

2013

DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED DECOMMISSIONING OF VERWOEDSBURG 275kV SUBSTATION AND 2X 275kV VERWOEDSBURG APOLLO POWER LINES

**DEA REF: 14/12/16/3/3/1/1015
31 October 2013**



BASIC ASSESSMENT REPORT



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(For official use only)

File Reference Number:

Application Number:

Date Received:

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **1 September 2012**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.
14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.

15. Shape files (.shp) for maps must be included on the electronic copy of the report submitted to the competent authority.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

YES	NO
✓	

If YES, please complete the form entitled “Details of specialist and declaration of interest” for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

Eskom Holdings SOC Limited (herein referred as to Eskom) intends to decommission and demolish, the existing 275kV Verwoedburg substation and 2 x 275 kV Verwoedburg Apollo lines. The primary purpose of the proposed activity is to make way for the construction of the new 400/132kV, 2 x 250MVA substation to integrate the existing Verwoedburg Main Transformer Substation (MTS) into the 400kV network as part of the Tshwane Strengthening.

In accordance with the requirements of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) and associated regulations, Eskom is in the process of applying for Environmental Authorisation (EA) from the competent authority for the proposed project through the undertaking of a Basic Assessment process as prescribed in Chapter 3 of GNR. 543 of the EIA regulations, 2010.

The proposed activity is a listed activity under GN R. 544 of the EIA Regulations, 2010, Activity No.27 which dictates that a Basic Assessment is undertaken, with full consultation with the stakeholders, commenting authorities and Interested and Affected Parties (I&AP).

The Verwoedburg substation consists of 2 x 275/132kV, 125MVA transformers. The existing 275kV transformers and their respective feeders will be decommissioned once the station is running on the 400kV supply. The Scope covers the decommissioning and demolition of the existing Verwoedburg 275/132kV Substation and 2x275kV line , which primarily includes::

- Removal of all above-ground structures and components.
- Removal of some below-ground structures and components.
- Covering of excavations.

The decommissioning and demolishing activities will take place at the

- 132kV yard
- 275kV yard;
- Common yard; and
- The 2 x 275kV Verwoedburg Apollo lines.

The activities will primarily entail the dismantling of conductors, steelworks support and demolishing of foundations as indicated in Table 1 below.

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Table 1: List of Activities associated with the proposed project

Area	Activities
132kV yard	<p>The following equipment are to be decommissioned and dismantled:</p> <ul style="list-style-type: none"> • 2 x 132kV Isolators. • 2 x 132kV Circuit Breakers. • 6 x 132kV Current Transformers. • 6 x 132kV Voltage Transformers. • 6 x 132kV Surge Arrestors. <p>Dismantling of the following steelwork support:</p> <ul style="list-style-type: none"> • 2 x 132kV Isolators. • 2 x 132kV Circuit Breakers. • 6 x 132kV Current Transformers. • 6 x 132kV Voltage Transformers. • 6 x 132kV Surge Arrestor. • 3 x Column. • 2 x Beam. • 3 x Earthwire. <p>Demolishing the following foundations:</p> <ul style="list-style-type: none"> • 2 x 132kV Isolators. • 2 x 132kV Circuit Breakers. • 6 x 132kV Current Transformers. • 6 x 132kV Voltage Transformers. • 2 x Junction Boxes. • 1 x Plug Box. • 3 x Column.
275kV yard	<p>The following equipment are to be decommissioned and removed:</p> <ul style="list-style-type: none"> • 6 x 275kV Current Transformers. • 2 x 275kV Isolators. • 6 x 275kV Surge Arrestor. • 2 x 275kV Line Trap. • 6 x 275kV Capacitor Voltage Transformers. • 2 x 125MVA Transformers. • 2 x 315kVA Auxiliary Transformers. <p>The following steelwork supports are to be dismantled:</p> <ul style="list-style-type: none"> • 6 x 275kV Current Transformers. • 2 x 275kV Isolators. • 6 x 275kV Surge Arrestor. • 2 x 275kV Line Trap. • 6 x 275kV Capacitor Voltage

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	<p>Transformers.</p> <ul style="list-style-type: none"> • 2 x 315kVA Auxiliary Transformers. • 2 x Label Support. • 3 x Column. • 2 x Beam. • 3 x Earthwire Peak. • <p>The following foundations are to be demolished:</p> <ul style="list-style-type: none"> • 2 x 132kV Isolators. • 2 x 132kV Circuit Breakers. • 6 x 132kV Current Transformers. • 6 x 132kV Voltage Transformers. • 2 x Junction Boxes. • 1 x Plug Box. • 3 x Column. •
Common yard	<ul style="list-style-type: none"> • Dismantle the 1000m of Bull conductor. • Dismantle the 20m of Centipede conductor. • Dismantle the 30m of Hornet conductor. • Dismantle the 100m of Hare conductor. • Dismantle the 270 of Conventional Clamps. • Dismantle the existing fencing (54m x 46m).
2x275kV approximately 7km Apollo Verwoedburg lines	Dismantling of towers, wires and demolishing of foundations.

General Decommissioning will entail:

- All work to be done in accordance with SANS 1200.
- All foundations to be excavated completely.
- All excavations to be backfilled with clean sub-grade material.
- Earthmat to be left in place below ground.
- After decommissioning, the plant needs to be dismantled, disposed of and the site needs to be restored to acceptable standards.
- All decommissioned equipment must be packed in an area demarcated by the Grid.

The proposed project is located on the Farm Doornkloof 391 JR in the jurisdiction of the Tshwane Metropolitan Municipality in the Gauteng Province, South Africa. The site is along the M57 and is zoned and used as industrial.

