

Prepared for:

ESKOM

**A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY
FOR ESKOM'S PROPOSED NEW 3X88kV POWER LINES
BETWEEN THE MARANG SUBSTATION AND IMPALA
PLATINUM'S SHAFT 16 IN THE NORTH-WEST PROVINCE
OF SOUTH AFRICA**

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May 2007

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EXECUTIVE SUMMARY

A Phase I Heritage Impact Assessment (HIA) study as required in terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999) was done for a proposed new 88 kV power line to be established between the Marang Substation and Impala Platinum's Shaft 16 in the Central Bankeveld of the North-West Province of South Africa. The aim of the HIA study was to establish whether any of the types and ranges of heritage resources ('national estate') as outlined in the National Heritage Resources Act (Act 25 of 1999) do occur in or near the proposed new power line corridor (project area) (Box 1).

The Phase I HIA study for the Eskom Project Area revealed the following types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999), namely:

- Stone walled settlements dating from the Late Iron Age in or near the proposed new power line corridor.

These stone walled settlements were geo-referenced and mapped (Figure 2; Table 1).

Some of these sites have already been affected by Eskom's existing power lines. As these sites, as well as one unaffected Late Iron Age site, may be affected by the proposed new power line the levels of significance of these Late Iron Age sites were determined. Mitigation measures for those Late Iron Age sites which may be affected by the proposed new power line are also outlined (Table 2).

The Phase I HIA study for the proposed new power line corridor running between the Marang Substation and Shaft 16 is now discussed. The heritage resources which have been discovered are illuminated with photographs.

Not all the stone walled settlements in or near Eskom's proposed new power line corridor will be affected when the new 88kV power lines are constructed. However, the levels of significance of the stone walled sites have to be determined as some may be affected when the proposed new power lines are constructed.

Using criteria such as the affected or unaffected nature of the stone walled sites and their research value the level of significance of the stone walled sites were determined. The possible magnitude of impact on the stone walled sites has also been determined and is indicated in Table 2.

Site LIA01 and LIA02 have been affected when the existing power lines have been constructed in the past; Site LIA03 will not be affected by the proposed new power lines and Site LIA04 was destroyed when the existing power lines were constructed in the past.

It therefore appears as if only Site LIA05 may be affected by the proposed new power line. It is recommended that the following mitigation measures be adopted with regard to Site LIA05 when the proposed new 3X88kV power lines are constructed:

- The perimeter of this site must be demarcated with red cautionary tape in order that the site must be avoided by the contractors when the power lines are constructed.
- The contractors must be sensitised about the importance of the heritage sites before construction commences.
- The power lines must be constructed at a 'safe distance' to the east of Site LIA05 so that the site is not negatively impacted by the presence of the future new power line.

Although Site LIA01 and LIA02 have been affected when the existing power lines have been constructed in the past, these sites still have research value. They need not to be affected by Eskom's proposed development project but should also be marked with red cautionary tape to ensure that they are avoided when the proposed new power lines are constructed.

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1 INTRODUCTION

Eskom's Project Area is located in the Central Bankeveld in the North-West Province. Ecologically speaking, the Central Bankeveld is located between the northern savannah and the grass veldt of the Highveld further south. This area has a rich heritage consisting of remains dating from both the prehistoric and the colonial periods of South Africa. These archaeological and historical remains include:

- Stone Age sites which may be associated with the San people and which date back hundreds of thousands of years;
- rock engraving sites along rocky outcrops dating from the last 20 000 years;
- a limited number of rock painting sites in the Magaliesberg and Pilanesberg which date from the last 10 000 years;
- Early Iron Age sites occupied by Bantu-Negroid agriculturists and possibly cattle herders which date back 1 500 years;
- Late Iron Age sites dating from the last 500 years;
- remains dating from the previous century when the first Immigrant Boers settled in various places to the north of the Magaliesberg from the 1838's onwards;
- block houses built by British troops during the Anglo-Boer War (1899-1900) on the Magaliesberg mountain range; and
- numerous other formal historical structures, remains and features.

Heritage resources in the North-West Province therefore constitute a rich and wide diversified range (comprising the 'national estate') as outlined in Section 3 of the National Heritage Resources Act (Act 25 of 1999) (see Box 1, next page).

