

	Scope of Works	Transmission
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**Scope of Work for General
Facilities Maintenance at
Transmission Telecommunications
Radio Sites, KZN Region**

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1. Introduction

Transmission Telecommunication (TT) has several telecommunication radio sites in the KZN region of differing configurations depending on the network needs. These sites have infrastructure such as buildings and/or containers of varying types and sizes to house telecommunications equipment. These sites also include security and air-conditioning related infrastructure. The access roads to these sites which are of various surface types and distances, is also seen as part of the radio site infrastructure.

Transmission Telecommunication is required to provide maintenance and repair work on this infrastructure on as and when needed basis in order to comply with set standards and for the upkeep of this install base as well as for safety related requirements.

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

The purpose of this document is to specify the scope of work for the maintenance and repair at Transmission Telecommunication radio sites in the KZN region. This document will be used to guide the service provider with our expectations as to the scope requirements for the maintenance and repair of our infrastructure at these sites.

2.1.2 Applicability

This document shall apply throughout Eskom Holdings Limited, its divisions, subsidiaries and entities wherein Eskom has a controlling interest.

2.1.3 Effective date

The implementation date is the date of the last authorising signature.

2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents available at the time.

2.2.1 Normative

- [1] ISO 9001 Quality Management Systems
- [2] ISO 14001 Environmental Management.
- [3] ISO 45001 Occupational Health and Safety system
- [4] 32-418 Working at Heights Standard
- [5] 240-102795302 Telecommunications Site Supervision Work Instruction rev 2

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- [6] 240-165303113 Safety Health and Environment Job Observation rev1
- [7] 240-56872313 Radio Station Earthing and Bonding
- [8] 240-100183119 Standard for Fences in Eskom Transmission Sub-stations
- [9] 240-108982466 Standard for HV yard stones in Eskom Transmission Sub-stations
- [10] TOPPE 002 Battery Chargers Install and Commissioning
- [11] Asbestos Standard, 32-303, Requirements for safe processing, handling, storing, disposal and phase-out of asbestos rev2
- [12] 240-64553666 Project Handover Certificate rev3
- [13] 240-110412152 Generic QA Tick Sheet for Projects
- [14] SANS 1186-1:2007: Standard signs and general requirements.
- [15] OHS Act, 1993: Construction Regulations, 2014
- [16] SANS 10400 National building regulations

2.2.2 Informative

- [17] 32-1034: Eskom's Procurement and Supply Chain Management Procedure
- [18] 474-59: Internal Audit Procedure

2.3 Definitions

Definition	Description
Radio Station	<i>Radio station</i> means facilities for the transmission of radio signals
Radio Mast	Any self-supporting structure consisting of a single element that is used to mount radio antennae for the purpose of transmission and reception of radio signals
Radio Tower	Any self-supporting lattice structure that is used to mount radio antennae for the purpose of transmission and reception of radio signals.
Contractor	An independent structural inspection authority appointed by Eskom for the purpose of the intended scope of work
Site Inspection Document	A document available in hard copy format to be used on site for completion and capturing all relevant site-specific information in a structured way during site visits.

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2.4 Abbreviations

Abbreviation	Explanation
NMC	(Eskom) Network Management Centre
O&FS	(Eskom) Operations and Field Services
COC	Certificate of Compliance
TT	Transmission Telecommunication
SME	Subject Matter Expert (Within Eskom)
PO	Purchase Order (Eskom)
OHS Act	Occupational Health and Safety Act
SHEQ	Safety Health Environmental Quality
(M)	"Mandatory" requirements needed to be complied with

2.5 Roles and Responsibilities

Role	Responsibilities
Technology	Design Engineering and Technical Support
Network Management Centre	Network Support and Access control
National Planning	Application Design/ Specialised Engineering
Programme Management	Project Management
Operations and Field services	scope document, quotations & purchase orders, site file checks, access control measures, risk mitigation, manage contractor site works, Network support, oversee SHEQ issues, handover documents, project closure, contractor payments
SHEQ	Safety Health Environmental Quality requirements, site induction & documentation
Contractor	Schedule and execution of the works as per specification, scope document, method statement

2.6 Process for Monitoring

Implementation of the scope will be monitored through the contract process. All stakeholders (Managers, Procurement, Engineers, O&FS, etc.) are to check for compliance with this document as stipulated by the Eskom Procurement Management Process throughout the duration of the contract through the Internal Audit Procedure

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2.7 Purpose Of This Contract

Transmission Telecommunication (TT) undertakes to carry out maintenance at the radio sites to ensure that no infrastructure or part thereof is in a condition that poses a threat to human life as prescribed in the Construction Regulation section of the Occupational Health and Safe Act 11(1) (a)(b) and 11(2)(a)(c). TT is further committed to the safety of employees, partners, 3rd party site sharers and members of the public while conducting maintenance works.