A detailed locality map is Attached as Appendix A.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN R.544, 545 and 546	Description of project activity
Example:	

GN R.544 Item 11(3): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.	A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river
GN R.544 Item 27(ii): The decommissioning of existing facilities or infrastructure, for – electricity transmission and distribution with a threshold of more than 132kV.	The 275kV Verwoedburg substation and the 2 X 275kV Apollo lines will be decommissioned.

2. FEASIBLE AND REASONABLE ALTERNATIVES

“**alternatives**”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Regulation 22(2)(h) of GN R.543. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

The proposed activity will comprise the decommissioning of the existing substation and power lines located along the M57 road on the Farm Doornkloof 391 JR, in Doornkloof within the City of Tshwane Metropolitan Municipality. No location/site alternatives were investigated as this would not meet the general purpose and requirements of this application (i.e. to decommission the existing substation and

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power line). Therefore no feasible or reasonable site/property or location alternatives exist and no site alternatives were investigated.

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The proposed activity will comprise the decommissioning of existing substation and power lines located along the M57 road on the Farm Doornkloof 391 JR, in Doornkloof within the City of Tshwane Metropolitan Municipality.	25° 53' 40.74"	28° 14' 44.98"
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

The proposed project consist a substation and lines. The coordinates of the Verwoedburg Apollo 2 x 275kV line are provided below.

Alternative:	Latitude (S):	Longitude (E):
Alternative S1 (preferred)		
• Starting point of the activity	25° 53' 40.74"	28° 14' 44.98"
• Middle/Additional point of the activity	25° 54' 54.67"	28° 15' 02.02"
• End point of the activity	25° 55' 02.84"	28° 16' 23.75"
Alternative S2 (if any)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		
Alternative S3 (if any)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A.

b) Lay-out alternatives

Design and layout alternatives are not applicable as the general purpose of the application is the decommissioning of existing structures and infrastructure. The layout of the existing substation and line cannot be changed as it is already in place. No other layout alternatives have therefore been investigated for this application.

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Alternative 1 (preferred alternative)
<p>- The proposed project will entail the following:</p> <ul style="list-style-type: none"> Decommissioning and removal of transformers, circuit breakers, conductors and associated infrastructure from the 132kV and 275kV yards. Decommissioning and dismantling of the 2 x 275kV lines. Dismantling of conductors, conventional clamps and existing fence at the common yard. <p>Activities at the common yard will entail: Demolishing of the control building and excavation of foundations for both the substation and control building and removal from site.</p> <p>The foundations of the towers are approximately 2m deep, therefore, the demolishing of foundations will entail digging up to 0.8m deep and cutting the foundations. The cutting of the foundation is the preferred option as it has minimal impacts on the environment.</p>
Alternative 2
<p>The proposed project will entail the following:</p> <ul style="list-style-type: none"> Decommissioning and removal of transformers, circuit breakers, conductors and associated infrastructure from the 132kV and 275kV yard. Decommissioning and dismantling of the 2 x 275kV lines. Dismantling of conductors, conventional clamps and existing fence at the common yard. <p>Activities at the common yard will entail: Demolishing of the control building and unearthing the foundations for both substations and control building and removal from site.</p> <p>The foundations of the towers are approximately 2m deep, therefore, the demolishing of foundations will entail digging up to 2m and removing the entire foundation from the ground. This option will have more environmental challenges including the disturbance of the ecosystem below the surface which has already adapted to the presence of the structure. Additional impacts will include soil</p>

exposure to erosion, increased dust generation and impact on the aesthetic quality of the site.
Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)		
Alternative 2		
Alternative 3		

e) No-go alternative

In accordance with GN R543, consideration must be given to the option not to develop. This option is usually considered when the proposed development is envisaged to have such significant negative environmental impacts that mitigation measures cannot ameliorate the identified impacts effectively.

The no-go alternative would be the option of not undertaking the proposed decommissioning. The option of not decommissioning would result in the site not being able to be used for an alternative purpose which is to make way for the construction of new 400/132kV, 2 x 250MVA substation to integrate the existing Verwoedburg MTS into the 400kV network as part of the Tshwane Strengthening. It will further imply no improvement in reliability of electricity systems which would benefit electricity users in the various municipalities, the region and country at large. Should it be adopted the municipalities and communities will be deprived of a much needed essential service, particularly given the already existing problem with energy supply in the country.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:

- Alternative A1¹ (preferred activity alternative)
- Alternative A2 (if any)
- Alternative A3 (if any)

Size of the activity:

	1000m ²
	m ²
	m ²

or, for linear activities:

Alternative:

- Alternative A1 (preferred activity alternative)
- Alternative A2 (if any)
- Alternative A3 (if any)

Length of the activity:

	7km
	m
	m

¹ "Alternative A.." refer to activity, process, technology or other alternatives.

b) **Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):**

Alternative:

Alternative A1 (preferred activity alternative)
 Alternative A2 (if any)
 Alternative A3 (if any)

Size of the site/servitude:

	m ²
	m ²
	m ²

4. SITE ACCESS

Does ready access to the site exist?

YES ✓	NO
m	

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

Access to the site will be through the same routes that are currently used for maintenance purposes.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

A3 Locality Map attached as Appendix A

6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

A3 Layout plan is attached as Appendix A

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

Sensitivity map is attached as Appendix A.

