

DRAFT SITE VERIFICATION REPORT

FOR THE PROPOSED ADDITION OF THE SYNCHRONOUS CONDENSERS TO THE EXISTING KORUSON SUBSTATION AND ITS ASSOCIATED INFRASTRUCTURES WITHIN THE JURISDICTION OF UMSOBOMVU LOCAL MUNICIPALITY OF PIXELY KA SEME DISTRICT MUNICIPALITY IN NORTHERN CAPE PROVINCE.

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July 2026

DOCUMENT SYNOPSIS

Item	Description		
Proposed development and location	Part Two Amendment of Environmental Authorisation (ref no: 14/12/16/3/3/2/730/2/AM2) for the proposed addition of three synchronous condensers to the existing Koruson substation and its associated infrastructures within the jurisdiction of Umsobomvu local municipality of Pixely Ka Seme District Municipality in Northern Cape Province.		
Purpose of the study	Site Verification Report Part Two Amendment of Environmental Authorisation (ref no: 14/12/16/3/3/2/730/2/AM2) and its amendments ((Ref.No.:14/12/16/3/3/2/730/2), (Ref No.: 14/12/16/3/3/2/730/2/AM1and (Ref. No. 14/12/16/3/3/2/730/2/AM2), for the proposed addition of three synchronous condensers to the existing Koruson substation and its associated infrastructures within the jurisdiction of Umsobomvu local municipality of Pixely Ka Seme District Municipality in Northern Cape Province.		
Municipalities	Umsobomvu Local Municipality		
Predominant land use of surrounding area	agricultural use with the servitudes zoned for electricity transmission.		
Applicant	National Transmission Company South Africa SOC Ltd		
Prepared for:	National Transmission Company South Africa SOC (Ltd) PO Box 1091 Johannesburg 2001		
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Date of Report	May 2026		
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Date: February 2026	Signature:	Signature:	Signature:

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SECTION ONE: EXECUTIVE SUMMARY

1.1 INTRODUCTION AND OUTLINE

Quality Environmental and Business Management Solution cc (QEMS) has been appointed by The National Transmission Company South Africa (NTCSA) to prepare and submit an application for the amendment of the Environmental Authorisation. This amendment application is undertaken in accordance with the provisions of Chapter 5, Part 2 (Regulations 31–32) of the Environmental Impact Assessment Regulations, 2014, promulgated under the National Environmental Management Act, 1998 (Act No. 107 of 1998). The amendment pertains to the proposed installation of synchronous condensers and the development of associated infrastructure at the Koruson Substation.

Eskom Holdings SOC Ltd, South Africa's state-owned power company, has historically relied on large coal-fired power stations and a few hydro plants for electricity generation. The national grid, primarily consisting of 400 kV and 765 kV overhead lines, transmits power across the country. To enhance grid reliability amid growing renewable energy adoption, the National Transmission Company South Africa SOC Ltd (NTCSA), a subsidiary of Eskom, plans to implement Synchronous Condensers at seven host main transmission substations (MTSS). The host substations are in the Eastern (two) and Northern Cape (five), where there is an immediate need to improve grid stability. Currently, seven substations have been identified for this initiative. Gamma Substation is one of the identified. To achieve this NTCSA intends to add the Synchronous Condensers (SynCons) with the purpose to provide the stability to the transmission grid effectively allowing the utility to increase the amount of power to the existing Gamma Substation and its associated infrastructures.

Section 24(5)(h) of the NEMA and regulation 16 (1)(b)(v) of the EIA Regulations of 2014 also requires the submission of national web based environmental screening tool report (GNR. 960 / 05 July 2019), when applying for an environmental authorisation in terms regulation 19 and 21 of the EIA Regulations of 2014. The Screening Tool Report (STR) is generated from the DFFE's national online GIS-based 'National web-based Environmental Screening Tool' and provides detail on the environmental sensitivity, restriction, exclusion or prohibition zones and specific requirements, including specialist studies that are applicable to a proposed

development site, based on the national sector classification and the environmental sensitivity of the site.

Before commencing with the application for an EA amendment and specialist assessments, the current land use and environmental sensitivity of the site under consideration, as identified in the STR, must be confirmed by undertaking site sensitivity verification. A Site Sensitivity Verification Report (SVR) is then required in response to the STR through the 'Protocols for Assessment and Minimum Report Content Requirements for Environmental Themes for Activities requiring Environmental Authorisation published in Government Notice Regulation 320 of 20 March 2020 under Section 24 (5)(a), (h) and 4 of the NEMA.

This is the SVR which verifies the data contained in the DFFE STR compiled for the proposed development project.

1.2 PURPOSE OF THE REPORT

This report provides an overview of the following:

- Project location, description and required services;
- DEFF Screening Tool outcomes and identified environmental sensitivity themes related to the project site and type;
- Desktop based analysis of available GIS Databases;
- Motivation and evidence (photos) of either the verified / different use of the land and environmental sensitivity identified in the STR;
- A confirmation / refute on the need for the various specialist study inputs required by STR; and
- Any potential fatal flaws that may render the development undesirable at the project location.