Transmission Telecommunication together with the contractor will ensure that all site infrastructure is structurally sound, compliant to the relevant regulations and laws and that maintenance and repairs performed on them conforms to the requisite Eskom standards and/or recommendations as prescribed by internal or external reports.

Note that the site access road is also seen as part of the radio site infrastructure therefore any such maintenance requirements may be addressed on this contract as well as requested.

3. Scope of works

This scope of work must be read and used in conjunction with all applicable standards and regulations as per the Eskom requirements or as specified.

Contractor shall be appointed to perform the full or partial maintenance and repair scope of work (depending on site specific requirements) including all relevant certification requirements as applicable or as requested.

3.1 Description of the services required

The Provision of service, maintenance and repairs on Transmission Telecommunications radio sites in the KZN region for a period of 36 months on an as and when required basis.

All applicable Telecommunications Radio Sites for the KZN region is listed in **Table 1** below. Should an omission be identified or a new site built during the contract period, it will be automatically included and the contractor will be notified as required.

Table 1: KZN Radio Sites

	Site Name	Equipment Housing Type	Local TT Office Base	Site Co-ordinates	Distance (KM) from Local TT Base to site (1-way)	Suggested vehicle type to site due to access road conditions
1	Alverstone RS	Brick	New Germany	29°46'04"S, 30°43'01"E	25	Std LDV, partial gravel
2	Eston RS	Brick	New Germany	29°55'51"S, 30°28'31"E	90	rain 4x4
3	Glendale RS	Brick	New Germany	29°20'06"S, 31°05'33"E	100	rain 4x4
4	Umgeni RS	Brick	New Germany	29°48'51"S, 30°53'10"E	3	std vehicle

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5	Cedarberg RS	Brick	Shelly Beach	30°24'21.56"S 29°02'21.43"E	265	4x4
6	Hibberdene RS	Pre-fab	Shelly Beach	30°35'47"S, 30°30'16"E	45	rain 4x4
7	Hlutankungu RS	Brick	Shelly Beach	30°17'36"S, 30°18'48"E	160	rain 4x4
8	Ingeli RS	Brick	Shelly Beach	30°35'45"S, 29°49'41"E	95	raised LDV
9	Port Edward RS	Pre-fab	Shelly Beach	30°59'42"S, 30°11'10"E	55	std vehicle
10	Renken RS	Brick	Shelly Beach	30°45'10"S, 30°19'24"E	25	raised LDV
11	Stafford Farm RS	container	Shelly Beach	30°07'42"S, 29°19'56"E	260	4x4
12	Windyridge RS	Brick	Shelly Beach	30°16'37"S, 30°39'08"E	95	rain 4x4
13	Zuurfontein RS	Brick	Shelly Beach	30°32'24"S, 29°34'51"E	130	raised LDV
14	Sitezi RS	container	Empangeni	28°06'44"S, 31°53'19"E	108	rain 4x4
15	Ntumeni RS	Brick	Empangeni	28°52'35"S, 31°23'09"E	80	rain 4x4
16	Babanango RS	container	Empangeni	28°23'33"S, 30°59'45"E	150	4x4
17	Komo RS	Brick	Empangeni	28°46'51"S, 31°10'41"E	127	rain 4x4
18	Mabibi RS	container	Empangeni	27°19'28"S, 32°33'24"E	208	raised LDV
19	Magudu RS	Brick	Empangeni	27°31'48"S, 31°39'00"E	245	raised LDV
20	Mahlaguvu RS	Brick	Empangeni	28°29'50"S, 31°17'19"E	103	raised LDV
21	Makowe RS	Brick	Empangeni	27°57'38"S, 32°07'13"E	128	rain 4x4
22	Mandini Hill RS	Pre-fab	Empangeni	29°09'58"S, 31°26'46"E	78	4x4
23	Manguzi RS	container	Empangeni	27°01'22"S, 32°40'58"E	255	raised LDV
24	Matshana RS	Brick	Empangeni	28°45'02"S, 31°50'28"E	9	4x4
25	Mposa RS	Brick	Empangeni	28°36'04"S, 32°01'34"E	35	rain 4x4
26	Mtubatuba RS	Brick	Empangeni	28°23'38"S, 32°10'41"E	58	std vehicle
27	Ngoye RS	Brick	Empangeni	28°49'46"S, 31°46'35"E	25	rain 4x4
28	Nkangala RS	Brick	Empangeni	27°33'43"S, 32°02'43"E	170	rain 4x4
29	Braamhoek PS (Radio Building)	container	Newcastle	28°15'46"S, 29°35'04"E	174 KM	raised LDV
30	Chivelston RS	Brick	Newcastle	27°50'41"S,	16 KM	std vehicle