8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

Site photographs are attached as Appendix B.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	YES ✓	NO	Please explain
The proposed project entails the demolition of an existing substation and power lines.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES ✓	NO	Please explain
The proposed demolition is part of the programme of increasing electricity the supply capacity as it will allow for improved infrastructure.			
(b) Urban edge / Edge of Built environment for the area	YES	NO	Please explain
N/A – the structures are already in place, therefore this proposal is for the decommissioning and demolition of such structures.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES	NO ✓	Please explain
The current IDP and SDF promote industrial development and very specific about supply of power in its clearly stated support of National and Provincial government's key projects. The CoT has as well embarked on an "Electricity for All" project which will clearly be supported by the proposed project.			
(d) Approved Structure Plan of the Municipality	YES	NO ✓	Please explain
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES ✓	NO	Please explain
The proposed decommissioning and demolition will have various environmental impacts, can and will be based on those as outlined in the Appendix F to an extent compromise the integrity of the EMF. However, the long term developmental and sustainability goals coupled with increased economic activity and overarching benefits to both the region and the country in terms of power supply, justifies the project.			
(f) Any other Plans (e.g. Guide Plan)	YES ✓	NO	Please explain
The proposed decommissioning and demolition of the existing substation and line is to make way for the construction of new 400/132kV, 2 x 250MVA substation which is part of the Tshwane strengthening project.			

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<p>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</p>	YES ✓	NO	Please explain
The proposed project is an energy supply related project which is priority for the municipality and the country at large.			
<p>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</p>	YES ✓	NO	Please explain
The decommissioning is needed to allow for the other project (Tshwane strengthening project) to take place.			
<p>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	YES ✓	NO	Please explain
The required services for the proposed demolition include primarily access roads which already exist. The roads that are currently used for maintenance will be used during the decommissioning phase.			
<p>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	YES ✓	NO	Please explain
The demolition of the existing Verwoedburg substation's structures and infrastructure as well as the power line is part of the Tshwane Strengthening project which fully supports the municipality energy supply initiatives. The proposed substation will connect to the Tshwane substation to strengthen the arm of electricity within the City of Tshwane Municipality and beyond. The proposed project is a much needed project as it will add support to form part of a link to strengthen the bulk supply network in areas. This project will allow for load growth and will improve reliability of supply as well as entrench the reach of electricity to the marginalised communities.			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	YES ✓	NO	Please explain
At the national level, the project would contribute to implementing South Africa's new energy policy as embodied in the White Paper on Energy (DME 1998). The priorities to which this project would contribute are laying the groundwork for promoting electrification and off-grid power supply.			

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8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES ✓	NO	Please explain
The activity will be far removed from formal residential settlements; therefore minimum impacts on communities can be expected. Other activities in proximity to the line include industrial and commercial properties.			
9. Is the development the best practicable environmental option for this land/site?	YES ✓	NO	Please explain
The proposed demolishing activities will be taking place on land that is zoned for industrial use and planned for industrial development.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES ✓	NO	Please explain
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO ✓	Please explain
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO ✓	Please explain
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO ✓	Please explain
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES ✓	NO	Please explain
The proposed project is an energy project.			

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15. What will the benefits be to society in general and to the local communities?	Please explain
<p>The proposed project is part of Eskom's planned Tshwane Strengthening project and furthermore a step towards supporting the City of Tshwane's Development Strategy with specific reference to "Developing the area".</p> <ul style="list-style-type: none"> • At the regional level, the project would contribute to reliability of power supply. There would also be a less tangible but nonetheless important benefit of positioning the municipality on the lead in terms of sustainable energy supply to its communities. • At the national level, the project would contribute to implementing South Africa's new energy policy as embodied in the White Paper on Energy (DME 1998). The priorities to which this project would contribute are laying the groundwork for promoting electrification and off-grid power supply. 	
16. Any other need and desirability considerations related to the proposed activity?	Please explain
<p>The new lines and extended substation will form part of the link to strengthen the Tshwane region supply network, hence the demolition of the existing small substation is needed to make provision for the larger and higher voltage substation.</p> <p>The proposed decommissioning will allow for expansion of the new substation and consequently improve the reliability of electricity supply which will benefit users in the region and the country at large, subsequently improving the economic status of the country. The beneficiaries of the proposed project will primarily be commercial, light industries and households in the region.</p>	
17. How does the project fit into the National Development Plan for 2030?	Please explain
<p>The proposed decommissioning of Verwoedburg to make way for a higher voltage substation is part of the 20 Year Bulk Electricity Master plans and the National Electrification Plan (IDP, 2011-2016, 72).</p>	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
<p>The general objectives of IEM have been taken into account by means of identifying, evaluating, and predicting the actual and potential impacts on the natural, cultural and social environment. The risks, consequences and mitigation measures have been considered with the aim to minimise the negative impacts, enhance the positive impacts and promote compliance with environmental management principles.</p>	
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.	
<p>The principles of NEMA have been considered in this assessment through compliance with the requirements of the applicable legislation. This BAR ensures that the impacts of the proposed activity on the environment are thoroughly and comprehensively assessed to ensure sustainability. Further successful implementation of this project will aid in minimising pollution and environmental degradation.</p> <p>The undertaking of the BAR has been transparent in approach and has as such involved interested and affected parties, landowners, organs of state and other key stakeholders, which will ensure that well informed decision be taken by the authority.</p>	

