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Medupi-Witkop 400kV Tx Line

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TABLE OF CONTENT		
NO	HEADING	PAGE
	Signature page	01
	Table of content	02-03
	Abbreviation	03
1	Introduction	04
2	Mandate	04
3	Scope	04
4	Context of STA Methodology	04
4.1	The methodology used during the STA	04
5	Purpose of STA	05
6	STA Objective	05
7	Project Executive Summary	05
8	Employee Objective	05
8.1	Number of Employees	05
8.2	Number of Visitors and Clients	05
9	Socio-Economic circumstances	05-06
10	Political circumstances	06-10
11	Demography	10
12	Existing infrastructure on the Medupi-Witkop servitude	11
13	Site details	11
14	Site description	12
15	Site Map	12
16	Asset identification-Existing assets	13
16.1	Project Assets	13
16.2	Project Site Camp information	13
17	Crime statistics of the existing Line (Medupi-Witkop servitude)	14
18	Current Security measures in place (Medupi-Witkop servitude)	15
19	Threat Assessment - Results	15-16
20	Criminal acts are expected to affect the progress of the Diphororo substation Project construction	16-17
21	Security Threat Assessment Validity	17
22	Details of Assessment Team	17

CONTROLLED DISCLOSURE

23	Recommendations	18
24	Recommended Security services required-Site Camp and Construction sites at servitude	19
25	Contractor Security Responsibility	19-20
26	Additional Recommendations	20
27	Incident Reporting Procedures	20
28	Project Stakeholder Representatives	21
29	Emergency contacts	21
30	Conclusion	22
31	Disclaimer	22

ABBREVIATIONS		
1	STA	Security Threat Assessment
2	SOW	Scope Of Work
3	TPD	Transmission Project Delivery
4	SAPS	South African Police Services
5	EMS	Emergency Medical Services
6	SWOT	Strength, Weaknesses, Opportunities, Threats
7	PESTEL	Political, Economy, Social, Technological, Environmental, Legal
8	PSIRA	Private Security Industry Regulatory Authority

SECURITY THREAT ASSESSMENT FOR THE CONSTRUCTION OF THE MEDUPI-WITKOP 400KV TX LINE

1. INTRODUCTION

As part of a continuous security service to TPD, a Security Threat Assessment (STA) was conducted on 23 June 2022 during the day, by the mandated security official to assist the Medupi-Witkop 400kV Project team in better understanding their current security threat profile. This report identifies and describes any evident threats identified that may affect the project construction of the Medupi-Witkop 400kV Tx Line. This report further assists the TPD team in effectively managing legal compliance (*e.g., NKP Act, PSIRA Act, etc.*), organizational conformance (*e.g., SHEQ, Risk & Resilience Management, etc.*), and other key performance areas and may also assist with the SWOT analysis and the identification of risks regarding Operational and Business Plans. As per Eskom STA Standard (240-79537982), STA needs to be conducted at least bi-annually for all sites. Medupi-Witkop 400kV Project team is advised to revise and amend this Security Threat Assessment as and when the crime situation or patterns are changing.

2. MANDATE

The mandate of TPD Security conducting this STA as described within their formal appointment and/or designation as agreed with their responsible line management.

- Confirmation of the project site where the project is to be constructed and identification of the project security requirements.
- Compile Security Threat Assessment.
- Participation and liaison with Project Managers, Stakeholder Management, and Contractors.
- Support the PM with the appointment of security service providers to safeguard construction sites.
- Continuous environmental scanning, monitoring, and attending to criminal incidents against the project assets and employees.
- Raising awareness of security and creating a pro-security culture.

3. SCOPE

The scope of a Security Threat Assessment is guided by the Security Threat Assessment (STA) Standard (240-79537982) in consultation with the Grid security measure requirements.

4. CONTEXT OF THE STA METHODOLOGY

The STA methodology is based on a systematic and guided approach as set by the Security Threat Assessment (STA) Standard (240-79537982) that compliments legal compliance. As part of the assessment, a study is conducted on the micro and macro environments and all related PESTEL elements thereof that may affect security, project construction site, or regional operations of the organization.

The STA forms the basis for a security design and is the most important aspect in determining where and how to treat security threats as part of a security design. In addition, the STA assists with the identification of the most appropriate security control measures to effectively manage security threats by reducing the probability and/or impact of an uncertain event where threats against the organization's assets and resources are evident.

4.1 METHODOLOGY USED DURING THE SECURITY THREAT ASSESSMENT

The Medupi-Witkop 400kV construction line was inspected physically during the day on 23 June 2022 with the assistance of the Medupi-Witkop 400kV project site supervisor(Rasmati Sithole). TXPD Security had a consultation of the overall crime statistics with the local SAPS crime office and continued consultation will take place during the construction phase of the project. The environment landscape was assessed and all routes leading to and from the identified Medupi-Witkop line construction site have been noted, in case of emergency alternative roads will be needed to ensure the effective preventative measures being put in place to stop criminal activities that might occur at the Medupi-Witkop line construction sites.

5. PURPOSE OF THE STA

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1	The purpose of the assessment is to give an overview of the analysis of security threats at the existing Tx line route between Medupi Powerstation and Witkop substation.
2	To identify the potential threat that could delay the construction and completion of the Medupi-Witkop 400kV Tx line and to provide adequate security measures to avoid such incidents
3	To provide effective physical security measures through a combination of detection, delay, and response mechanisms
4	Protect against the theft of and or incidents of high consequence and the unauthorized removal of materials or assets on site
5	Secure the facility perimeter(s) to ensure the effective application of access and egress control measures
7	Provide resilience measures, high reliability, and balanced protection of the site and support functions
8	Provide emergency preparedness plans to mitigate or minimize any serious consequences, taking into consideration the needs and importance of other areas or systems

6. STA OBJECTIVE

To ensure smooth commencement and completion of the construction of the Medupi-Witkop 400Kv Tx Line. Keeping Eskom and Contractor employees, assets, project material, vehicles, and equipment safe, and having the daily continuation of operations at the existing Tx Line Infrastructure.