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				29°59'48"E		
31	Dundee RS	Brick	Newcastle	28°07'7.4"S, 30°13'5.5"E	69 KM	raised LDV
32	Fort Mistake RS	Brick	Newcastle	28°08'49.2"S, 29°56'44.6"E	49 KM	raised LDV
33	Helpmekaar RS	Pre-fab	Newcastle	28°27'7.8"S, 30°25'31.3"E	100 KM	4x4
34	Lakraal RS	Brick	Newcastle	28°45'46.1"S, 29°52'13.3"E	135 KM	raised LDV
35	Louwsburg RS	Pre-fab	Newcastle	27°34'45"S, 31°16'14.8"E	185 KM	raised LDV
36	Mooihoek KZ RS	Brick	Newcastle	28°09'28.3"S, 31°08'6.3"E	165 KM	rain 4x4
37	Mountain View RS	Brick	Newcastle	27°46'20.7"S, 31°25'23.8"E	190 KM	rain 4x4
38	Paulpietersburg RS	Pre-fab	Newcastle	27°28'17.3"S, 30°48'01"E	167 KM	4x4
39	Rooinek RS	Container	Newcastle	27°41'13"S, 29°27'26"E	75 KM	4x4
40	Signal Hill RS	Container	Newcastle	27°42'42"S, 29°56'34"E	9 KM	raised LDV
41	Utrecht RS	Brick	Newcastle	27°33'41"S, 30°29'57"E	85 KM	raised LDV
42	Volksrust RS	Brick	Newcastle	27°18'33"S, 29°52'53"E	59 KM	raised LDV
43	Vryheid KZ RS	Brick	Newcastle	27°44'25.8"S, 30°47'37.8"E	126 KM	raised LDV
44	Wakkerstroom RS	Pre-fab	Newcastle	27°23'28"S, 30°09'0.6"E	89 KM	4x4
45	Donnybrook RS	Pre-fab	Pieter- Maritzburg	29°54'51.93"S 29°51'21.92"E	130 KM	raised LDV
46	Drakensberg RS	Brick	Pieter- Maritzburg	28°33'58"S, 29°04'59"E	230 KM	raised LDV
47	Drakensberg Surge Shaft	Brick	Pieter- Maritzburg	28°33'13"S, 29°04'43"E	260 KM	raised LDV
48	Geluksberg RS	Pre-fab	Pieter- Maritzburg	28°30'39"S, 29°26'52"E	220 KM	rain 4x4
49	Glenlyn RS	Brick	Pieter- Maritzburg	29°33'20.04"S , 30°26'45.60"E	15 KM	raised LDV
50	Glenside RS	Brick	Pieter- Maritzburg	29°47'24"S, 29°22'56"E	170 KM	raised LDV
51	Greytown RS	Brick	Pieter- Maritzburg	29°01'41"S, 30°29'39"E	95 KM	4x4
52	Griffins Hill RS	Brick	Pieter- Maritzburg	29°06'24"S, 29°58'20"E	92 KM	raised LDV
53	Hilton RS	Brick	Pieter- Maritzburg	29°30'15"S, 30°19'02"E	30 KM	rain 4x4
54	Injasuti_MTN RS	Container	Pieter- Maritzburg	29°02'13"S, 29°30'23"E	165 KM	4x4

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55	Ixopo RS	Pre-fab	Pieter-Maritzburg	30°10'58"S, 30°01'57"E	115 KM	4x4
56	Keates Drift RS	Container	Pieter-Maritzburg	28°47'37"S, 30°28'34"E	130 KM	rain 4x4
57	Lydgate RS	Brick	Pieter-Maritzburg	29°26'09"S, 30°12'22"E	40 KM	rain 4x4
58	Mgenivlei RS	Pre-fab	Pieter-Maritzburg	29°30'54"S, 29°49'15"E	140 KM	4x4
59	Mormond RS	Container	Pieter-Maritzburg	29°01'26"S, 30°09'14"E	130 KM	4x4
60	Nottingham Road RS	Brick	Pieter-Maritzburg	29°20'25"S, 30°01'57"E	65 KM	4x4
61	Bergville RS	Brick	Pieter-Maritzburg	28°45'24"S, 29°25'07"E	170 KM	raised LDV
62	Bisleyview RS	Brick	Pieter-Maritzburg	29°40'14"S, 30°22'32"E	8 KM	raised LDV

