



## environment & tourism

Department:  
Environmental Affairs and Tourism  
REPUBLIC OF SOUTH AFRICA

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Ms D Herbst  
Escom Holding Limited  
PO Box 1091  
JOHANNESBURG  
2000

Fax no: (011) 800 5140

### PER FACSIMILE

Dear Madam

**Application for environmental authorisation for the construction of the pumped storage scheme in Steelpoort, Limpopo province (Reguleator 386, Activity 1 (a) and 14 - 121220859)**

With reference to the abovementioned application, please be advised that the Department has decided to grant authorisation. The environmental authorisation and reasons for the decision are attached herewith.

In terms of regulation 10(2) of the Environmental Impact Assessment Regulations, 2006, you are instructed to notify all registered interested and affected parties (IAPs), in writing and within seven (7) calendar days of the date of this letter, of the Department's decision in respect of your application as well as the provisions regarding the submission of appeals that are provided for in the regulations.

Your attention is drawn to Chapter 7 of the Regulations which regulates appeal procedures. Attached please find a simplified copy of the appeal procedure to be followed. Kindly include a copy of this procedure with the letter of notification to IAPs.

A copy of the official appeal form can be obtained from:

Mr PKM Rokef, Appeals Administrator, Tel: 012 310 3706, preliaat@deat.gov.za ; or  
Mr H Grové, Appeals Administrator, Tel: 012 310 3070, hgrové@deat.gov.za, at the Department.

Should you wish to appeal any aspect of the decision, you must, *inter alia*, lodge a notice of intention to appeal with the Minister, within 10 days of receiving notice of the decision, by means of one of the following methods:

Department of Environmental Affairs and Tourism • Lesefaha le Mefano ya Thekolo le Bopaneli • Lesefaha le Dikgato tsa Botlailaifi • Ukhanyiso wekhatho nezaku/shelima • Indlelana zwa zwa khajo na tshimoshani/sahango • Department van Omgevingskwaliteit en Toelating • Kigoro ya Mefano ya Thekolo le Bopaneli • Indlelana ya Tshimano le Mibango na Vekhetlaba • Litlha le Tshimoshano • nekvetshano • Isidhe (alalorithi) yezakho esiliphocongqalayo • ncheketheho • Umkhanyiso wezeshodokholo nezamaVekheho

By facsimile:  
By post:  
By hand:

(012) 310 3698;  
Private Bag X447, Pretoria, 0001; or  
2nd Floor, Fedsure Forum Building, North Tower, cor. Van der Walt and  
Pretorius Streets, Pretoria.

You must also serve a copy of the notice of intention to appeal on all registered JAPs as well as a notice indicating where, and for what period, the appeal submission will be available for inspection.

Please include the Department in the list of JAPs notified through your notification letter of the decision for record purposes. All correspondence must be marked for the attention of the Director: Environmental Impact Evaluation.

You are strongly advised to refrain from the initiation of any construction activities prior to the conclusion of the appeal's process. All construction activities initiated during the appeal's process will be done solely at the Applicant's risk.

Yours faithfully



Ms Pam Yako

Director – General

Department of Environmental Affairs and Tourism

Letter signed by: Mr Wynand Fourie

Designation: Chief Director (Acting); Env. Impact Management

Date: 24/10/2007.

CC: Ms Kelly martin  
Mr Herman Grové

Bohweki Environmental (Pty) Ltd      Fax: 011 798 6010  
DEAT

**APPEALS PROCEDURE IN TERMS OF CHAPTER 7 OF R. 365 OF 2006 TO BE FOLLOWED BY  
THE APPLICANT AND INTERESTED AND AFFECTED PARTIES UPON RECEIPT OF  
NOTIFICATION OF AN ENVIRONMENTAL AUTHORISATION**

