

What does Powerline Construction consist of?

The following general activities are involved with the construction and maintenance of a powerline. A detailed description of activities involved will be given in the Scoping and EIA Reports (*Please note that these activities will only be undertaken once environmental authorisation has been obtained*):

- ❖ Negotiations between Eskom and the Landowner for permission to register a servitude and construct the powerline. These negotiations involves compensation;
- ❖ Registering of an Eskom Servitude on all properties demarcated for powerline construction. The servitude width required for a 400kV Transmission line is 55m (27.5m on either side of the powerline);
- ❖ Clearing of vegetation within the servitude;
- ❖ Construction of temporary access roads, and permanent maintenance roads where required;
- ❖ Construction of the towers;
- ❖ Stringing of the cables;
- ❖ Conductor testing; and
- ❖ Annual inspection and maintenance of the powerline and servitude.

What does Substation Construction consist of?

In general, the proposed substation will consist of the following (*Exact details will be provided in the Scoping and EIA Reports*):

- ❖ Transformers;
- ❖ Bus bars;
- ❖ Feeder bays;
- ❖ Reactors;
- ❖ Loop-in and loop-out lines;
- ❖ Oil collection dam; and
- ❖ Buildings (main substation building, storage buildings, and ablution facilities).

Please complete the attached Reply Form to register as an Interested and Affected Party to become involved in this proposed project. Please also attend one of the two Public Meetings to obtain more information regarding the proposed project, to raise your issues and concerns and to view large scale maps to determine whether you could be an affected landowner.

Proposed Construction of the Anderson-Dinaledi 400kV Powerline between the Anderson (located in Broederstroom) and Dinaledi (located in Brits) Substations Department of Environmental Affairs Project Reference Number: 12/12/20/1567

& Proposed Construction of the Anderson 400kV Substation Department of Environmental Affairs Project Reference Number: 12/12/20/1568

Project Overview

Eskom Holdings Limited is proposing the construction of a new 400kV Transmission Line, and a proposed new 400kV Substation as part of their Tshwane Strengthening Scheme Project. The proposed powerline will be approximately 40km in length and will run between the proposed new Anderson Substation, which will be located to the north of the Nuclear Energy Corporation South Africa (NECSA), located in Broederstroom, to the existing Dinaledi Substation which is located approximately 8km North East of Brits. The proposed powerline will be constructed in the following two Municipal Areas: Madibeng Local Municipality (North West) and the City of Tshwane Local Municipality (Gauteng). The proposed substation is earmarked for construction within the Madibeng Local Municipality.

Environmental Consultant



Nemai Consulting have been appointed by Eskom Holdings Limited, as the independent environmental consultant, to undertake an Environmental Impact Assessment (EIA) for this proposed powerline, as well as to undertake an Environmental Impact Assessment for the proposed Anderson 400kV Substation.

Public Meeting:

Public Meetings will be held in Brits and Broederstroom. Please attend one of these meetings to obtain more information regarding the projects. The details for these Public Meetings are as follows:

Date	Venue	Time
18/10/2010	Hoërskool Brits (Address below)	17:30-19:30
19/10/2010	Laerskool Broederstroom (Address below)	17:30-19:30

Purpose of this Background Information Document (BID):

- ❖ To provide Background Information regarding the project;
- ❖ To provide details on the Environmental Impact Assessment (EIA) process and phases;
- ❖ To inform the general public of their rights and responsibilities regarding participation, and how to become involved;
- ❖ To provide the general public with an opportunity to comment or raise issues and concerns regarding the proposed development.

Public Review of the Draft Scoping Report:

The Draft Scoping Report for both the proposed 400kV powerline as well as the proposed Anderson 400kV Substation will be made available for Public Review from the 1st of November 2010 until the 10th of December 2010. Written comments on the Draft Scoping Report should be forwarded to Nemai Consulting by no later than the 10th of December 2010. The Draft Scoping Report will be available for Public Review at the following venues:

Becoming Involved in the EIA Process:

Kindly complete the attached Reply Form and return it to the relevant representative from Nemai Consulting before the 17th of November 2010:

Sonja van Eden

Nemai Consulting (Social, Environmental and OHS Consultants)

PO Box 1673, Sunninghill, 2157
Tel : (011) 781 1730
Fax : (011) 781 1731
E-mail: sonjav@nemai.co.za

Venue	Address	Contact No
Hoërskool Brits	1 Johan Street Brits	Adolf Gouws 012 252 3228
Laerskool Broederstroom	Plot 33, Permula Street, Flora Park	087 940 9167
Madibeng Community Library	51 Van Velden Street, Brits Office Hours: Mon-Fri: 09:00-17:00 Saturdays: 09:00-12:00	012 318 9318
Schoemansville Library	Marais Street, Schoemansville	012 253 1177

Background Information

Location & Alternative Routes

The Dinaledi Substation is located on Portion 843 of the Farm Roodekopjes of Zwartkopjes 427 JQ, which is located approximately 8km North East of Brits. Two site alternatives are being investigated for the proposed construction of the Anderson Substation. These two site alternatives are located directly to the north of NECSA, in Broederstroom. Three alternative powerline routes have been identified (refer to the attached map). A 1km buffer area has been placed around each alternative route, which will form the study area/corridor to be investigated during the Scoping and EIA Phase. During the EIA Phase a preferred study area/corridor will be selected. The Department of Environmental Affairs (DEA) may authorise the identified preferred corridor, the Department may authorise one of the other corridors, or the Department may request that additional information be submitted in order to make a decision regarding the proposed project. Once DEA authorises a corridor, a walk down survey will be undertaken by suitably qualified specialists in order to determine the exact location of the powerline. Please note that powerline will require a 55m servitude.

Several properties are located within these 1km study areas/corridors. A list of all the properties which could potentially be affected by the proposed powerline has been attached to this BID. A list of properties currently affected by the proposed center line (current proposed powerline position) has also been attached.

Two site alternatives are being investigated for the proposed Anderson Substation. The footprint of the proposed substation will be 600m x 600m and will include the construction of several loop-in and loop-out lines. The exact location of the proposed loop-in and loop-out lines will only be available once the exact location of the proposed substation has been determined, as the location of the loop-in and loop-out lines are dependent on the location of the feeder bays.

Environmental Authorisation

The Environmental Impact Assessment (EIA) Regulations, 2006, promulgated in terms of Section 24(5) of the National Environmental Management Act ([NEMA], Act 107 of 1998) are divided into two Schedules, R 386 and R 387. Schedule R386 defines activities which will trigger the need for a Basic Assessment and R 387 defines activities which trigger an Environmental Impact Assessment (EIA) process. If activities from both schedules are triggered, then an EIA process will be required.

Activities from R386 which will be triggered include Activities 1(m), 1(p) 7, 12, 14, 15, and 20. Activities from R387 which be triggered includes Activities 1(l), 2 and 5. In terms of the activities under R387 the proposed development is subject to a Scoping and EIA Procedure, which entails the following:

- ❖ Public Participation Process as described in Regulation 56 of the EIA Regulations, 2006;
- ❖ Identification of potential environmental impacts;
- ❖ Compilation of a Scoping Report in accordance with Regulation 29 of the EIA Regulations, 2006;
- ❖ Compilation of an Environmental Impact Assessment Report in accordance with Regulation 32 of the EIA Regulations, 2006;
- ❖ Undertaking of Specialist Studies in accordance with Regulation 33 of the EIA Regulations, 2006; and
- ❖ The compilation of an Environmental Management Plan (EMP) in accordance with Regulation 34 of the EIA Regulations, 2006.