Box 1: Types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act, 1999 (No. 25 of 1999).

The National Heritage Resources Act (Act No 25 of 1999, Section 3) outlines the following types and ranges of heritage resources that qualify as part of the national estate, namely:

- (a) places, buildings structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and paleontological sites;
- (g) graves and burial grounds including-
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders
 - (iii) graves of victims of conflict
 - (iv) graves of individuals designated by the Minister by notice in the Gazette;
 - (v) historical graves and cemeteries; and
 - (vi) other human remains which are not covered by in terms of the Human Tissue Act, 1983 (Act No 65 of 1983)
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) moveable objects, including -
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage;
 - (iii) ethnographic art and objects;
 - (iv) military objects;
 - (v) objects of decorative or fine art;
 - (vi) objects of scientific or technological interest; and
 - (vii) books, records, documents, photographs, positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No 43 of 1996).

The National Heritage Resources Act (Act No 25 of 1999, Art 3) also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value ...'. These criteria are the following:

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- (i) sites of significance relating to the history of slavery in South Africa

2 TERMS OF REFERENCE

Eskom intends to construct 3X88kV power lines between the Marang Substation and Shaft 15, Shaft 16 and the Wilde Plats Substation in the North-West Province of South Africa.

This study only focuses on the 88kV power line which will run from the Marang Substation to the Impala Shaft 16. This proposed new power line will run across the farms Klipgat 281, Paardekraal 297, Elandsheuwel 282 and Reinkoyalskraal 278 in the Rustenburg (Bafokeng) District. As Eskom's proposed new development may have an impact on heritage resources in or near the proposed new power line corridor Eskom commissioned the author to undertake a Phase I Heritage Impact Assessment (HIA) study for the proposed new power line corridor with the following aims:

- To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (Act 25 of 1999) do occur in or near the proposed new power line corridor, and, if so, to establish the significance of these heritage resources.
- To establish whether such heritage resources will be affected by the proposed new power line, and, if so, to determine possible mitigation measures that can be applied to these heritage resources.

3 THE ESKOM PROJECT AREA

3.1 Location

The Eskom Project Area covers parts of the farms Klipgat 281, Paardekraal 297, Elandsheuwel 282 and Reinkoyalskraal 278 in the Rustenburg (Bafokeng) District in the Central Bankeveld of the North-West Province of South Africa. The Eskom Project Area is demarcated in the east by the Thaba-ea-Nape range of mountains whilst the western part stretches across level turf veldt marked by a few scattered isolated granite knolls. Modern suburbs have arisen on the western border of the project area where most of Angloplats' infrastructure has been established during the last sixty years. The village of Thekwane approaches and penetrates the southern part of the Project Area.

The Eskom Project Area falls under the Rustenburg Local Municipality in the Bojanala Platinum District in the North-West Province of South Africa (Rustenburg East [2527CB]: 1: 50 000). The Thaba-ea-Nape range of mountains is part of a cultural landscape which encroaches in the Eskom Project Area (Figure 1).

3.2 Within a cultural landscape

Norite hills, part of the Thaba-ea-Nape (or Thaba-ea-Maralla) range of mountains, stretches from the north to the south along the eastern border of the Eskom Project Area. Smaller norite kopjes and knolls which are part of this landscape are scattered in the Eskom Project Area. These mountains, kopjes and knolls are covered with stone walled settlements which date from the Late Iron Age, serving as remnants of the ancestors' villages of many of the Tswana speaking people still living in the area today.

Prominent historical beacons in and near the Eskom Project Area include Malejane in the north, Mmatshetshela along the banks of the Bospoort Dam further north,

Motlhabe, Pelane and Mafothelo to the north of the road running to Beestekraal. Môdimôlle, a holy mountain, is located directly to the east of The Marang Substation in Kelgran Granite's mining area. All these mountains are covered with stone walled settlements that date from the Late Iron Age.

The Eskom Project Area therefore is part of a cultural landscape which warrants a brief description to demonstrate its place in South Africa's cultural history. Consequently, contextual evidence which illuminates the cultural-historical background of the Eskom Project Area is outlined in Part 5 of this report.