7. PROJECT EXECUTIVE SUMMARY

The Medupi Witkop 400kV Transmission Lines project (Sections A, B, C, and D)

The construction of Medupi- Witkop 400kV Transmission Lines (Section A, B, C, and D), runs in an easterly direction from Medupi Power Station near Lephalale to Witkop substation near Polokwane. The project covers the following Municipalities' jurisdictions: Lephalale, Mogalakwena, and Polokwane Local Municipalities which are located within Capricon and Waterberg District Municipalities of Limpopo Province.

Scope of Work

The scope of work for the project is the construction of approximately 220 kilometers of transmission line, divided into four (sections A, B, C, and D), from Medupi Power Station to Witkop Sub-station.

	The works will include but are not limited to the following:
1	Construction of foundations
2	Tower steel supply
3	Assembly and tower erection
4	Earth wire and OPGW
5	Regulating and clamping from gantry from Medupi Power Station, including miscellaneous items, rehabilitation, and Line handover

Medupi Witkop Section A:

Construction of 48km of the Medupi Witkop 400kV Transmission Line from tower 1 at Medupi Power Station near Lephalale to tower 124, as per the relevant profiles and line route map including the closing span between Gantry-T01, from Medupi power station to tower 124.

Medupi Witkop Section B:

Construction of 63km of the Medupi Witkop 400kV Transmission Line from tower 125 to tower 279, as per the relevant profiles and line route map including the closing span between tower 124– tower 125.

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Medupi Witkop Section C:

Construction of 65km of the Medupi Witkop 400kV Transmission Line from tower 280 to tower 431, as per the relevant profiles and line route map including the closing span between tower 279– tower 280

Medupi Witkop Section D:

Construction of 45km of the Medupi Witkop 400kV Transmission Line from tower 432 to tower 536, as per the relevant profiles and line route map including the closing span between tower 431- tower 432 and tower 536– Gantry.

Geographical Location

The construction of Medupi- Witkop 400kV Transmission Lines (Section A, B, C, and D), runs in an easterly direction from Medupi Power Station near Lephalale to Witkop substation near Polokwane. The project covers the following Municipalities' jurisdictions: Lephalale, Mogalakwena, and Polokwane Local Municipalities which are located within Capricon and Waterberg District Municipalities of Limpopo Province.

8. EMPLOYERS' OBJECTIVE AND PURPOSE OF THE WORKS

The successful construction of Medupi Witkop 400kV Transmission Lines (Section A, B, C, and D) to ensure reliable electricity supply in the Grid as detailed in the Grid planning report: Transient Stability Studies (TSS) for the transmission integration of Medupi Power Station – Part 3 October 2014.

8.1 NUMBER OF EMPLOYEES

	Description	
1	Eskom employees	Unknown
2	Contractor employees	Unknown
3	Project site supervisors	Unknown
4	Name of Contractors	Unknown

8.2 NUMBER OF VISITORS / CLIENTS

Medupi-Witkop 400Kv Tx Line route passes through various private and rural areas. No ordinary visits are allowed except by internal staff members who visit for work-related purpose and external contractors who only comes to the site when they are employed to do project construction work.

9. SOCIO-ECONOMIC CIRCUMSTANCES

Agriculture

The bushveld is a beef cattle country, where extensive ranching operations are often supplemented by controlled hunting. About 80% of South Africa's game hunting industry is found in Limpopo.

Sunflowers, cotton, maize, and peanuts are cultivated in the Bela-Bela and Modimolle areas. Modimolle is also known for its table grapes. There is an embryonic wine industry growing in Limpopo. Tropical fruit, such as bananas, litchis, pineapples, mangoes, and pawpaws, as well as a variety of nuts, are grown in the Tzaneen and Louis Trichardt areas. Tzaneen is also at the center of extensive citrus, tea, and coffee plantations, and major forestry industry. Most of the farmers and households suffer from the water supply, therefore they drill their boreholes in their premises.

Housing

The majority of Limpopo residents live in rural areas, this has given rise to a new phenomenon of rural development, where the residents have invested in building lavish homes on their tribal land. Limpopo rural houses have been profiled by TV channels, lifestyle vloggers, social media influencers, and Africa's biggest facts brand Africa Facts Zone. 96.2% of Limpopo live in formal housing, this figure is above the national average of 84.0%. This makes Limpopo the province with the highest percentage of people living in formal housing in South Africa.

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Mining

Ajoite in quartz, from the Messina mine, Limpopo Province, South Africa. The scale at the bottom is one inch, with a rule at one cm.

Limpopo's rich mineral deposits include the platinum group metals, iron ore, chromium, high- and middle-grade coking coal, diamonds, antimony, phosphate, and copper, as well as mineral reserves like gold, emeralds, scheelite, magnetite, vermiculite, silicon, and mica. Commodities such as black granite, corundum, and feldspar are also found. Mining contributes to over a fifth of the provincial economy.

Limpopo has the largest platinum deposit in South Africa. The Waterberg Coalfield, the eastern extension of Botswana's Mmamabula coalfields, is estimated to contain 40% of South Africa's coal reserves.

Tourism

The Limpopo Department of Economic Development, Environment and Tourism has targeted the province as a preferred eco-tourism destination. Its Environment and Tourism Programme encompasses tourism, protected areas, and community environment development to achieve sustainable economic growth.