The final EIA Report will include details on all specialist studies undertaken. This Report will provide sufficient information to facilitate decision-making by the designated Authority.

Authorisation Process

The proposed Environmental Authorisation process will consist of the following phases:

Initial Public Participation Phase

During this phase public participation engagement activities will commence. This will include the compilation of a Background Information Document (BID's), Newspaper advertisements (Beeld, the Star, and the Kormorant), site notices and notification letters.

The following parties will be consulted during this phase:

- ❖ Relevant Authorities at various levels;
- ❖ The owners and occupiers of land adjacent to the site, and within a 100m of the boundary of the site where the activity is to be undertaken;
- ❖ The municipal councillor of the ward in which the site or alternative site is situated and any ratepayers association that represents the community in the area;
- ❖ The municipality which has jurisdiction in the area; and
- ❖ Any organ of state having jurisdiction in respect of any aspect of the activity.

The issues raised during this phase will be collated into a stakeholder database and an Issues and Response Report will be generated.

Scoping Phase

The Scoping Phase brings together the issues identified during public participation, and the planning phases of the EIA. During this phase all issues and comments identified are evaluated, and the "Scope" of further studies is determined.

The Scoping Report will include the following (inter alia):

- ❖ Describe the proposed development and reasonable alternatives;

- ❖ Describe the property on which the activity is proposed to take place;
- ❖ Describe the environment (at a screening level) that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment that may be affected by the proposed activity;
- ❖ Identify all legislation and guidelines that have been considered in the preparation of the Scoping Report;
- ❖ Describe the environmental issues and potential impacts that have been identified;
- ❖ Indicate the methodology that will be adopted in assessing the potential impacts that have been identified, including any specialist studies or specialised processes that will be undertaken;
- ❖ Detail the public participation process, including the Issues and Response Report; and
- ❖ Include all proof of stakeholder engagement.

A Draft copy of the Scoping Report will be made available for public review, prior to finalisation and submission of the Report to the Department of Environmental Affairs (DEA).

Environmental Impact Assessment (EIA) Phase: Public Participation

During this phase the general public will be notified of the decision made by DEA regarding the Scoping Report, and will be notified that the EIA phase will commence.

Environmental Impact Assessment

The EIA Report will include:

- ❖ A detailed description of the proposed development;
- ❖ A description of the need and desirability of the proposed development and the identified potential alternatives to the proposed activity;
- ❖ A description of the environment that may be affected by the activity and the manner in which physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed development;
- ❖ A summary of the findings of the specialist studies;
- ❖ A summary of the methodology used in determining the significance of potential impacts;
- ❖ A detailed assessment of all identified potential impacts, including a comparative assessment of identified land use and development alternatives;
- ❖ Identified mitigation measures;
- ❖ Copies of all Specialist Reports will be appended to the EIA Report; and
- ❖ Any further information that will assist in decision making by the Authorities.

Specialist Studies

The following specialist studies which may be required as part of the EIA have been identified thus far:

- ❖ Geological Assessment;

- ❖ Bird Assessment;
- ❖ Vegetation and Faunal Assessment;
- ❖ Floodline Delineation (*where required*);
- ❖ Wetland Delineation (*where required*);
- ❖ Heritage Impact Assessment; and a
- ❖ Visual Impact Assessment

Environmental Management Plan (EMP)

An EMP will be compiled and will include the following information:

- ❖ Information on the proposed management or mitigation measures that will be undertaken to address the environmental impacts that have been identified in the EIA Report, including environmental impacts or objectives of:
 - Planning and design;
 - Pre-construction and construction activities;
 - Operation or undertaking of the activity;
 - Rehabilitation of the environment; and
 - Closure, where relevant.
- ❖ A detailed description of the aspects of the activity;
- ❖ An identification of the persons who will be responsible for the implementation of the EMP;
- ❖ Where appropriate, time periods within which the measures in the EMP must be implemented; and
- ❖ Proposed mechanisms for monitoring compliance with the EMP and reporting thereon.

Public Review prior to Submission

Once completed the Draft Report including the environmental impact assessment and management programme will be made available at public places for public review. Comments from stakeholders will be incorporated before the Report is submitted to Authorities.

Submission and Decision-making

The Report will be finalised and submitted to the various Authorities for decision-making. Their decision will be provided in a written Environmental Authorisation (EA). Once the EA has been received, an advertisement will be placed in a local newspaper, notifying the public of the EA and where it will be available to view. Public will also be notified of the Appeal Period, and procedure.

