



Eskom

Report

Distribution

Title: **TECHNICAL EVALUATION
CRITERIA FOR FIBRE OPTIC
CABLES INSTALLATION**

Unique Identifier: **240-171000432**

Alternative Reference Number: **n/a**

Area of Applicability: **Engineering**

Documentation Type: **Report**

Revision: **2**

Total Pages: **14**

Next Review Date: **n/a**

Disclosure Classification: **Controlled
Disclosure**

Compiled by

Tshepiso Moloisane

**Design Manager:
Telecommunication
Technology & Engineering**

Date: 03/12/2025

Functional Responsibility

Thuli Tladi

**Middle Manager:
Telecommunication
Technology & Engineering**

Date: 03/12/2025

Authorized by

Thomas Jacobs

**Senior Manager:
Technology & Engineering
(Acting)**

Date: 03/12/2025

Content

	Page
1. Introduction	3
2. Supporting clauses	3
2.1 Scope	3
2.1.1 Purpose	3
2.1.2 Applicability	3
2.2 Normative/Informative References	3
2.2.1 Normative	3
2.2.2 Informative	3
2.3 Definitions	4
2.3.1 General	4
2.3.2 Disclosure classification	4
2.4 Abbreviations	4
2.5 Roles and Responsibilities	4
2.6 Process for Monitoring	4
2.7 Related/Supporting Documents	4
3. Technical Tender Evaluation Procedure	4
3.1 Mandatory Requirements	5
3.2 Qualitative Technical Evaluation Criteria	5
3.2.1 Desktop Factory File Assessment	6
3.3 Factory Assessment	6
3.3.1 Scope	6
3.3.2 Confidentiality	7
4. Authorization	9
5. Revisions	9
6. Development team	9
7. Acknowledgements	9
Annex A – Previous Experience in the last 5 years	10
Annex B – Fibre Optic Installation Methodology Criteria	11
Annex C – Technical Documentation Compliance	12
Annex D – Installers Check Sheet	13

Tables

Table 1: Mandatory Requirements	5
Table 2: Qualitative Requirements	6
Table 3: Desktop Factory File Evaluation	6
Table 4: Installer Score Sheet	7

1. Introduction

This document aims to describe the criteria which will govern the evaluation of tender submissions by external contractors for installation of Fibre Optic Cables (viz.: OPGW, ADSS, and Duct).

The criteria consist of both mandatory and technical requirements.

2. Supporting clauses

2.1 Scope

This document outlines the technical evaluation process and criteria associated with installation of fibre optic cables as described by the relevant NRS and Eskom standards.

2.1.1 Purpose

The purpose of this document is to describe the criteria which are to be used when evaluating tender submissions for the fibre optic cables installation.

2.1.2 Applicability

This document shall apply throughout Eskom Distribution.

2.2 Normative/Informative References

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

2.2.1 Normative

- [1] 240-110403330, OPGW Hardware and Installation Requirements for Overhead Lines
- [2] 240-72274816, Fibre Optic Cable Joint Enclosures for Aerial Cables
- [3] 240-70732888, Fibre Optic Cable System Acceptance Testing
- [4] 240-70733995 – Optical Distribution Frame / Patch Panel
- [5] 240-106030205 – Fibre Optic Gantry to Substation Control Room Scope of Work Guideline
- [6] 240-60777474 – Specification for Suspension and Strain Assemblies and for Hardware for Transmission Lines
- [7] NRS 061-1 – Overhead Ground-wire with Optical Fibre Part 1: Product Specification.
- [8] NRS 061-2 - Overhead Ground-wire with Optical Fibre Part 2: Installation Guidelines.
- [9] NRS 078-1 – Long Span Self Supporting Dielectric Fibre Optic Cables Part 1: Product Specification.
- [10] NRS 078-2 - Long Span Self Supporting Dielectric Fibre Optic Cables Part 2: Installation Guidelines.
- [11] NRS 088-1 – Duct and Direct Buried Underground Fibre Optic Cable Part 1: Product Specification.
- [12] NRS 088-2 - Duct and Direct Buried Underground Fibre Optic Cable Part 2: Installation Guidelines.

2.2.2 Informative

- [1] ISO 9001 Quality Management Systems.
- [2] 32-1034 - Eskom Procurement and Supply Management Procedure.
- [3] 240-48929482 Tender Engineering Evaluation Procedure
- [4] 240-70413865 Power Delivery Operating Assessment, Authorization and Training standard.