1.3 TERMS OF REFERENCES

The general requirements for site sensitivity verification for activities requiring environmental authorisation have been published in Government Notice Regulation 320 of 20 March 2020 under Section 24 (5)(a), (h) and 4 of the NEMA.

GNR 320 requires that prior to commencing with any specialist assessment for the EIA Study, the current land use and the environmental sensitivity of the site under consideration as identified by the national web based environmental screening tool (screening tool), must be

confirmed by undertaking a site sensitivity verification. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist.

The site sensitivity verification must be undertaken through the use of:

- a) A desktop analysis, using satellite imagery or any available means;
- b) A Preliminary on-site inspection; and
- c) Any other relevant information.

The outcome of the site verification must be recorded in the form of a report that:

- a) Confirms or disputes the current use of land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;
- b) Contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and
- c) Is submitted with the relevant assessment report in accordance with the requirements of the EIA Regulations.

1.4 ASSUMPTIONS AND LIMITATIONS

The spatial data contained in the National web-based Environmental Screening Tool' used to generate the STR, according to DFFE has been collected as accurately as possible. Although the greatest care has been taken to ensure that the data is up to date and spatially accurate, the Department of Forestry, Fisheries and the Environment (DFFE) formerly known as the Department of Environmental Affairs (DEA) and its entities give no warranty, express or implied, as to the accuracy, reliability, utility or completeness of this data.

The spatial data used for the environmental screening purposes, used to generate the STR, has been collected from various data sets and sources and its correctness cannot be guaranteed. The data base is updated over time and can change without notice. Given the limitation, it is essential to independently verify the data contained in the report on-site. Discrepancies have been identified between the STR and the onsite verification and are detailed in the sections below.

1.5 METHODOLOGY

QEMS conducted a desktop analysis; using satellite imagery of the project site including the GIS historical vegetation covers for specific years (2009, 2013 and 2022) and generating a STR for the project site. The findings of the STR have been verified through a site inspection on 22 January 2026.

SECTION TWO: ENVIRONMENTAL ASSESSMENT PRACTITIONERS

2.1 DETAILS OF THE EAP

The on-site sensitivity verification was undertaken by Dr Patrick Sithole on the 23 January 2026. Ms Kholofelo Magopa with assistance from Mr Adivhaho Vhulahani and Dr Patrick Sithole prepared the Site Verification Report (SVR) for the site. Details are as follows:

QEMS Management and Solutions cc

7 Munnik Avenue, Sterpark

Polokwane, 0699

Tel: 061 535 3141

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2.2 EXPERTISE OF THE EAP

A Registered natural scientific professional (SACNASP – Environmental and Chemical scientist), Registered Environmental Assessment Practitioner (EAPASA), social and sustainability expert with 22 years of experience. Patrick Sithole specialises in Strategic Environmental, Social and Sustainable Development projects, Climate Change and Health, Environmental Management issues and Construction Supervision of all infrastructural projects. Dr Sithole is also involved in vegetation clearance and pest control projects along infrastructural projects e.g. roads, railway lines, power lines, golf courses and buildings like complexes, houses, malls, etc. Patrick has a very strong business development mindset that has seen him winning and working on projects across Africa and in Europe. His key experience includes the following areas; Environmental (Natural Resource) Management; Environmental

Compliance; Social Facilitation and Consultation; Compensation of Land Claims; Climate Change; Climate (Change) and Human Health; Air Quality Management; Renewable Energy; Waste Management; Land Rehabilitation; Water Quality/Demand Management; Strategic Environmental Assessment; Waste Water (sewer) Treatment; Project Management; ISO 9001 and ISO14001; Vegetation Control Bush Clearance (Invasive plants).

SECTION THREE: THE PROPOSED DEVELOPMENT/PROJECT

3. DESCRIPTION OF PROPOSED AMENDMENTS

The current Environmental Authorisation (EA) for the Koruson Substation was originally approved on 17 February 2017 (Ref. No: 14/12/16/3/3/2/730). The EA was subsequently amended in 18 November 2019 to keep the Transmission and Substation infrastructure separate from the Wind Energy project (Ref. No.: 14/12/16/3/3/2/730/2). This EA was then corrected on the 5th of February 2020 Ref No.: 14/12/16/3/3/2/730/2/AM1. The Amended EA (18/11/2019) was further amended in 2022 based on the updating of the EMpr to get authorization (Ref No: 14/12/16/3/3/2/730/2/AM2) and approved on the 31 March 2022.

To enhance grid reliability in response to the increasing integration of renewable energy within the Eastern, Northern and Western Cape, NTSCA now proposes the addition of three Synchronous Condensers and their associated infrastructure at the Gamma Substation. These components were not included in the activities authorized under the original EA dated 9 November 2007, nor in the subsequent amendments.