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
Republic of South Africa – Constitution, Act 108 of 1996	The Constitution of South Africa Act No. 108 of 1996 provides for an environmental right (contained in the Bill of Rights, Chapter 2). In terms of Section 7, the state has an obligation to respect, promote and fulfil the rights as defined in the Bill of Rights. The environmental right states that: “Everyone has the right - a) To an environment that is not polluted to the extent that is not detrimental to the enjoyment of life; b) To have the environment protected, for: • Prevent pollution and ecological degradation; • Promote conservation; and • Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.” The undertaking of the BAS is in line with the state’s obligations as outlined in the constitution in its effort to ensure sustainability.	National Government	1996
National Environmental Management Act, Act 107 of 1998 (as amended in 2009)	The overarching principles of sound environmental responsibility are reflected in the National Environmental Management Act (NEMA). The principles set out in the National Environmental Management Act, 1998 (Act No. 107 of 1998), hereafter referred to as NEMA, applies to all listed projects. Construction and operation have to be conducted in line with the generally accepted principles of sustainable development, integrating social, economic and environmental factors.	National & Provincial Government	1998
Environmental Impact Assessment Regulations – of June 2010		National & Provincial Government	2010
National Environmental Management: Biodiversity Act, Act 10 of 2004	The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa’s biodiversity within the framework of the NEMA and the protection of species and ecosystems that warrant national	National & Provincial Government	2004

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	<p>protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was developed. The diversity of ecological processes for the application sites was determined through the specialist studies conducted previously in the area. The specialist studies has identified sensitive areas within the study area that may need to be avoided and further proposed mitigation measures in which the biodiversity on site is to be managed.</p>		
<p>National Environmental Management: Air Quality Act, Act 39 of 2004</p>	<p>The objective of the Act is to protect the environment by providing reasonable measures for the protection and enhancement of the quality of air and to prevent pollution of air and ecological degradation.</p> <p>Part 6 of the Act makes provision for measures to control dust, noise and offensive odours.</p> <p>The assessment of impacts relating to air quality control and management, where appropriate, will form part of the environmental impact assessment report and environmental management plan. The Proposed Area has not been declared as a dust control area in terms of section 27 of the APPA. The proposed project may create minimal dust during excavations which is expected to be short term and site specific.</p>	<p>National & Provincial Government</p>	<p>2004</p>
<p>National Water Act, Act 36 of 1998</p>	<p>The Act ensures protection of water resources. The closest water resources is a non-perennial river which is 1500m away from the proposed activities, therefore the requirements of the Act may not necessarily apply directly. It is however, recommended that the resources be protected at all times.</p>	<p>National & Provincial Government</p>	<p>1998</p>
<p>National Heritage Act, Act 25 of 1999</p>	<p>The Act legislates the necessity for cultural and heritage impact assessments in areas earmarked for development, which exceed 0.5ha. The Act makes provision for the potential destruction to existing sites, pending the archaeologist's recommendations</p>	<p>National & Provincial Government</p>	<p>1999</p>

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	through permitting procedures. Permits are administered by the South African Heritage Resources Agency (SAHRA).		
Noise Control Regulations in terms of the Environmental Conservation Act 73 of 1989	<p>The assessment of impacts relating to noise pollution management and control, where appropriate, forms part of the environmental impact assessment report and environmental management plan. Applicable laws regarding noise management and control refers to the national noise control regulations issued in terms of the Environment Conservation Act 73 of 1989.</p> <p>The inhibition of sites by contractors may generally increase the ambient noise levels in the area and this is expected to vary along the route. Additional noise may be expected from the increased heavy duty traffic as well as construction equipment.</p>	Local Authority	
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)	The purpose of this Act is to provide for the protection, conservation and management of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes. The diversity of ecological processes was determined throughout the study. This Act will be read together with relevant policies and management plans.	National	2003

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

If YES, what estimated quantity will be produced per month?

YES ✓	NO
Undetermined m ³	

How will the construction solid waste be disposed of (describe)?

BASIC ASSESSMENT REPORT

The decommissioning of the substation and power line will generate general construction waste which will be removed by a waste contractor and be disposed of at a registered waste disposal site.

Any solid waste produced on site will be collected in suitable containers and removed from site by waste disposal trucks. Further detail on solid waste management is provided in the Environmental Management Programme (EMPr). Solid waste could include the following:

- conductor off-cuts, steel;
- concrete rubble from structure foundations;
- any vegetation cleared; and
- general waste produced by construction workers.

All waste will be taken to registered waste site(s). Should any hazardous waste be produced, it shall be disposed of appropriately at a registered waste disposal site.

Where will the construction solid waste be disposed of (describe)?

Decommissioning solid waste will be disposed of at the licensed local waste disposal sites (municipal waste stream). The waste will be managed and disposed of in accordance with the attached Environmental Management Programme and may include:

- General waste, consisting of non-hazardous substances and substances that cannot be recycled. Examples include (but not limited to) decommissioning rubble, excess demolishing material that cannot be reused, and food waste. This will be disposed and collected in a waste skip and disposed of at a registered site.
- Re-usable demolished material, which can be used at construction sites will be carefully packaged and delivered to other sites for reuse.
- Hazardous waste which will be disposed of accordingly at a registered hazardous waste disposal site.

Refuse will at all times be disposed of at a Department of Water Affairs (DWA) registered site, which is also approved of by the local authority. Refuse will not be burned or buried on or near the site

Will the activity produce solid waste during its operational phase?

YES	NO ✓
m ³	

If YES, what estimated quantity will be produced per month?

How will the solid waste be disposed of (describe)?

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

BASIC ASSESSMENT REPORT

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?

YES	NO ✓
-----	---------

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO ✓
-----	---------

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO ✓
-----	---------

If YES, what estimated quantity will be produced per month?

m ³	
----------------	--

Will the activity produce any effluent that will be treated and/or disposed of on site?