3.3 The nature of the Eskom Project Area

The Eskom Project Area is not a pristine piece of land any longer as the landscape has been severely affected by human activities and settlement during the more recent past.

Platinum and granite mining, both older than fifty years, had an impact on the Thaba-ea-Nape range of mountains. Roads used for prospecting and exploring have damaged archaeological sites in the past. Residential developments such as the expansion of Thekwane have occurred to the detriment of archaeological settlements as homesteads along the foot of Thaba-ea-Nape mountain range have ruined many stone walled sites. The Bospoort Dam covers stone walled settlements along the lower slopes of mountains that embrace the dam. Power lines erected by Eskom in the past cross several sites in the Eskom Project Area while at least two pylons were build on top of stone walled sites. It was also found that local people have adapted stone walled sites into homesteads that are re-occupied while enclosures have been adapted to be used as cattle kraals.

However, parts of the Thaba-ea-Nape range of mountains are still pristine and clusters of stone walled sites which have not been affected by these developments can still be found. Considering the tempo of development in the

larger Eskom Project Area it is clear that zones with archaeological sites of high significance should be earmarked for conservation, together with some of these kopjes and the vegetation that is associated with these ecological and archaeological niches.



Figure 1- The Eskom Project Area incorporates a part of the cultural-historical Thaba-ea-Nape range of mountains (far background) where large numbers of stone walled sites dating from the Late Iron Age occur. These sites were occupied by the ancestors of the Tswana (above).

4 METHODOLOGY

This Phase I HIA study was conducted by means of the following:

- Surveying with a vehicle the Eskom Project Area at large and focusing on sensitive spots which were surveyed on foot.
- Briefly surveying literature relating to the pre-historical and historical context of the Eskom Project Area.
- Interviewing spokespersons to establish the presence or existence of certain heritage resources such as graveyards in the Eskom Project Area.
- Consulting maps of the Eskom Project Area as well as peripheral areas.
- Consulting archaeological (heritage) data bases such as the ones kept at the North-West Provincial Heritage Resources Agency as well as at Museum Africa in Pretoria (Tshwane).
- Synthesising all information obtained from the literature survey, maps, data bases and spokespersons with the evidence derived from the fieldwork in this report.

4.1 Fieldwork

The proposed Eskom Project Area covers a large surface area. Whilst access roads were available to survey parts of the proposed new power line corridor, stretches of the proposed new power line corridor were surveyed on foot.

4.2 Databases, literature survey and maps

Databases kept and maintained at institutions such as the North-West Provincial Heritage Resources Agency and the Archaeological Data Recording Centre at the National Flagship Institute (Museum Africa) in Pretoria (Tshwane) were consulted to determine whether any heritage resources had been identified during earlier archaeological surveys near in or near the Eskom Project Area.

Literature relating to the pre-historical and the historical unfolding of the Central Bankeveld was briefly reviewed.

It is important to contextualise the pre-historical and historical background of the Eskom Project Area in order to comprehend the identity and meaning of heritage sites in and near the Eskom Project Area and subsequently to determine the significance of any remains which may be affected by the development project (see Parts 5 & 8).

In addition, the Eskom Project Area was also studied by means of the 1:50 000 topographical map (Rustenburg East, 2527CB) and the 1:250 000 map (Rustenburg) on which the Eskom Project Area appears.

4.3 Mapping heritage resources

All the heritage resources found in or near the proposed new power line corridor were geo-referenced using a GPS instrument and they were thereafter mapped in Arch View.

4.4 Assumptions and limitations

It is possible that this Phase HIA study may have missed heritage resources in the Eskom Project Area as heritage remains may occur in thick clumps of vegetation while others may lie below the surface of the earth and may only be exposed once development commences.

4.5 Chance finds

If any heritage resources of significance is exposed during this development project the South African Heritage Resources Authority (ASAPA) should be notified

immediately, all construction activities must be seized and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notified in order to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorisation (permits) from SAHRA to conduct the mitigation measures.

4.6 Some remarks on terminology

Terms that may be used in this report are briefly outlined in Box 2.

