga nendawo eziphila kuyo kumanzi angengawolwandle
- INzululwazi ngezakudala kunye neMvelaphi yazo
- Ufundo ngamanzi omhlaba
- Ufundo ngezoqoqosho nentlalo yoluntu
- Ufundo ngezinto zaselwandle
- IZithuthi noThutho

Amaxwebhu angenkcazo ngobomi (ii-CV) boochwepheshe nabahloli ayafumaneka kwi-website yale projekthi ethi: (www.eskom.co.za/eia) Imiba ethe yachongwa kuhlolo nefuna uphando olungaphaya iza kuthi ishukuxwe ngethuba loHlolo lweMpembelelo.

PRELIMINARY LIST OF ENVIRONMENTAL ISSUES

A number of potential environmental issues have already been identified and are listed here to assist I&APs to better understand the investigations to be undertaken as part of the environmental assessment process.

Potential environmental issues are:

- Air pollution .
- Aesthetic or visual impacts arising from the nuclear power station during construction and operation.
- Benefits of development to the local and regional economy.
- Impacts on fauna, flora and avi-fauna.
- Potential safety impacts.
- Potential traffic impacts during construction of the power station.
- Potential nuisance impacts during construction, e.g. dust.
- Pollution and waste management.
- Social and socio-economic impacts during construction related to influx of construction workers during the construction and operational periods.
- The contribution (or not) of electricity supply to sustainable development.

Who are I&AP's?
Any person or group of people concerned with, or affected by an activity and its consequences. This includes the authorities, local communities, investors, workers, customers and consumers, environmental interest groups and the general public.

I&AP REGISTRATION

In terms of the EIA regulations, this proposed project requires assessment and communication of potential environmental impacts of activities based on the procedures, as described in Sections 27 to 36 of the Regulations R385 of April 2006. I&APs are requested to register to ensure that they are sent all relevant correspondence and are notified of important dates for meetings and when project documents will be available for comment.

VOORLOPIGE LYS OMGEWINGSKWESSIES

'n Aantal potensiële omgewingskwessies is reeds identifiseer en word hier gelys ten einde B&GPs by te staan om 'n beter begrip van die ondersoeke wat as deel van die omgewingstudieproses onderneem word, te verkry.

Potensiële omgewingskwessies is soos volg:

- Lugbesoedeling.
- Estetiese of visuele impakte voortspruitend uit die konstruksie en bedryf van die kernkragsentrale.
- Voordele van die ontwikkeling vir die plaaslike- en streeks-ekonomie.
- Impakte op fauna, flora en avi-fauna (voëllewe).
- Potensiële veiligheidsimpakte.
- Potensiële verkeersimpakte gedurende konstruksie van die kragsentrale.
- Potensiële steurnisimpakte gedurende konstruksie, bv. stof.
- Besoedeling en die bestuur van afval.
- Sosiale en sosio-ekonomiese impakte gedurende konstruksie wat met die invloei van konstruksie werkers gedurende die konstruksiefase sowel as die bedryfsfase, verband hou.
- Die bydra, al dan nie, van elektrisiteit vir volhoubare ontwikkeling.

Wie is 'n B&GP?
Enige persoon of groep wat besorg is oor, of geraak word deur 'n aktiwiteit en dié se gevolge. Dit sluit owerhede, plaaslike gemeenskappe, werkers, beleggers, kliënte en verbruikers, omgewingsbelangegroepe en die algemene publiek, in.

B&GP REGISTRASIE

In terme van die OIS regulasies verg die projek die bestudering en kommunikasie van potensiële omgewingsimpakte van aktiwiteite gebaseer op die prosedure wat in Afdeling 27 tot 36 van Regulasie R385 van April 2006, uiteen gesit is. B&GPs word versoek om te registreer om te verseker dat hulle alle relevante korrespondensie ontvang en van belangrike datums van vergaderings in kennis gestel word asook van wanneer projek dokumentasie vir kommentaar beskikbaar sal wees.