Accordingly, NTSCA seeks to amend the existing Environmental Authorisation to include the proposed Synchronous Condensers. The proposed change constitutes a Part 2 Amendment in terms of the Environmental Impact Assessment Regulations 2014, as it involves the expansion of previously authorized infrastructure and the inclusion of activities not covered under the existing authorisation

3.1. ENVIRONMENTAL FEATURES

3.1.1 Vegetation

The existing Koruson Substation and the proposed areas for the addition of the Synchronous Condensers fall within the Besemkaree Koppies Shrubland vegetation types (Figure 1) of Nama-Karoo Biome (SANBI, VEGMAP, 2018). Besemkaree Koppies Shrubland is a specific vegetation type found in the Northern Cape, typically associated with koppies (rocky hills) and

arid regions. The dominant vegetation are shrubby species such as *Pteronia* spp. (Besemkaree) and *Pentzia* spp. and some grassy components may occur, but shrubs dominate.

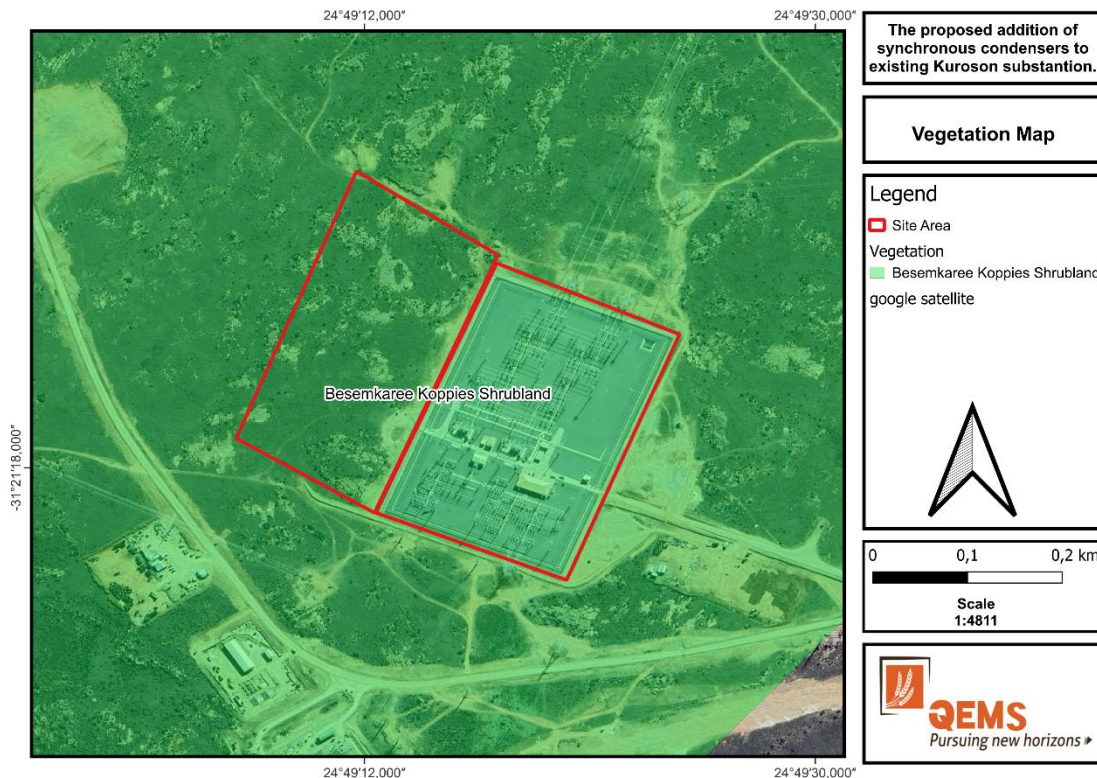


Figure 1: showing vegetation map of the site

However, the results of the screening tool report generated from DFFE specifically for the proposed expansion area, demonstrated Low sensitivity for the plants species that might be found on the proposed site. This implies that even though the proposed expansion site is dominated by the shrubland with some grassy components, they are not highly sensitive to the proposed development. In terms of conservation, some areas are threatened by overgrazing and climate change.

The vegetation within the proposed area supports a variety of animal species. The results of STR indicated that the sensitivity of the animal species is High, and amongst the highly sensitive species or animal features include Aves-Neotis Ludwigii. Additionally, the results of the STR indicated that the proposed area of development falls within the Critical Biodiversity Area 1 (CBA1) and National Protected Area Strategy (NPAES).

3.2.1 Geology and Soils

Generally, the geology of the area is Tarkastad Subgroup is part of the larger Karoo Supergroup, a sequence of sedimentary rocks that were deposited in a vast basin during the Permian and Triassic periods (approximately 300 to 200 million years ago). The Tarkastad Subgroup, specifically, is characterized by its layers of mudstones, sandstones, and occasional conglomerates. These rocks were formed from sediments deposited by rivers and lakes in an ancient floodplain environment.