3.2 General Service Categories

The list below (**Refer to Table 2**) is deliberately generalized with the purpose of giving the contractor a good idea of the broad categories of work that will be covered and the general skills they should possess to be able to carry out the requirements of this contract. Contractor should however be aware of the uniqueness of radio sites in general and thus be prepared for unforeseen circumstances or requirements on an occasional basis therefore work may not be limited to the categories listed in Table 2 which should be seen as a guide only. Keep in mind that the detail will be in a site specific scope document once the site works has been evaluated (as applicable).

Should an omission be identified later, the service can still be requested based on establishing whether it's within the contractor capabilities however note the contractor also has the option to sub-contract work should the need arise – **note full accountability still rests with the principal contractor** should a sub-contractor be used for any site works - this can however be clarified at contract award stage.

The envisaged services will cover the following categories as briefly summarized in **Table 2** below.

Table 2: General Service Categories

1	General site maintenance & refurbishment	Site specific requirements as identified
2	General steel works	Welding works on site, general fabrication, supply & installation works, galvanizing, rust treatment, refurbishment, special security requirements / enclosures, wall mount brackets, site specific adhoc requirements
3	Carpentry	skirtings, shelving, general carpentry works as applicable

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4	Electrical works (AC)	Note only a certified electrician is allowed to carry out any electrical works which may include lighting requirements & fittings, plug points, switches, trenching/ducting, cabling & terminations, DB's, earthing, surge arrestors, lightning protection measures, generator connection points/ plugs, labelling, wiring line diagram, testing & commissioning, electrical COC
5	Electrical works (DC)	Note only a certified electrician is allowed to carry out electrical works including lighting requirements & fittings, switches, cabling & terminations, DB's, earthing, trenching/ducting, labelling, wiring line diagram, site battery requirements, testing & commissioning, electrical COC
6	Masonry works	General concrete works, plaster, brickwork, expansion joints, general repairs, road maintenance, drainage requirements, concrete ramp into building as required, retainer blocks, etc.
7	Security fencing refurbishment / replacement / repairs	Site specific types including high security steel mesh, concrete or steel palisade, wire diamond mesh type, electric fencing, fence energizer, gate motors, gate motor spares, insulators, gate tracks, fence anti-tunneling, razor wire, support brackets, galvanizing as applicable, electrical COC, certification of specific material as required such as Hot-dipped galvanizing certificate, proof of material specification as per standard as applicable, etc
8	General building refurbishment	General internal & external refurbishment & repairs including preparation & painting of all types of equipment housing surfaces such as brick building, steel / aluminum / PVC type containers, pre-fabricated units, crack & plaster repairs, waterproofing, dust control measures, floor/ ceiling/

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		wall painting, general cleaning works, rust protection measures as applicable, awnings as required
9	Ceiling refurbishment / replacement	All types of ceiling including for concrete roofs & rhino boards, pvc types, associated electrical related works, general water-proofing & sealing requirements, sisalation & roof plastic, whirly bird replacement or repair
10	Battery room maintenance	General preparation for painting of walls, ceiling and floors. Air vent related works, whirly birds, acid related treatment, floor screeding as required, acid resistant epoxy coating for floors, DC lighting requirements, general electrical maintenance, high security doors & gates as applicable, general cleaning works, extractor fan, site specific battery requirement as applicable
11	Concrete roof refurbishment	Detailed surface preparation, sealing, water-proofing and drainage works, whirly birds, derbigum application with flame torch method, UV resistant silver paint application, general painting works. Proof of material type used will be required as applicable.
12	Galvanized roofing works	Galvanized sheeting, purlins, support beams, waterproofing, roof plastic, sisalation, sealing, fascia /barge boards as applicable (note asbestos type materials not allowed), drainage requirements, electrical works, door awnings.
13	Asbestos roofing	Replacement as applicable, purlins, support beams, waterproofing material, sisalation, fascia boards. Note specialist removal & disposal requirements as well as asbestos disposal certificate required (as per standard)
14	Excavation works	trenching, shoring, ducting, earthing, re-instatement works, drainage,

