

Title: **TECHNICAL EVALUATION
CRITERIA FOR ADSS CABLES**

Unique Identifier: **240-171000500**

Alternative Reference Number: **n/a**

Area of Applicability: **Engineering**

Documentation Type: **Report**

Revision: **2**

Total Pages: **16**

Next Review Date: **n/a**

Disclosure Classification: **Controlled
Disclosure**

Compiled by

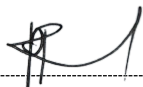


Tshepiso Moloisane

**Design Manager-
Telecommunication
Technology & Engineering**

Date: 19/09/2025

Functional Responsibility

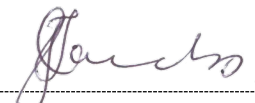


Thuli Tladi

**Middle Manager -
Telecommunication
Technology & Engineering**

Date: 19/09/2025

Authorized by



Thomas Jacobs

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

Date: 19/09/2025

Content

	Page
1. Introduction	4
2. Supporting clauses	4
2.1 Scope	4
2.1.1 Purpose	4
2.1.2 Applicability	4
2.2 Normative/informative references	4
2.2.1 Normative	4
2.2.2 Informative	4
2.3 Definitions	4
2.3.1 General	4
2.3.2 Disclosure classification	4
2.4 Abbreviations	5
2.5 Roles and responsibilities	5
2.6 Process for monitoring	5
2.7 Related/supporting documents	5
3. Technical Tender Evaluation Procedure	5
3.1 Mandatory Criteria evaluation	7
3.2 Desktop Evaluation	7
3.2.1 Desktop ADSS Assessment	7
3.2.2 Desktop Factory File Assessment	8
3.3 Factory Assessment	8
3.3.1 Scope	8
4. Authorization	11
5. Revisions	11
6. Development team	11
7. Acknowledgements	11
Annex A – Mandatory Criteria - A/B Schedule	12
Annex B – Mandatory Criteria Type Tests	14
Annex C – Indexed Factory File	15

Tables

Table 1: Evaluation Steps for Eskom Technical Assessment Team	5
Table 2: Requirements from Tenderers	6
Table 3: Mandatory Criteria	7
Table 4: Scoring of items in Desktop Evaluation	7
Table 5: Desktop ADSS Evaluation	8
Table 6: Desktop Factory File Evaluation	8
Table 7: Scoring of items for Factory Evaluation	9
Table A.1: Mandatory Criteria - A/B Schedule	12
Table B.1: Mandatory Criteria Type Tests	14

ESKOM COPYRIGHT PROTECTED

Table C.1: Indexed Factory File	15
---------------------------------------	----

1. Introduction

This document aims to describe the criteria which will govern the evaluation of tender submissions by suppliers intending to supply ADSS fibre optic cables. The criteria for each cable type are tabulated in the annexes at the end of this document.

The criteria will be followed in performing both the desktop and factory evaluations.

2. Supporting clauses

2.1 Scope

This document explains the technical evaluation process and criteria associated with ADSS fibre optic cables as described by the relevant 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 supply of ADSS fibre optic cables.

2.1.2 Applicability

This document shall apply throughout Eskom Distribution Division.

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] ISO 9001 Quality Management Systems.
- [2] 32-1034 - Eskom Procurement and Supply Management Procedure.
- [3] NRS 078-1: Long Span All Dielectric Self-Supporting Fibre Optic Cables Part 1: Product Specification.

2.2.2 Informative

- [4] NRS 078-2: Long Span All Dielectric Self-Supporting Fibre Optic Cables Part 2: Installation Guidelines.

2.3 Definitions

2.3.1 General

None

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
OEM	Original Equipment Manufacturer
PLS-CADD	Power Line Systems - computer-aided design and drafting

2.5 Roles and responsibilities

Eskom Commercial and Technology shall ensure that this document is implemented during tender evaluation process.

2.6 Process for monitoring

Monitored by Technical Team using tender processes.

2.7 Related/supporting documents

Not applicable.

3. Technical Tender Evaluation Procedure

The technical evaluation procedure is specific to the ADSS cable specifications. The complete evaluation of any potential supplier would involve a desktop evaluation as well as a factory evaluation. The factory evaluation is necessary to verify the capabilities which the supplier would have documented in their tender submissions.