ULUHLU OLUSISISEKO LWEMIBA YOKUSINGQONGILEYO

Kukho imiba eliqela yokusingqongileyo enokuthi ibe kho sele ichongiwe yaye idwelisiwe apha ukunceda ii-I&AP ukuba ziqonde ngcono uphando ekufuneka lwenziwe njengenxalenye yenkqubo yohlolo lokusingqongileyo.

Imiba yosiNgongqileyo enokuthi ibe khona yile:

- Ungcoliseko lomoya.
- Iimpembelelo zobuhle nezibonakalayo ezivela kwisitishi samandla ombane ngethuba lolwakhiwo nokusebenza kwaso.
- Iinzuzo zophuhliso kuqoqosho lwasekhaya nolwesithili.
- Iimpembelelo kwizilwanyana nakwizityalo zaloo ndawo.
- Iimpembelelo zokhuselo ezinokuba kho.
- Iimpembelelo zothutho ezinokuba kho ngethuba lokwakhiwa kwesitishi samandla ombane.
- Iimpembelelo ezinenkathazo ezinokuba kho ngethuba lokwakhiwa, umz,uthuli.
- Ulawulo longcoliseko nenkunkuma.
- Iimpembelelo zentlalo-ntle nezoqoqosho ngethuba lolwakhiwo eziphathelene nokuthontelana kwabasebenzi bolwakhiwo ngethuba lolwakhiwo olo (kwisithuba seminyaka engachazwanga) nangethuba lokusebenza kwaso.
- Inkxaso (okanye ukungabikho kwayo) yokunikezelwa kombane kuphuhliso oluzinzileyo.

Ngoobani ii-I&AP?
Nabani na okanye naliphi na iqela labantu elikhathalele, okanye elichatshazelwa ngumsebenzi neziphumo zawo. Oku kuquka abasemagunyeni, uluntu lwasekhaya, abatyali-zimali, abasebenzi, abathengi nabasebenzisi bemveliso, amaqela anomdla kokusingqongileyo kwanoluntu ngokubanzi.

UKUBHALISWA KWE-I&AP

Ngokwemithetho ye-EIA, le projekthi icetywayo idinga uhlolo kwanonxibelelwano lwemisebenzi kwiimpembelelo ezinokuba khona kokusingqongileyo zemisebenzi esekelezwe kwinkqubo echazwe kwiCandelo 27 ukuya ku-36 lesiGunyaziso R385 kaEpreli ka-2006. Ii-I&AP ziyacelwa ukuba zibhalise ukuqinisekisa ukuba zithunyelelwa imbalelwano efanelekileyo zize zaziswe ngemihla ebalulekileyo yeentlanganiso nokuba amaxwebhu eeprojekthi aza kufumaneka nini na ukuze zinike izimvo zazo.

INVITATION TO PARTICIPATE

The Environmental Assessment Process includes opportunities for you to be involved in the decision-making process. Your comments are important in identifying issues that will help focus the process and enhance decision-making. Your comments will be addressed and included in an Issues and Response Report, which will accompany the Scoping and Environmental Impact Reports. DEAT, as the decision-making authority, will review the reports to check that issues have been adequately addressed in the assessment process. Please make use of the following opportunities for participation:

- Examine and respond to information provided in this Background Information Document, at meetings, on the website (www.eskom.co.za/eia) and in the draft Scoping and Environmental Impact Reports.
- Register as an Interested and Affected Party in order to receive information and to record your comments.
- Complete the Comments Sheet and return by hand, mail, fax or email.
- Attend meetings and workshops to obtain further information, interact with the project team and raise issues and concerns. Details of meetings and workshops will be communicated at the appropriate time.
- Attend Focus Group Meetings held with various interested and affected parties to discuss the proposed projects. Details of meetings will be communicated at the appropriate time.
- Contact the Public Participation Office to obtain further project information and raise issues and concerns.

It is important that you take note of the deadlines for the submission of comments during the different phases of the environmental assessment process.

I&AP Comment
It is best to submit comment in writing via post, fax or email, either using the Comment Sheets provided or your own format. You may also provide verbal comment at meetings.