Box 2. Terminologies that may be used in this report

The Heritage Impact Assessment (HIA) referred to in the title of this report includes a survey of heritage resources as outlined in the National Heritage Resources Act, 1999 (Act No 25 of 1999) (See Box 1).

Heritage resources (cultural resources) include all human-made phenomena and intangible products that are the result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyles of the people or groups of people of South Africa.

The term 'pre-historical' refers to the time before any historical documents were written or any written language developed in a particular area or region of the world. The historical period and historical remains refer, for the project area, to the first appearance or use of 'modern' Western writing brought to the Rustenburg (Bafokeng) District by the first Colonists who settled in this area during the 1830's.

The term 'relatively recent past' refers to the 20th century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains, however, may be close to sixty years of age and may, in the near future, qualify as heritage resources.

It is not always possible, based on observations alone, to distinguish clearly between archaeological remains and historical remains, or between historical remains and remains from the relatively recent past. Although certain criteria may help to make this distinction possible, these criteria are not always present, or, when they are present, they are not always clear enough to interpret with great accuracy. Criteria such as square floor plans (a historical feature) may serve as a guideline. However, circular and square floors may occur together on the same site.

The term 'sensitive remains' is sometimes used to distinguish graves and cemeteries as well as ideologically significant features such as holy mountains, initiation sites or other sacred places. Graves in particular are not necessarily heritage resources if they date from the recent past and do not have head stones that are older than sixty years. The distinction between 'formal' and 'informal' graves in most instances also refers to graveyards that were used by colonists and by indigenous people. This distinction may be important as different cultural groups may uphold different traditions and values with regard to their ancestors. These values have to be recognised and honoured whenever graveyards are exhumed and relocated.

The term 'Stone Age' refers to the prehistoric past, although Late Stone Age peoples lived in South Africa well into the historical period. The Stone Age is divided into an Earlier Stone Age (3 million years to 150 000 thousand years ago) the Middle Stone Age (150 000 years to 40 000 years ago) and the Late Stone Age (40 000 years to 200 years ago).

The term 'Iron Age' refers to the last two millennia and 'Early Iron Age' to the first thousand years AD. 'Late Iron Age' refers to the period between the 16th century and the 19th century and can therefore include the historical period.

Mining heritage sites refer to old, abandoned mining activities, underground or on the surface, which may date from the pre-historical, historical or the relatively recent past.

The term 'study area', or 'project area' refers to the area where the developer wants to focus its development activities (refer to plan).

Phase I studies refer to surveys using various sources of data in order to establish the presence of all possible types of heritage resources in any given area.

Phase II studies include in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include the documenting of rock art, engraving or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation of bodies and the relocation of graveyards, etc. Phase II work may require the input of specialists and requires the co-operation and approval of SAHRA.

5 CONTEXTUALISING THE ESKOM AREA

51 The Central Bankeveld

The Eskom Project Area is located in the Central Bankeveld of the North-West Province of South Africa. The Bankeveld is a narrow strip of land between the northern bushveldt savannah and the centrally situated Highveld. The Central Bankeveld with its numerous centuries-old remains of ancient Tswana spheres of influence is important to this report.

The Central Bankeveld is covered by older grabbo penetrated by younger volcanic magma which formed the series and chains of pyramid-shaped norite hills from the Pilanesberg in the north-west to Brits in the east. These hills, as part of the Magaliesberg valley, represent a unique ecozone characterised by grassveld, savannah veld and near wooded valleys. The region has abundant surface water supplies. The Pienaar, the Moretele, the Hex and the Apies Rivers all drain their waters into the Crocodile River.

5.2 Pre-historical context

The Eskom Project Area is located between the Magaliesberg in the west and the series of norite kopjes running from Thekwane in the south to near the Pilanesberg in the north. This area is known for its rich and diverse range of heritage resources. Stone Age sites are scattered along the Magaliesberg and are also found in caves and rock shelters in the mountain. Rock engravings are located further towards Maanhaarrand and Rustenburg in the west. The most abundant heritage, however, are those that date from the Late Iron Age and which are associated with the numerous Tswana chiefdoms who occupied this region during the last four centuries.