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		concrete works, brickwork, drilling & coring works, general
15	Cabling works	Running of cables, termination as required, conduits, joint boxes, drilling & coring works, testing & commissioning where applicable
16	Site stoning	Excavations, surface preparation, vegetation control, yard stoning, kerbing, anti-tunneling, waste / rubble disposal, site re-instatement
17	Container general works	Refurbishment, repairs & maintenance, security related fabrication requirements, waterproofing & sealing, painting, whirly birds, electrical works, earthing, floor & roof repairs, welding works, container stabilizing requirements such as stays or any additional supports as required
18	Vegetation control	Grass & bush cutting, tree cutting, removals, disposal, firebreaks, herbicide application
19	Access road maintenance / refurbishment	Including site works preparation & execution on various surface types - gravel, concrete, tar, paving, bush & rocky tracks, drainage works, soil erosion control measures as applicable, surveying requirements, compaction, expansion joints, vegetation control, disposal requirements
20	Generator maintenance/ refurbishment	Including portable & fixed type generators - Servicing, general maintenance including mechanical repairs as applicable, battery & general spares requirements, related cleaning requirements, rust treatment and repairs including painting as applicable, electrical testing & commissioning, generator plug requirements, re-fueling requirements.
21	Station Earthing	Earth resistivity testing & report, excavation work, earth installations, bonding to specifications, conduits,

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		entry plate, site re-instatement, earthing certificate
22	Site security related works	Access control measures, perimeter fencing, security gates, alarm system, security lighting, vegetation control, steel enclosures - for example over external lights, over outdoor aircon units or where required
23	Drainage related works	storm-water control measures, gutters, down pipes, ducting, clear blockages, soil erosion preventative measures, retention blocks, masonry works as applicable
24	Security doors refurbishment / replacement	Industrial high security type, locking mechanisms, hinges, sealing, strengthening, rust prevention, welding works, painting, masonry works, site specific design drawing may be required when requested (as applicable)
25	Security gates refurbishment / replacement	Industrial high security type, locking mechanism, handles, hinges, sealing, strengthening, rust prevention, welding works, galvanizing, gate tracks, gate motor, gate motor spares as applicable, site specific design drawing may be required when requested (as applicable)
26	Airconditioning	General maintenance & repairs, aircon requirements including installation works, security cages, electrical works, certification
27	Bee / Snake/ rodent /insect removal or prevention	Removals and/ or preventative measures as required
28	General Signage	Site specific requirements as applicable as per Eskom Standard
29	Environmental	General oil / acid spillage treatment works as applicable, conduct testing as applicable - example soil testing and treatment, relevant certification requirements

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30	Facilitate Ad hoc services	Specialist resource requirements as required - such as environmental specialists, land surveyors, site drawings, etc.
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3.3 Process and Expectations

- All works / materials /equipment shall be on a supply and install basis as applicable.
- All Materials to meet quality requirements – for example being SABS / ISO approved as applicable. Specifications or certificates may be required upon request as applicable.
- The principal contractor is accountable and responsible for managing all works / personnel /equipment on site including sub-contractors as applicable.
- Preliminary site-specific work requirements will initially be identified by the TT representative & documented.
- A joint site visit together with a contractor representative will thereafter be conducted to ensure all issues have been adequately captured. The site-specific scope document must then be updated by the TT representative in conjunction with the contractor representative inputs and signed off by both parties.
- Full expanded details on each work category or method statement as required may be documented and attached as an addendum to the finalized scope. TT representative to manage this requirement.
- The degree of work involved may differ from site to site as each site has unique requirements.
- Keep in mind that additional issues may be identified during the execution phase of the works. TT representative must first approve and ensure this variation is documented and signed off by both parties as this may have cost implications.
- TT representative to ensure a Purchase Order (PO) or Task Order is created prior to contractor undertaking any site works. Also ensure any cost variation adjustments is correctly captured on the PO as applicable - note an adjusted BOQ / Quote will be required as supporting documentation.
- In **emergency situations** (example roof sheeting blown off, lightning damage, or as identified by TT representative) – TT representative will communicate the need with the contractor who is expected to respond immediately or within a reasonable time as agreed to between parties. **This must be noted on the contract.**
- TT representative to sign off an “Handover Form” on completion and acceptance of any site works.