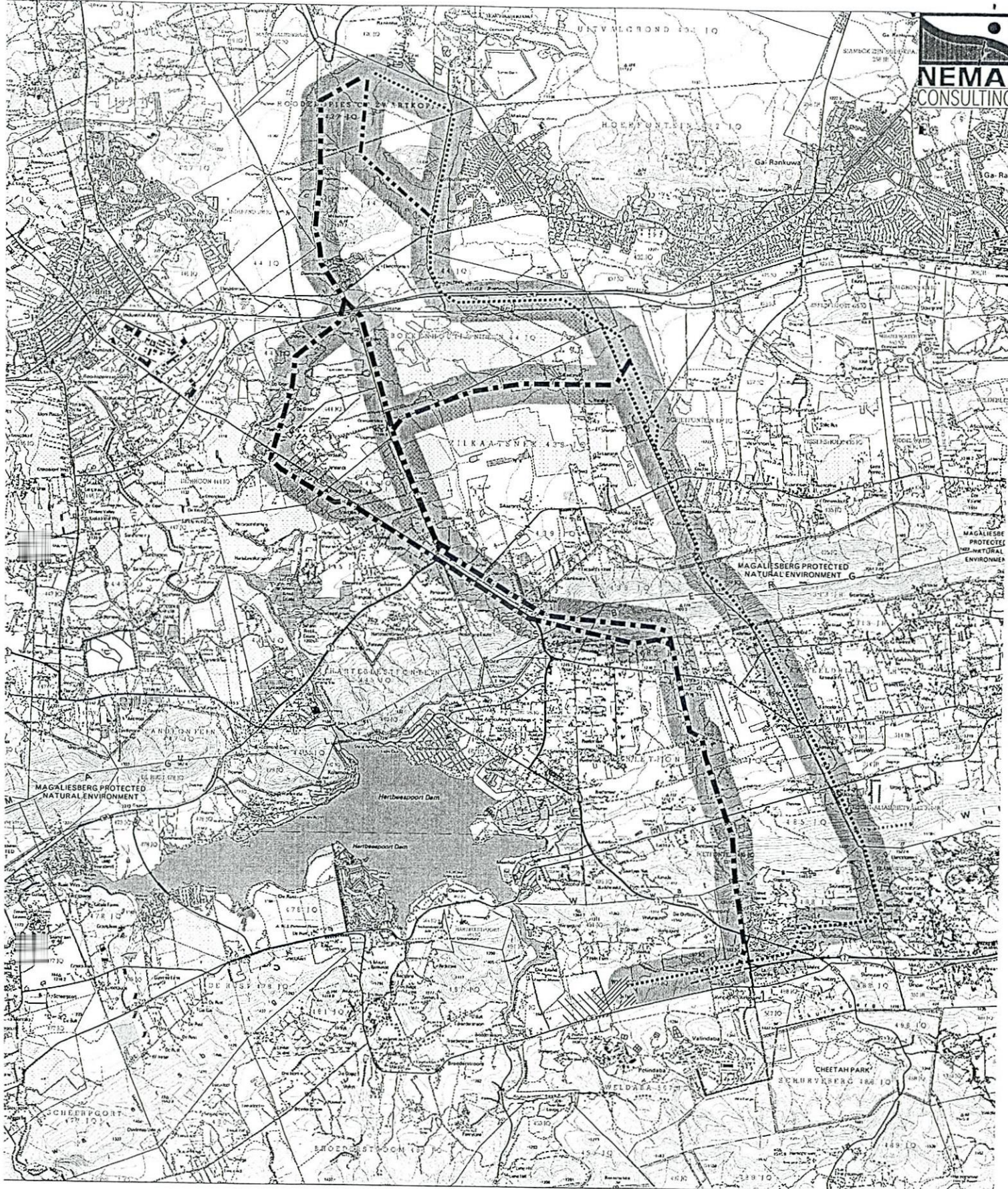
Relevant Authorities

The authority responsible for the approval of the proposed developments includes:

- ❖ Department of Environmental Affairs;

Commentary Authorities Include:

- ❖ Gauteng and North West Provincial Heritage Resources Agencies;
- ❖ The Department of Water Affairs;
- ❖ The National Department of Agriculture;
- ❖ The relevant local municipalities.



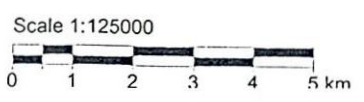
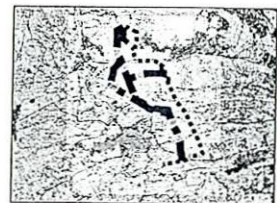
Project Name:
Anderson - Dinaledi

Map Name:
Powerline and Substation location

Date:
04 October 2010

Legend

- Central Route Alternative
- - - Eastern Route Alternative
- - - Eastern Route Alternative - Alternative Deviation
- ▨ Western Route Alternative
- ▨ Western Route Alternative - Alternative Deviation 1
- ▨ Western Route Alternative - Alternative Deviation 2
- ▨ Western Route Alt Dev 3 - 1km Study Area
- ▨ Western Route Alt Dev 3
- Site 1 (A-C)
- Site 2 (A-D)





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Reply Form:

Proposed Construction of the Anderson-Dinaledi 400kV Powerline between the Anderson and Dinaledi Substations, and the Anderson 400kV Substation in Broederstroom

DEA Ref No: 12/12/20/1567 & 12/12/20/1568

(Complete and return to/Voltooi en stuur aan: Sonja van Eden. This form should be returned no later than the 17th of November 2010)

Date/Datum				Official use	
Name of organisation/ Naam van organisasie				Date received:	
Name of Interested and Affected Party/ Naam van Belangstellende Party				Our reference:	
Address/ Adres	Postal/ Pos:		Physical/Fisies:		Status
Tel No					
Fax/Faks No:					
Email/Epos:					
Registration as an I&AP/ Registrasie as 'n Belangstellende Party				YES/ JA NO/NEE	
Comments/Opmmerkings:					
Any other person/s who you think should be notified of this proposed project:					

PROJECT DESCRIPTION AND BACKGROUND

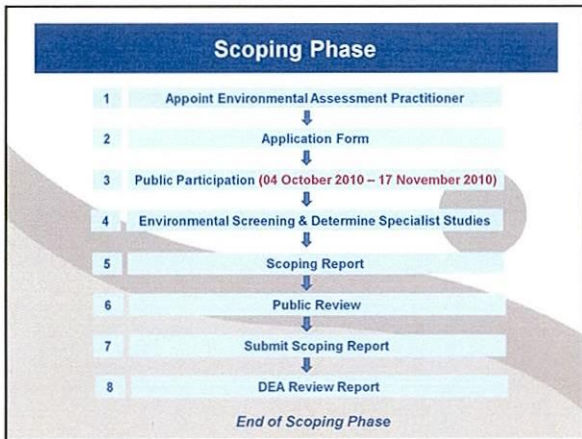
WHEN WILL THIS PROJECT TAKE PLACE

Activity	Expected Dates
Environmental Authorization	June 2011
Final design	July 2011
Landowner Negotiations	August 2011
Commissioning of Tenders	September 2011
Construction Commences	October 2011
Environmental Control Auditing	October 2011
Occupational Health and Safety Auditing	October 2011

Environmental Authorisation

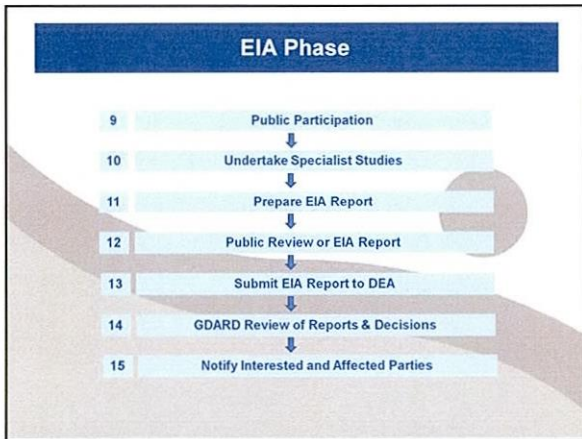
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- Substation:** Activities from R386 which will be triggered include Activities 1(k), 1(p), 7, 12, 14, and 15. Activities from R387 which be triggered includes Activities 1(a), and 1(l). In terms of the activities under R387 the proposed substation is subject to a Scoping and EIA Procedure, which entails the following:
- Powerline:** Activities from R386 which will be triggered include Activities 1(m), 1(p), 7, 12, 14, 15, and 20. Activities from R387 which be triggered includes Activities 1(l), 2 and 5. In terms of the activities under R387 the proposed development is subject to a Scoping and EIA Procedure, which entails the following:

ENVIRONMENTAL AUTHORISATION - NEMAI



RELEVANT LEGISLATION

- National Environmental Management Act (Act 107 of 1998)
- Environmental Impact Assessment Regulations, 21 April 2006
- Environmental Conservation Act (Act 73 of 1989)
- Environment Conservation Act, 1989 (ACT No. 73 Of 1989), Section 16 (2): Magaliesberg Protected Natural Environment
- National Water Act (Act 36 of 1998)
- National Heritage Resources Act (Act 25 of 1999)
- National Environmental Management: Biodiversity Act (Act 10 of 2004)
- National Environmental Management: Protected Areas Act (Act 57 of 2003)
- The National Veld and Forest Act (Act 101 of 1998)
- The Gauteng Ridges Guideline Policy
- Environmental Management Framework for the Magaliesberg Protected Environment, 2009