YES	NO ✓
-----	---------

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	NO ✓
-----	---------

If YES, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Waste water will be used to suppress dust during excavations.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES	NO ✓
-----	---------

If YES, is it controlled by any legislation of any sphere of government?

YES	NO ✓
-----	---------

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

BASIC ASSESSMENT REPORT

The only gaseous emissions will be from normal vehicle operation as well as limited dust generation due to vehicle movements taking place during the decommissioning phase. Dust emissions will have a low significance.

Low levels of dust emissions may also be created from excavations during the decommissioning phase; this will be site specific and low in significance, provided that mitigation measures are in place.

Appropriate dust control measures such as dampening of surfaces will be put in place as may be required. Further detail on dust management is provided in the Environmental Management Programme.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

YES	NO ✓
-----	---------

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?

YES ✓	NO
YES	NO ✓

If YES, is it controlled by any legislation of any sphere of government?

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the noise in terms of type and level:

Noise pollution will occur as a result of decommissioning activities and increased traffic; the impact will be highly localised and of a temporary nature. The potential noise impact can be mitigated by restricting operations to normal working hours, which will result in an impact of low significance. Further detail on noise management is provided in the Environmental Management Programme.

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box (es):

Municipal ✓	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

litres	
YES	NO ✓

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

14. ENERGY EFFICIENCY

Describe the design measures, if any that have been taken to ensure that the activity is energy efficient:

Energy efficiency measures are not applicable to this activity.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

Not applicable

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?

YES	NO
✓	

If YES, please complete the form entitled “Details of specialist and declaration of interest” for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Gauteng Province
District Municipality	City of Tshwane Metropolitan Municipality
Local Municipality	City of Tshwane Metropolitan Municipality
Ward Number(s)	1
Farm name and number	Farm Doornkloof 391 JR
Portion number	Portion 113, 15, 129, 136
SG Code	TOJR00000000039100113 TOJR00000000039100015 TOJR00000000039100129 TOJR00000000039100136

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

Industrial

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?

YES	NO
	✓

BASIC ASSESSMENT REPORT

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20 ✓	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline	✓	2.4 Closed valley		2.7 Undulating plain / low hills	✓
2.2 Plateau		2.5 Open valley		2.8 Dune	
2.3 Side slope of hill/mountain		2.6 Plain		2.9 Seafront	

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any):						
Shallow water table (less than 1.5m deep)	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO ✓ Current area is developed and far from perennial river</td> </tr> </table>	YES	NO ✓ Current area is developed and far from perennial river	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> </table>	YES	NO	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> </table>	YES	NO
YES	NO ✓ Current area is developed and far from perennial river								
YES	NO								
YES	NO								
Dolomite, sinkhole or doline areas	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">YES ✓ Geology is Dolomite based</td> <td style="width: 50%; text-align: center;">NO</td> </tr> </table>	YES ✓ Geology is Dolomite based	NO	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> </table>	YES	NO	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> </table>	YES	NO
YES ✓ Geology is Dolomite based	NO								
YES	NO								
YES	NO								

BASIC ASSESSMENT REPORT

Seasonally wet soils (often close to water bodies)	YES	NO ✓ Current line is 1500m east from the closest non-perennial river (Olifants pruit)	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES ✓ Geology is Dolomite based.	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO ✓ (Soil Classification: Red-yellow apedal, freely drained soils, red, dystrophic and/or mesotrophic)	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO ✓ (Hutton soil 43%, Mispha soil 39%)	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO ✓ (The steepest section are at the center of the site at a gradient of 1:5)	YES	NO	YES	NO
An area sensitive to erosion	YES	NO ✓ (Slope is mostly at 1:30 gradient)	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the

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completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

4. GROUND COVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition ^E	Natural veld with scattered aliens ^E ✓	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens ✓
Sport field	Cultivated land	Paved surface ✓	Building or other structure ✓	Bare soil ✓

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO ✓	UNSURE
Non-Perennial River	YES ✓	NO	UNSURE
Permanent Wetland	YES	NO ✓	UNSURE
Seasonal Wetland	YES	NO ✓	UNSURE
Artificial Wetland	YES	NO ✓	UNSURE
Estuarine / Lagoonal wetland	YES	NO ✓	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

There is a non-perennial river located within a 1500m west of the substation.

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area	Dam or reservoir	Polo fields
Natural area ✓	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station ^H
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential ^A ✓	Church	Agriculture
Retail commercial & warehousing ✓	Old age home	River, stream or wetland
Light industrial ✓	Sewage treatment plant ^A	Nature conservation area ✓
Medium industrial ^{AN}	Train station or shunting yard ^N	Mountain, koppie or ridge
Heavy industrial ^{AN}	Railway line ^N	Museum
Power station	Major road (4 lanes or more) ^N ✓	Historical building
Office/consulting room	Airport ^N	Protected Area ✓
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe) Hospitality - St. George Hotel

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity?

The line to be decommissioned crosses over the R21 road. However, there will not be significant impact on the traffic flow. There will be a positive visual impact for the road users once the line is decommissioned.

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES ✓	NO
Core area of a protected area?	YES	NO

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		✓
Buffer area of a protected area?	YES	NO ✓
Planned expansion area of an existing protected area?	YES	NO ✓
Existing offset area associated with a previous Environmental Authorisation?	YES	NO ✓
Buffer area of the SKA?	YES	NO ✓

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

A sensitivity map indicating the Critical Biodiversity Area (CBA) has been included in Appendix A.

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES	NO ✓
	Uncertain	
No obvious heritage sites were noted in close proximity to the substation site and power lines.		

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

Will any building or structure older than 60 years be affected in any way?	YES	NO ✓
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO ✓
If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.		