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3.4 Unique Site Related Constraints

- Radio sites are generally situated at high altitude or in unique locations thus challenges with site access are a reality (refer to **Table 1** for site list and GPS location co-ordinates).
- Also, some high-altitude sites bring with it sudden changes in weather conditions such as strong winds, mist, fog and rain which is something the contractor needs to be aware of when undertaking any site works.
- The quality of materials being used must be able to withstand such extreme conditions and workmanship must be guaranteed (proof of specifications may be required upon request).
- Some sites however have fairly good road surfaces thus getting to the site is not a problem with a standard vehicle - refer **Table 1** for some information regarding recommended vehicle type for usage at each site however the weather condition at the time will be the deciding factor which the contractor must be prepared for.
- Site access road and general risks can however be noted during the initial site visit with the contractor and should be mitigated accordingly - for example by use of a 4x4 or raised body bakkie where required.
- Note road surfaces to the TT listed sites are generally one of the following types, with varying distances and/or combinations thereof, for example a gravel section may be combined with a concrete section. Road types include:
 - Gravel roads
 - Rocky terrain
 - Grass/ bush tracks
 - Tarred surface
 - Concrete
 - Brick paving
 - Muddy tracks
- This contract will cover maintenance of existing site access roads as agreed upon with the TT representative.
- Note sections of existing roads or tracks may require re-instatement or partial re-build as part of maintenance works depending on the condition or necessary requirements as agreed upon between the TT representative and the contractor.

3.5 Contract Establishment and Implementation

- Upon contract establishment a SAP Contract Number will be created by Procurement division which should be available on the Eskom SAP system.
- TT representative to ensure the contract number and values are correct on SAP and is "Active" – that is ready for use.
- A Purchase Order (PO) must be created as required prior to commencement of any site works – order number should be issued to the contractor based on the accepted quote.

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- A signed off Handover Sheet must form part of the closure process upon completion of works
- A valid invoice must be obtained from supplier and details verified before being signed off by both parties.
- This can then be submitted together with relevant supporting documents to the finance department for payment request via the electronic Service Entry / GR process and the system generated reference numbers should be kept for future reference purposes
- The contractor will be allowed to bill for the initial site evaluation expenses.

3.6 Site Induction and Access Control

- Site induction to be done by TT representative prior to commencement of works which must cover all Eskom rules and regulations and expectations as per the established contract. It would be advisable to include the Eskom SHEQ representative for this purpose.
- Awareness of access control procedure must form part of this induction with contractor during the site induction phase. This must be documented & signed off and must be placed in the site file.
- Eskom Network Management Centre (NMC) must be notified and a daily access reference number obtained prior to commencement of any work as well as upon exiting the site in order to close off the reference. TT representative to ensure due process is followed to prevent unnecessary site alarms or call-outs.
- Note no person is permitted to be on site without prior authorization and working times should be agreed upon between parties.
- No person is permitted to stay overnight on the site during the maintenance project period.
- A local arrangement may be made with the TT representative to allow for contractor to use suitable locking mechanisms as a temporary measure during the execution of works. TT representative to notify NMC accordingly.
- Ensure contractor captures the NMC site access reference number on the daily site register.
- TT representative to ensure proper monitoring takes place. Good stakeholder team work is encouraged.
- Note as part of the contractual requirement contractor personnel should have security / police clearance as TT sites are deemed National Key Points”

3.7 Travel and Accommodation Arrangements

- It is accepted that travel / work be undertaken by a minimum of 2 people (example an artisan or supervisor and an assistant). This is to ensure safety whilst driving and/ or working on site.
- Should a larger team be required due to the nature of the work, it should be negotiated between the Eskom representative and the contractor. A work schedule will be required from the contractor.

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- It is accepted that team members stayover in the area should the work or safety requirements dictate it.
- Any unforeseen delays must be timeously communicated with the Eskom representative.
- *It is assumed that the contractor will be centrally based within KZN from where projects will be undertaken. **This must be clarified and documented at contract award stage.***

3.8 Pricing and Quoting

- The nature of pricing on this contract is mostly based on time and materials
- Contractor will be expected to quote based on the agreed scope of work in accordance with the negotiated rates as per the contract awarded.
- Contractor will quote to carry out required scope as presented by the Eskom representative based on the following **line items**:

Table 3: SAP Line Items

Item nr	Description	Unit	Rate
	Artisan/Supervisor (R/hour):		
1	Artisan/ Supervisor Labour – Normal Time	Hr	
2	Artisan/ Supervisor Labour – Overtime Time @ 1.5	Hr	
3	Artisan/ Supervisor Labour – Overtime Time @ 2	Hr	
	Artisan/Supervisor - Travel time:		
4	Artisan/ Supervisor Travel – Normal Time	Hr	
5	Artisan/ Supervisor Travel – Overtime Time @ 1.5	Hr	
6	Artisan/ Supervisor Travel – Overtime Time @ 2	Hr	
	Assistant labour (R/hour):		
7	Assistant Labour – Normal Time	Hr	
8	Assistant Labour – Overtime Time @ 1.5	Hr	
9	Assistant Labour – Overtime Time @ 2	Hr	
	Assistant labour - Travel time:		
10	Assistant Travel – Normal Time	Hr	
11	Assistant Travel – Overtime Time @ 1.5	Hr	
12	Assistant Travel – Overtime Time @ 2	Hr	