The Tarkastad Subgroup is known for its rich fossil record, including the remains of early reptiles and amphibians, providing valuable insights into the life forms that existed in this region millions of years ago. As the Tarkastad Subgroup rocks weather over time, they form distinct soil types, which vary based on parent material and local climate conditions. Common soil types derived from Tarkastad Subgroup are sandy loams (Arenosols & Cambisols) derived from sandstone weathering, clay-rich soils (Vertisols & Luvisols) formed from mudstone and siltstone weathering and shallow, rocky soils (Lithosols) found in hilly or eroded areas.



Figure 2: Picture showing types of rocks along the area

3.2.1 Climate

The climate of the Koruson Substation area is characterized by semi-arid to arid conditions, with low annual rainfall and high temperature variations between day and night.

- **Temperature:** The region experiences hot summers, with daytime temperatures often exceeding 30°C, while winters are relatively cool, with temperatures sometimes dropping below 10°C at night.
- **Rainfall:** Rainfall is scarce and seasonal, typically occurring in short, intense bursts. The annual precipitation is low, contributing to the dry landscape and limited vegetation growth.
- **Wind Conditions:** The area is prone to moderate to strong winds, which can influence dust levels and impact infrastructure maintenance.
- **Humidity:** Humidity levels remain low for most of the year, contributing to the arid conditions and high evaporation rates.

Figure 3 illustrates the fluctuation of average minimum and maximum temperatures over the observed period. The annual minimum temperature ranges between -5.45°C and -3.72°C, while the maximum temperature varies from 34.41°C to 41.47°C. In contrast, the average ambient temperature remains relatively stable, ranging from 14.72°C to 16.2°C, indicating minimal fluctuations.

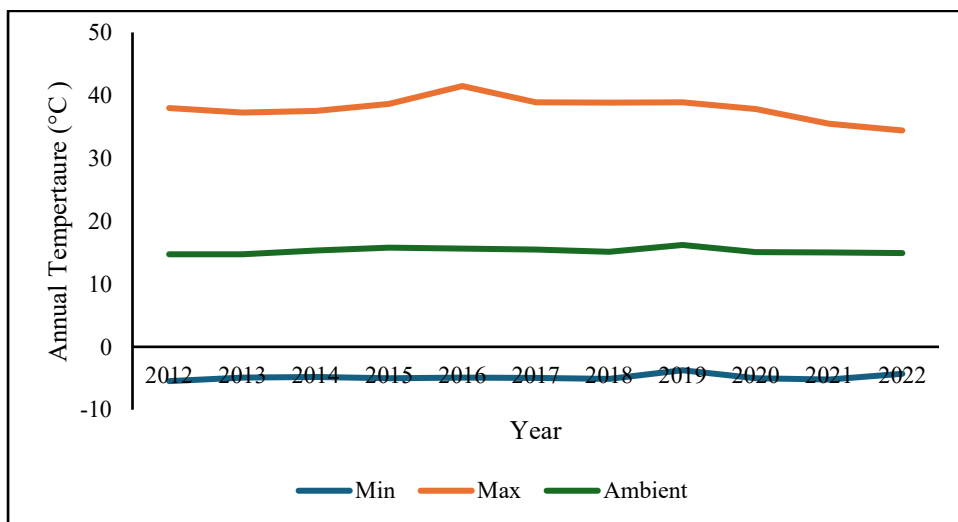


Figure 3:Koruson Substation site temperatures and rainfall between 2012 and 2022.

3.3.1. Land use

The land is zoned for agricultural use with the servitudes zoned for electricity transmission see figure 4 bellow. The proposed area is dominated by natural grassland with few patches of low shrubland. The site is also utilised for grazing, as illustrated in Figure 12, which shows domestic animals on the property. Furthermore, the area is occupied by transmission

powerlines emerging from the existing Koruson Substation moving to North and South direction of the area, with some construction activities taking place with excavated pits.