SCOPING PROCESS TO DATE

- 1 **Appoint Environmental Assessment Practitioner**
 - ✓ Eskom Appointed Nema Consulting
- 2 **Application Form**
 - ✓ EIA Application Forms Submitted to DEA on 31/07/2009
 - ✓ DEA Issued Reference Numbers on 30/07/2009
- 3 **Public Participation**
 - ✓ Meetings was held with various mines (September 2009) and representatives from the Magaliesberg Protected Natural Environment (MPNE) (July 2009)
 - ✓ Placing of Advertisements in Local and Regional Newspapers
 - ✓ The Star – 06/10/2009
 - ✓ The Beeld – 07/10/2009
 - ✓ Kormorant - 07/10/2010
 - ✓ Placing of Site Notices from 05/10/2010-12/10/2010

SCOPING PROCESS TO DATE

- 4 **Environmental Screening & Determine Specialist Studies**

Sensitive Environmental Feature	Recommended Specialist Study
Various Watercourses Located along proposed study corridors	WUL may be required (SS & TL); Wetland Delineation (SS & TL); Floodline Delineation (SS)
Vegetation	Vegetation Assessment (SS & TL)
Vultures	Avifaunal Assessment (SS & TL)
MPNE	Various (TL)

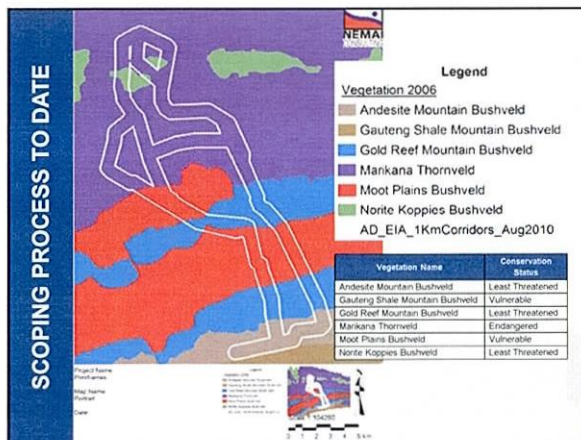
Other Specialist Studies

- Geological and Geotechnical Investigation (SS)
- Visual Impact Assessment (SS and TL)
- Heritage Impact Assessment (SS and TL)
- Faunal Assessment (SS & TL)
- Electro Magnetic Study (Results from previous studies to be considered)
- Social Impact Assessment (SS & TL)
- Economic Assessment (SS & TL)

SCOPING PROCESS TO DATE

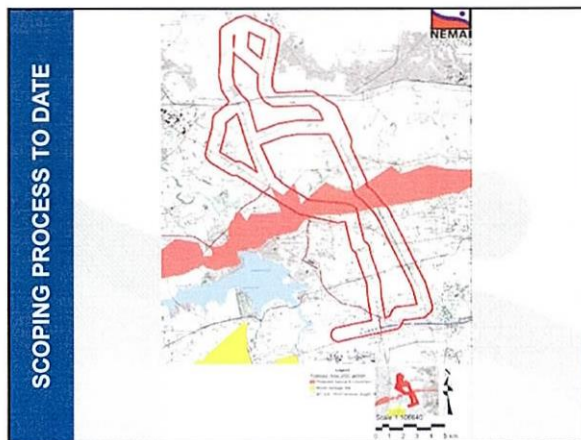
- 3 **Public Participation**

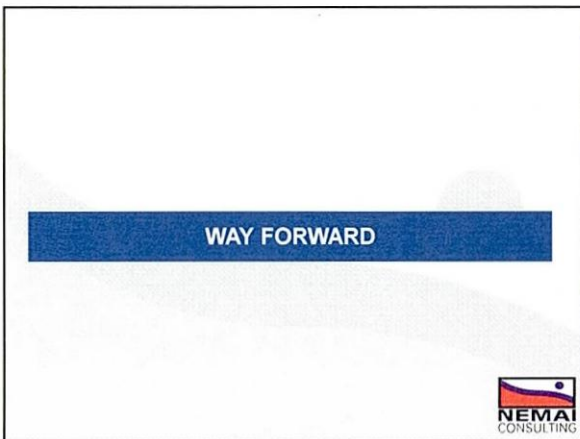
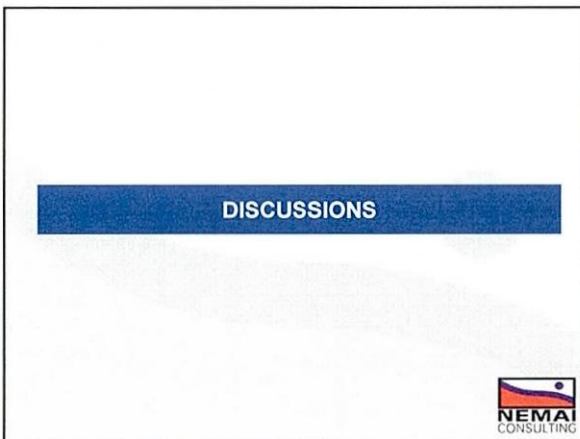
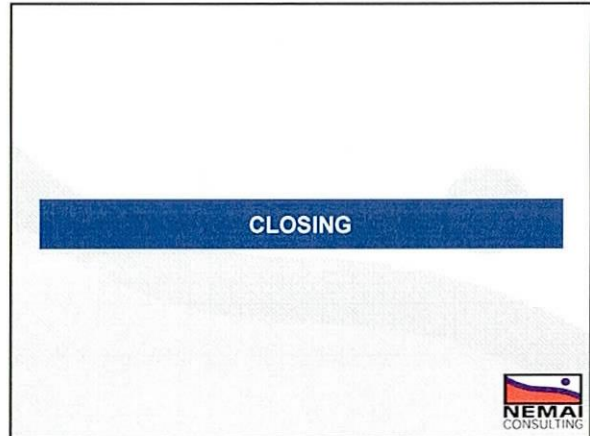
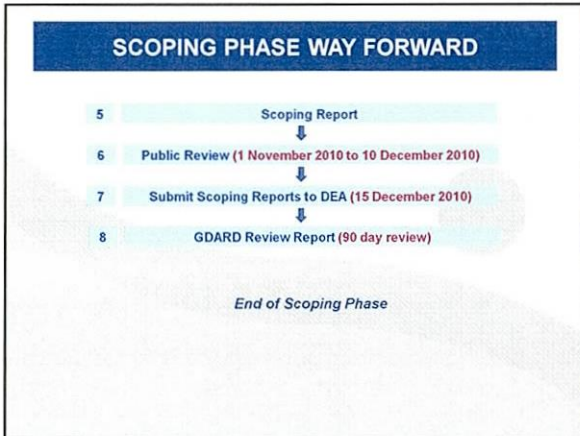
- ✓ Distributing of Background Information Documents to all land owners directly affected by the proposed centre line and substation: 05/10/2010-12/10/2010
- ✓ Placing of flyers in post boxes:
 - ✓ Hartbeespoort Post Office (1005 post boxes) – 12/10/2009;
 - ✓ Brits Post Office (3000 post boxes) – 12/10/2010; and
 - ✓ Broederstroom Post Office (920 post boxes) – 12/10/2010.