While Limpopo is one of South Africa's poorest provinces, it is rich in wildlife, which gives it an advantage in attracting tourists. Both the private and public sectors are investing in tourism development. Near Modjadiskloof, at Sunland Baobab farms, there is a large Baobab tree that has been fashioned into a rather spacious pub.

10. POLITICAL CIRCUMSTANCES

POLITICAL GROUPS	Government	ANC	38%
	Official Opposition	EFF	7%
	Other parties	DA	3%
		FF+	1 %

The municipal council consists of thirty-two members elected by mixed-member proportional representation. Sixteen councilors are elected by first-past-the-post voting in sixteen wards, while the remaining sixteen are chosen from party lists so that the total number of party representatives is proportional to the number of votes received. In the election of 3 August 2016, the African National Congress (ANC) won a majority of twenty seats on the council.

The following table shows the results of the election.

Party	Votes				Seats		
	Ward	List	Total	%	Ward	List	Total
 ANC	16,053	17,452	33,505	61.0	14	6	20
 EFF	4,924	5,614	10,538	19.2	0	7	7
 Democratic Alliance	1,785	2,067	3,852	7.0	1	2	3
 Independent	3,783	—	3,783	6.9	1	—	1
 Freedom Front Plus	342	319	661	1.2	0	1	1
 Others	1,137	1,481	2,618	4.8	0	0	0
Total	28,024	26,933	54,957	100.0	16	16	32
Spoilt votes	507	1,538	2,045				

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Government			Population groups	
1	Type	Parliamentary system	Black	96.7%
2	Premier	(ANC) Stanley Mathabatha	White	2.6%
3	Legislature	Limpopo Provincial Legislature	Indian/Asian/Coloured	0.3% (each)

Population		Languages	
2011	5,404,868	Pedi	52.9%
2021	5,926,72	Tsonga	17.0%
Rank	5 th in South Africa	Venda	16.7%
Density	43/km2 (110/sq mi)	Afrikaans	2.6%
		Tswana	2.0%
		Southern Ndebele	2.0%

Limpopo Province is divided into five district municipalities. The district municipalities are in turn divided into 25 local municipalities:

1. CAPRICORN DISTRICT	
Blouberg	Blouberg Local Municipality is a municipality in the Limpopo Province, northern South Africa, bordering Botswana. It takes its name from the Blouberg, a mountain range located to the west of the western end of the Soutpansberg mountain range, northwest of the town of Vivo. Blouberg is home to some of the most spectacular rock climbing in South Africa. The rock climbing destination
Lepelle-Nkumpi	Lepelle-Nkumpi Local Municipality is located in the Capricorn District Municipality, of Limpopo province, South Africa. The seat is Lebowakgomo.
Molemole	Molemole Local Municipality is located in the Capricorn District Municipality, of Limpopo province, South Africa. The seat of Molemole Local Municipality is Mogwadi.
Polokwane	The Polokwane Local Municipality is a local municipality located within the Capricorn District in the Limpopo Province of South Africa. It shares its name with the city of Polokwane.

2. MOPANI DISTRICT

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Ba-Phalaborwa	Ba-Phalaborwa Local Municipality is located in the Mopani District Municipality of Limpopo province, South Africa. The seat of Ba-Phalaborwa Local Municipality is Phalaborwa.
Greater Giyani	Greater Giyani Local Municipality is located in the Mopani District Municipality of Limpopo province, South Africa. The seat of Greater Giyani Local Municipality is Giyani
Greater Letaba	Greater Letaba Local Municipality is located in the Mopani District Municipality of Limpopo province, South Africa. The seat of Greater Letaba Local Municipality is Modjadiskloof
Greater Tzaneen	Greater Tzaneen Local Municipality is located in the Mopani District Municipality of Limpopo province, South Africa. The seat of the municipality is Tzaneen
Maruleng	Maruleng Local Municipality is located in the Mopani District Municipality of Limpopo province, South Africa. The seat of Maruleng Local Municipality is Hoedspruit

3. SEKHUKHUNI DISTRICT

Elias Motsoaledi	Elias Motsoaledi Local Municipality is located in the Sekhukhune District Municipality of Limpopo province, South Africa. The seat of Elias Motsoaledi Local Municipality is Groblersdal. The municipality is named in honor of Elias Motsoaledi.
Ephraim Mogale	Ephraim Mogale Local Municipality is located in the Sekhukhune District Municipality of Limpopo province, South Africa. The seat of Ephraim Mogale Local Municipality is Marble Hall.
Fetakgomo Tubatse	Fetakgomo Tubatse Local Municipality is a local municipality in South Africa. It was established after the August 2016 local elections by the merging of Fetakgomo and Greater Tubatse local municipalities.
Makhuduthamagama	Makhuduthamagama is a municipality in Sekhukhune District Municipality, Limpopo Province, South Africa.