Figure 4: Powerlines along the side

3.2. HISTORICAL IMAGES



Figure 5: Historical image showing vegetation cover during 20025



Figure 6: Historical image showing vegetation cover during 2013

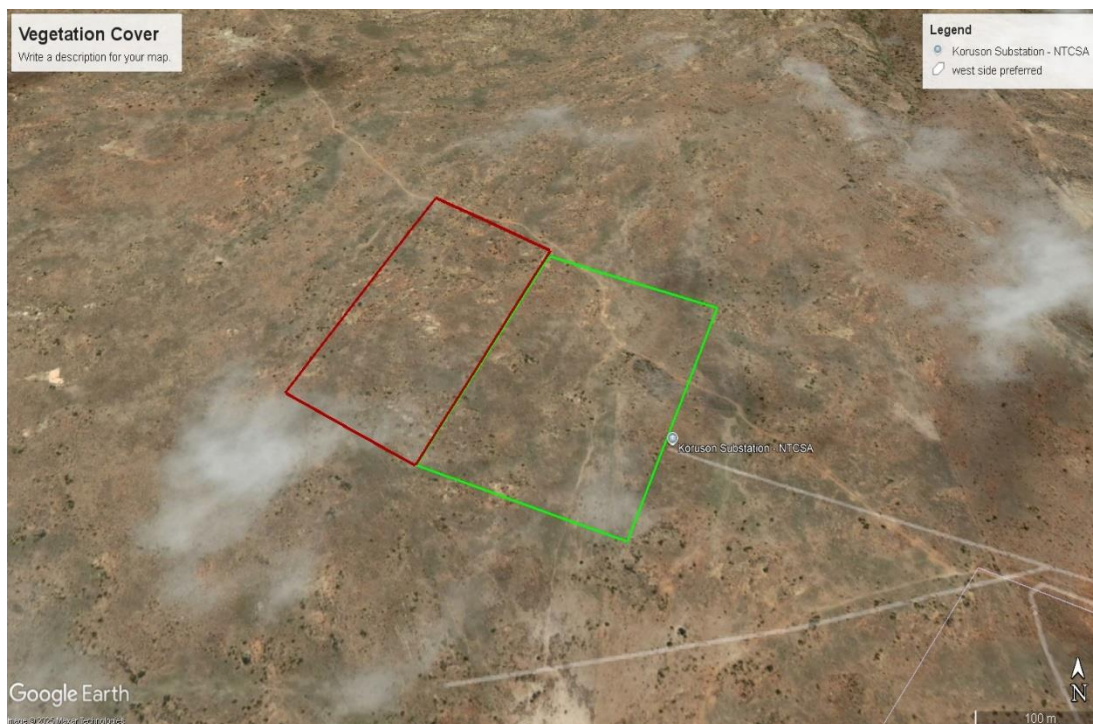


Figure 7: Historical image showing vegetation cover during 2018



Figure 8: Historical image showing vegetation cover during 2026

3.3. SITE PHOTOGRAPHS



Figure 9: Koruson substation



Figure 10: Current vegetation on site



Figure 11: Access Road



Figure 12: Domestic animals along the area

SECTION FOUR: PROJECT LEGAL REQUIREMENTS

a. NEMA

The proposed amendment will be applied for as per the EIA Regulations 2014 (as amended) as promulgated under the National Environmental Management Act (NEMA, Act No. 107 of 1998, as amended). Section 31 and 32 of these regulations outline a Part 2 Amendment (amendments where a change in scope occurs) and require the new scope of the development to be assessed from an environmental perspective. As such, the proposed changes to the approved development require an application for an amendment to the existing EA, prior to commencement of construction and operation. The process of the Part 2 Amendment is outlined the figure below:

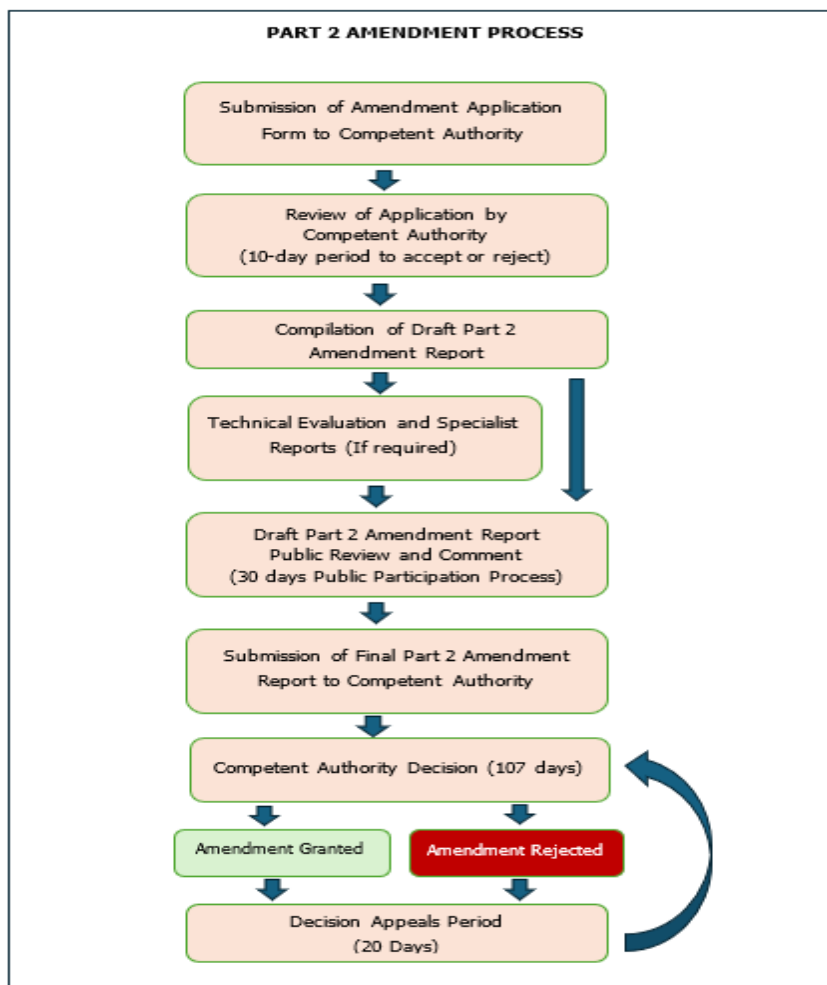


Figure 13:Part 2 Amendment Process

Table 1: Triggered listed activities

Listing Notice and Activity Number	Description	Relevance
Listing Notice 1 Activity 27	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	The proposed development entails the clearance of approximately 2.25 hectares of indigenous vegetation within a total site area of 6 hectares

Section 32 (1) of the 2014 EIA Regulations (as amended) requires that a report reflecting the details of the amendment is submitted to the competent authority within 90 days of acknowledgement of the application form, which includes the following:

- (i) An assessment of all impacts related to the proposed change;
- (ii) Advantages and disadvantages associated with the proposed change; and
- (iii) Measures to ensure avoidance, management and mitigation of impacts associated with such proposed change; and
- (iv) Any changes to the Environmental Management Programme (EMPr).