UITNODIGING TOT DEELNAME

Die Omgewingsimpakproses sluit geleenthede in waartydens u by die besluitnemingsproses betrokke kan raak. U kommentaar is belangrik in die identifisering van kwessies wat sal help om die proses te vereenvoudig en besluitneming verbeter. U kommentaar sal aangespreek word en sal in 'n Kwessies- en Terugvoerverslag saamgevat word wat die Omvangsbepaling- en Omgewingsimpak-verslag sal vergesel. DEAT, as die besluitnemingsowerheid sal die verslae hersien en kontroleer of alle kwessies gedurende die proses genoegsaam in ag geneem is. Maak asseblief gebruik van die volgende geleenthede tot deelname:

- Bestudeer en reageer op die inligting wat in hierdie Agtergrondsinligtingdokument vervat is, tydens vergaderings, op die webwerf (www.eskom.co.za/eia) en in die Konsep Omvangsbepaling- en Omgewingsimpak-verslag.
- Registeer as 'n Belanghebbende en Geaffekteerde Party ten einde inligting te ontvang en u kommentaar aan te teken.
- Voltooi die Kommentaarblad en stuur per hand, pos, faks of e-pos, terug.
- Woon vergaderings en werkswinkels by ten einde verdere inligting te ontvang, met die projekspan te skakel en kwessies te opper. Inligting aangaande die vergaderings en werkswinkels sal op die regte stadium aan u gekommunikeer word.
- Woon Fokus Groep Vergaderings by wat met verskeie rolspelers gehou sal word, waartydens die voornemende projek bespreek sal word. Inligting aangaande die vergaderings en werkswinkels sal op die regte stadium aan u gekommunikeer word.
- Kontak die Publieke Deelname Kantoor ten einde verdere inligting aangaande die projek te verkry en kwessies te opper.

Dit is belangrik dat u kennis neem van die sluitingsdatums vir die inhandiging van kommentaar gedurende die verskillende fases van die omgewingsimpakproses.

B&GP Kommentaar
Dit is wenslik dat u geskrewe kommentaar per pos, faks of e-pos lewer. U kan van die Kommentaarblad of u eie formaat gebruik maak. U kan ook verbale kommentaar tydens vergadering lewer.

ISIMEMO SOKUTHABATHA INXAXHEBA

INkqubo yoHlolo lokusiNgqongileyo iquka amathuba akho okuba ubandakanyeke kwinkqubo yokuthabatha izigqibo. Izimvo zakho zibalulekile ekuchongeni imiba eza kuthi incede ekugqaliseni le nkqubo kwanokongeza ekuthatyathweni kwezigqibo. Izimvo zakho ziza kuthathelwa ingqalelo ze ziqukwe kwiNgxelo yeeMiba neeMpendulo, eza kuthi ihambe neeNgxelo zoHlolo neeMpembelelo zokusiNgqongileyo. I-DEAT, njengeziphatha-mandla ezithi zithabathe izigqibo, iza kuthi iqwalasele ngokutsha ezi ngxelo ukujonga ukuba imiba iqwalaselwe ngokufanelekileyo kwinkqubo yohlolo. Nceda usebenzise la mathuba alandelayo ukuthabatha inxaxheba:

- Vavanya uze uphendule kulwazi olunikezelwe kolu Xwebhu loLwazi ngeMvelaphi, ezintlanganisweni, kwi-website (www.eskom.co.za/eia) nakwiiNgxelo zoyilo neMpembelelo kokusiNgqongileyo.
- Bhalisa njengonoMdla noChaphazelekayo ukuze ufumane ulwazi, ushicilele izimvo zakho.
- Zalisa iPhepha leZimvo ze ulibuyisele ngesandla, ngeposi, ngefeksi okanye nge-imeyile.
- Yiya kwiintlanganiso neeseshoni zeengxoxo ukufumana ulwazi oluthe kratya, nxibelelana neqela leprojekthi uveze imiba nezinto ezikukhathazayo. Iinkcukacha ngeentlanganiso ziya kwaziswa ngethuba elifanelekileyo.
- Yiya kwiiNtlanganiso zamaQela aBandakanyekayo ezibanjwa kunye nabo banomdla kwabo bachaphazelekayo ukuxoxa ngeeprojekthi ezicetywayo. Iinkcukacha malunga neentlanganiso ziya kwaziswa ngexesha elifanelekileyo.
- Qhagamshelana neOfisi yeNtatho-nxaxheba yoLuntu ukufumana ulwazi oluthe kratya ngale projekthi nokuveza imiba kwanezinto ezikukhathazayo.