ESKOM COPYRIGHT PROTECTED

2.3 Definitions

2.3.1 General

Definition	Description
Criteria	Process by which the inquiry will be evaluated and scored
Technical Evaluator	Technical experts nominated by the end-user and Divisional technical functionaries with the necessary technical expertise

2.3.2 Disclosure classification

Controlled disclosure: controlled disclosure to external parties (either enforced by law, or discretionary).

2.4 Abbreviations

Abbreviation	Description
ADSS	All-Dielectric Self Supporting
HDPE	High-density polyethylene
ISO	International Organization for Standardization
NRS	National Rationalised Specifications
ODF	Optical Distribution Frame
OEM	Original Equipment Manufacturer
OPGW	Optical Ground Wire
ORHVS	Operating Regulations for High Voltage Systems
OTDR	Optical Time Domain Reflectometer
SANS	South African National Standard
TET	Technical Evaluation Team

2.5 Roles and Responsibilities

Eskom Commercial are responsible for ensuring this document is adhered to within the commercial process.

2.6 Process for Monitoring

Not applicable.

2.7 Related/Supporting Documents.

Not applicable.

3. Technical Tender Evaluation Procedure

Evaluation criteria is a process by which the enquiry is evaluated and scored to assess a supplier's capability to conclude a contract with Eskom. The evaluation report and any actions that are listed or recommended from the assessments are by no means a confirmation or guarantee that any contract will be entered into between Eskom Distribution and the potential supplier(s).

Any statements, intentions, and/or actions expressed by the evaluation team during and after the assessment shall not be interpreted as the awarding of a contract and does not constitute any liability to Eskom Distribution regarding contract placement or post-contract performance guarantees.

The evaluation criterion is designed as a “**GATED**” system where the first gate **must** be passed before proceeding to the next gate by meeting minimum required thresholds.

The Gates in this criterion comprises of a **Mandatory Evaluation Gate** (i.e. *Table 1, in section 3.1 of this document*), and **Technical Evaluation Gate** (Qualitative Evaluation, Table 2, Section 3.2). Table 1, 2, 3 & 4 are only for information to the tenderer as a means to provide information on how the submission will be evaluated and scored. The tenderer does not need to populate nor return these documents/tables.

The technical evaluation procedure is specific to each cable type installation requirements. The cable types include OPGW, ADSS, and DUCT. For each of these cable types there are unique installation requirements.

The complete evaluation of any potential supplier would involve mandatory requirements evaluation, qualitative technical desktop evaluation as well as factory visits.

The tenderer is only required to submit the returnable document specified in the Annex A, B, C & D. The Excel version of these Annexes will be issued with this tender. It is important to use these Annexes to indicate the location of the returnable documents in the file according to their indexing to enable the evaluator to locate the submitted documents.

3.1 Mandatory Requirements

Mandatory requirements are assessed on a Yes/ No basis as per **Table 1** below. Submissions that receive a “**No**” on any of the Mandatory requirements will not proceed to the Qualitative Technical Desktop Evaluation phase and will immediately fail the technical evaluation.

Table 1: Mandatory Requirements

	Mandatory Technical Criteria Description	Comply (Yes/No)	Comment
1	Provide/Submit the completed Annex A form. (Previous recent experience with installation of Fibre Optic cables.)		
2	Provide/Submit the fibre installation methodology documents based on Annex B		
3	Provide/Submit completed Technical Documentation Compliance in Annex C		
4	Provide/Submit completed Installer check sheet in Annex D		
	Threshold	Compliance to all the above	

3.2 Qualitative Technical Evaluation Criteria

Qualitative Technical Evaluation weighted scores are indicated on Table 2 below. Submissions that receive a score of 80% or above will proceed to the factory evaluation stage. Submissions that score below the threshold will immediately fail the technical evaluation.

Table 2: Qualitative Requirements

Item	Criteria	Weighting	Max Score
1 (Note1)	Previous Company related experience with Fibre Optic Installations for 1 - 2 projects = a max possible score of 1 for 3 - 5 projects = a max possible score of 3 for 5 or more projects = a max possible score of 5	40%	5
2 (Note2)	Fibre optic Installation Methodology document OPGW = a max possible score of 12 ADSS = a max possible score of 12 Duct = a max possible score of 10	10%	34
3 (Note3)	Compliance with Technical documentation for material (HDPE, Sprague Tubing, Patch Panels, Patch Leads) (Max possible score = 10)	10%	10
4	Installer Check sheet in Annex D Populate table and submit returnables as per Annex D	40%	36
	Total	100%	85
	Threshold	80%	

Note1: Item 1 requires that the table in Annex A be completed with the relevant fibre optic projects to indicate experience.