4. VHEMBE DISTRICT

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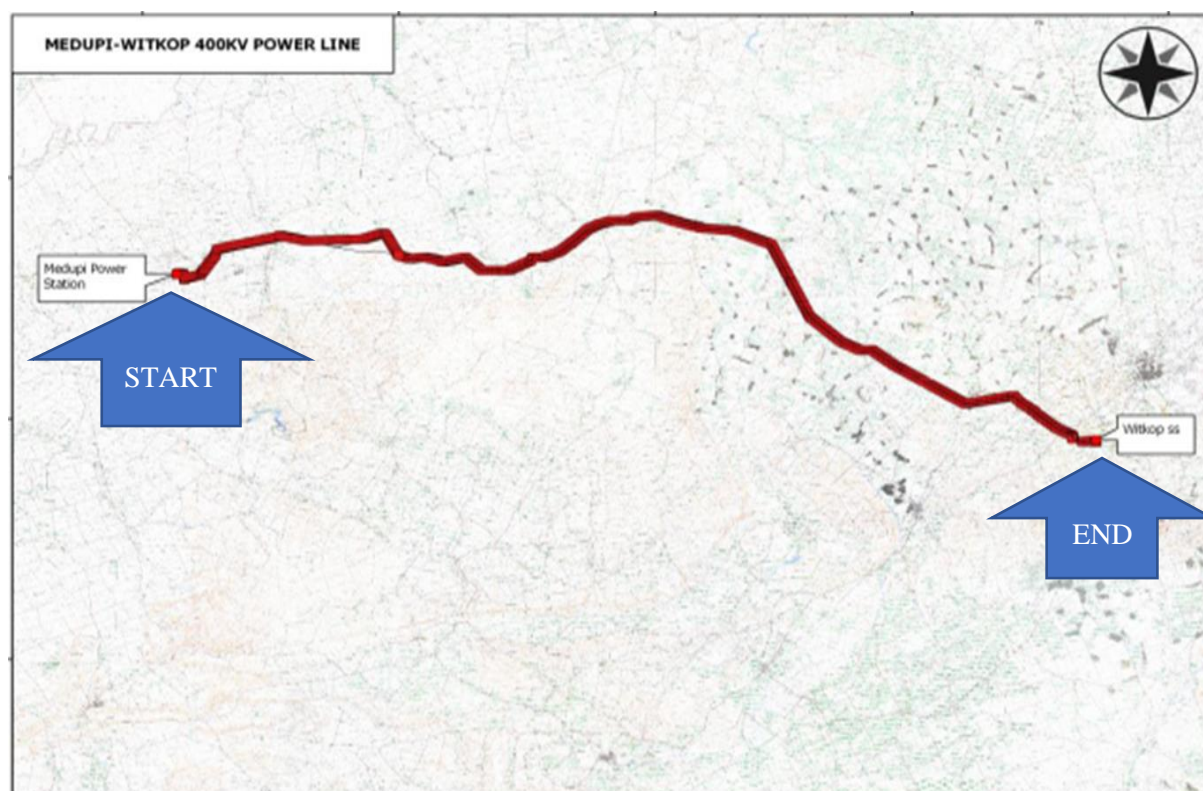
Makhado	Makhado Local Municipality is located in the Vhembe District Municipality of Limpopo province, South Africa. The seat of Makhado Local Municipality Louis Trichardt
Musina	Musina Local Municipality is located in the Vhembe District Municipality of Limpopo province, South Africa, and is the northernmost local municipality in South Africa. It borders Botswana and Zimbabwe. The seat of Musina Local Municipality is Musina
Collins Chabane	Collins Chabane Local Municipality is a local municipality in South Africa. It was established after the August 2016 local elections by the merging of portions of two local municipalities: Thulamela and Makhado. Malamulele is the seat of the municipality.
Thulamela	The Thulamela Local Municipality is a Local municipality in the Limpopo province of South Africa. Its municipal boundaries were greatly altered after the South African municipal elections, in 2016 when much of the area that formerly belonged to the municipality, including the town of Malamulele, was incorporated into the newly formed Collins Chabane Local Municipality. It is named after the Thulamela ruins located.

5. WATERBERG DISTRICT

Bela-Bela	Bela-Bela Local Municipality is located in the Waterberg District Municipality of Limpopo province, South Africa. The seat of Bela-Bela Local Municipality is Bela-Bela
Lephalale	Lephalale Local Municipality is located in the Waterberg District Municipality of Limpopo province, South Africa. The seat of Lephalale Local Municipality is Lephalale
Modimole	Modimolle–Mookgophong Local Municipality is a local municipality in South Africa. It was established after the August 2016 local elections by the merging of Mookgophong and Modimolle local municipalities.
Mogalakwena	Mogalakwena Local Municipality is located in the Waterberg District Municipality of Limpopo province, South Africa. The seat of Mogalakwena Local Municipality is Mokopane
Thabazimbi	Thabazimbi Local Municipality is an administrative area in the Waterberg District of Limpopo in South Africa. The seat of Thabazimbi Local Municipality is Thabazimbi.

11. DEMOGRAPHY

The construction of Medupi- Witkop 400kV Transmission Lines (Section A, B, C, and D), runs in an easterly direction from Medupi Power Station near Lephalale to Witkop substation near Polokwane. The project covers the following Municipalities' jurisdictions: Lephalale, Mogalakwena, and Polokwane Local Municipalities which are located within Capricon and Waterberg District Municipalities of Limpopo Province.



12. EXISTING INFRASTRUCTURE BETWEEN MEDUPI POWERSTATION AND WITKOP SUBSTATION

- 400Kv Transmission Lines
- 275 Kv Transmission/Mathiba Lines.
- Borutho Substation
- Witkop Substation

13. SITE DETAILS

1	Area or Address of Site	Medupi-Witkop 400Kv Tx Line (Sec-A,B,Cand D)
2	Sector / Part of Site	Tx Line
3	Coordinates Latitude	-23. 7049'S,27.5632'E
	Coordinates Longitude	-24.04393',24'2'38S

