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
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1. INTRODUCTION

The following scope of work document details the remedial works to be executed as and when required on towers under the Western Grid.

1.1 APPLICABILITY

This document shall apply to only to transmission powerlines in the Western Grid.

1.2 NORMATIVE/INFORMATIVE REFERENCES

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

1.2.1 Normative

[1] 240-47172520 - TRMSCAAC6, The Standard for The Construction of Overhead Powerlines

1.2.2 Informative

[1] 32-846, Eskom Operating Regulations for High Voltage System (ORHVS)

2. DEFINITIONS AND ABBREVIATIONS

2.1 DEFINITIONS

Term	Definition
Construction work	The erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure
	The installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling
	The construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure
Contractor	An employer who performs construction work and includes principal contractors

3. ABBREVIATIONS

Term	Definition
SOW	Scope of Work
NGL	Natural Ground Level
PPE	Personal Protective Equipment
OHS Act	Occupational Health and Safety Act

4. PRELIMINARY ACTIVITIES

4.1 ACCESS

- Once a contractor has been appointed, it will be their duty to liaise with landowners to access towers during construction.
- A representative from the grid team should escort the contractor at the start of the project to the towers in question to familiarise the contractor with the routes.
- It should be noted that certain towers will require 4 x 4 vehicles to access.
- Access roads used during a project that have been damaged will need to be rehabilitated by the contractor before leaving the site.

4.2 SITE INSPECTION

The site must be thoroughly inspected by the contractors before any work commences.

5. MAINTENANCE ACTIVITIES

5.1 BIRD GUARD INSTALLATION & MAINTENANCE (UNDER OI&E CONDITIONS)

Refer to “Install, Maintain and Replace Line Labels and Bird Anti Perching Devices including the Removal and Relocation of bird nests on OI&E and Live Transmission Lines” 240-119669098 task manual.

For site access, “Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)” 240-80605256 must be adhered to.

Any work in close proximity of live conductor must be done during an outage. All climbing activities must adhere to “Climbing of Structures on Live Power Lines to Gain Access for Non-electrical Activities” 240-132479779. All work at height must adhere to “Work at Height Standard” 32-418. All existing (if any) bird guards on the tower must be inspected at a tower top level. All bird guards that have been displaced must be removed and new bird guards installed.

5.2 BIRD NEST REMOVAL, TRIM OR RELOACTION (UNDER ARC-OFF CONDITIONS, UNDER NON-OUTAGE CONDITIONS, UNDER OI&E)

Refer to the appropriate task schedule for the applicable outage condition.

For site access, “Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)” 240-80605256 must be adhered to.

All climbing activities must adhere to “Climbing of Structures on Live Power Lines to Gain Access for Non-electrical Activities” 240-132479779. All work at height must adhere to “Work at Height Standard” 32-418.

The identified bird nest must be confirmed, by a certified avian specialist, to not belong to an endangered or threatened species. The avian specialist must advise on any endangered or threatened species.

Refer to “Install, Maintain and Replace Line Labels and Bird Anti Perching Devices including the Removal and Relocation of bird nests on OI&E and Live Transmission Lines” 240-119669098 task manual.

5.3 ANTI-CLIMB DEVICE INSTALLATION & REPAIR (UNDER NON-OUTAGE CONDITIONS)

Refer to relevant task manual/s.

For site access, “Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)” 240-80605256 must be adhered to.

All existing anti-climb devices on the tower must be closely inspected. Any damaged anti-climb devices must be removed. If drawings are available for the anti-climb devices they must strictly be adhered to upon installation. All work at height must adhere to “Work at Height Standard” 32-418.

5.4 TOWER LABEL INSTALLATION (UNDER ARC-OFF CONDITIONS)

Refer to “Install, Maintain and Replace Line Labels and Bird Anti Perching Devices including the Removal and Relocation of bird nests on OI&E and Live Transmission Lines” 240-119669098 task manual.

For site access, “Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)” 240-80605256 must be adhered to.

All existing tower labels on the tower must be closely inspected. Any work in close proximity of live conductor must be done during an outage. Any damaged tower labels must be replaced. All climbing activities must adhere to "Climbing of Structures on Live Power Lines to Gain Access for Non-electrical Activities" 240-132479779. Label installations must adhere to "Substation and Network Label Specification" 240-75660336 as well as "Standard for the Labelling of High Voltage Equipment" 240-120804300. All work at height must adhere to "Work at Height Standard" 32-418.

5.5 STEEL MEMBER REPLACEMENT (UNDER ARC-OFF CONDITIONS & NON-OUTAGE CONDITIONS)

Refer to relevant task manual/s.

For site access, "Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)" 240-80605256 must be adhered to.

Any work in close proximity of live conductor must be done during an outage. All steel members on the tower must be closely inspected. Any damaged members must be replaced. No work may commence without an approved Safe Work Procedure. Steel refurbishment must strictly adhere to "Refurbishment of Steel Power Line Structures Standard" 240-75883230. All work at height must adhere to "Work at Height Standard" 32-418.