Note2: Item 2 is weighted according to the table in Annex B. Each methodology (OPGW, ADSS, Duct) to include details related to items listed on Annex B.

Note3: Item 3 is weighted as per the table in Annex C.

3.2.1 Desktop Factory File Assessment

During this stage of evaluation, the Factory information file will be scored according to Table 4 and is required to pass the threshold score (80%/28.8). Table 3 provides a summary of the total score extracted from table 4. Only the tenderer that meets the threshold of 80% shall pass the Technical Desktop Evaluation and will proceed to the Factory Assessment stage.

Table 3: Desktop Factory File Evaluation

Installer Scoring Criteria	Maximum Score	Threshold
Installer Score Sheet - File scored on answers to Annex D on Installers Check Sheet	36	80%/28.8

3.3 Factory Assessment

These assessments are performed to assess the tenderer’s capability to enter a contract with Eskom with respect to installation of Fibre optic cables.

3.3.1 Scope

Eskom will do factory assessments to assess the ability and capacity of the tenderer to install Fibre Cable as and when required. Eskom assessment representative(s) will arrange visits to the premises of the tenderers that have qualified for factory evaluations.

Eskom assessment representative(s) will conduct the assessment and scoring using of Table 4 provided below. The requirements as submitted during the Desktop evaluation stage will be verified. Table 4 (Installer Score Sheet) will be used during factory visit assessment and if a tenderer scores less than the threshold of 80% during the factory assessment, they will fail the evaluation.

3.3.2 Confidentiality

All information reviewed, observed, recorded during and reported during factory assessments will be treated as, and will remain highly confidential.

Table 4: Installer Check Sheet

Item	Criteria	Max Score
1	Capabilities in terms of personnel, -	7
1.1	Company structure/organogram	1
1.2	Supervisor (including CV's and experience)	2
1.3	SHEQ officer (including CV's and experience)	1
1.4	Splicer and commissioning technician/engineer (including CV's and experience)	1
1.5	Linesman (including CV's and experience, authorised to work at heights)	2
2	Capacity in terms of equipment- list of equipment under company profile. Type, size and quantity for installation of fibre cable	18.5
2.1	Transport (People Carriers, Truck, LDV) People Carriers =score of 1 Heavy Duty Truck with Crane (at least 8 Ton) = score of 1 LDV = score of 1	3
2.2	Winch and tension set pulling capacity (greater or equal to 30 kN)	3
2.3	Dielectric pilot rope	0.5
2.4	Running out blocks for OPGW and ADSS	3
2.5	Lifting Tackle & pulling blocks complete with wire rope	0.5
2.6	Tensioning ratchet hoists	0.5
2.7	Come along clamps	0.5
2.8	Hydraulic Crimpers	0.5
2.9	Hydraulic Cutters	0.5
2.10	Tension measuring devices (Dynamometer)	2
2.11	Specialized line construction tools and safety equipment (e.g. Safety Harness, Earth kit, Webbing & Slings, etc)	2
2.13	Drum Jacks (with Shaft)	0.5
2.14	Running Earths	0.5
2.15	Manual Bobbin Stand	0.5
2.16	Steps For Monopoles	0.5
2.17	Ladders (including Live line ladders)	0.5

ESKOM COPYRIGHT PROTECTED

Item	Criteria	Max Score
3	ORHVS Training Certification per supervisor (minimum 1 supervisor and must have completed ORHVS outcome 4 as a minimum)	4
4	Fibre Testing & Splicing equipment (including calibration certificates)	6.5
4.1	OTDR/MAX Tester	2
4.2	Power Meter and Light Source	2
4.4	Optical Talk Sets	0.5
4.5	Fusion splicers	2
	Total Maximum Score	36
THRESHOLD (80%)		28.8

4. Authorization

This document has been seen and accepted by:

Name and surname	Designation
Thuli Tladi	Middle Manager: Telecommunications
Thomas Jacobs	Senior Manager: Technology & Engineering (Acting)

5. Revisions

Date	Rev	Compiler	Remarks
Nov 2025	2	Tshepiso Moloisane	Updated Factory Visit Requirements
Aug 2024	1	Jerry Ramphisa	New Document

6. Development team

The following people were involved in the development of this document:

- Jerry Ramphisa
- Lesiba Buthane
- Frans Ratau
- Sandile Mathebula
- Tshepiso Moloisane
- Yvette Vermeulen

7. Acknowledgements

Not applicable.