<b>APPLICANT</b>	<b>INTERESTED AND AFFECTED PARTIES (IAPs)</b>
1. Receive notice of Environmental Authorisation from the relevant Competent Authority	1. Receive notice of Environmental Authorisation from Applicant/Consultant
2. Within 10 days of receipt of notification, notify the relevant Competent Authority and all IAPs of intention to appeal	2. Within 10 days of receipt of notification, notify the relevant Competent Authority of intention to appeal
3. Notification served by the Applicant must include: 3.1. A copy of the notice of intention to appeal; and 3.2. A notice indicating where and for what period the appeal submission will be available for inspection by all IAPs	3. Applicant must serve on the Applicant: 3.1. A copy of the notice of intention to appeal 3.2. A notice indicating where and for what period the appeal submission will be available for inspection by the applicant
4. The appeal must be submitted to the relevant Competent Authority or delegated organ of State within 30 days of lodging of the notice of intention to appeal	4. The appeal must be submitted to the relevant Competent Authority or delegated organ of State within 30 days of lodging of the notice of intention to appeal
5. A person or organ of state that receives notice of an appeal may submit a responding statement to the relevant Competent Authority or delegated organ of state within 30 days from the date that the appeal submission was made available for inspection by the appellant	5. An Applicant that receives notice of an appeal may submit a responding statement to the relevant Competent Authority or delegated organ of State within 30 days from the date the appeal submission was made available for inspection by the appellant

**NOTES:**

1. An appeal against a decision must be lodged with:-
  - a) the Minister if the decision was issued by the Director-General (or another official) acting in his/her capacity as the delegated Competent Authority
  - b) the MEC if the decision was issued by the Head of Department (or another official) acting in his/her capacity as the delegated Competent Authority
  - c) the delegated organ of state where relevant.
2. An appeal lodged with:-
  - a) the Minister must be submitted to the Department of Environmental Affairs and Tourism
  - b) the MEC must be submitted to the provincial department responsible for environmental affairs
  - c) the delegated organ of state, where relevant, must be submitted to the delegated organ of state
3. An appeal must be:-
  - a) on an official form obtainable or published by the relevant department
  - b) accompanied by:
    - a statement setting out the grounds of appeal
    - supporting documentation which is referred to in the appeal and is not available to the relevant Competent Authority
    - a statement that the appellant has complied with regulation 62 (2) or (3) together with copies of the notices referred to in regulation 62
    - the prescribed appeal fee, if any.
4. A copy of the official appeal form can be obtained from:
 

Mr PKM Retief, Appeals Administrator, Tel: 012 310 3705, pretief@deat.gov.za ; or  
Mr H Grové, Appeals Administrator, Tel: 012 310 3070, hgrové@deat.gov.za; at the Department.  
Should you wish to appeal any aspect of the decision, you must, *inter alia*, lodge a notice of intention to appeal with the Minister, within 10 days of receiving notice of the decision, by means of one of the following methods:

By facsimile: 012 310 3636;  
By post: Private Bag X447, Pretoria, 0001; or  
By hand: 2<sup>nd</sup> Floor, Fedeure Form Building, North Tower, cor. Van der West and Pretorius Streets, Pretoria.

# Environmental Authorisation

**Authorisation register number:** 12/12/20/858

**Last amended:** N/A

**Holder of authorisation:** ESKOM HOLDING LIMITED

**Location of activity:** Site A3: Keerom Farm  
151 JS & Luijpershoek  
149 JS

*A.*

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## Definitions

DEAT  
EA  
EAP  
EIA  
ECO  
EIR

*Department of Environmental Affairs and Tourism*  
*Environmental Authorisation*  
*Environmental Assessment Practitioner*  
*Environmental Impact Assessment*  
*Environmental Control Officer*  
*Environmental Impact Report*

## Decision

The Department is satisfied, on the basis of information available to it and subject to compliance with the conditions of this environmental authorisation, that the applicant should be authorised to undertake the activity specified below.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

## Activities authorised

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations, 2006 the Department hereby authorises -