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	Tower Work Labourer (R/hour):		
13	Tower work labour – Normal Time	Hr	
14	Tower work labour – Overtime Time @ 1.5	Hr	
15	Tower work labour– Overtime Time @ 2	Hr	
	Tower Work Labourer - Travel time:		
16	Tower Work Labourer - Travel time - Normal (R/hour)	Hr	
17	Tower Work Labourer - Travel time - Overtime @ 1.5 (R/hour)	Hr	
18	Tower Work Labourer - Travel time - Overtime @ 2 (R/hour)	Hr	
	Transportation:		
19	Travel per KM – LDV / Sedan	Km	
20	Travel per KM – 4x4	Km	
	Additional Items (Material/Services):		
21	Material / Purchases / Hiring Equipment / Professional Services at % Mark up	% Mark up	
	Prelims and General:		
22	SHEQ Officer (Labour rate)	Hr	
23	Accommodation	Per Night	

3.9 Travel Expenses Clarification (Practical Example)

- In support of travel expenses during quoting, the contractor together with the Eskom representative will jointly plan and agree on the route or travel plan as applicable in an effort to minimize expenses.
- This must match up with the KM and travel time quoted on (@ average of 100km/hr).
- Travel will be calculated from the contractor's base as negotiated upon at the contract award stage.
- Transport of goods where it is beyond the capability of an LDV / 4x4 vehicle, must be billed against line item "Material - Purchases, hiring equipment, professional services at % Mark-up" (refer Table 3)
- Invoices from contractor suppliers will be submitted in support of line item "Material - Purchases, hiring equipment, professional services at % Mark-up". This must be managed between contractor and Eskom representatives as required.
- To assist the contractor to develop a better understanding of how the contract should be priced, ***an example of a quote is presented below:***

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Project Costing Example <i>(or Illustration purposes only)</i>			
Project Name: Stoning at Port Edward radio site, 19mm crushed stone at 150mm depth			
Distance from base (Durban is the base for this example)	270 km 1-way, 1 x double cab bakkie used		
Travel time	= 2hr42min at average 100km/hr		
Site dimension	20m x 20m		
Labour duration	2 days @ 8hrs to complete site works		
Staffing	1 x artisan or supervisor plus 3 assistants		
Accommodation	Team will be expected to stay over for 3 nights to keep overtime expenditure down. Travel up on the 1 st day, work for 2 days, return on the morning of the 4 th day, totalling stay-over for 3 nights		
NOTE: The rates presented below is only for the purposes of this QUOTATION example			
	Number of units	Rates	Sub-total
Artisan, supervisor labour (2 days x 8hrs)	16	200	R3 200
Artisan, supervisor labour (3 people @ 2 days x 8hrs)	48	100	R4 800
Artisan, supervisor travel time (2hrs42 min 1-way x 2 = 5hrs24min)	5.4	150	R810
Assistant travel time (same as above)	5.4	75	R405
Travel (240 km x 2 = 540 km) double cab bakkie	540	R 6	R3 240
Material (20x20x0.15 = 60 cubes of crushed stone delivered = R30 000 (as invoiced by supplier)	R30 000	15% mark-up	R34 500
Accommodation (4 people x 3 nights = 12)	12	R700	R8 400
TOTAL			R55 355

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3.10 Tools and Equipment

- It is expected that the contractor has the necessary hand tools, equipment and portable electrical equipment in-house to carry out general facilities maintenance works (as applicable – refer **Table 2** for guidance).
- No unsafe tools/ equipment will be permitted for use on site. TT and contractor representative to carry out adhoc checks on site.
- Transport of goods or materials that is within the capability of an LDV or 4x4 bakkie is covered under the “Travel per KM line items in the price list.
- Transport requiring a truck or specialized equipment may be covered under “hiring equipment or professional services” at a % mark-up. This will however be formalized when the contract is signed off with Eskom Procurement.