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

A large number of residents, particularly in the Kungwini Local Municipality (KLM) area are currently employed outside the area. This implies that economic activities within the area are limited.

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Approximately 51% of the City of Tshwane Metropolitan Municipality (CTMM) is unemployed.

Economic profile of local municipality:

Population

According to the Stats SA 2007 Community Survey, the population in CTMM has grown by 18.3% since 2001, whilst the CTMM's Household Survey 2008 indicates a growth of 3.4% between 2007 and 2008. The number of households has also increased by approximately 22% since 2001. The population of KLM has been growing at an estimated rate of 4,5% per annum. According to the Demarcation Board's Capacity Assessment Report after the incorporation of Kungwini Local Municipality (KLM) and Nokeng Tsa Taimane (NLM) the CTMM had a combined population of approximately 2,5 million. The city is characterised by a rapidly growing population (with a projected annual growth of 4,1%). The situation is exacerbated by immigration, resulting in an increase of informal settlements and an estimated 26.8% of all households residing in informal housing.

According to the IDP (2011-2016) CoT space economy has been for a long time propelled by the heavy industrial development in the areas of manufacturing. The CTMM plays an important role in the economy of the Gauteng Province, featuring a strong manufacturing sector, particularly the automotive industry, metal production etc. The CTMM continues to register remarkable economic performance as highlighted by its GVA of R157 billion and GVA growth rate of 5,9% according to 2007 figures. The GVA did not change significantly since 2008, despite the global economic recession, it has remained at 6% in the 2009/10 financial year.

Electricity

The Electricity supply and distribution functions of the municipality include the provision of electricity and other alternative energy to the residents of CTMM and other areas in terms of National Energy Regulator of SA (NERSA) license of supply. Considerable resources are required to eliminate the backlogs, while simultaneously ensuring that the provision of service keeps pace with the demand to prevent a further accumulation of backlogs.

Level of education:

The CTMM's population of over two million has, on average, the highest educational level in the country, and the CTMM is a national centre of research and learning with four universities and the headquarters of both the Council for Scientific and Industrial Research and the Human Sciences Research Council.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

What is the expected yearly income that will be generated by or as a result of the activity?

Will the activity contribute to service infrastructure?

N/A	
N/A	
YES	NO ✓

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Is the activity a public amenity?	YES	NO ✓
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Undetermined	
What is the expected value of the employment opportunities during the development and construction phase?	Undetermined	
What percentage of this will accrue to previously disadvantaged individuals?	Undetermined	
How many permanent new employment opportunities will be created during the operational phase of the activity?	None – due to the nature of the activity (decommissioning) no permanent employees will be required on site.	
What is the expected current value of the employment opportunities during the first 10 years?	None	
What percentage of this will accrue to previously disadvantaged individuals?	Undetermined	

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

- a) **Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)**

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA) ✓	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	

- b) **Indicate and describe the habitat condition on site**

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).

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Natural	25%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	10%	
Degraded (includes areas heavily invaded by alien plants)	15%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	50%	50% of the south eastern region is transformed while only 5-10% of the area around the substation is transformed. The study area is characterised by Roads, industrial, commercial and residential activities.

c) Complete the table to indicate:

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
	Endangered							
	Vulnerable							
	Least Threatened ✓							
	YES	NO ✓	UNSURE	YES	NO ✓	YES	NO ✓	

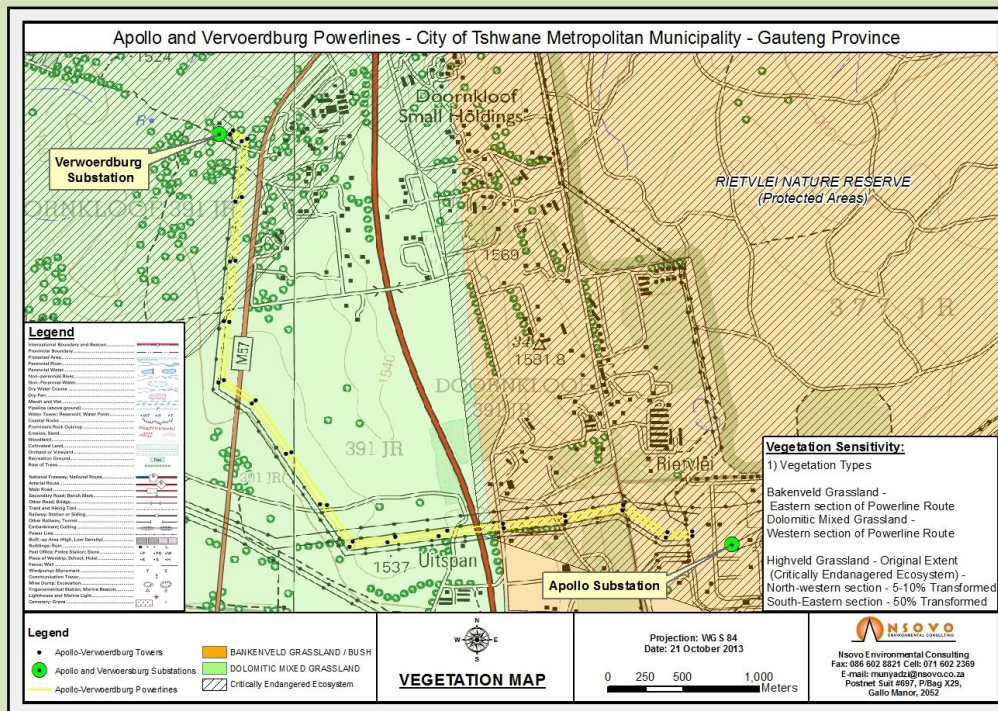
BASIC ASSESSMENT REPORT

- d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The proposed substation extension and power-lines to be decommissioned and demolished are situated within the Carletonville Dolomite Grassland vegetation type this is regarded as vulnerable. This vegetation type is present on slightly undulating plains dissected by prominent rocky chert ridges and generally has high species diversity. Certain sections of the site have biophysical attributes that render these sections as medium-high sensitivity areas.