**ESKOM HOLDING LIMITED**

with the following contact details -

Ms D Herbst

P O Box 1091

JOHANNESBURG

2000

FAX: (011) 800 5140

to undertake the following activity/ activities (hereafter referred to as "the activities")

No. R. 387 of 2006	1 (a)	The construction of facilities or infrastructure, including associated structures or infrastructure the generation of electricity where – i. the electricity output is 20 megawatts or more, or ii. the elements of the facility cover a combined area in excess of 1 hectare.
	1 (g)	The use, recycling, handling, treatment, storage or final disposal of hazardous waste.
	1 (h)	The manufacturing, storage or testing of explosives, including ammunition, but excluding licensed retail outlets and legal end use of such explosives.
	1 (n)	The transfer of 20 000 cubic metres or more of water between water catchments impoundments per day.
	2	Any development activity, including associated structures and infrastructure, where the total area of the development area is, or intended to be, 20 hectares or more.
	6	The construction of a dam where the highest part of the dam wall, as measured from the outside toe of the dam wall to the highest part of the wall, is 5m or higher or where the high water mark of the dam covers an area of 10 hectares or more.
No. R. 386 of 2006	1 (m)	Any purpose in one in ten year flood line of a river or a stream, or within 32m from the bank of a river or a stream where the flood line is unknown, excluding purposes associated with existing residential use, but including canals, channels, bridges, dams and weirs.
	1 (n)	The off-stream storage of water, including dams and reservoirs, with a capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of the activity listed in Item 6 of Government Notice no. R.387 of 2006.
	1 (o)	The recycling, re-use, handling, temporary storage or treatment of general waste with 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.
	1 (p)	The temporary storage of hazardous waste.
	4	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.
	5	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.
	7	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 1000 cubic metres at any one location or site.
	8	Reconnaissance, prospecting, mining or retention operations as provided for in the Mineral and Petroleum Resources Development Act, 2002 (Act No 28 of 2002).
	9	In relation to permissions, rights, permits and renewals granted in terms of 8 above, or any other similar right granted in terms of previous mineral and mining legislation, the undertaking of any prospecting or mining related activity or operation within a prospecting, retention or mining area, as defined in terms of section 1 of the Mineral and Petroleum Resources

	Development Act, 2002 (Act No 28 of 2002).
12	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).
14	The construction of masts of any material or type of any height, including those used for telecommunication broadcasting and radio transmission, but excluding – (a) masts of 15 metres or lower, exclusively used by radio amateurs or for lightning purposes. (b) Flag poles and lightning conductor poles.
15	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.
17	Prased activities where any one phase of the activity may be below the threshold specified in the schedule but where a combination of phases, including expansions or extensions, will exceed a specified threshold.

at Portion 1 of the Farm Keeron 151 JS for the upper dam and Portions 1,3,4,5 and 7 of the Farm Luipershoek 149 JS which fall within the jurisdiction of the following towns Burgerstort, Steelpoort and Roossenekal, hereafter referred to as "the property".

The granting of this environmental authorisation is subject to the conditions set out below.

### Conditions

#### Scope of authorisation

- 1.1 Authorisation of the activity is subject to the conditions contained in this authorisation, which conditions form part of the environmental authorisation and are binding on the holder of the authorisation.
- 1.2 The holder of the authorisation shall be responsible for ensuring compliance with the conditions by any person acting on his or her behalf, including but not limited to, an agent, sub-contractor, employee or person rendering a service to the holder of the authorisation.
- 1.3 The activities which are authorised may only be carried out at the property indicated above.
- 1.4 Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations



may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.

- 1.5 These activities must commence within a period of 4 (four) years from the date of issue. If commencement of the activities does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.

- 1.6 This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity

1.6.1 Relevant legislation that must be complied with by the holder of this authorization include but not limited to:

- Compliance with the requirements of Section 38 of the National Heritage Resources Act, Act 25 of 1999, including comments and recommendations of the relevant heritage resources authority responsible for the area in which the development is proposed.
- All provisions of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).
- Should fill material be required for any purpose, the use of borrow pits must comply with the provisions of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) administered by the Department of Minerals and Energy.
- Relevant local authority bylaws and regulations.