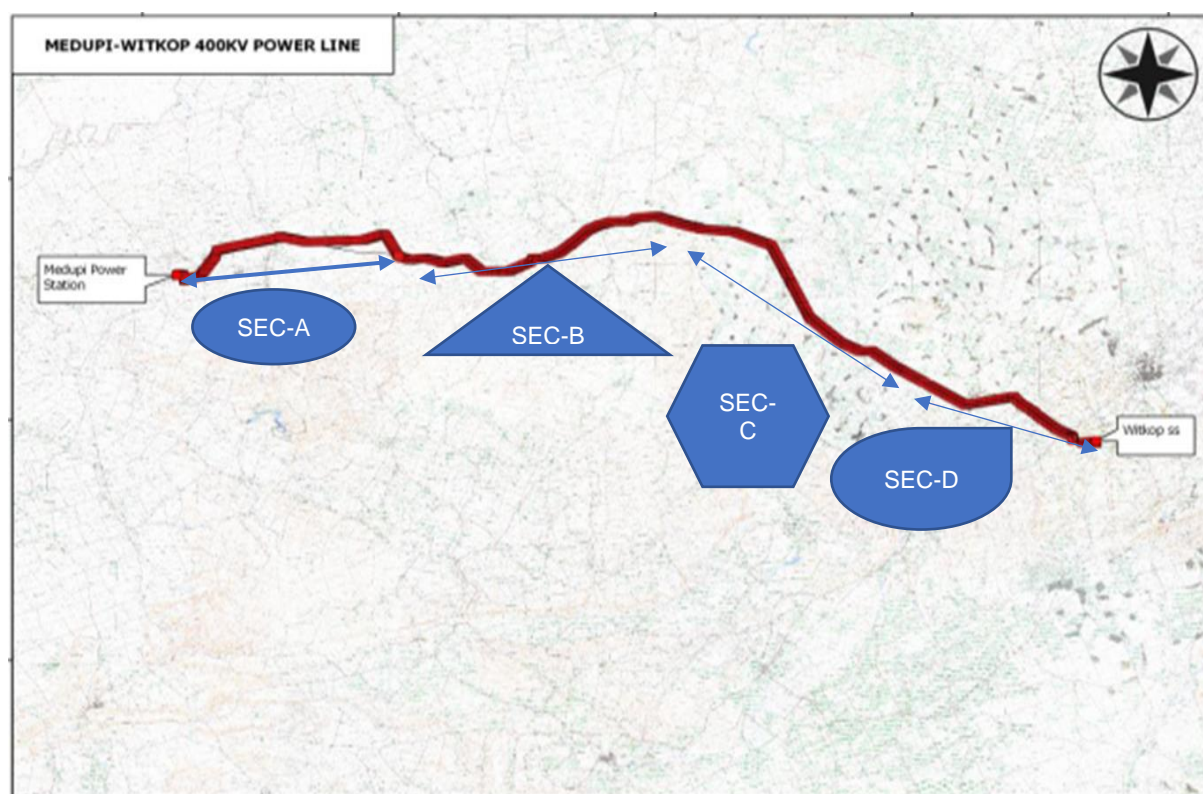
14. SITE DESCRIPTION

1	Medupi Witkop Section A:
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	Construction of 48km of the Medupi Witkop 400kV Transmission Line from tower 1 at Medupi Power Station near Lephalale to tower 124, as per the relevant profiles and line route map including the closing span between Gantry-T01, from Medupi power station to tower 124
2	Medupi Witkop Section B: Construction of 63km of the Medupi Witkop 400kV Transmission Line from tower 125 to tower 279, as per the relevant profiles and line route map including the closing span between tower 124– tower 125.
3	Medupi Witkop Section C: Construction of 65km of the Medupi Witkop 400kV Transmission Line from tower 280 to tower 431, as per the relevant profiles and line route map including the closing span between tower 279– tower 280
4	Medupi Witkop Section D: Construction of 45km of the Medupi Witkop 400kV Transmission Line from tower 432 to tower 536, as per the relevant profiles and line route map including the closing span between tower 431- tower 432 and tower 536– Gantry

15. SITE MAP



16. ASSET IDENTIFICATION- EXISTING ASSETS

1	The Medupi-Witkop servitude does have parallel existing Tx and Mathimba Lines
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2	The Medupi-Witkop servitude does have existing Borutho and Witkop substations.
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16.1 PROJECT ASSETS

#	Asset Group	Asset
1	People	<ul style="list-style-type: none">Eskom employees & Contractor employees
2	Property Buildings Equipment Material	<ul style="list-style-type: none">Eskom free-issued materialContract's equipment & machineryThe project team and vehicles at the project site.Contractor's vehicles
3	Information	<ul style="list-style-type: none">Construction operational information and designs, laptops, and computers
4	Services/Processes	<ul style="list-style-type: none">Services & Processes
5	Systems	<ul style="list-style-type: none">Communication networks

16.2 PROJECT SITE CAMP/s INFORMATION

#	1	Material Laydown Area	Not yet confirmed
	2	Type Material	Not yet confirmed
	3	Equipment	Not yet confirmed
#	4	Buildings	Not yet confirmed

17. CRIME STATISTICS ON THE EXISTING TX LINES

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#	1	Threat (What and when?)		• THEFT OF COPPER			
Asset; processes; people; information; plant building equipment etc.				• Protection cables			
Place (Where?)				• JB – Box (Substations)			
Modus Operandi (Where and When?)				• Cutting/Entering Substations all three-parameter (3 Tier) fence			
Aggressor (Who?)				• Criminals/People with criminal intend			
Probability (likelihood)		2		Consequence (Impact)	7	Threat Index (1 -10)	8
#	2	Threat (What and when?)		• THEFT OF TOWER MEMBERS			
		Asset; processes; people; information; plant building equipment etc.		• Towers			
		Place (Where?)		• Existing Tx Lines			
		Modus Operandi (Where and When?)		• Cutting and unscrewing tower members			
		Aggressor (Who?)		• Criminals/People with criminal intend			
		Probability (likelihood)	2	Consequence (Impact)	7	Threat Index (1 -10)	8
#	3	Threat (What and when?)		• THEFT OF TRANSFORMERS			
Asset; processes; people; information; plant building equipment etc.				• DistributionTransformers			
Place (Where?)				• Distribution infrastructures/Rural Community areas			
Modus Operandi (Where and When?)				• Cutting / Unscrew conductor cables			
Aggressor (Who?)				• Criminals/People with criminal intend			
Probability (likelihood)		2		Consequence (Impact)	7	Threat Index (1 -10)	8

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- The transmission lines are only inspected during maintenance routine inspections.
- Anti-climb fences are mounted on the towers-to stop criminals from climbing onto the towers.
- The substations are safeguarded by Grid private security service providers, Cameras, Intruder detection, and a 3Tier energized fence.