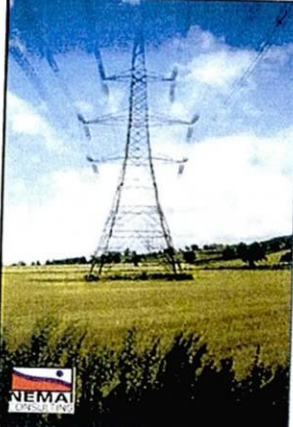


SCOPING PROCESS TO DATE

- 3.1 **Authority Consultation**
 - ✓ City of Tshwane: Environmental Department
 - ✓ City of Tshwane: Town Planning Department
 - ✓ Madibeng Local Municipality: Environmental Department
 - ✓ Madibeng Local Municipality: Town Planning Department
 - ✓ Department of Water Affairs
 - ✓ Provincial Heritage Resources Agency – Gauteng
 - ✓ North West Provincial Heritage Resources Authority
 - ✓ Department of Minerals and Energy
- 3.1 **Key Stakeholder Consultation**
 - ✓ Prof Gerhard Verdoorn (Vulture Nesting Areas)
 - ✓ Magaliesberg Protection Association
 - ✓ Hartbeespoort Environment & Heritage Association
 - ✓ Various Mines









TSHWANE STRENGTHENING SCHEME

PROJECTS:
ANDERSON DINALEDI 400kV POWERLINE
DEA REF NO: 12/12/20/1567

&

ANDERSON 400kV SUBSTATION AND ASSOCIATED SECONDARY INFRASTRUCTURE
DEA REF NO: 12/12/20/1568

Public Meeting:
Monday, 18 October 2010

DISCUSSION ITEMS

1. Welcome and Introduction - **Nemai**
2. Electricity Generation / Transmission / Distribution – **Nemai/Eskom**
3. Project Description, Background and Motivation - **Nemai/Eskom**
4. Environmental Authorisation – **Nemai**
5. Project Progress to Date - **Nemai**
6. Discussions - **All**
7. Way Forward - **Nemai/Eskom**
8. Closing - **Nemai**

WELCOME & INTRODUCTION

- PURPOSE OF MEETING
- PROJECT TEAM

Facilitator	Proponent
Salomon Pienaar 	Archibold Makghakhonyane: Eskom Land and Rights 
Environmental Assessment Practitioner Sonja van Eden 	Lucia Chauke: Eskom Land and Rights 
	Solomon Tsolo: Eskom Land and Rights 
	Tinny Makaringe Eskom Land and Rightst 

ELECTRICITY GENERATION/TRANSMISSION/DISTRIBUTION


- BACKGROUND
 - Eskom Generates, supplied and distributes electricity via a network called a "Grid";
 - The amount of electricity being fed into the grid must always match what the customers are taking out. *(This varies not just from day to day, but from minute to minute);*
 - As electricity demand increases, more power stations and substations (transmission and distribution) must be brought into play;
 - Electricity supply should be consistent and reliable – therefore "a quality product", as much of the electricity and electronic equipment we use depends on voltage and frequency remaining accurate and constant.

RULES OF THE MEETING

- QUESTIONS TO RELATE TO PROJECT AT HAND
- OPPORTUNITIES FOR SEEKING CLARIFICATION AT END OF PRESENTATIONS
- ADDRESS PROJECT TEAM THROUGH FACILITATOR
- IDENTIFY YOURSELF BEFORE ASKING A QUESTION
- CELL PHONES OFF, PLEASE
- PLEASE SIGN THE ATTENDANCE REGISTER



ELECTRICITY GENERATION/TRANSMISSION/DISTRIBUTION

- ELECTRICITY GENERATION
 - Eskom produces electricity at power stations;
 - Most of the power stations in South Africa are grouped near coal mines in Mpumalanga and the Northern Province. *(This is not where most of the electricity is used, however The big "load" centres are in places like Gauteng, the Western Cape and Kwa-Zulu/Natal)*




ELECTRICITY GENERATION/TRANSMISSION/DISTRIBUTION

- ❑ **ELECTRICITY TRANSMISSION**
 - Electricity is then sent from the power stations to the load centres in via high voltage power lines;
 - As electricity leaves the power station, the electricity is boosted by a step-up transformer to voltages such as 132 000 volts (132 kV) or 400 kV or 765 kV;


PROJECT DESCRIPTION AND BACKGROUND

- ❑ **WHAT DOES THE PROJECT INVOLVE:**
 - Eskom Holdings Limited is proposing the construction of a new 400kV Transmission Line, and a proposed new 400kV Substation as part of their Tshwane Strengthening Scheme Project



ELECTRICITY GENERATION/TRANSMISSION/DISTRIBUTION

- ❑ **ELECTRICITY DISTRIBUTION**
 - When the electricity reaches its destination (which is a substation near a load centre), it is "stepped down" to voltages used for distribution to customers



PROJECT DESCRIPTION AND BACKGROUND

- ❑ **WHERE WILL THIS PROJECT TAKE PLACE**
 - Proposed Powerline
 - ✓ The proposed powerline will be approximately 40km in length;
 - ✓ Will run between the proposed new Anderson Substation, which will be located to the north of NECSA, located in Broederstroom, to the existing Dinaledi Substation which is located approximately 8km North East of Brits;
 - ✓ The proposed powerline will be constructed in the following two Municipal Areas: Madibeng Local Municipality (North West) and the City of Tshwane Local Municipality (Gauteng);
 - ✓ Two main route alternative each with a 1km study area and proposed deviations are being considered.

PROJECT DESCRIPTION AND BACKGROUND

- ❑ **WHAT DOES THE PROJECT INVOLVE**
- ❑ **WHERE WILL THIS PROJECT TAKE PLACE**
- ❑ **WHAT WILL THE PROPOSED FOOTPRINT BE**
- ❑ **HOW WILL ACCESS BE OBTAINED**
- ❑ **WHY IS THIS PROJECT NECESSARY**
- ❑ **HOW WILL THIS PROJECT BE UNDERTAKEN**
- ❑ **WHEN WILL THIS PROJECT TAKE PLACE**

PROJECT DESCRIPTION AND BACKGROUND

- ❑ **WHERE WILL THIS PROJECT TAKE PLACE**
 - Proposed Substation
 - ✓ The proposed substation is earmarked for construction within the Madibeng Local Municipality. Two site alternatives (Site A and Site B) have been identified based on Geotechnical Suitability and will be investigated during the Scoping and EIA Phases;
 - ✓ These two sites are located on the following properties:

Site 1 is located on:
Portion 82 of the Farm Weldaba 567 JQ

Site 2 is located on:
 ✓ Portion 82 of the Farm Weldaba 567 JQ;
 ✓ Portion 65 of the Farm Welgedund 491 JQ; and
 ✓ Portion 25 of the Farm Welgedund 491 JQ.