### **Appeal of authorisation**

- 1.7 The holder of the authorisation must notify every registered interested and affected party, in writing and within 7 (SEVEN) calendar days, of receiving notice of the Department's decision to authorise the activity.

- 1.8 The notification referred to in 1.7 must –
- 1.8.1 specify the date on which the authorisation was issued;
  - 1.8.2 inform the interested and affected party of the appeal procedure provided for in Chapter 8 of the regulations; and
  - 1.8.3 advise the interested and affected party that a copy of the authorisation and reasons for the decision will be furnished on request.

## **Management of the activity**

1.9 An Environmental Management Plan ("EMP") which fulfills the requirements of this authorisation must be compiled in accordance with regulation 34 of Government Notice R. 385 of 2006 and submitted to the Department for approval. The EMP must –

- 1.9.1 contain the following information (but not limited to)–
- (i) the management of stormwater to ensure that no stormwater is discharged to the working areas and further ensuring that the stormwater leaving the footprint of the proposed development areas is not contaminated by any substance, whether that substance is solid, liquid, vapour or any combination thereof. The soils must be stabilized in order to prevent resulting wash-down into the river courses;
  - (ii) erosion control mechanisms;
  - (iii) rehabilitation of areas to be disturbed during the construction phase of the project;
  - (iv) plant search and rescue before the commencement of any construction activity;
  - (v) implementation of measures aimed at controlling invasive plant species and weeds;
  - (vi) Management of traffic during the construction of upper and the lower dams;
  - (vii) Siting and management of construction camps, sanitation, ablution and housing facilities as well as material storage areas used by the contractor. All work areas must be supplied with proper sanitation facilities;
  - (viii) Management and rehabilitation of access roads to individual construction areas that will not become permanent roads upon completion of construction. Any new road constructed for any purpose not authorised as part of this authorisation, must comply with the relevant SANS codes and permission for construction must be obtained from DEAT as required by Government Notice R. 386 item 15 and R. 387 item 5;
  - (ix) Waste avoidance, minimisation and disposal of waste at an appropriate facility;
  - (x) Provisions for harvesting of any medicinal plants that may occur on site prior to site clearance;

- (xi) Protection of indigenous vegetation where such is not affected by the physical footprint of the power station plant or ancillary infrastructure and associated construction works;
- (xii) Provision for plant search and rescue of protected and endangered species which should be done before commencement of any construction related activity;
- (xiii) Measurement, monitoring and management of noise and dust pollution levels during the construction phase;
- (xiv) A fire control management plan for implementation on site;
- (xv) Insofar as it relates to the activities hereby approved, all recommendations and mitigation measures as proposed in the final environmental impact report dated May 2007 forms part of this record of decision and must be implemented as part of the EMP.

1.9.2 be adhered to during the commencement, operation and closure of the activity.

## Monitoring

- 1.10 Eskom must appoint a suitably qualified Environmental Control Officer (ECO) who would on behalf of the applicant, on a daily basis, monitor project compliance with the conditions of environmental authorization, environmental legislation and the recommendations of the EMP.
- 1.11 The ECO must be appointed before the start of construction and pre-construction related activities and the authorities must be notified of such an appointment.
- 1.12 The ECO shall ensure that monthly environmental performance audits are undertaken on the project implementation.
- 1.13 The ECO must ensure that the route alignments and construction sites are monitored for re-growth of invasive vegetative material at least twice a year for a period of up to two years after the completion of this development;
- 1.14 The ECO shall remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is handed over to Eskom by the contractor for operation.
- 1.15 The ECO shall maintain the following on site:
  - a daily site diary;
  - a non-conformance register;
  - a public complains register;
  - a register of audits.