5.6 HARDWARE REPAIR & REPLACEMENT (UNDER OI&E CONDITIONS)

Refer to all relevant task manual/s.

For site access, "Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)" 240-80605256 must be adhered to.

Refer to task manual 240-60725489 for live work. Refer to task manual "Replacement of Suspension Insulators under Dead Line conditions on Transmission Overhead Lines" 240-111414478 for repair and replacement of suspension insulators. Refer to task manual "Replacement of Strain Insulators under Dead Line conditions on Transmission Overhead Lines" 240-11414798 for repair and replacement of strain insulators.

Any work in close proximity of live conductor must be done during an outage. All hardware on the tower must be closely inspected at a tower top level. Any damaged hardware must be replaced. No work may commence without an approved Safe Work Procedure. All work at height must adhere to "Work at Height Standard" 32-418.

5.7 CONDUCTOR REPAIRS AND STRINGING (UNDER OI&E CONDITIONS)

Refer to all relevant task manual/s.

Refer to task manual 240-60725491 for live work.

For site access, "Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)" 240-80605256 must be adhered to.

All climbing activities must adhere to "Climbing of Structures on Live Power Lines to Gain Access for Non-electrical Activities" 240-132479779. All work at height must adhere to "Work at Height Standard" 32-418.

5.8 CONDUCTOR & HARDWARE SAMPLING (UNDER OI&E CONDITIONS)

Refer to all relevant task manual/s.

All conductor & hardware removals must be done during an outage.

For site access, "Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)" 240-80605256 must be adhered to.

All climbing activities must adhere to "Climbing of Structures on Live Power Lines to Gain Access for Non-electrical Activities" 240-132479779. All work at height must adhere to "Work at Height Standard" 32-418.

5.9 INSTALLATION & REPAIRS OF AVIATION SPHERES & CROSSING LABELS (UNDER OI&E CONDITIONS)

Refer to all relevant task manual/s.

Refer to task manual 240-60725488 for live work.

For site access, "Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)" 240-80605256 must be adhered to.

All climbing activities must adhere to "Climbing of Structures on Live Power Lines to Gain Access for Non-electrical Activities" 240-132479779. All work at height must adhere to "Work at Height Standard" 32-418.

5.10 TENSIONING OF STAYWIRES (UNDER NON-OUTAGE CONDITIONS)

Refer to all relevant task manual/s.

For site access, "Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)" 240-80605256 must be adhered to.

Tensioning of stay wire can be done according to TRMSCAAC 6.

5.11 REMOVAL OF SOIL ON FOUNDATION CAPS (UNDER NON-OUTAGE CONDITIONS)

Refer to all relevant task manual/s.

For site access, "Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)" 240-80605256 must be adhered to.

No outage is required for the removal of soil on foundation caps, stubs and guy anchors. Care must be taken not to damage the existing foundations.

5.12 POLE-TOP INSPECTIONS (UNDER ARC-OFF CONDITIONS & CLOSE PROXIMITY ON DOUBLE CIRCUIT STRUCTURES)

For site access, "Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)" 240-80605256 must be adhered to.

All climbing activities must adhere to "Climbing of Structures on Live Power Lines to Gain Access for Non-electrical Activities" 240-132479779. All work at height must adhere to "Work at Height Standard" 32-418.

5.13 GATES AND ACCESS (UNDER NON-OUTAGE CONDITIONS)

For site access, "Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)" 240-80605256 must be adhered to.

Conclusion

The above listed activities outlines the requirements for the maintenance of overhead lines in the Western Grid. All activities must refer to their relevant task manuals. For site access, "Access to Private Property (Includes Strategy on Accessing Game Reserves/Farms/Small Holdings)" 240-80605256 must be adhered to. All climbing activities must adhere to "Climbing of Structures on Live Power Lines to Gain Access for Non-electrical Activities" 240-132479779. All work at height must adhere to "Work at Height Standard" 32-418. Safe Working Procedures must be developed for all complex engineering works.

6. APPENDIX A

 Eskom	Standard	Technology
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Title: ACCESS TO PRIVATE
PROPERTY (INCLUDES
STRATEGY ON ACCESSING
GAME RESERVES / FARMS /
SMALLHOLDINGS)

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Alternative Reference Number: 34-190

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Documentation Type: Standard

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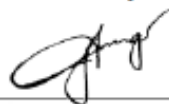
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Supported by SCOT/SC



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Date: 17/09/2020

	Standard	Technology
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Title: CLIMBING OF STRUCTURES ON
LIVE POWER LINES TO GAIN
ACCESS FOR NON-ELECTRICAL
ACTIVITIES

Unique Identifier:

240-132479779

Alternative Reference Number: <n/a>

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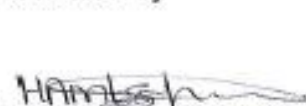
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	Standard	
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Title: **Work at Height Standard**

Document Identifier: **32-418**

Alternative Reference Number: **Not applicable**

Area of Applicability: **Eskom Holdings SOC Ltd**

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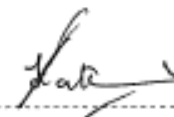
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