Any tenderers who have been assessed by Eskom within the past 36 months for the supply of ADSS **may be** exempted from the technical factory evaluation. These tenderers are still required to submit all technical documents listed in Table 2.

The assessment team has no authority or responsibility in the decision taken by Eskom with respect to contracting for a product or service. During the evaluation, the assessment team will undertake the following steps:

Table 1: Evaluation Steps for Eskom Technical Assessment Team

Steps #	Activities for Eskom Technical Assessment Team
1	Find Tables A3.0, A3.1, A3.2, A3.3
2	Complete Table 3.0 Mandatory Criteria
3	Proceed to evaluate Tenderer that meets Table 3.0 Mandatory Criteria
4	Evaluate Technical File of Tenderer
5	Review submission for Table A3.1 and score Table A3.2 for the submitted ADSS - link with Type Test report submitted
6	Review Indexed Factory File submission and score Table 6
7	Review Data Sheets information submitted for the ADSS and score
8	Review PLSCADD information submitted for the ADSS and score
9	Consolidate Scores for Desktop evaluation from steps 6, 7 and 8 above

ESKOM COPYRIGHT PROTECTED

Steps #	Activities for Eskom Technical Assessment Team
10	Feedback draft report to Commercial indicating which Tenderers have passed Desktop evaluation
11	Commercial to inform tenderer and indicate dates for Factory visits (where applicable)
12	Factory Visits by Cross-functional team (where applicable)
13	Final Report completed

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

From a technical perspective, the submitted documentations should consist of but not be limited to:

- a) Complete Table A3.1. This is in Annex A and an excel version with various columns is submitted with the tender pack. The fully completed A/B Schedules are required for the ADSS cable offered.
- b) Complete Table A3.2. This is in Annex B and an excel version with drop down boxes is submitted with the tender pack. This is required as to the status of the type tests for the ADSS cable offered.
- c) Complete Table A3.3. This is in Annex C and an excel version is submitted with the tender pack. A fully indexed and comprehensive file with relevant factory information is required.
- d) The Manufacturer's Data Sheets for the ADSS cable tendered is required for desktop evaluation.
- e) The ADSS information for PLS-CADD with the co-efficient and sag and tension data shall be included for the ADSS cable tendered.
- f) It must be noted that before any ADSS fibre optic cable is used on Eskom's system, a mechanical compatibility test shall be done with the designated hardware. Agreement between prospective fibre optic cable supplier and prospective hardware supplier shall be concluded. Eskom's only responsibility with this aspect is to review the final test results and on occasion witness these tests.
- g) Tenderers shall ensure that they cater for the manufacture of special ADSS cables that may be requested during the contract lifetime.

Documentation that is required from the tenderers is summarized in Table 2 below:

Table 2: Requirements from Tenderers

Step #	Activities and Submission Summary for Tenderers
1	Submit a properly indexed Technical File
2	Submit completed Table A3.1 - A/B Schedules for ADSS offered
3	Submit completed Table A3.2 – Cable Tests status
4	Submit completed Table A3.3 - FACTORY FILE index completed
5	Submit most recent TESTS done for the ADSS offered
6	Submit most recent DATA SHEETS for the ADSS cable offered
7	Submit most recent PLSCADD information for the ADSS offered
8	Submit indexed file with Factory Information correlating to Table A3.3

3.1 Mandatory Criteria evaluation

This evaluation exercise shall be conducted by the Eskom evaluating representatives.

The Eskom evaluating representatives will go through the details of the technical returnable submissions that are required to ensure that the Mandatory criteria are met. Tender submissions for Tables A3.1, A3.2 and A3.3 will be checked for existence and completeness. Submissions that receive a “No” on any of the Mandatory criteria will not be able to proceed to the Desktop Evaluation and will immediately fail the technical evaluation.

Table 3: Mandatory Criteria

ADSS Cable Mandatory Criteria	Mandatory	Comply (Yes/No)
A and B Schedules completed to Eskom requirements for the ADSS cables provided in English As per NRS 078-1 format? (Complete Table A3.1)	Yes	
State which cable tests are submitted and which will be provided during Factory Evaluation. (Complete Table A3.2)	Yes	
File of information supplied for Table A3.3 for Factory Evaluation	Yes	

The tables are to be completed together with the submissions and are found in Annexes A, B, and C. The excel versions of these will be provided in the tender pack and each table has cells which have drop down boxes. The Tenderer must complete each excel table as listed in Table 3.