## **Recording and reporting to the Department**

1. 16 The holder of the authorisation must submit an environmental audit report to the Director: Environmental Impact Evaluation on a quarterly basis for the first two years of the operation of the proposed project. The environmental audit report must –
1. 17 cover the general environmental performance during project implementation and all the issues related to non-compliance with the conditions of the environmental authorization.

## **Commissioning of the activity**

1. 18 30 days written notice must be given to the Department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence.

## **Operation of the activity**

1. 19 The applicant must ensure that stormwater is diverted away from all the working areas and the stormwater leaving the footprint of the proposed development areas must not be contaminated by any substance, whether the substance is in a solid form, liquid, vapour or any combination thereof. The soil must be stabilized in order to prevent the possible wash-down of debris and other materials into any water resources. The applicant must further ensure that
  1. 20.1 The hydraulic fluids are stored in concrete lined surfaces with bund walls and must be designed in such a manner that any spillages can be contained and reclaimed without any impact on the surrounding environment. The repair of construction vehicles must be done on a paved surface to avoid leaking oils seeping into the ground.
  1. 20.2 All waste generated during construction and operation of the facility is removed and disposed of at a waste disposal facility permitted in terms of section 20 of the Environment Conservation Act, 1989 (Act No. 73 of 1989).
  1. 20.3 No activities of the proposed development must be executed within 100 metres away from the river banks, streams and/or within 1:100 year flood line. Furthermore, the delineated buffer zone as outlined in the wetland specialist report contained in the Final Environmental Impact Report dated June 2007 must be adhered to.
  1. 20.4 Hazardous and flammable substances must be stored and used in compliance with applicable regulations and safety instructions.
  1. 20.5 The quarry on site must be below the dead volume of the dam to minimize the visual impacts.

1. 20.6 Waste material from excavations must be used as construction fill material or be disposed of below the minimum water level of the two dams, that is, in the dead storage of the volumes as far as practically possible.
1. 20.7 The dam wall is high enough to prevent over flow from the upper reservoir during high rainfall season. This will prevent mixing of species in the upper and the lower reservoirs and water quality of the two reservoirs will be maintained.
1. 20.8 The design of the dam wall should as far as possible blend in with the natural surroundings to maintain the 'sense of place'. Materials used and the colouring of the dam wall should match the surrounding natural area.
1. 20.9 The access roads alignment and construction sites must be monitored for re-growth of invasive vegetative material at least twice a year for a period of up to two years after the completion of this development.
1. 20.10 All removal of vegetation during construction must be done in consultation with the provincial environmental authorities, and the appropriate post-construction rehabilitation measures must be implemented in cooperation with the provincial environmental authorities

### **Site closure and decommissioning**

1. 21 The holder of this environmental authorization shall upon site closure and decommissioning of this authorized activity, apply in terms of No. R. 386 of 2006 (23) for the relevant environmental authorization.

### **General**

1. 22 A copy of this authorisation must be kept at the property where the activities will be undertaken. The authorisation must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.
1. 23 Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/ or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.
1. 24 The holder of the authorisation must notify the Department, in writing and within 24 (TWENTY FOUR) hours, if condition of this authorisation cannot be or is not adhered to. In all other cases, the holder of the authorisation must notify the Department, in writing, within 48 hours if a condition of this authorisation is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.

- 1.25 Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the regulations.

Date of environmental authorisation: 24/10/2007.



Ms Pam Yako

Director-General

Department of Environmental Affairs and Tourism

Letter signed by: Mr Wynand Fourie

Designation: Chief-Director (Acting): Environmental Impact Management



## Annexure 1: Reasons for Decision

### 1. Background

The applicant, ESKOM HOLDING LIMITED applied for authorisation to carry on the following activities-