PROJECT DESCRIPTION AND BACKGROUND

WHERE WILL THIS PROJECT TAKE PLACE

- Proposed Substation (Continue)

Scale 1:25000
0 0.4 0.8 km

PROJECT DESCRIPTION AND BACKGROUND

WHAT WILL THE PROPOSED FOOTPRINT BE:

- Proposed 400kV Substation and Associated Secondary Infrastructure
 - The footprint of the proposed substation will be 600m x 600m;
 - It will include the construction of several loop-in and loop-out lines;
 - The exact location of the proposed loop-in and loop-out lines will only be available once the exact location of the proposed substation has been determined, as the location of the loop-in and loop-out lines are dependent on the location of the feeder bays.
 - A Safety area of 1km² is required around the substation within which no development may take place.

HOW WILL ACCESS BE OBTAINED:

- Substation: Access to the proposed substation will be obtained via the existing Farm access road / Through the construction of an Eskom maintenance road;
- Powerline: Access to the proposed powerline will be obtained via existing main roads, farm roads and the Eskom maintenance road to be constructed within the 55m servitude area.

PROJECT DESCRIPTION AND BACKGROUND

WHAT WILL THE PROPOSED FOOTPRINT BE (Construction details):

- Proposed 400kV Powerline
 - The proposed powerline requires a servitude width of 55m (27.5m on either side of the powerline);
 - On a terrain with a generally flat topography a powerline can span over a maximum distance of 460m (therefore generally pylons are spaced 460m apart, depending on the location of the bend points, topography and sensitive areas);
 - Type of Pylon used is dependent on:
 - Bend points; and
 - Topography.

PROJECT DESCRIPTION AND BACKGROUND

WHY IS THIS PROJECT NECESSARY

- The construction of the proposed 400kV Powerline, as well as the proposed 400kV Substation is required as part of the Tshwane Strengthening Scheme in order to strengthen the existing Grid to ensure a constant and reliable electricity supply to the consumer.

PROJECT DESCRIPTION AND BACKGROUND

WHAT WILL THE PROPOSED FOOTPRINT BE (Construction details):

- Proposed 400kV Powerline

Steel Tower Lines
China Wood suspension Lines
400kV Guyed V Tower structures

PROJECT DESCRIPTION AND BACKGROUND

HOW WILL THIS PROJECT BE UNDERTAKEN

- Identification of requirements to strengthen the existing grid by Eskom Grid Planning;
- Identified of a proposed solution (Tshwane Strengthening Scheme);
- Desktop demarcation of the proposed new Transmission Powerline and Substation;
- Field verification and final proposed demarcation of proposed new Transmission Powerline and Substation;
- Environmental Authorization Application (Approval to be Obtained)
- Detailed design of proposed powerline and substation;
- Negotiations with affected landowners
- Commissioning of Tenders
- Construction Commences
- Environmental Control Auditing
- Occupational Health and Safety Auditing

PROJECT DESCRIPTION AND BACKGROUND

WHEN WILL THIS PROJECT TAKE PLACE

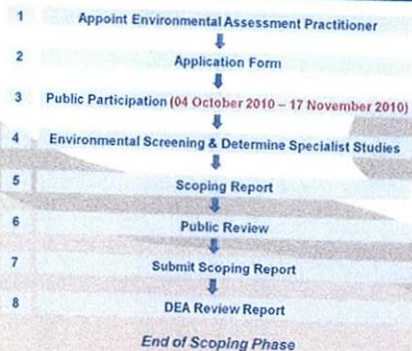
Activity	Expected Dates
Environmental Authorization	June 2011
Final design	July 2011
Landowner Negotiations	August 2011
Commissioning of Tenders	September 2011
Construction Commences	October 2011
Environmental Control Auditing	October 2011
Occupational Health and Safety Auditing	October 2011

Environmental Authorisation

- The Environmental Impact Assessment (EIA) Regulations, 2006, promulgated in terms of Section 24(5) of the National Environmental Management Act (NEMA), Act 107 of 1998 are divided into two Schedules, R 386 and R 387. Schedule R386 defines activities which will trigger the need for a Basic Assessment and R 387 defines activities which trigger an Environmental Impact Assessment (EIA) process. If activities from both schedules are triggered, then an EIA process will be required.
- Substation:** Activities from R386 which will be triggered include Activities 1(k), 1(p), 7, 12, 14, and 15. Activities from R387 which be triggered includes Activities 1(a), and 1(l). In terms of the activities under R387 the proposed substation is subject to a Scoping and EIA Procedure, which entails the following:
- Powerline:** Activities from R386 which will be triggered include Activities 1(m), 1(p), 7, 12, 14, 15, and 20. Activities from R387 which be triggered includes Activities 1(l), 2 and 5. In terms of the activities under R387 the proposed development is subject to a Scoping and EIA Procedure, which entails the following:

ENVIRONMENTAL AUTHORISATION - NEMA

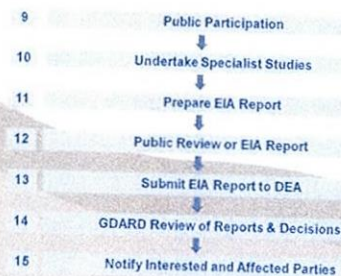
Scoping Phase



RELEVANT LEGISLATION

- National Environmental Management Act (Act 107 of 1998)
- Environmental Impact Assessment Regulations, 21 April 2006
- Environmental Conservation Act (Act 73 of 1989)
- Environment Conservation Act, 1989 (ACT No. 73 Of 1989), Section 16 (2): Magaliesberg Protected Natural Environment
- National Water Act (Act 36 of 1998)
- National Heritage Resources Act (Act 25 of 1999)
- National Environmental Management: Biodiversity Act (Act 10 of 2004)
- National Environmental Management: Protected Areas Act (Act 57 of 2003)
- The National Veld and Forest Act (Act 101 of 1998)
- The Gauteng Ridges Guideline Policy
- Environmental Management Framework for the Magaliesberg Protected Environment, 2009

EIA Phase



SCOPING PROCESS TO DATE

- 1 **Appoint Environmental Assessment Practitioner**
 - ✓ Eskom Appointed Nema Consulting
- 2 **Application Form**
 - ✓ EIA Application Forms Submitted to DEA on 31/07/2009
 - ✓ DEA Issued Reference Numbers on 30/07/2009
- 3 **Public Participation**
 - ✓ Meetings was held with various mines (September 2009) and representatives from the Magaliesberg Protected Natural Environment (MPNE) (July 2009)
 - ✓ Placing of Advertisements in Local and Regional Newspapers
 - ✓ The Star – 06/10/2009
 - ✓ The Beeld – 07/10/2009
 - ✓ Kormorant - 07/10/2010
 - ✓ Placing of Site Notices from 05/10/2010-12/10/2010