Two types of habitats (plant communities/ ecosystems) were identified:

1. Natural Grassland Habitat
2. Rocky Ridge Habitat



As depicted in the vegetation map, the substation is located within a critically endangered area; the site of the substation falls within the Natural Grassland habitat, which is particularly disturbed, hence can be classified as Disturbed Grassland Habitat.

No plant species of conservation concern occurs in the footprint areas and immediate vicinity, though some do occur along the route.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	The Star	
Date published	Tuesday September 10, 2013	
Site notice position	Latitude	Longitude
	25° 53' 41.69"	28° 14' 44.55"
	25° 55' 26.62"	28° 15' 03.72"
Date placed	06 September 2013	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

Proof of placement Attached as Appendix E1

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 54(2)(e) and 54(7) of GN R.543.

Key stakeholders (other than organs of state) identified in terms of Regulation 54(2)(b) of GN R.543:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Jeanne Rewis	Saint George Hotel	011 316 1254
Philani Dube	Storage Wise	084 786 7243
Suzette Smith	Quebec	011 316 1013
H Tredoux	Multikom Plant	082 961 6273
Willie Roux	Talons	082 561 0598
Mike Sloane	Muvoni Wettex Network Techonologies	082 551 0128
Betty Werderman	Private	083 260 8340
N Mokwana	Eskom (Apollo Substation)	074 464 7777
LJ Naude	SABS	011 238 2300
Driver	Idlewild Farm	082 900 5497
R Erasmus	Country Rondevoux	079 719 3439
Lovemor Mamhungae	Dicn Civils Engineers	083 378 7733
McDonald Blom	A51 Square Camp	071 175 1886
Mr ER Nteopo	L&J Informal Settlement	071 175 1886
Lufuno Matshepete	393 Witkoppies Plot	079 760 9890
Alfred Mashele	Makaleng Security (Erasmus Kloof L&J)	012 542 7406
Nomsa Motubatse	L&J Informal Settlement	073 353 9844
Conny Chiputula	L&J Informal Settlement	072 085 4179
Elizabeth Aphawe	L&J Informal Settlement	
Stephen Sekwadi	L&J Informal Settlement	076 735 6044
Tebogo Makgatho	L&J Informal Settlement (Leader)	083 720 3483

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Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

Proof that the key stakeholder received written notification is attached as Appendix E2.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
I&APs made an enquiry on whether the line would be removed from site following decommissioning.	The line will be decommissioned, dismantled, demolished and removed from site. Whatever is recyclable will be recycled while construction rubble and associated waste will be disposed of at a registered site.
I&AP enquired whether the proposed project will warrant resettlement of local communities.	The proposed decommissioning will have no significant impact on the surrounding residential settlements. The decommissioning will only entail removal of the structures which will not warrant resettlement of local communities
Upon receipt of the site notice, the landowner representative indicated she will advise management of the EAP's visit.	No response is required from the EAP.

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

BASIC ASSESSMENT REPORT

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Gauteng Department of Road and Transport	Mr Ismail Vadi	0113557000	0113557000	Gproads.transport@gauteng.gov.za	P/Bag x83, Marshall Town, 2107
Gauteng Department of Agriculture and Rural Development	Mr Nhlanhla Makhathini	0113551900	0113551000	Nhlanhla.Makhathini@gauteng.gov.za	PO Box 8769, Johannesburg, 2000
City of Tshwane Metropolitan Municipality	Executive Director - Mr Livhuwani Siphuma	0123588871	0123588934	livhuwanis@tshwane.gov.za	PO Box 1454, Pretoria, 0001
SAHRA Gauteng Province	Tebogo Molokomme	0113552500	0113552878		6 th Floor NBS Building, 38 Rissik Street, Johannesburg, 2000

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

Proof that Authorities and Organs of State received written notification of the proposed activities is attached as Appendix E4.

the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
	<p>Direct impacts:</p> <p>Dust Decommissioning of the facility and other infrastructure may lead to increased amounts of airborne particles in the local atmosphere as the infrastructure is dismantled and transported to the disposal site.</p>	The significance of this impact will be of low negative significance.	<ul style="list-style-type: none"> Dust suppression techniques to be put in place, such as spraying with a water bowser. Avoid working during windy season.
	<p>Soil The clearing of vegetation, as well as the exposing of soil during the demolition of the facilities may lead to erosion due to rain and wind if not properly managed.</p>	Low	<ul style="list-style-type: none"> Re-vegetation of disturbed surfaces should be conducted as soon as reasonably possible. Areas that have not been allocated alternative uses following the decommissioning should be rehabilitated and re-vegetated.
	<p>Waste The decommissioning of the proposed project will contribute to large amounts of waste material that will be produced. The waste will be in the form of solid waste, hazardous liquid waste from the transformers, concrete rubble and general from the inhibition of the</p>	Medium	<ul style="list-style-type: none"> Disposal of waste at a registered waste disposal site. Non-hazardous material should be recycled and utilised in other construction processes. An appropriate rehabilitation plan should