Kubalulekile ukuba uqaphele imihla yokuphelelwa kokungeniswa kwezimvo ngethuba lenkqubo yohlolo lokusingqongileyo.

Uluvo lwe-I&AP
Kokona kulungileyo ukungenisa uluvo olubhaliweyo ngeposi, ngefeksi okanye nge-imeyile, usebenzisa iphepha lezimvo olinikiweyo okanye olwakho uhlobo. Unakho nokunikezela izimvo zakho ngomlomo ezintlanganisweni.

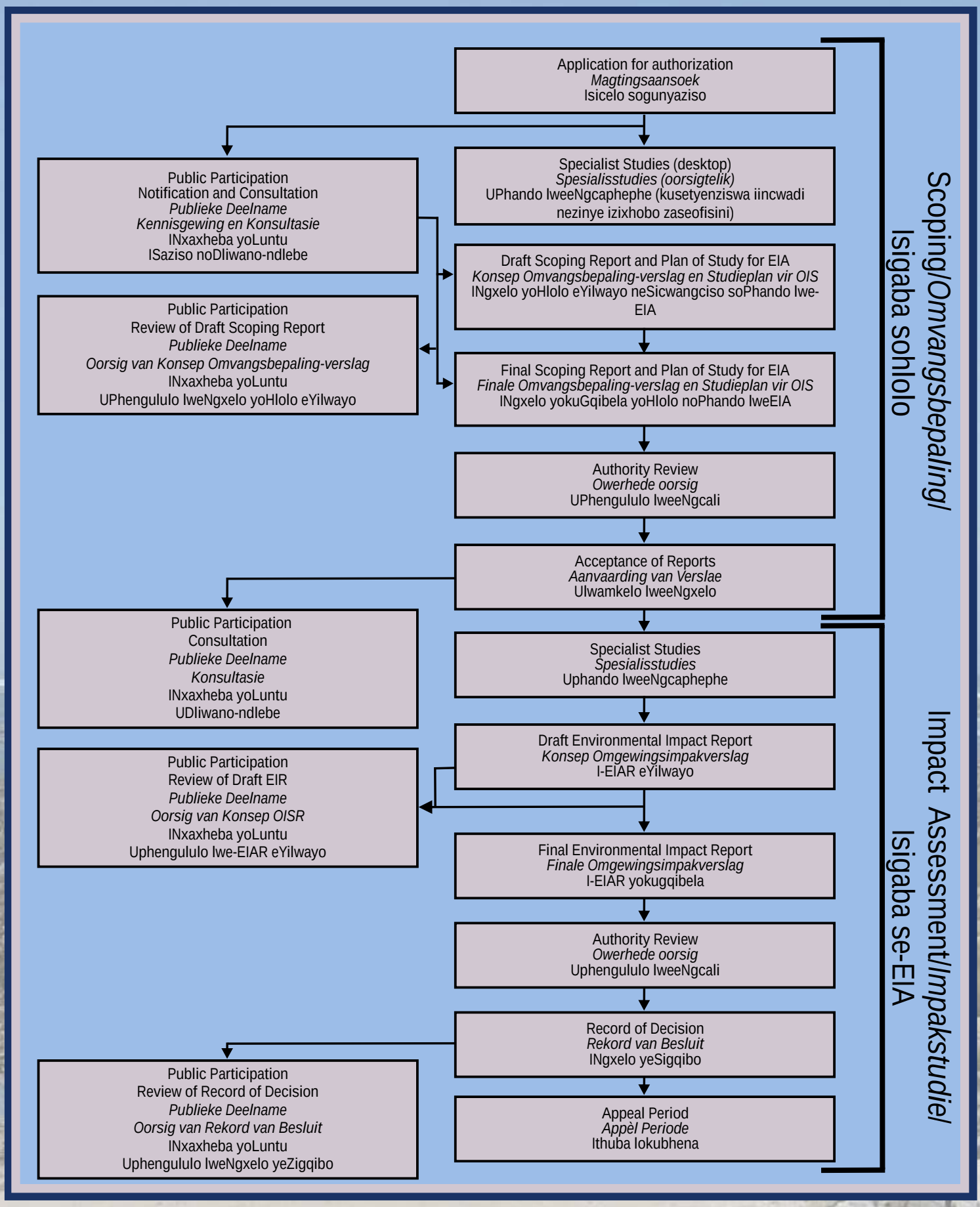


Diagram of the Environmental Assessment Process showing the Scoping and Impact Assessment Phases and their components (including public participation opportunities).

Diagram van die Omvangsbepaling- en Omgewingstudieproses en hul komponente (insluitend geleenthede tot publieke deelname)

Isazobe seNkqubo yoHlolo lokusiNgqongileyo ebonisa inqanaba lokujonga noHlolo lweMpembelelo kokusiNgqongileyo, kwakunye namacandelo azo (kuquka namathuba oluntu okuthabatha inxaxheba)

Koeberg Nuclear Power Station

Note: Although the plant type has not as yet been decided the above picture provides an indication of the infrastructure that could be associated with the proposed Nuclear Power Station

Koeberg Kernkragsentrale

Nota: Alhoewel die aanleg tipe nog nie bepaal is nie, verskaf die illustrasie 'n aanduiding van die infrastruktuur wat met die voorgestelde Kernkragsentrale gepaard kan gaan.

ISitishi saMandla eNyukliya saseKoeberg

Qaphela: Nangona kungekagqitywa ngohlobo lomzimveliso, lo mfanekiso ungentla unika umqondiso wesakhiwo esinokuhambisana neSitishi esicetywayo saMandla eNyukliya.

Public Participation Office Contact Details

Publieke Deelname Kantoor Kontakbesonderhede

Iinkcukacha Zeofisi Yothatho-nxaxheba Loluntu