3.2 Desktop Evaluation

Submissions that pass the Mandatory requirements as stated in Table 3 will proceed to the Desktop Evaluation. Note that to proceed to the Factory evaluation stage, both 3.2.1 Desktop ADSS Assessment and 3.2.2 Desktop Factory File Assessment must pass the evaluation criteria.

The tenderer is required to pass the overall desktop evaluation (*i.e. section 3.2.1 and 3.2.2*) to proceed to the Factory evaluation stage.

3.2.1 Desktop ADSS Assessment

The desktop assessment will score the following items:

- ADSS cable tests reports – only ADSS cables that were submitted as part of the tender shall be evaluated according to Table A3.2.
- Manufacturer’s Data Sheets per ADSS cable that was submitted for tender.
- The PLS-CADD information with the co-efficient and sag & tension data for each ADSS submitted for tender shall be included.

The items will be scored as per Table 4 below:

Table 4: Scoring of items in Desktop Evaluation

Criteria	Score
Fully compliant	3
Non-compliant (major deviation)	0

Each Tenderer will be scored for the ADSS cable submitted as indicated in Table 5.

Table 5: Desktop ADSS Evaluation

ADSS Cable Scoring Criteria	Maximum Score	Threshold
ADSS Cable Tests	45	80%/36
ADSS Data Sheets Submitted	3	100% /3
ADSS information for PLSCADD. Co-efficient/ sag and tension data.	3	100% /3

The ADSS cable score that passes ALL pre-set threshold in Table 5 shall be considered for the tender.

3.2.2 Desktop Factory File Assessment

The Factory Information File shall be scored as per Table 6. A score of 1 point is given for every item requested. The detailed scoring in Table 7 Scoring of items in Factory Evaluation (in section 3.3.1) will be used in the Desktop and Factory site evaluations.

Table 6: Desktop Factory File Evaluation

ADSS Cable Scoring Criteria	Maximum Score	Threshold
Factory Information - File scored on answers to Table#7 on Factory information	39	80%/31.2

The Factory information file will also be scored for Desktop evaluation and is required to pass the threshold score (31.2/80%).

3.3 Factory Assessment

These assessments are performed to assess the tenderer's capability to enter a contract with Eskom with respect to a specific product or service and meet Eskom's requirements.

Cable tests that were indicated "FAT" in Table A3.2 (for Desktop evaluation) shall be provided during the factory visit. Other outstanding type tests to be provided at contract award.

3.3.1 Scope

Eskom will do factory assessments to assess the ability and readiness of the tenderer for supplying/manufacturing fibre optic cables and/or hardware for Eskom should the need arise. Eskom assessment representative(s) will arrange visits to the factories that have qualified for factory evaluations. In line with Covid-19 protocols, Eskom may undertake this factory assessment incorporating a virtual process.

The virtual process will include a live walk-down of the entire supplier facility (offices, labs, testing facilities, manufacturing facilities, incoming and outgoing facilities, raw materials processing and hardware & software facilities) which is used to manufacture and test the fibre optic cables.

The Eskom assessment representative(s) will conduct the assessment and scoring using of Table 7 provided below. The requirements in the Desktop evaluation will be verified. If a tenderer scores less than the threshold of 80% during the factory assessment, they will fail the evaluation.

Table 7: Scoring of items for Factory Evaluation

Factory Scoring Desktop & Factory Site				
Item #	Manufacturing Methods/Product Conformance	Max Score	Actual Score Desktop	Actual Score Factory
1	Factory Information: <ul style="list-style-type: none"> • Manufacturing premises address, • Staff organogram, • Equipment, • Testing facilities and • Plant layout 	5		
2	<ul style="list-style-type: none"> • Ability to provide verification of all material utilised in the production of ADSS cable • fibre cores, • Dielectric sheath, • tube, • Kevlar and • gel (or similar) 	5		
3	Ability to produce complete fibre product- ADSS <ul style="list-style-type: none"> • manufacture of fibre tube • drawing of fibre cores into tube • addition of gel with fibre cores • setting up of machine with dielectric material and fibre tube • assembling of complete product (or similar process) 	5		
4	Manufacturing to standards, licenses etc. IEC, Eskom spec etc. <ul style="list-style-type: none"> • Specs available on premises Staff knowledge on specs <ul style="list-style-type: none"> • Implementation of specs 	3		
5	Design Capabilities of supplier- In house or external experts etc. <ul style="list-style-type: none"> • Personnel and • Software 	2		
6	Affiliations with any international organisation/ experts in the field.	1		
7	History and list of external customers that you have supplied similar products to.	2		