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	<p>site by contractors. The impact of waste on the environment can be considered to be of negative and of medium significance.</p>		<p>be in place.</p> <ul style="list-style-type: none"> • Waste must be recycled, reused and reduced as far as practically possible. • Waste must not be left unattended for longer than 14 days. • Storage of waste must be properly stored, particularly hazardous waste.
	<p>Noise</p> <p>Decommissioning and remediation activities at the site will entail the use of heavy machinery and equipment. These activities would cause some noise.</p>	<p>Medium</p>	<ul style="list-style-type: none"> • It must be ensured that all vehicles used during decommissioning activities are appropriately maintained. • Surrounding residents should be notified in advance of construction schedules. • Working hours must be restricted to daytime only (8am – 5pm). • Selecting equipment with lower sound power levels which is in accordance with the Health and Safety Regulations
	<p>Indirect impacts: None</p>		
	<p>Cumulative impacts:</p> <ol style="list-style-type: none"> 1. The dust impact can be considered cumulative to the area, as there are other activities in the vicinity of the site which are sources of dust—areas with sandy surfaces; roads. 2. The noise impact is considered to be cumulative, as there are other activities in the vicinity of the site contributing to the noise, such as the Afrisam Factory, R21 and other industrial activities including construction of the new substation. 		

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
Alternative 2:			
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		
Alternative 3			
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		
No-go option			
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		

A complete impact assessment in terms of Regulation 22(2)(i) of GN R.543 must be included as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

BASIC ASSESSMENT REPORT

Certain factors have been taken into account when assessing the impact of the proposed activity on the environment.

FACTORS	COMMENTS
Any environmental impact on the ecosystems of the locality	The proposed activity is not expected to have any long-term impacts on the ecosystems of the locality. Mitigation measures are proposed to protect surrounding Environment.
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality;	No reduction of the environmental quality of the locality is expected in the longer term.
Any effect upon a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations	No obvious heritage sites were noted in close proximity to the substation site and power lines.
Any impact on the habitat of protected fauna (within the meaning of the National Parks and Wildlife Act 1974);	The proposed site is not expected to have an impact on any habitat of protected fauna as it is highly disturbed.
Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air;	No species of animal or plant is expected to be endangered by the proposed activities.
Any long-term effects on the environment	No long term effect on the environment is expected.
Any degradation of the quality of the environment;	Mitigation measures would be employed to ensure no significant degradation of the environment.
Any risk to the safety of the environment	No long term risk to the safety of the environment is expected.
Any pollution of the environment	The proposed activity is not expected to result in long term pollution of the environment. Mitigation measures are proposed to ensure pollution is restricted to short term localised effects.
Any environmental problems associated with the disposal of waste	No long term environmental problems associated with the disposal of waste material are expected.

The potential negative impacts of the proposed decommissioning are as follows:

- A temporary increase in noise and dust in the vicinity of the site due to the construction-type nature of decommissioning activities.
- A temporary increase in the amount of heavy traffic at the site during the construction type decommissioning activities.
- If undertaken incorrectly, decommissioning activities at the site could lead to an increased environmental risk of soil and groundwater contamination.
- If inadequate training is undertaken and inadequate fire fighting equipment is kept at the site, decommissioning activities could increase the risk of fire.
- The potential positive effects of the proposed decommissioning include job creation.
- The removal of potential environmental risk at the site associated with old structure and infrastructure being

left unmaintained and degenerating over time.

The potential negative environmental impacts can be mitigated to an acceptable level and, provided that the proposed mitigation measures are implemented, no factors were determined which should prevent the proposed decommissioning from taking place.

An Environmental Management Programme should be followed during decommissioning activities and should be policed by a suitably experience environmental site officer.

Alternative B

The recommendations are the same as Alternative 1.

Alternative C

No-go alternative (compulsory)

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES ✓	NO
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If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

It is recommended that Alternative 1 be approved. Alternative 1 is preferred over the alternative 2 because it has minimal impacts on the environmental, minimal waste generation and reduced impact on the ecosystem.

Environmental Management Programme (EMP) has been prepared by the consultant and it is hoped that it will serve as the key reference of the EAPs recommendations jointly with Eskom's policies that are already in place. The EMP has included measures proposed to mitigate any adverse impacts of the activities and the monitoring. Some of the key recommendation include:

- Implement erosion control measures where applicable.
- Maintenance done on construction vehicles must be done off site.
- Rehabilitate in accordance with the EMP after construction.
- Where possible, limit the removal of riparian vegetation.
- Whilst the proposed project specifically is not anticipated to add significantly to the current ambient noise levels it is recommended that noise be reduced at all times
- It is recommended that should an archaeological artefact be found during excavations, an archaeologist be called for further investigation.
- It is recommended that construction be during the dry months to avoid impacts associated with flooding.
- The attached construction EMP must be implemented and adhered to in order to minimise all potential negative impacts and to enhance positive impacts where applicable.
- It is recommended that a heritage-monitoring program be designed to deal with potential chance finds, should archaeological or historical finds be discovered accidentally during digging of foundations.
- Communities living close to the proposed power line route should be consulted and kept informed about the development.
- Access to the footprint area for demolition and decommissioning purposes and clearing of vegetation where necessary should be kept to existing tracks and kept as minimal as possible to avoid the destruction to the grassland vegetation in general.

Is an EMP attached?

YES ✓	NO
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The EMP must be attached as Appendix G.

EMPr is attached as Appendix G

BASIC ASSESSMENT REPORT

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

Details of the EAP attached as Appendix H

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

MUNYADZIWA RIKHOTSO

NAME OF EAP

SIGNATURE OF EAP

DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information