SCOPING PROCESS TO DATE

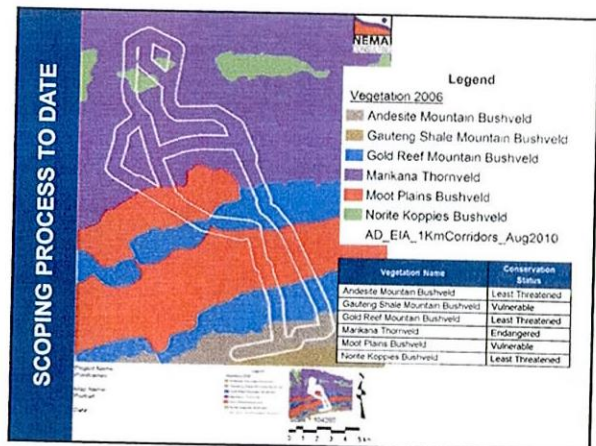
- 4 **Environmental Screening & Determine Specialist Studies**

Sensitive Environmental Feature	Recommended Specialist Study
Various Watercourses Located along proposed study corridors	WUL may be required (SS & TL); Wetland Delineation (SS & TL); Floodline Delineation (SS)
Vegetation	Vegetation Assessment (SS & TL)
Vultures	Avifaunal Assessment (SS & TL)
MPNE	Various (TL)

Other Specialist Studies
Geological and Geotechnical Investigation (SS)
Visual Impact Assessment (SS and TL)
Heritage Impact Assessment (SS and TL)
Faunal Assessment (SS & TL)
Electro Magnetic Study (Results from previous studies to be considered)
Social Impact Assessment (SS & TL)
Economic Assessment (SS & TL)

SCOPING PROCESS TO DATE

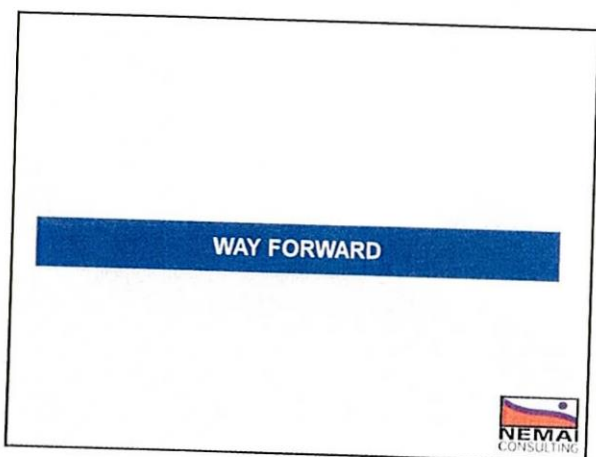
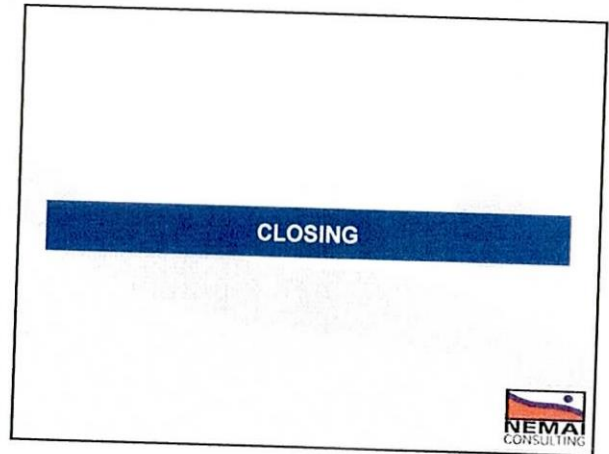
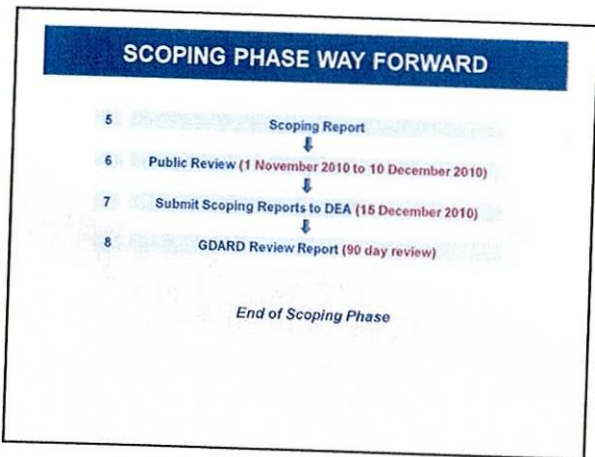
- 3 **Public Participation**
 - ✓ Distributing of Background Information Documents to all land owners directly affected by the proposed centre line and substation: 05/10/2010-12/10/2010
 - ✓ Placing of flyers in post boxes:
 - ✓ Hartbeespoort Post Office (1005 post boxes) – 12/10/2009;
 - ✓ Brits Post Office (3000 post boxes) – 12/10/2010; and
 - ✓ Broederstroom Post Office (920 post boxes) – 12/10/2010.

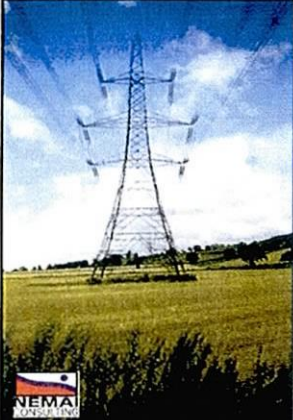


SCOPING PROCESS TO DATE

- 3.1 **Authority Consultation**
 - ✓ City of Tshwane: Environmental Department
 - ✓ City of Tshwane: Town Planning Department
 - ✓ Madibeng Local Municipality: Environmental Department
 - ✓ Madibeng Local Municipality: Town Planning Department
 - ✓ Department of Water Affairs
 - ✓ Provincial Heritage Resources Agency – Gauteng
 - ✓ North West Provincial Heritage Resources Authority
 - ✓ Department of Minerals and Energy
- 3.1 **Key Stakeholder Consultation**
 - ✓ Prof Gerhard Verdoorn (Vulture Nesting Areas)
 - ✓ Magaliesberg Protection Association
 - ✓ Hartbeespoort Environment & Heritage Association
 - ✓ Various Mines









TSHWANE STRENGTHENING SCHEME

PROJECTS:
ANDERSON DINALEDI 400KV POWERLINE
 DEA REF NO: 12/12/20/1567

&

ANDERSON 400KV SUBSTATION AND ASSOCIATED SECONDARY INFRASTRUCTURE
 DEA REF NO: 12/12/20/1568

Public Meeting:
 Monday, 18 October 2010

DISCUSSION ITEMS

1. Welcome and Introduction - **Nemai**
2. Electricity Generation / Transmission / Distribution – **Nemai/Eskom**
3. Project Description, Background and Motivation - **Nemai/Eskom**
4. Environmental Authorisation – **Nemai**
5. Project Progress to Date - **Nemai**
6. Discussions - **All**
7. Way Forward - **Nemai/Eskom**
8. Closing - **Nemai**

WELCOME & INTRODUCTION

PURPOSE OF MEETING

PROJECT TEAM

Facilitator		Proponent	
Salomon Pienaar		Archibold Makghakhonyane: Eskom Land and Rights	
		Lucia Chauke: Eskom Land and Rights	
		Solomon Tsolo: Eskom Land and Rights	
		Tinny Makaringe Eskom Land and Righthst	
Environmental Assessment Practitioner			
Sonja van Eden			

ELECTRICITY GENERATION/TRANSMISSION/DISTRIBUTION

BACKGROUND

- Eskom Generates, supplied and distributes electricity via a network called a "Grid";
- The amount of electricity being fed into the grid must always match what the customers are taking out. *(This varies not just from day to day, but from minute to minute);*
- As electricity demand increases, more power stations and substations (transmission and distribution) must be brought into play;
- Electricity supply should be consistent and reliable – therefore "a quality product", as much of the electricity and electronic equipment we use depends on voltage and frequency remaining accurate and constant.