#	1	Security Control Measure - Type	• GRID LINE MAINTENANCE INSPECTION					
Security Control Measure – Description			• Anti-climb fence					
Threat Control Effectiveness			FE		ME		MI	x
#	2	Security Control Measure - Type	• Razer/Barb wires					
Security Control Measure – Description			• Anti-climb covered with razer/barb wires					
Threat Control Effectiveness			FE		ME	✓	MI	
#	3	Security Control Measure - Type	• Regular maintenance inspections					
Security Control Measure – Description			• Maintenance inspections					
Threat Control Effectiveness			FE		ME	✓	MI	
Legend								
FE	Fully Effective		ME	Most Effective		MI	Mostly Ineffective	

19. THREAT ASSESSMENT RESULTS

SECURITY THREAT ASSESSMENT							
#	Asset Description	Threats	Type of Compromise	Probability	Consequences	Impact	Threat Index
1	Tower members	Theft	Collapse of towers	High	Infrastructure damage	Severe	5
2	Copper-installed in underpass	Theft	Transmission of energy	High	Interruption of supply	Severe	3
3	Conductor-Remote areas	Theft	Transmission of energy	Medium	Interruption of supply	Serious	2
4	Tower Steel-Community areas	Theft	Destruction	Low	Infrastructure damage	Serious	2

Legend						
Threats	Who	What	When	Where	Why	How

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Type of Compromise	Disclosure		Modification		Destruction		Removal		Interruption		Injury	
Probability	Low (1-6)				Medium (7 -9)				High (10)			
Consequence	Privacy			Trust			Asset			Service		
Impact	Trivial				Serious				Severe			
Threat Index	1	2	3	4	5	6	7	8	9			
PROBABILITY RATING					2							
ORGANISATIONAL IMPACT LEVEL					7							
VULNERABILITY LEVEL					7							
THREAT INDEX					7							

20. CRIMINAL ACTS EXPECTED TO AFFECT THE PROGRESS OF THE Medupi-Witkop 400kV PROJECT CONSTRUCTION- THROUGHOUT THE LOCAL VILLAGE AREAS.

#	CAUSE	IMPACT
1	Community Unrest/Protest	This can be expected to occur whether proper consultation through introducing the project with the local municipality, community, and SAPS has been done or not. The Project team therefore must ensure that all consultations are recorded and filed to be made available to the relevant stakeholders as and when requested to avoid endless project interruptions. The project team must ensure that contingency plans are in place to be implemented as and when the community unrest continuously disrupts project construction.
2	Armed Robberies	History has taught us a lot in the past criminal incidents regarding armed robberies when projects of this nature occur and especially when it comes to Security Officers employed on-site (Robbed of their firearms and some instances fatalities), motor vehicles (Carjacked), and at site establishment (Business robbery) where some of the materials are stored.
2	Theft	This can be expected to occur frequently during the build-up phase of the installation, as there will be an influx of job seekers at the site who will in turn take cognizance of activities on-site and may make friends within the workforce. Also important in this regard is the fact that various materials will be kept on-site and money will be the driving factor for stealing. Items with a reasonable resale value, like (copper cable, aluminum clamps, and other equipment used for refurbishment on site) will be easy to come by on the new site and will be easy to sell. Scrap metal dealers (Legal and illegal) are mushrooming within the immediate surrounding areas, and they do business there and might be willing to buy such items. Such projects are therefore a great attraction once it is known that these items are used and kept in attractive quantities on site.
3	Malicious damage to Property	This is the kind of crime that is unavoidable when access is needed to obtain items with monetary value, i.e., copper, etc. The damages encountered will be on items such as fences, vehicles, etc. within the site camp laydown area.
4	Burglary	There is no doubt that this crime will pose a serious threat to the site and assets since there will be a lot of material to be used.

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5	Assault	The area statistics show that assault is not something that one can ignore because it could have a negative influence on the workforce.
6	Murder	The incidents of random murder cases reported to the local SAPS show clearly that this crime cannot be taken lightly or ignored.
7	Theft out of the motor vehicle	Vehicle hijacking is also of serious concern, as it is always dangerous, it is however a reality that this kind of crime can happen anywhere and at any time. Personnel having to travel to and from sites are therefore vulnerable to crimes like hi-jacking. The available access roads to and from the site are also accessible to criminals and criminal syndicates.
8	Drug-Related Crime	High statistics of drug-related crime highlight the use of drugs in the area and Eskom employees and contractors might be targeted for quick cash to fund drug-related behavior.
9	Sexual Offences	Sexual offenses can be a problem due to statistics highlighted though it's not high, the fact is, it's occurring, and it is worrying. Precaution must be taken in terms of posting or deployment of security officers with females not being posted in the evening but to be posted during the day.
10	IT Equipment and Project construction tools	Employees using computers, laptops, and related equipment must be aware that these working tools are also in great demand by criminal elements, and they can be targeted.