No. R. 387 of 2006	1 (a)	The construction of facilities or infrastructure, including associated structures or infrastructure the generation of electricity where – <ol style="list-style-type: none"> <li>i. the electricity output is 20 megawatts or more, or</li> <li>ii. the elements of the facility cover a combined area in excess of 1 hectare.</li> </ol>
	1 (g)	The use, recycling, handling, treatment, storage or final disposal of hazardous waste.
	1 (h)	The manufacturing, storage or testing of explosives, including ammunition, but excluding licensed retail outlets and legal end use of such explosives.
	1 (n)	The transfer of 20 000 cubic metres or more of water between water catchments impoundments per day.
	2	Any development activity, including associated structures and infrastructure, where the total area of the development area is, or intended to be, 20 hectares or more.
	6	The construction of a dam where the highest part of the dam wall, as measured from the outside toe of the dam wall to the highest part of the wall, is 5m or higher or where the high water mark of the dam covers an area of 10 hectares or more.
No. R. 386 of 2006	1 (m)	Any purpose in one in ten year flood line of a river or a stream, or within 32m from the bank of a river or a stream where the flood line is unknown, excluding purposes associated with existing residential use, but including canals, channels, bridges, dams and weirs.
	1 (n)	The off-stream storage of water, including dams and reservoirs, with a capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of the activity listed in Item 6 of Government Notice no. R.387 of 2006.
	1 (o)	The recycling, re-use, handling, temporary storage or treatment of general waste with 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.
	1 (p)	The temporary storage of hazardous waste.
	4	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.
	5	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.
	7	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 1000 cubic metres at any one location or site.

	<p><b>8</b> Reconnaissance, prospecting, mining or retention operations as provided for in the Mineral and Petroleum Resources Development Act, 2002 (Act No 28 of 2002).</p>
	<p><b>9</b> In relation to permissions, rights, permits and renewals granted in terms of 8 above, or any other similar right granted in terms of previous mineral and mining legislation, the undertaking of any prospecting or mining related activity or operation within a prospecting, retention or mining area, as defined in terms of section 1 of the Mineral and Petroleum Resources Development Act, 2002 (Act No 28 of 2002).</p>
	<p><b>12</b> 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).</p>
	<p><b>14</b> The construction of masts of any material or type of any height, including those used for telecommunication broadcasting and radio transmission, but excluding –                  (c) masts of 15 metres or lower, exclusively used by radio amateurs or for lightning purposes.                  (d) Flag poles and lightning conductor poles.</p>
	<p><b>15</b> 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.</p>
	<p><b>17</b> Phased activities where any one phase of the activity may be below the threshold specified in the schedule but where a combination of phases, including expansions or extensions, will exceed a specified threshold.</p>

at Portion 1 of the Farm Keerom 151 JS for the upper dam and Portions 1,3,4,5 and 7 of the Farm Luipershoek 149 JS for the lower reservoir. These farms falls within the jurisdiction of the following towns Burgerstort, Steelpoort and Roossenekal.

The applicant appointed Bothweki Environmental Pty Ltd to undertake an environmental impact assessment process.

**2. Information considered in making the decision**

In reaching its decision, the Department took, *inter alia*, the following into consideration -  
 a)

- The information contained in the Final Scoping Report dated February 2007;
- Final Environmental Impact Assessment Report dated June 2007;
- Specialist Reports contained in the Final Environmental Impact Assessment Report.
- Minutes of the meeting held on 17 and 22 May 2007 with Limpopo and Mpumalanga provincial authorities.
- Comments from the Department of Water Affairs and Forestry dated 17 July 2007.



- b)
- The Act
  - The principles set out in Section 2 of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA)
  - Process 29 set out in the Scheduled processes under the Second Schedule to the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965).
  - The principles of sound management of toxic chemical set out in Chapter 19 of Agenda 21
  - Minimum requirements for landfills by the Department of Water Affairs and Forestry (second edition, 1998)
- c) The findings of the site visit undertaken by Mr R Nkosi, Mr M Mphahlele, Mr L Mokoena and Mr P Ngoasheng 03 October 2007.