In compliance with the requirements of a Part 2 Amendment in terms of Section 32(1) of the Environmental Impact Assessment Regulations, 2014 (as amended), the potential impacts associated with the proposed addition of the Synchronous Condensers and their associated infrastructure will be identified and assessed as part of this amendment process (see Figure 13). Where necessary, specialist studies will be undertaken, and the findings will be incorporated into the relevant assessment reports. The competent authority for this application is the

Department of Forestry, Fisheries and the Environment (DFFE), which issued the original Environmental Authorisation (EA) for the construction of the Koruson Substation.

SECTION FIVE: DFFE SCREENING TOOL REPORT (STR) FINDINGS

5.1 STR FINDINGS

The site sensitivity verification has been undertaken by Dr Patrick Sithole.

5.1.2 Environmental Themes which are sensitive to the development

Table 2:STR Specified Environmental Themes and required specialist studies

Environmental Sensitivity Themes	Sensitivity	Motivation for sensitivity
Agricultural Theme	Medium	05. Low 06. Low-Moderate
Animal Species Theme	High	Aves-Neotis ludwigii
Aquatic biodiversity Theme	Low	Low sensitivity
Archaeological and Cultural Heritage Theme	Low	Low sensitivity
Civil Aviation Theme	Low	Low sensitivity
Defence Theme	Low	Low sensitivity
Paleontology Theme	Very high	Features with a Very High paleontological sensitivity.
Plant Species Theme	Low	Low sensitivity
Terrestrial biodiversity Theme	Very high	CBA 1 National Protected Area Expansion Strategy (NPAES)

Based on the information gathered through the desktop study (GIS based spatial tools) and the site inspection that has been undertaken on the 23 January 2026 for the proposed development, not all of the identified sensitivities are expected to apply.

5.2 VERIFICATION OF STR FINDINGS

This section of the SVR serves to:

- Verify the land use and sensitivities identified in the STR;
- Confirm/refute the need for various specialist inputs called for in terms of the STR; and
- Motivation and evidence of either the verified or different use of land and environmental sensitivity.

The verification findings are presented in a table overleaf.

5.2.1 STR Findings, Environmental sensitivity theme, Desktop analysis results and EAP comments

The environmental sensitivity themes identified through the STR, including the comments of the EAP and desktop analysis are all summarised below in Tables 3 to 11.

Sensitivity Themes

Table 3: Sensitivity Theme 1: Agricultural

Environmental Theme	Sensitivity				STR Motivation	Relevant (Yes/No)	STR Specialist Study Required
	High	High	Medium	Low			
Agricultural			X		05. Low, 06. Low-Moderate	NO	
(a) EAP Comments based on Site Visit Findings							
There is no evidence of active agricultural activities currently taking place on the site. The agricultural sensitivity is considered low, and the area is presently used for grazing, as illustrated in Figure 12, which shows domestic animals observed on site. The site is already disturbed, and the proposed project will be implemented within the footprint of an existing substation. Therefore, the agricultural sensitivity of the site is confirmed to be low.							
(b) Desktop Analysis							
The STR findings shows low and low-moderate features.							

Table 4: Sensitivity Theme 2: Animal Species

Environmental Theme	Sensitivity				STR Motivation	Relevant (Yes/No)	STR Specialist Study Required
	High	High	Medium	Low			
Animal Species		X			Aves-Neotis ludwigii	Yes	
(a) EAP Comments based on Site Visit Findings							
There is no animal species that has been observed through the site visit only domestic animals. The area is heavily degraded due to residential area, powerline and substation activities that has taken place. However, Terrestrial impacts assessment has been undertaken.							
(b) Desktop Analysis							
The STR shows that there's high sensitivity of Aves-Neotis ludwigii features							

Table 5: Sensitivity Theme 2: Aquatic Biodiversity

Environmental Theme	Sensitivity				STR Motivation	Relevant (Yes/No)	STR Specialist Study Required
	Very high	High	Medium	Low			
Aquatic Biodiversity				X	Low Sensitivity	YES	
(a) EAP Comments based on Site Visit Findings							
There is no aquatic biodiversity within the 500m buffer of the proposed site. Therefore, the sensitivity rating for aquatic biodiversity is accepted.							
(b) Desktop Analysis							
The STR findings shows low sensitivity							