ACER (Africa) - Environmental Management Consultants
Bongi Shinga / June Mottram
P O Box/Posbus 503, Mtunzini, 3867
Tel/Umnxeba: 086 010 4958 (cost of a local call/betaal
slegs die koste van ‘n plaaslike oproep/ngexabiso lomnxeba lalapha)
Fax/Faks/Ifeksi: 035 340 2232
E-mail/E-pos/I-imeyile: nuclear1@acerafrica.co.za
Website/Webwerf/Kwi-website: www.eskom.co.za/eia

Local Public Involvement Officer (based in Cape Town)/Plaaslike Publieke Deelname Beampte(in Kaapstad)/
IGosa lokuBandakanyeka koLuntu lwaseKhaya
Suzette Hattingh Tel/Umnxeba: 083 235 6799
E-mail/E-pos/I-imeyile: designop@designovative.com

ENVIRONMENTAL IMPACT ASSESSMENT (EIA: 12/12/20/944)
for the proposed

Eskom Nuclear Power Station and Associated Infrastructure

Comment Sheet 1: Scoping Phase

ARCUS GIBB
CONSULTING • DESIGN • MANAGEMENT

Please complete and return by no later than 28 August 2007:

Title	
First Name(s)	
Surname	
Organisation	
Position	
Address	
City	
Postal Code	
Tel	
Fax	
Cell	
E-mail	
Farm Name	**No.**

ACER (Africa)
Environmental Management Consultants
Public Participation Office
Bongi Shinga
P O Box 503
Mtunzini
3867
Tel: 086 010 4958
Fax: 035 340 2232
E-mail: Nuclear1@acerafrica.co.za

✓

I WOULD LIKE TO PARTICIPATE IN THE EIA PROCESS

YES ☐ **NO** ☐

PLEASE DELETE MY NAME FROM THE PROJECT MAILING LIST

YES ☐ **NO** ☐

1. The following issues must be addressed by the Scoping Process:

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

2. My comments on/or suggestions for the public participation and technical processes are as follows:

. . . . . .
. . . . . .
. . . . . .