RULES OF THE MEETING

- QUESTIONS TO RELATE TO PROJECT AT HAND
- OPPORTUNITIES FOR SEEKING CLARIFICATION AT END OF PRESENTATIONS
- ADDRESS PROJECT TEAM THROUGH FACILITATOR
- IDENTIFY YOURSELF BEFORE ASKING A QUESTION
- CELL PHONES OFF, PLEASE
- PLEASE SIGN THE ATTENDANCE REGISTER

ELECTRICITY GENERATION/TRANSMISSION/DISTRIBUTION



ELECTRICITY GENERATION

- Eskom produces electricity at power stations;
- Most of the power stations in South Africa are grouped near coal mines in Mpumalanga and the Northern Province. *(This is not where most of the electricity is used, however. The big "load" centres are in places like Gauteng, the Western Cape and Kwa-Zulu Natal)*




ELECTRICITY GENERATION/TRANSMISSION/DISTRIBUTION

- ❑ **ELECTRICITY TRANSMISSION**
 - Electricity is then sent from the power stations to the load centres in via high voltage power lines;
 - As electricity leaves the power station, the electricity is boosted by a step-up transformer to voltages such as 132 000 volts (132 kV) or 400 kV or 765 kV;

PROJECT DESCRIPTION AND BACKGROUND


- ❑ **WHAT DOES THE PROJECT INVOLVE:**
 - Eskom Holdings Limited is proposing the construction of a new 400kV Transmission Line, and a proposed new 400kV Substation as part of their Tshwane Strengthening Scheme Project



Project Name: [unclear]
Client: [unclear]
Map Name: [unclear]
Date: [unclear]
[unclear]

ELECTRICITY GENERATION/TRANSMISSION/DISTRIBUTION

- ❑ **ELECTRICITY DISTRIBUTION**
 - When the electricity reaches its destination (which is a substation near a load centre), it is "stepped down" to voltages used for distribution to customers



PROJECT DESCRIPTION AND BACKGROUND

- ❑ **WHERE WILL THIS PROJECT TAKE PLACE**
 - Proposed Powerline
 - ✓ The proposed powerline will be approximately 40km in length;
 - ✓ Will run between the proposed new Anderson Substation, which will be located to the north of NECSA, located in Broederstroom, to the existing Dinaledi Substation which is located approximately 8km North East of Brits;
 - ✓ The proposed powerline will be constructed in the following two Municipal Areas: Madibeng Local Municipality (North West) and the City of Tshwane Local Municipality (Gauteng);
 - ✓ Two main route alternative each with a 1km study area and proposed deviations are being considered.

PROJECT DESCRIPTION AND BACKGROUND

- ❑ **WHAT DOES THE PROJECT INVOLVE**
- ❑ **WHERE WILL THIS PROJECT TAKE PLACE**
- ❑ **WHAT WILL THE PROPOSED FOOTPRINT BE**
- ❑ **HOW WILL ACCESS BE OBTAINED**
- ❑ **WHY IS THIS PROJECT NECESSARY**
- ❑ **HOW WILL THIS PROJECT BE UNDERTAKEN**
- ❑ **WHEN WILL THIS PROJECT TAKE PLACE**

PROJECT DESCRIPTION AND BACKGROUND

- ❑ **WHERE WILL THIS PROJECT TAKE PLACE**
 - Proposed Substation
 - ✓ The proposed substation is earmarked for construction within the Madibeng Local Municipality. Two site alternatives (Site A and Site B) have been identified based on Geotechnical Suitability and will be investigated during the Scoping and EIA Phases;
 - ✓ These two sites are located on the following properties:

<p><u>Site 1 is located on:</u> Portion 82 of the Farm Welidaba 567 JQ</p>	<p><u>Site 2 is located on:</u> ✓ Portion 82 of the Farm Welidaba 567 JQ; ✓ Portion 65 of the Farm Welgedund 491 JQ; and ✓ Portion 25 of the Farm Welgedund 491 JQ.</p>
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PROJECT DESCRIPTION AND BACKGROUND

❑ WHERE WILL THIS PROJECT TAKE PLACE

- Proposed Substation (Continue)

Scale: 1:25870
0 0.4 0.8 km

PROJECT DESCRIPTION AND BACKGROUND

❑ WHAT WILL THE PROPOSED FOOTPRINT BE:

- Proposed 400kV Substation and Associated Secondary Infrastructure
 - ✓ The footprint of the proposed substation will be 600m x 600m;
 - ✓ It will include the construction of several loop-in and loop-out lines;
 - ✓ The exact location of the proposed loop-in and loop-out lines will only be available once the exact location of the proposed substation has been determined, as the location of the loop-in and loop-out lines are dependent on the location of the feeder bays.
 - ✓ A Safety area of 1km² is required around the substation within which no development may take place.

❑ HOW WILL ACCESS BE OBTAINED:

- Substation: Access to the proposed substation will be obtained via the existing Farm access road / Through the construction of an Eskom maintenance road;
- Powerline: Access to the proposed powerline will be obtained via existing main roads, farm roads and the Eskom maintenance road to be constructed within the 55m servitude area.

PROJECT DESCRIPTION AND BACKGROUND

❑ WHAT WILL THE PROPOSED FOOTPRINT BE (Construction details):

- Proposed 400kV Powerline
 - ✓ The proposed powerline requires a servitude width of 55m (27.5m on either side of the powerline);
 - ✓ On a terrain with a generally flat topography a powerline can span over a maximum distance of 460m (therefore generally pylons are spaced 460m apart, depending on the location of the bend points, topography and sensitive areas);
 - ✓ Type of Pylon used is dependent on:
 - ✓ Bend points; and
 - ✓ Topography.

PROJECT DESCRIPTION AND BACKGROUND

❑ WHY IS THIS PROJECT NECESSARY

- The construction of the proposed 400kV Powerline, as well as the proposed 400kV Substation is required as part of the Tshwane Strengthening Scheme in order to strengthen the existing Grid to ensure a constant and reliable electricity supply to the consumer.

PROJECT DESCRIPTION AND BACKGROUND

❑ WHAT WILL THE PROPOSED FOOTPRINT BE (Construction details):

- Proposed 400kV Powerline

Steel Tower Lines
Crane Ridge Suspension Lines
400kV Guyed V Tower Structures

PROJECT DESCRIPTION AND BACKGROUND

❑ HOW WILL THIS PROJECT BE UNDERTAKEN

- Identification of requirements to strengthen the existing grid by Eskom Grid Planning;
- Identified a proposed solution (Tshwane Strengthening Scheme);
- Desktop demarcation of the proposed new Transmission Powerline and Substation;
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