Table 6: Sensitivity Theme 4: Archaeological and Cultural Heritage

Environmental Theme	Sensitivity				STR Motivation	Relevant (Yes/No)	STR Specialist Study Required
	Very high	High	Medium	Low			
Archaeological and Cultural Heritage Theme				X	Low Sensitivity	YES	
(a) EAP Comments based on Site Visit Findings							
There are no important cultural elements identified on the proposed site. However, during construction phase archaeological artefacts can be dig up and destroyed, if any artefacts are encountered construction works should cease immediately, SAHRIS and LIHRA should be notified within 24hrs of the findings. However, a specialist has been commissioned as per NHRA 25 of 1999. The STR finding is therefore accepted.							
(b) Desktop Analysis							
The STR findings shows low sensitivity							

Table 7: Sensitivity Theme 5: Civil Aviation

Environmental Theme	Sensitivity				STR Motivation	Relevant (Yes/No)	STR Specialist Study Required
	Very high	High	Medium	Low			
Civil Aviation				X	Low sensitivity	NO	
(a) EAP Comments based on Site Visit Findings							
No airport nor any airspace infrastructures observed 7km radius during the site visit and the project it would not affect any civil aviation. The STR finding is therefore accepted.							
(b) Desktop Analysis							

The STR finding shows Low Sensitivity

Table 8: Sensitivity Theme 6: Defence

Environmental Theme	Sensitivity				STR Motivation	Relevant (Yes/No)	STR Specialist Study Required
	Very high	High	Medium	Low			
Defence				X	Low Sensitivity	NO	
(a) EAP Comments based on Site Visit Findings							
No military base was identified within 5km of the proposed development; thus, the development poses no threat to the South African Defence Force. The STR finding is therefore accepted.							
(b) Desktop Analysis							
The STR finding shows Low Sensitivity							

Table 9: Sensitivity Theme 7: Palaeontology

Environmental Theme	Sensitivity				STR Motivation	Relevant (Yes/No)	STR Specialist Study Required
	Very high	High	Medium	Low			
Palaeontology	X				Features with a Very High paleontological sensitivity	No	
(a) EAP Comments based on Site Visit Findings							
The site is heavily degraded due to surrounding residential development, power lines, and existing substation infrastructure. During the site assessment, no evidence of palaeontological resources was identified, such as visible fossiliferous rock formations, exposed sedimentary layers, or fossil remains within the proposed development footprint.							

A review of the SAHRIS Palaeontological Sensitivity Map (<https://sahris.org.za/map/palaeo>) indicates that the proposed site falls within an area of low palaeontological sensitivity. According to SAHRIS, areas with low sensitivity do not require detailed palaeontological studies. Therefore, the finding of the STR is disputed to low.

(b) Desktop Analysis

The STR indicates that the site includes High sensitivity features, including areas of High paleontological sensitivity.

Table 10: Sensitivity Theme 7: Plant Species

Environmental Theme	Sensitivity				STR Motivation	Relevant (Yes/No)	STR Specialist Study Required
	Very high	High	Medium	Low			
Plant Species				X	Low Sensitivity	Yes	
(a) EAP Comments based on Site Visit Findings							
No protected or threatened species were observed onsite. The area is heavily degraded due to residential area, powerline and substation activities that has taken place. The STR finding is therefore accepted. A terrestrial biodiversity impacts study has been undertaken.							
(b) Desktop Analysis							
The STR shows that there's Low Sensitivity							

Table 11: Sensitivity Theme 8: Terrestrial Biodiversity

Environmental Theme	Sensitivity				STR Motivation	Relevant (Yes/No)	STR Specialist Study Required
	Very high	High	Medium	Low			
Terrestrial	X				CBA 1, National Protected	YES	

					Area Expansion Strategy (NPAES)	
(a) EAP Comments based on Site Visit Findings						
No protected or threatened species were recorded during the site assessment. The proposed area is located within a Critical Biodiversity Area (CBA 1) and is recognised under the National Protected Area Expansion Strategy (NPAES). Terrestrial Biodiversity study has been undertaken. The STR finding is therefore accepted.						
(b) Desktop Analysis						
The STR indicates that the site falls within areas classified as having Very High sensitivity for CBA 1 features, as well as Very High sensitivity in terms of the National Protected Area Expansion Strategy (NPAES).						

SECTION SIX: POTENTIAL IMPACTS FROM THE PROPOSED DEVELOPMENT

6.1 INTRODUCTION

The following are the possible potential impacts of the proposed project in the area during construction and operation phase. The mitigating measures will be included in EIR and the EMPr.

Direct impacts: The main potential environmental impacts association with the construction and operation phase of the proposed activity are as follows:

a. Dust impact

Construction Phase

Dust from construction activities will be from construction vehicles, the dust will be below the regulated standards, and it can be easily managed through dust suppression measures.