The interaction between the climate, geology, topography, and the fauna and flora of the Central Bankeveld established a milieu in which the first Tswana found a suitable living environment in order to practise herding, agriculture, metal working and trading. It was here that their chiefdoms flourished during AD1600 to 1840.

The settlements of these early Tswana chiefdoms are characterised by an impressive and elaborate stone-built tradition. Hundreds and perhaps thousands of sites were built along the bases of the norite hills. The most formidable of these chiefdoms were the Kwena Môngôpa, Kwena Môngale (Bapô), Bakgatla and Fokeng. Further to the west, closer to Rustenburg was the Fôkeng chiefdom while several Kgatla spheres of influence emerged further to the west near Brits. The Kgatla were subjugated by Mzilikazi and were used as labourers to build one of the Ndebele's villages, probably known as emHlalandlela.

The Bapô, a people whose earliest ancestors were descended from the Amambô Nguni from Kwa Zulu/Natal, arrived in the Magaliesberg during the 16th or 17th centuries. One of their capitals was Tlhôgôkgôlô (Wolhuterskop). Several of the chiefs of this clan were known by the name of Môngale. The name of the Magalies Mountains (Magaliesberg) was derived from the name Môngale.

Numerous *difaqane* wars were fought during the last quarter of the 18th century and during the first quarter of the 19th century in the Central Bankeveld. These wars led to the displacement of large numbers of Tswana in the Bankeveld. The *difaqane* wars were caused by the Ndebele (Matabele) of Mzilikazi who arrived from the Vaal River region to occupy the Bankeveld in August 1827. The Ndebele destroyed the Kwena Môngôpa, the Kgatla and what had remained of the Bapô after an earlier defeat by the Pedi of Thulare. These wars exacerbated the havoc started earlier in the Bankeveld and gradually became a characteristic feature of historical events in this region during the early 19th century.

The Ndebele established several settlement complexes in the Central Bankeveld from whence they maintained their grip on the indigenous population. Four of these Zulu/Nguni residences (*imisi*) and military kraals (*amakhandu*) have been discovered during the course of earlier archaeological surveys.

Internal strife between the various Tswana chiefdoms also seems to have been on the increase from the latter half of the 18th century onwards. Paternal relatives fought against each other to attain the chieftaincy of the various Tswana chiefdoms. Succession disputes also led to the splintering of the existing chiefdoms into a growing number of independent spheres of influence in the Bankeveld.

During the early 19th century travellers, traders and missionaries visited the Central Bankeveld where they encountered the devastated Tswana chiefdoms. They also mentioned that numerous Tswana tribes were displaced. These travellers included the traders Robert Schoon and William McLuckie in August 1829. They were soon followed by the missionary Robert Moffat who visited Mzilikazi in an *umuzi* near what is today Pretoria. In June 1835 Charles Bell and other members of Andrew Smith's expedition visited a Ndebele village near Rustenburg which Bell subsequently painted. One year later, in December 1836, Cornwallis Harris also visited the Central Bankeveld where he painted emHlalandlela near Brits.

The Bankeveld was rich in fauna which attracted the Griqua and the first white hunters to the region. Ivory was plentiful, with herds of elephants roaming the area. Ivory and the skins of the wide variety of fauna were sought after as precious trade commodities. Although the Tswana hunted the fauna of the Bankeveld, they were more renowned as agriculturists and cattle herders than as hunters.

Complex causes led to the unfolding of the numerous Tswana chiefdoms and their spheres of influence throughout the Bankeveld during the last decades of the 18th century and during the first decades of the 19th century. These causes were multidimensional and included the ecological potential of the region, the social and

political formation and expansion of different spheres of influence, the establishment of short and long distance trade relations and local and regional wars. These causes and historical events were complex and are not fully recorded in oral traditions or in any other records.

5.3 Historical context

Some of the earliest Voortrekkers who moved across the Magaliesberg in the early 19th century established themselves on the farms Kafferskraal and Witpensfontein (today Rustenburg) and Schaapkraal, to the east of the Eskom Project Area. Since the second half of the 19th century, farmers and workers have occupied the Rustenburg District (including the Mooinooi, Marikana, Hartebeespoort and Brits areas). Tobacco and citrus farming, together with cattle herding, became a subsistence pattern that has lasted to this day. Old farm homesteads, agricultural implements and other infrastructure such as tobacco drying sheds may still exist on farms adjacent to the Eskom Project Area.