21. SECURITY THREAT ASSESSMENT VALIDITY

Date of assessment (YYYY-MM-DD)	2022/09/13
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22. DETAILS OF ASSESSMENT TEAM

#	NAME	DESIGNATION
1	Nathan Kouter	TPD Officer Security
2	Rasmati Sithole	Project Site Supervisor

23. RECOMMENDATIONS

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The Project Manager is responsible to ensure that the Contractor and Contractor Security manage all security threats to Eskom and Contractor employees, Project material, and Equipment described in this document are safeguarded. The Project Manager must ensure that NCRs are issued as and when the contractor security services are not performed as per Project Security SOW.

The Project Manager together with the Contractor and Contractor security service providers have strategies on how to treat the security threats specifically or collectively and how to manage the related risks arising from the threats as described in this document. Based on the information gathered during the threat assessment, the following recommendations need to be considered to improve security control measures: Due to the ongoing stoppages and disruptions within the construction environment, stakeholder engagements need to take place with all the relevant stakeholders, including the local SAPS to brief them of the project and the importance thereof. TPD Security and TPD Project Manager to engage with the Tx Northern Grid Security Manager and make him aware of the project and any assistance that is required

Based on the information gathered during the threat assessment, the following recommendations need to be considered for the improvement of security control measures at the project site camps, project construction sites, and servitude:

#	Security Measures Type	Recommendations
1	Energized fence	Reconfigure electric fence into zonal configuration.
2	Alarm system	Maintain alarm system as per security system standard.
3	Horn (Loudspeaker)	Install a horn to provide audible sound to alert guards in case of interference with the system and intrusion.
4	Control Board	Provision of the control board in the security guard room to highlight zones which is vulnerable to attacks to enable prompt response by security guards.
5	Lightning	Periodical maintenance and replacement of perimeter and high mast light to maintain the well adequate lit area.
6	Motion detectors	Install motion sensors for deterrence when the system encroaches.
7	Vegetation	Vegetation management should always be done to avoid short-circuiting the electrical fence and to also give patrol guards a clear view and easy access around the station.
8	CCTV	Install CCTV equipment for capturing events/incidents on site.
9	Guard monitoring system	Install a guard monitoring system to monitor patrols on site.
10	Security screening	Conduct screening on Security Officers and Contractors/employees before working on site

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CONSTRUCTION SITES.

#	Physical Security	Recommendations
1	Psira registered Grade C – Unarmed (Access control/Patrol), Grade A-Supervisors.	<ul style="list-style-type: none"> 4 x Unarmed Day shift (12 Hour shift); 1x Supervisor 4x Unarmed Night shift (12 Hour shift); 1x Supervisor 2x Day and Night Armed Patrol vehicles(4x4 Bakkies) at Construction sites on the servitude
2	Psira registered Grade C Armed response	<ul style="list-style-type: none"> 2x Day shift (Off-site – 12 Hour shift) 2x Night shift (Off-site – 12 Hour shift) 2X Armed response Bakkies (Drivers with Crew) per shift/per Section (Suitable for the terrain as per site geographical location. Security service providers must implement suitable patrol measures and regularly revise the security threat assessment and Operational plan as and when criminal incidents take place to ensure the deployed security compliments the areas they are responsible for)
3	Guard monitoring/Clocking system and Panic button	<ul style="list-style-type: none"> The hourly patrol clocking system is connected to the Security service provider control room for monitoring and recording Security Officers patrolling on site. Panic button connected to Controle room for armed reaction response.
4	3Tier Fence (to be installed by project contractor on all site camps)	<ul style="list-style-type: none"> Outer perimeter Non-Lethal Energised fence Inner perimeter
5	CCTV	<ul style="list-style-type: none"> Install CCTV equipment for capturing events/incidents on site
6	Lightning	<ul style="list-style-type: none"> Adequate lighting- Perimeter and High mast light to maintain well adequate lightning at the site camp.

25. CONTRACTOR SECURITY RESPONSIBILITY ON MEDUPI-WITKOP 400Kv PROJECT SITES

#	The following security measures will be a guideline for Contractors for safeguarding the site camp
1	All storage areas where materials and equipment will be stored must be securely locked.
2	An inventory system must be in place for the management of stock in and out of these storage areas.
3	There must be access control at the access gate to the site establishment. At least two guards must be on duty at the access point.
4	A paperwork system must be in place for material and equipment that are being delivered on-site, as well as leaving the site.
5	The security service supplier must have an Armed Response team of 2 members team issued with the correct response equipment concerning firearms and communication tools such as two-way radios.
6	Guards must be issued with panic buttons that are linked to a Contracted Security Control Room for activation of the Armed Response team during emergencies.
7	The security service provider must appoint a supervisor who will report to the Eskom Site Manager of the project security periodically.
8	All security guards must have radio communication with the security contractor supervisor and the Security Control Room.
9	The security service provider must comply with all the requirements of The Firearms Control Act (FCA), 2000 (Act 60 of 2000) and the associated PSIRA requirements since the Armed response will be armed security personnel.
10	A Security Operations plan and Security Threat Assessment must be compiled by the security service provider and security operating procedures must be written and implemented accordingly. The Project Manager and TPD Security personnel for the project must approve these documents and sign them off.
11	All security-related incidents must be reported to the Project Site Manager and Project Manager for recording, investigation, and corrective purposes.
12	The Security Threat Assessment and Security Operational plan must be updated as and when crime situations change.
13	All security guards on duty must wear Level III SA Special Mix bullet-resistant vests