Operational Phase

Dust may be generated from the movement of operation vehicles. These pollutants can affect the air quality and health of workers and neighbours. However, dust will be managed or mitigated by using dust suppression measures.

b. Traffic impact

Construction Phase

During the construction phase, construction vehicles will be moving in and out of the site. These vehicles will have a speed limit of 40km/hr and have the potential of causing traffic congestion. However, it is advised that the heavy vehicles and construction machinery be in motion before 7am and after 6pm so that they do not disturb daily road users.

Operational Phase

During the operational phase, the proposed development is expected to less traffic.

c. Noise

Construction Phase

High level of construction noise from the movement of heavy construction vehicles and machinery may be produced however to mitigate or manage construction noise construction vehicles can be fitted with noise suppressing equipment such as noise barriers, mufflers, and silencers, as well as limit the operating hours and frequency of noisy activities. In addition, they will also be a noise emission from rotating machinery and cooling systems of the synchronous condensers.

Operational Phase

During the operational phase, noise generated by the proposed development is expected to remain below regulated limits. Most of the noise during this phase will result from operating machinery.

To ensure continued compliance and minimise potential impacts, the following mitigation measures should be implemented:

- Install acoustic enclosures around major noise-generating equipment.
- Use low-noise cooling fans and machinery where feasible.
- Maintain equipment regularly to prevent excessive noise due to wear and tear.
- Conduct periodic noise monitoring to ensure compliance with applicable standards

d. Potential Soil Contamination

Construction Phase

Construction vehicles may release hazardous waste which can contaminate the soil however this can be managed effectively by making use of drip trays on site.

Operational Phase

Operation vehicles may release hazardous waste which can contaminate the soil however this can be managed effectively by making use of drip trays on site.

e. Socio-economic impacts

Construction Phase

During construction phase job opportunities will arise which will attract a lot of people seeking employment to flood the area in search of job opportunities.

Operational Phase

The proposed development will have positive impacts during the operational phase as they will help in addressing the issue of job creation, poverty. Additionally, the addition of the synchronous condensers will enhance grid stability by providing reactive power support and improving voltage in weak grid areas, thereby reducing the risk of voltage instability and potential grid collapse.

f. Potential water contamination

Construction Phase

No potential water contamination is anticipated during the construction phase.

Operational Phase

No potential water contamination is anticipated during this phase.

g. Archaeological, Heritage and cultural resources

Construction

No heritage or cultural sites were found on the project site. However, during construction phase archaeological artefacts can be exhumed and destroyed, if any artefacts are encountered

construction works should cease immediately; SAHRIS and should be notified within 24hrs of the findings.

Operation

No impacts are anticipated during operational phase.

6.3. SPECIALIST STUDIES RECOMMENDED BY THE STR

1. Agricultural Impact Assessment
2. Archaeological and Cultural Heritage Impact Assessment
3. Paleontology Impact Assessment
4. Terrestrial Biodiversity Impact Assessment
5. Aquatic Biodiversity Impact Assessment
6. Geotechnical Assessment
7. Plant Species Assessment
8. Animal Species Assessment

6.4. SPECIALIST STUDIES COMMISSIONED (DEEMED NECESSARY)

- ❖ Terrestrial Biodiversity Impact Study
- ❖ Archaeological and Cultural Heritage Impact Assessment
- ❖ Aquatic Biodiversity compliance statement report

SECTION EIGHT: ANY FATAL FLAWS

In conducting this environmental screening and site verification, no major concerns considered fatal were identified. The specialist studies results did not identify any fatal flaws.

SECTION NINE: ASSUMPTIONS AND LIMITATIONS

The findings of this SVR are based on the available project information, the site verification conducted on 23 January 2026 and GIS based desktop information available for the project site. This report was conducted based on the desktop studies particularly the DFFE Screening Tool and the preliminary site visit. It should be noted that the DFFE screening tool provides description based on spatial data from various datasets. It is therefore essential to verify the data contained in the DFFE screening report on-site. Some of the discrepancies were identified between the DFFE screening report and the onsite verification and are detailed in the sections above. Furthermore, the findings discussed in this report may change as further studies are undertaken.

SECTION TEN: CONCLUSIONS

This SVR was prepared for the proposed addition of three Synchronous Condensers to the existing Koruson Substation and its associated infrastructures within the jurisdiction of Umsobomvu Local Municipality of Pixely Ka Seme District Municipality in Northern Cape province. The environmental screening and verification exercise was conducted based on available project information, the site inspection conducted on 23 January 2026 and a desktop analysis of the project site.

The proposed EA amendment should be authorised to ensure compliance with environmental laws and regulations. The expansion of the Koruson Substation footprint, through the addition of three synchronous condensers each with a capacity of (+300 / -200 MVar), will significantly enhance electricity network stability, voltage control, and overall system reliability.

The environmental assessment identified potential impacts primarily associated with the construction and operational phases; however, these impacts are expected to be localised and can be effectively managed through the implementation of appropriate mitigation measures. In addition, the project will contribute positively to infrastructure development and create short-term employment opportunities.

Based on the assessment findings, the benefits of the project outweigh the potential environmental impacts. It is therefore recommended that Environmental Authorisation be granted, subject to the implementation of the proposed mitigation and environmental management measures