ESKOM COPYRIGHT PROTECTED

Item #	Manufacturing Methods/Product Conformance	Max Score	Actual Score Desktop	Actual Score Factory
8	Type Of Testing Facilities. <ul style="list-style-type: none"> Calibration of equipment (major equipment calibrated accordingly), Test capabilities (able to perform in-house sample/production tests - Test report and generic testing forms to be submitted), Competencies of Technicians (ability to perform in-house tests), Quality of Test reports (all relevant testing information available on test report) 	4		
9	Confirmation of cable Testing Procedures (2pt) and Facilities (2pt) (confirm that supplier has ability to test products in accordance to IEC/BS 60794-1-21, IEC 60794-1-20, IEC 60794-4, SANS 60793-1-44, 60794-1-22, IEC 61089 and IEC 61395)	4		
10	Can provide typical packaging details of items after manufacture. <ul style="list-style-type: none"> Treatment of packaging (drums), Drum design 	2		
12	Marking on drums as per Eskom requirements (NRS 078-1)	1		
13	Handling and storage requirements of product as per manufacturer.	2		
14	Verification of product length on drum	1		
15	Verification of drum gross and net weight.	2		
	Total	39		
	Threshold 80%	31.2		

4. Authorization

This document has been seen and accepted by:

Name and Surname	Designation
T Tladi	Middle Manager Telecommunications
Thomas Jacobs	Senior Manager Technology & Engineering (Acting)

5. Revisions

Date	Rev	Compiler	Remarks
Aug 2025	2	T Moloisane	Updated Table Numbers
May 2025	1	T Moloisane	Original: Prepared for Commercial Enquiry

6. Development team

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

- Thuli Tladi
- Lesiba Butane
- Tshepiso Moloisane

7. Acknowledgements

Not applicable.

Annex A – Mandatory Criteria - A/B Schedule**Table A.1: Mandatory Criteria - A/B Schedule**

ADSS A/B Schedule as per NRS 078-1					
Item	Subclause	Description		Schedule A : Eskom Requirements	Schedule B: Supplier Offering
B.1	4,1	Number of fibres		48 & or 24 cores	
B.2	4,1	Type of fibre		As in NRS 081	
B.3	4.2.2	Mass per length of cable	kg/km	< 200	
B.4	4.2.2	Cable diameter	mm	≤ 15	
B.5	4.2.2	Maximum bending radius		250 mm	
B.6	4.2.6	Cabled cut-off wavelength	nm	≤ 1 260 nm	
B.7	4.2.7	Details of measures taken and tests performed for UV		XXXXXXXXXX	
	4.2.8	Cable markings on outer layer		None	
	8.1.2	Cable markings on bedding layer		Yes	
B.8	4.2.8	Anti-tracking sheath		Yes	
B.9	4.2.8	Sheath tracking performance (maximum permitted leakage current under heavy pollution conditions, 100 kΩ/m longitudinal resistance). As given in IEEE 1222	mA	XXXXXXXXXX	
B.10	4.2.9	Details of measures against water penetration		XXXXXXXXXX	
B.11	4.2.10	Details to minimize fibre hydrogen absorption		XXXXXXXXXX	
B.12	4.2.11	Maximum design span length	m	400 (or as otherwise agreed)	
B.13	4.2.11	Ultimate tensile strength (UTS)	kN	≥ 35,0 (or as specified for specific application)	
B.14	4.2.11	Maximum working load (where fibre strain does not exceed 0,2 % in the fibres) (MAT)	kN	XXXXXXXXXX	
B.15	4.2.11	Maximum continuous load (fibre under no strain) (MOT)	kN	XXXXXXXXXX	
B.16	4.2.18	Long-term creep		XXXXXXXXXX	
B.17	5	Compliance with environmental requirements		Yes	