Annex A – Previous Experience in the last 5 years

#	Project name and/or reference numbers	Company/Employer Name	Company/Employer Contact Details	Type of fibre installed (OPGW/ADDSS/DUCT)	Fibre length	Project Completion Date	Project Leader Name	Project Leader contact number
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

ESKOM COPYRIGHT PROTECTED

When downloaded from the WEB, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the WEB.

Annex B – Fibre Optic Installation Methodology Criteria

Item	Description	Included (yes/no)	Included (yes/no)	Included (yes/no)
1	Cable Installation (OPGW, ADSS & Duct)	OPGW	ADSS	Duct
1.1	Safety and Cleanliness Total score = 1			
1.2	Handling of Drums and Cable Total score = 1			
1.3	Pulling Tension, Bending radius, twist (OPGW and ADSS only) Total score = 2			
1.4	Specialised Equipment used Total score = 1			
1.5	Joint Box Connectivity Total score = 1			
2	Patch Panel/Joint Box Installation			
2.1	Equipment used Total score = 1			
2.2	Preparation Total score = 1			
2.3	Splicing Total score = 1			
2.4	Waste handling Total score = 1			
3	Fibre Testing			
3.1	Equipment used Total score = 1			
3.2	Pre-haul testing Total score = 1			
3.3	Splicing Procedure Total score = 1			

Annex C – Technical Documentation Compliance

Item	Description	Schedule A	Schedule B	Comments
1	HDPE Sleeve for Fibre Optic Installation			
1.1	It shall abide by SANS 61386-24 (Conduit systems for cable management, Part 24: Requirements – Conduit systems buried underground)	Comply		
1.2	The material properties shall abide by the ISO 1183 (Plastics) and ISO527 (Plastics Determination of tensile properties) standards.	Comply		
1.3	The conduit should be made of HDPE material	Comply		
2	Sprague Tubing (CABLE COMM: FLEXIBLE CONDUIT)			
2.1	The Sprague tubing shall comply with SANS/ IEC 61386-1:2017	Comply		
3	Fibre Termination (Patch Panel and Patch leads)			
3.1	ODFs shall conform to the Schedule A/B Distribution Frame/Patch Panel standard 240-70733995	Comply		
3.2	Patch leads (Normal and Ruggedized)	Comply		
3.3	The ODF shall be installed in an Equipment panel according to 240-60725641: Specification for Standard (19”) Equipment Panels when new is required.	Comply		
4	Fibre optic system			
4.1	Conformance to installation standards, viz.: NRS 088-2, NRS061-2, NRS 078-2	Comply		
4.2	Conformance to Eskom Fibre Acceptance Testing Standard, 240-70732888	Comply		
4.3	Conformance to Eskom labelling of fibre optic cables, 240-46263618	Comply		

Annex D – Installers Check Sheet

Item	Criteria	Submitted (Yes/No)	File location	Comments
1	Capabilities in terms of personnel, -			
1.1	Company structure/organogram			
1.2	Supervisor (including CV's and experience)			
1.3	SHEQ officer (including CV's and experience)			
1.4	Splicer and commissioning technician/engineer (including CV's and experience)			
1.5	Linesman (including CV's and experience, authorised to work at heights)			
2	Capacity in terms of equipment- list of equipment under company profile. Type, size and quantity for installation of fibre cable			
2.1	Transport (People Carriers, Truck, LDV) People Carriers =score of 1 Heavy Duty Truck with Crane (at least 8 Ton) = score of 1 LDV = score of 1			
2.2	Winch and tension set pulling capacity (greater or equal to 30 kN)			
2.3	Dielectric pilot rope			
2.4	Running out blocks for OPGW and ADSS			
2.5	Lifting Tackle & pulling blocks complete with wire rope			
2.6	Tensioning ratchet hoists			
2.7	Come along clamps			
2.8	Hydraulic Crimpers			
2.9	Hydraulic Cutters			
2.10	Tension measuring devices (Dynamometer)			
2.11	Specialized line construction tools and safety equipment (e.g. Safety Harness, Earth kit, Webbing & Slings, etc)			
2.13	Drum Jacks (with Shaft)			
2.15	Running Earths			
2.17	Manual Bobbin Stand			
2.18	Steps For Monopoles			

ESKOM COPYRIGHT PROTECTED

Item	Criteria	Submitted (Yes/No)	File location	Comments
2.19	Ladders (including Live line ladders)			
3	ORHVS Training Certification per supervisor (minimum 1 supervisor and must have completed ORHVS outcome 4 as a minimum)			
4	Fibre Testing & Splicing equipment (including calibration certificates)			
4.1	OTDR/MAX Tester			
4.2	Power Meter and Light Source			
4.4	Optical Talk Sets			
4.5	Fusion splicers			