3.11 Works Order Process

- Any work to be carried out will be initiated by the TT representative who will make contact with the contractor.
- This is to be done on a quote-based system where TT requests a quote from the contractor based on the scope of work. The formal quote should also be accompanied by a BOQ (bill of quantities) indicating the relevant cost breakdown.
- On acceptance of the quote, the TT representative will issue a purchase or task order.
- Should there be any scope change due to unforeseen conditions or further defects needing attention, such changes must be communicated with the TT representative who will give consent to the variation of the scope should it be warranted.
- This must be followed up with a revised quote and/or an amendment of the purchase order on SAP as applicable.

3.12 Verification of Completed Works

- All works to be checked for quality and completeness as per the scope of work by an Eskom representative and the contractor before sign-off and payments.
- An “Handover form or Tick sheet” must be used where both parties sign off on completion of works before processing of payment invoice.
- No payment to be processed until all works is accepted & signed off by both parties.
- Eskom representative to ensure documentary and / or photographic proof is received as part of the execution phase as well as at final closure of the project. This must be submitted electronically to the Eskom KZN Plant department for record keeping.
- Contractor to also take note that all works undertaken has a **warranty period (as contractually negotiated during contract award) therefore any defects identified during this period must be rectified by the contractor within agreed upon timeframes. Ensure this clause is covered (indicating timeframes) in the main contract by the Procurement Department in order to prevent problems later.**

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3.13 Housekeeping, Execution and Handover

- Eskom representative to ensure the contractor is made aware of general house-keeping and SHEQ requirements on site prior to commencement of any work. This should be acknowledged as part of the site induction meeting, proof of which must kept in the site file.
- Contractor to also be made aware of the sensitive nature of the equipment at radio sites and thus caution must be exercised not to interfere or cause any damage whilst working on site. This includes taking dust mitigation measures over the site equipment.
- Possible risks to be discussed between contractor and Eskom representative and precautionary measures put in place
- Whilst working in equipment or battery rooms, care must be taken to ensure equipment is not exposed to dust or paint, for example use appropriate cover sheets over equipment or battery banks. Eskom representative to (actively) advise and / or assist the contractor especially in sensitive equipment areas.
- TT representative to do regular checks on site during the execution phase of the works to ensure compliance or if mitigation measures are acceptable.
- A final thorough check to be done by both parties on completion of the works before handover
- Also ensure the site is clean and tidy at all times with no left-over material or scrap left on site especially at handover phase. The general area in and around the outside of site should be carefully checked.
- Note, it is essential that the Eskom representative is actively involved throughout the project execution until the closure phase to ensure SHEQ activities and relevant documentation are complied with and is available for audit purposes.

3.14 Policies, Procedures, Standards

- All work to be carried out as per Eskom's policies, procedures and Standards
- These will be provided as per site specific job requirements

3.15 General

- Eskom SHEQ requirements must be adhered to.
- SHEQ to ensure all personnel on site must have SAPS clearance certificates as the sites are seen as National Key Points. **SHEQ representative to take note** when compiling SHEQ document.
- TT representative to ensure all relevant documentation is completed and checked regularly on site as applicable.
- A copy of the safety file as well as any supporting documentation must be handed over to the TT representative on completion of the project. This should also include the daily site register, risk assessment forms, etc.
- Ablution facilities to be provided by contractor as applicable
- Note that water is not available on radio sites

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- Electricity is available on site however should there be load-shedding or a fault in the supply of power, the onus is on the contractor to provide electricity/ generator as required. Eskom will not be held liable for this.
- No dumping of waste material on site or the surrounding adjacent areas. All waste or unused material must be removed from site and be properly disposed of. A record of such disposal may be required as applicable upon request.
- Where it is necessary to use scaffolding, the contractor shall supply, erect and certify the erection and dismantlement of the scaffolding as applicable
- Eskom representative and the Contractor to create awareness amongst all personnel that any theft or vandalism of any property or product on the site will not be tolerated and will be subjected to legal action. This must be communicated as part of the site induction – acknowledgement must be kept in the site file.

4. Acceptance

This document has been seen and accepted by:

Name	Designation
Bheki Nala	Regional Manager: Eskom Telecommunications, Eastern region
Andre Alexander	Manager: OPS&FS Kzn region
Thembela Majola	Senior Supervisor, New Germany
Vernon Soobramoney	Senior Supervisor, Mkondeni
Jacquinn Jacobs	Senior Supervisor, Empangeni
Sandile Gwala	(Act) Senior Supervisor, Newcastle

5. Revisions

Date	Rev.	Compiler	Remarks
November 2022	0	Eskom	Developed the scope of work for purposes of establishing a Site Maintenance and Repair contract
July 2023	1	Eskom	Final scope of work as per inputs received from role players

6. Development Team

Technical team

7. Acknowledgements

Facilities Management Workgroup

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