ESKOM COPYRIGHT PROTECTED

B.18	6.2.1	Type test reports available.		Comply	
B.19	6.2.12	Details of electrical design tests performed to prove withstand capability of cable		XXXXXXXXXX	
B.20	8.2.1	Wound length	m	XXXXXXXXXX	
B.21	9,1	All documentation as listed in 9.1 to be supplied		Comply	

Annex B – Mandatory Criteria Type Tests**Table B.1: Mandatory Criteria Type Tests**

Mandatory Criteria ADSS Type Tests Required			
CableTests (Yes/No/FAT) Indicate which Tests have been submitted and which will be available at FAT NOTE: 80% test for each cable must be submitted			48 - Cores
Item	Type Of Test	Standard	Tender's Response (Yes/No/FAT)
1	UV resistance	IEC 60794-1-22	
2	Electrical withstand capability of the sheath (tracking test)	SANS 62217:2013	
3	Water Penetration	BS EN/IEC 60794-1-22:2018	
4	Tensile Strength	BS EN/IEC 60794-1-21	
5	Crush Resistance	BS EN/IEC 60794-1-21	
6	Cable Bending	BS EN/IEC 60794-1-21	
7	Cable Torsion	BS EN/IEC 60794-1-21	
8	Impact Resistance	BS EN/IEC 60794-4-20	
9	Aeolian Vibration	BS EN/IEC 60794-1-21	
10	Galloping	BS EN/IEC 60794-1-21	
11	Creep	IEC 61395	
12	Temperature Cycling	BS EN/IEC 60794-1-22:2018	
13	Compound Flow (drip)	BS EN/IEC 60794-1-21	
14	Bending under test	BS EN/IEC 60794-1-21	
15	Hardware fitting compatibility test	BS EN/IEC 60794-4	

Annex C – Indexed Factory File**Table C.1: Indexed Factory File**

Mandatory Criteria		
Provide an Indexed File with answers to the following statements		
Item #	Manufacturing Methods/Product Conformance	State location in File (eg. Tab 1, Tab 2, Tab A, Tab B)
1	Factory Information: <ul style="list-style-type: none"> • Manufacturing premises address, • Staff organogram, • Equipment, • Testing facilities and • Plant layout 	
2	Ability to provide verification of all material utilised in the production of ADSS cable <ul style="list-style-type: none"> • fibre cores, • Dielectric sheath, • tube, • kevlar and • gel (or similar) 	
3	Ability to produce complete fibre product- ADSS <ul style="list-style-type: none"> • manufacture of fibre tube • drawing of fibre cores into tube • addition of gel with fibre cores • setting up of machine with dielectric material and fibre tube • assembling of complete product (or similar process) 	
4	Manufacturing to standards, licenses etc. IEC, Eskom spec etc. <ul style="list-style-type: none"> • Specs available on premises • Staff knowledge on specs • Implementation of specs 	
5	Design Capabilities of supplier- In house or external experts etc. <ul style="list-style-type: none"> • Personnel and • Software 	
6	Affiliations with any international organisation/ experts in the field.	
7	History and list of external customers that you have supplied similar products to.	

ESKOM COPYRIGHT PROTECTED

8	Testing Capacity. <ul style="list-style-type: none"> • Calibration of equipment (major equipment calibrated accordingly), • Test capabilities (able to perform in-house sample/production tests - Test report and generic testing forms to be submitted), • Competencies of Technicians (ability to perform in-house tests), • Quality of Test reports (all relevant testing information available on test report) 	
9	Confirmation of Type Testing Procedures (2pt) and Facilities (2pt) (confirm that supplier has ability to type test products in accordance to IEC/BS 60794-1-21, IEC 60794-1-20, IEC 60794-4, SANS 60793-1-44, 60794-1-22, IEC 61089 and IEC 61395)	
10	Can provide typical packaging details of items after manufacture. <ul style="list-style-type: none"> • Treatment of packaging (drums), • Drum design 	
11	Marking on drums as per Eskom requirements (NRS 078-1)	
12	Handling and storage requirements of product as per manufacturer.	
13	Verification of product length on drum	
14	Verification of drum gross and net weight.	