During the Anglo Transvaal Boer War (1899-1902) British blockhouses were built along the ridge of the Magaliesburg, from Pretoria in the east to Rustenburg in the west. Several of these structures are located in Kommandonek, Pampoennek and in Olifantsnek in the Magaliesberg, to the south of the Eskom Project Area.

After the discovery of the Merensky Reef in 1929, the economy of the area was gradually changed from farming into platinum and chrome mining. What started as small scale mining activities north of the Magaliesberg during the 20th century was soon eclipsed by the rise of the platinum mining complex near Rustenburg. The discovery of the Merensky Reef and the accompanying platinum boom was soon followed by the establishment of numerous chrome and norite mines in the North-West Province.

6 THE PHASE I HERITAGE IMPACT ASSESSMENT STUDY

6.1 Types and ranges of heritage resources

The Phase I HIA study for the Eskom Project Area revealed the following types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999), namely:

- Stone walled settlements dating from the Late Iron Age in or near the proposed new power line corridor.

These stone walled settlements were geo-referenced and mapped (Figure 2; Table 1).

Some of these sites have already been affected by Eskom's existing power lines. As these sites, as well as one unaffected Late Iron Age site, may be affected by the proposed new power line the levels of significance of these Late Iron Age sites were determined. Mitigation measures for those Late Iron Age sites which may be affected by the proposed new power line are also outlined (Table 2).

The Phase I HIA study for the proposed new power line corridor running between the Marang Substation and Shaft 16 is now discussed. The heritage resources which have been discovered are illuminated with photographs.

6.1.1 Stone walled sites

At least five stone walled sites or clusters of stone walled sites were observed in or near Eskom's proposed new power line corridor, namely:

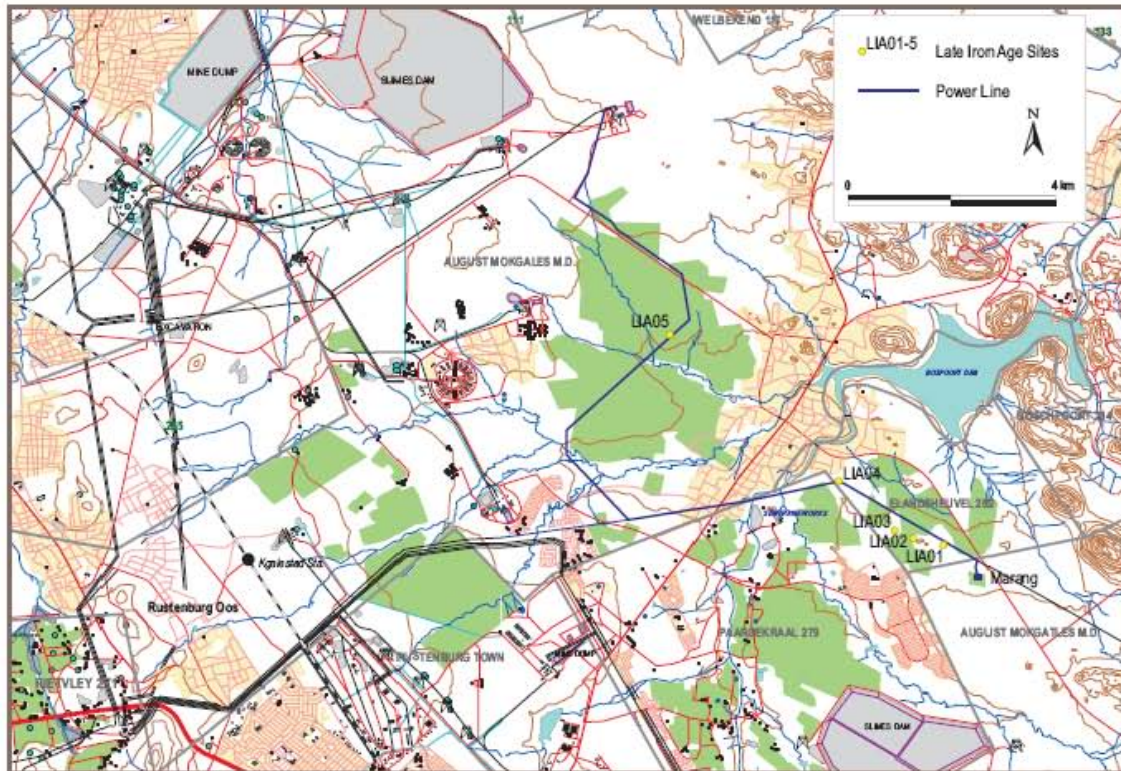


Figure 2- The Eskom Project Area on the farms Klipgat 281, Paardekraal 297, Elandsheuwel 282 and Reinkoyalskraal 278 in the Rustenburg (Bafokeng) District in the Central Bankeveld of the North-West Province of South Africa. Note the presence of Late Iron Age stone walled settlements in or near the proposed new power line corridor.

6.1.1.1 Late Iron Age site 01

Site LIA01 is located underneath Eskom's existing power lines. This site is composed of outer scalloped walls which encircle centrally located enclosures. Consequently, the site represents a typical Tswana *kgoro*.

Site LIA01 was damaged in the past when Eskom's existing two power lines were constructed. (It seems as if no Phase I HIA study was done before these power lines were constructed. Neither was any mitigation measures followed when the power lines were constructed in the past).



Figure 3- Site LIA01 underneath Eskom's existing power lines. Site LIA01 was damaged when these power lines were constructed in the past (above)..

6.1.1.2 Late Iron Age site LIA02

Site LIA02 is also located underneath Eskom's existing power lines. This site is located next to a low norite kopje.

Site LIA02 also represents a single *kgoro* which is composed of an outer scalloped wall (*malapa*) which encircles a centrally located kraal complex which is composed of large and small cattle enclosures and a possible court (*kgotla*).



Figure 4- Site LIA02 is also located underneath Eskom's existing power lines and was also damaged when these power lines were constructed in the past (above).

6.1.1.3 Late Iron Age site LIA03

Site LIA03 is located some distance to the south-west of Eskom's existing power lines. This site is also associated with a low norite kopje.

Site LIA02 also represents a single *kgoro* which is composed of an outer scalloped wall (*malapa*) which encircles a centrally located kraal complex which is composed of large and small cattle enclosures and a possible court (*kgotla*).

6.1.1.4 Late Iron Age site LIA04

Site LIA04 is located near a norite kopje and underneath Eskom's existing power lines.

Site LIA04 was largely destroyed when the existing power lines were constructed.

6.1.1.5 Late Iron Age site LIA05

Site LIA05 is located directly to the west of Eskom's proposed new power line corridor. Site LIA05 is associated with a low, inconspicuous norite knoll situated close to where Eskom's proposed new power line will enter the Shaft 16 complex.

Site LIA05 is well preserved and contain an abundance of archaeological material consisting of middens and potsherds. This site is composed of two individual sites (*dikgôrô*) which are linked with each other.



Figure 5- Site LIA05 is located slightly to the west of Eskom’s proposed new power line corridor next to a low rising norite knoll. The site is composed of two *dikgôrô* (above).

STONE WALLED SITES	CO-ORDINATES	DESCRIPTION
Site LIA01	25° 36.177' 27° 19.624'	Located underneath two of Eskom’s existing power lines. Damaged when the power lines were constructed.
Site LIA02	25° 36.103' 27° 19.304'	Located underneath two of Eskom’s existing power lines. Damaged when the power lines were constructed.
Site LIA03	25° 06.021' 27° 19.116'	Located near a kopje slightly to the south of Eskom’s two existing power lines. This site is still unaffected.
Site LIA04	25° 35.505' 27° 18.521'	Located underneath two of Eskom’s existing power lines. Destroyed when the power lines were constructed.
Site LIA05	25° 33.957' 27° 16.758'	Located slightly to the west of the proposed new power line corridor.

Table 1- Coordinates for Late Iron Age stone walled sites in or near Eskom’s proposed new power line corridor (above).