**b. Key factors considered in making the decision**

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

- a) The following impacts were identified:
- i) Geotechnical studies undertaken and rock samples that were analysed only provided information with regard to the likelihood of geological features, not their likelihood of being bearing water. A north-east and north-west striking fault converge over the study area. These geological structures can enhance the groundwater potential in the area by increasing the permeability and transmissivity of the host rock. Secondary processes, such as faulting and fracturing, can create secondary fractured rock aquifers. Should these structures be water bearing, short-term groundwater related impacts are foreseen during the construction phase of the tunnel, as dewatering will be required.
  - ii) Little or no groundwater use occurs within the area, however, persistent contamination by solid waste, fuel storage facility and the waste water treatment facilities may have an impact on groundwater users with time.
  - iii) A number of wetlands are located close to the upper reservoir, and may be affected if the construction footprint extends towards them and the buffer zone around them.
  - iv) Two negative environmental impacts that cannot be mitigated against, namely the risk of flooding during high flood periods that can cause damage to the dam

(reservoir) structure and the impacts of reservoir failure on the downstream water courses.

- v) Dams that will be constructed (upper and lower dams) will serve as a habitat for aquatic biota that does not currently inhabit the area. Faunal disciplines that may likely inhabit these large tracks of open water include aquatic birds, aquatic invertebrates, fish and amphibians leading to an increase in the general biodiversity of the region. This increase in biodiversity is artificial and might lead to long-term impacts on the current endemic fauna and flora of the region.
- vi) A number of habitat types encountered in the study area are considered extremely sensitive. These include riparian zones, ridges, mountains and cliff areas. These areas are, however, frequently encountered within the general region and are therefore not considered unique.
- vii) The lower reservoir of the proposed dam is situated within the Sekhukhune Centre of Endemism.
- viii) The visual impact of the proposed development will be adverse, the significance of which varies from very high to medium, as indicated by the Visual Impact Index of the Final EIR dated June 2007. However, the overall impact after mitigation measures are implemented, the impact becomes medium.
- b) Alternatives were investigated, namely Site A, B and C. The comparative analysis of these sites revealed that Site C was not the best option because the Steelpoort Fault extends along the entire site. Seeing that Site B was also slightly affected by the Steelpoort fault, it was never investigated further during the final stage of the EIA process – thus making Site A an obvious preferred alternative for the proposed development.

#### 4. Findings

After consideration of the information and factors listed above, the Department made the following findings -

- a) The proposed pumped storage scheme will have the capacity of 1520MW.
- b) The function of the pumped storage scheme is to store surplus power during off-peak periods and to supply the power during the time of peak demands. Electricity is thereby shifted from peak times, when there is generally surplus electricity, to peak times, when there is an increase in demand on the system. This allows for electricity generation infrastructure to be used optimally. Pumped storage schemes are not net producers of electricity – it actually takes slightly more energy to pump water up to the reservoir than is recovered when it is released.
- c) The downstream faces of the dam are to be grassed or vegetated in order to reduce the visual impacts.
- d) The upper reservoir will be located off-channel and the spillway will be sized to accommodate a discharge that can be created by over-pumping.

- e) The proposed development is part of Eskom's new capacity installation programme and is intended to meet the future base load electricity demands of South Africa which is under severe pressure.
  - f) The purpose of the proposed power station is to increase the Eskom Generation base load capacity to facilitate the forecast increase in demand by 2010 and to further supply this additional capacity in such a way that it improves security of supply to the national grid system and South Africa in its entirety.
  - g) The need for the proposed pumped storage scheme has clearly been demonstrated and there is currently no viable alternative to a supply-side solution for the envisaged demands on the national grid.
  - h) The proposed pumped storage scheme has positive impacts, both in terms of the social and economic aspects.
  - i) The construction and operation of the pumped storage scheme will, however, have definite and substantial detrimental impacts on the environment.
  - j) The substantial impacts cannot therefore be avoided, but measures must be put in place to mitigate the potential impacts to acceptable levels.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the proposed activity will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the proposed activities can be mitigated to acceptable levels. The environmental authorisation is accordingly granted.