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14	All security-related incidents must be reported to the customer Site Manager and Project Manager for recording, investigation, and corrective purposes.
15	A list of all authorized contractors and employees to the site should be made available to the security for the implementation of basic access control upon access and is to be used. This will prevent unwanted access by local job seekers to the site and will improve the safety and security status of the site in general.
16	The random searching of contractors and employees to the site for the possession of drugs is recommended.
17	Additional alcohol testing using breathalyzers is also recommended for all visitors as standard practice upon entry to the site. <i>(Due to Covid19 regulations, this might not be possible, but measures must be put in place to avoid such incidents)</i>
18	The contractor is not to be allowed to erect an overnight facility within the campsite perimeter fence.
19	The South African Police Services must also be sensitized with regards to the new project when it is about to start for their assistance to be readily available.
20	A guard house is to be erected as a security officer at the access gate.
21	Lighting in and around the substation must be adequate, especially at the proposed gate area, laydown/site offices area, and perimeter fence.
22	Introduce the site to town structures, and councilors, and let the community know about it.
23	All personnel, permanent and/or temporary, must be security screened and special care regarding vetting must be taken when employing casual laborers.
24	Only Eskom database accepted private security companies to be considered for Security services on site. (Challenges may arise from local business forums, therefore strict PSIRA security requirements will be followed to ensure compliance)
25	Constant communication with councilors and Police (stakeholder intervention with law enforcement structures SAPS, SSA, NFTCC, JPC, and local communities).
26	Contractors must be advised not to lose sight of the possibilities of all the listed crimes and have their contingency plans in place.
27	A common understanding with councilors and other role-players will be crucial this will avoid unnecessary delays.
28	Continuous consultation with Transmission Grid Security, TXPD Security should it be experienced those threats are changing or other security-related issues to be addressed.

26. ADDITIONAL RECOMMENDATIONS

TPD Security further recommends that if threats are rated with a high probability, impact, or high frequency of occurrence, the Project Manager needs to consult with their designated Risk Manager to conduct an Integrated Risk Management Assessment.

This Security Threats Assessment must be read in conjunction with the overall crime incidents encountered on TPD project construction sites when the project is in full operation which is no different from any other projects within the Construction environment.

27. INCIDENT REPORTING PROCEDURE (ALSO SEE TPD COMPREHENSIVE SECURITY PLAN-TPDMAN-PN-119)

#	INCIDENT RELAY
1	Contracted Security (Report incident to Security control room and Grid security on site)
2	Security Control room (Dispatch Armed reaction team, Report incident to SAPS and Project Manager, Investigate and complete incident report within 24Hrs)
2	Project Manager (Report incident to TPD Security, Complete Flash report)
3	TPD Security (Liaise with Grid Security and Contractor security for further investigation and recommendations, Request, and follow-up on SAPS assistance where necessary)
4	SAPS (Attend to the crime scene and exercise the necessary procedures required as per the crime incident status, gather evidence where possible, and add to the case docket for possible criminal proceedings/convictions)

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28. PROJECT STAKEHOLDER REPRESENTATIVES

#	Stakeholders	Representatives
1	Project Manager	Shelvin Matlowa
2	Site Supervisor	TBA
3	QS	Khantse Mokhele / Mokgadi Kgoadi
4	Planner	Bongani Nhlapo
5	Health and Safety	Johannes Sibanyoni
6	Environmental	Lene Le Grange
7	Quality	Phuti Ratau
8	Security	Nathan Kouter
9	Stakeholder Management	Babsy Shilubane
10	Project Engineer	Bruce Ntshuntsha
11	Designers	TBA
12	Gid	TBA
13	SAPS	Lephalale / Vila Nora / Barkenburg
14	Municipality	Lephalale, Mogalakwena, and Polokwane Local Municipalities

29. EMERGENCY CONTACT NUMBERS

#	Position	Contact details
1	Project Manager	Contact details available on request/safety & security reasons
2	Site Supervisor	Contact details available on request/safety & security reasons
3	TPD Security	Contact details available on request/safety & security reasons
4	SAPS	014 762 1010; (Direct contacts TBC)
5	EMS	Lephalale: ER24 – 014 763 9111 Fire Dep. – 014 762 4200
6	Hospital	George Masebe – 015 423 6000

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30. CONCLUSION

NB: The Medupi-Witkop 400Kv Project Manager and All stakeholders of the project, must-read this STA together with the TPD Comprehensive Security Plan - TPDMAN-PN-119. (Submitted to the Medupi-Witkop 400Kv Project Program and Project Manager)

Projects are generally a great attraction to the criminal element as the sites contain huge numbers of copper and other high-value assets, therefore recommended security measures must be implemented as per STA including revised measures as the crime environment changes. The Project Manager is responsible for the performance and services rendered by the Contracted Security service providers for the refurbishment at the Hermes substation project. Any further action is at the Project manager's discretion. Should the Project Manager require any additional security advice, TPD Security and Grid security are available to assist during the construction period.

The following TPD Security documents are referenced to Medupi-Witkop 400Kv project and all other TPD Projects or sites, but it is not exhaustive:

Standard / Procedure	Document Number
The standard for Bullet-resistant Guard facilities	240-91252315
Physical Access Control at Eskom Premises	32-1134
Specification for Non-Lethal Energized Perimeter Detection Systems	240-78980848
Specification for Integrated Access Control System for Eskom Sites	240-102220945
Lighting for perimeter security at Eskom installations	240-91252455
Specification For CCTV Surveillance with Intruder Detection	240-91190304
TPD Comprehensive Security Plan	TPDMAN-PN-119

31. DISCLAIMER & CONFIDENTIALITY

The contents of this Security Threat Assessment have controlled disclosure information. The report is solely intended for the use of the addressee(s) named herein. It is, however, advised that should the Project management decide to submit this assessment, in whole or in part, to any other party outside of the mentioned addressee(s), such a decision should be made after consultation with TPD Security BU. This assessment is compiled solely to address the engagement agreed upon and endorsed herein. Any copying, disclosure, or publication of this assessment in whole or in part or any form whatsoever, without the writer's consent, is strictly prohibited.