I suggest the following stakeholders be involved in the process: *(Please provide contact details)*

We thank you for your participation
Please use separate or additional sheets if you wish

OMGEWINGSIMPAKSTUDIE (EIA: 12/12/20/944)
Vir die voorgestelde

Eskom Kernkragsentrale en Gepaardgaande Infrastruktuur

Kommentaarblad 1: Omvangsbepalingfase

ARCUS GIBB
CONSULTING • DESIGN • MANAGEMENT

Voltooi asseblief en stuur terug teen 28 Augustus 2007:

Titel	
Voornaam	
Van	
Organisasie	
Posisie	
Adres	
Stad	
Poskode	
Tel	
Faks	
Sel	
E-pos	
Plaasaam	**Nr.**

ACER (Africa)
Environmental Management Consultants
Publieke Deelname Kantoor
Bongi Shinga
Posbus 503
Mtunzini
3867
Tel: 086 010 4958
Faks: 035 340 2232
E-pos: Nuclear1@acerafrica.co.za

✓

EK WIL GRAAG AAN DIE OIS-PROSES DEELNEEM

JA ☐ **NEE** ☐

VERWYDER ASSEBLIEF MY NAAM VAN U POSLYS

JA ☐ **NEE** ☐

1. Die volgende kwessies moet gedurende Omvangsbepaling aangespreek word:

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

2. My kommentaar op/of voorstelle vir die publieke deelname en tegniese prosesse is soos volg:

. . . . . .
. . . . . .
. . . . . .

Ek stel voor dat die volgende rolspelers by die proses betrokke moet wees: *(Verskaf asseblief kontakbesonderhede)*

Ons dank u vir u deelname

Gebruik asseblief afsonderlike *of addisionele blaaie in nodig*

UHLOLO LWEMPEMBELELO KWEZOKUSINGQONGILEYO
(EIA: 12/12/20/944)

weSitishi sikaEskom saMandla eNyukliya esicetywayo nezakhiwo ezihambelana naso

[redacted]

ARCUS GIBB
CONSULTING • DESIGN • MANAGEMENT

Nceda ulizalise uze ulibuyise ungekafiki lo mhla 28 August ku- 2007:

Isihlonipho	
I/amagama	
Ifani	
Umbutho	
Isikhundla	
Idilesi	
Isixeko	
Ikhowudi yePosi	
Umnxeba	
Ifeksi	
Inombolo yeselula	
I-imeyile	
Igama lefama	**Inombolo.**

ACER (Afrika)
Environmental Management Consultants
Public Participation Office
Bongi Shinga
P O Box 503
Mtunzini
3867
Umnxeba: 086 010 4958
Ifeksi : 035 340 2232
I-imeyile: Nuclear1@acerafrica.co.za

✓

NDINQWENELA UKUTHATHA INXAXHEBA KWINKQUBO YE-EIA

EWE ☐ **HAYI** ☐

NCEDA UCIME IGAMA LAM KULUHLU LWABABHALELWAYO NGALE PROJEKTHI

EWE ☐ **HAYI** ☐

1. Le miba ilandelayo kufuneka iqwalaselwe yiNkqubo yoHlolo:

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

2. Izimvo okanye iingcebiso zam ngenxaxheba yoluntu neenkqubo zobugcisa zimi ngolu hlobo:

. . . . . .
. . . . . .
. . . . . .

Ndicebisa ukuba aba babandakanyekayo baqukwe kule nkqubo: *(Nceda unike iinkcukacha zoqhagamshelwano)*

Siyakubulela ngenxaxheba yakho

Nceda usebenzise iphepha elilodwa okanye elongezelekileyo ukuba unqwenela ukwenza oko