6.1.2 The significance of the stone walled sites

Not all the stone walled settlements in or near Eskom’s proposed new power line corridor will be affected when the new 88kV power lines are constructed. However, the levels of significance of the stone walled sites have to be determined as some may be affected when the proposed new power lines are constructed.

Using criteria such as the affected or unaffected nature of the stone walled sites and their research value the level of significance of the stone walled sites were determined. The possible magnitude of impact on the stone walled sites has also been determined and is indicated in Table 2.

Stone walled sites	Affected	Unaffected	Research value	Level of significance	Possible magnitude of impact
Site LIA01	Damaged		YES	HIGH	Low
Site LIA02	Damaged		YES	HIGH	Low
Site LIA03		Unaffected	YES	HIGH	Low
Site LIA04	Destroyed		No	Low	Low
Site LIA05		Unaffected	YES	HIGH	Medium

Table 2- Levels of significance and possible magnitude of impact on Late Iron Age stone walled sites in or near Eskom’s proposed new power line corridor (above).

6.3 Mitigating the stone walled sites

Site LIA01 and LIA02 have been affected when the existing power lines have been constructed in the past; Site LIA03 will not be affected by the proposed new power lines and Site LIA04 was destroyed when the existing power lines were constructed in the past.

It therefore appears as if only Site LIA05 may be affected by the proposed new power line. It is recommended that the following mitigation measures be adopted with regard to Site LIA05 when the proposed new 3X88kV power lines are constructed:

- The perimeter of this site must be demarcated with red cautionary tape in order that the site must be avoided by the contractors when the power lines are constructed.
- The contractors must be sensitised about the importance of the heritage sites before construction commences.
- The power lines must be constructed at a 'safe distance' to the east of Site LIA05 so that the site is not negatively impacted by the presence of the future new power line.

Although Site LIA01 and LIA02 have been affected when the existing power lines have been constructed in the past, these sites still have research value. They need not to be affected by Eskom's proposed development project but should also be marked with red cautionary tape to ensure that they are avoided when the proposed new power lines are constructed.

7 CONCLUSION AND RECOMMENDATIONS

The Phase I HIA study for the Eskom Project Area revealed the following types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999), namely:

- Stone walled settlements dating from the Late Iron Age in or near the proposed new power line corridor.

These stone walled settlements were geo-referenced and mapped (Figure 2; Table 1).

Some of these sites have already been affected by Eskom's existing power lines. As these sites, as well as one unaffected Late Iron Age site, may be affected by the proposed new power line the levels of significance of these Late Iron Age sites were determined. Mitigation measures for those Late Iron Age sites which may be affected by the proposed new power line are also outlined (Table 2).

The Phase I HIA study for the proposed new power line corridor running between the Marang Substation and Shaft 16 is now discussed. The heritage resources which have been discovered are illuminated with photographs.

Not all the stone walled settlements in or near Eskom's proposed new power line corridor will be affected when the new 88kV power lines are constructed. However, the levels of significance of the stone walled sites have to be determined as some may be affected when the proposed new power lines are constructed.

Using criteria such as the affected or unaffected nature of the stone walled sites and their research value the level of significance of the stone walled sites were

determined. The possible magnitude of impact on the stone walled sites has also been determined and is indicated in Table 2.

Site LIA01 and LIA02 have been affected when the existing power lines have been constructed in the past; Site LIA03 will not be affected by the proposed new power lines and Site LIA04 was destroyed when the existing power lines were constructed in the past.

It therefore appears as if only Site LIA05 may be affected by the proposed new power line. It is recommended that the following mitigation measures be adopted with regard to Site LIA05 when the proposed new 3X88kV power lines are constructed:

- The perimeter of this site must be demarcated with red cautionary tape in order that the site must be avoided by the contractors when the power lines are constructed.
- The contractors must be sensitised about the importance of the heritage sites before construction commences.
- The power lines must be constructed at a 'safe distance' to the east of Site LIA05 so that the site is not negatively impacted by the presence of the future new power line.

Although Site LIA01 and LIA02 have been affected when the existing power lines have been constructed in the past, these sites still have research value. They need not to be affected by Eskom's proposed development project but should also be marked with red cautionary tape to ensure that they are avoided when the proposed new power lines are constructed.

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