Eskom	Report	Technology

Title: **TECHNICAL EVALUATION CRITERIA FOR LV FUSEHOLDER**

Unique Identifier:	**240-1422631111**
Alternative Reference Number:	**<n/a>**
Area of Applicability:	**Engineering**
Documentation Type:	**Report**
Revision:	**2**
Total Pages:	**10**
Next Review Date:	**N/A**
Disclosure Classification:	**Controlled Disclosure**

Compiled by	Functional Responsibility	Authorized by
Jutas Maudu	**Jutas Maudu**	**Mfundi Songo**
Senior Engineer	**LV Services CG Convener**	**Senior Manager: Technology & Engineering**
Date: 05 May 2023	Date: 05 May 2023	Date: 11 May 2023

PCM Reference: **Support to Commercial**
SCOT Study Committee Number/Name: **MV/LV Study committee**

Content

1. Introduction

This document has been developed to set the standard technical evaluation criteria to be used when evaluating the tender submissions. This covers the technical evaluation of the LV Fuseholder for Eskom. It has clauses developed to address various aspects required to perform the technical evaluation based on Eskom standards.

This document contains both the evaluation criteria used for the documentation evaluation and factory evaluation. In addition, it contains the questions which are required for technical evaluation purposes.

2. Supporting clauses

2.1 Scope

The document covers the criteria for the evaluation of the LV Fuseholder by Eskom Holdings SOC (Ltd).

2.1.1 Purpose

The document addresses the standard documented technical evaluation criteria to be used when evaluating the tender submissions for the LV Fuseholder within the Eskom Holdings SOC (Ltd) requirements and it is applicable to all the technical evaluations for the related tender submissions.

2.1.2 Applicability

This document shall apply for Eskom Holdings Limited and Distribution division wherein Eskom has a controlling interest.

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] BS EN ISO 4892-3, Plastics Methods of exposure to laboratory light sources - Fluorescent UV lamps

[2] IEC 60695-2-1:1991, Fire hazard testing Part 2: Test methods Section 1: Glow wire test and guidance.

[3] IEC 60817:1984, Spring-operated impact-test apparatus and its calibration.

[4] SANS 9227, Corrosion tests in artificial atmospheres - Salt spray tests

[5] SANS 60947-1: Low voltage switchgear and controlgear Part 1: General rules.

[6] SANS 60947-3: Low voltage switchgear and controlgear, Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units.

[7] SANS 60269-1: Low voltage fuses Part 1: General requirements.

[8] SANS 60269-2: Low voltage fuses Part 2: Supplementary requirements for fuses for uses by authorized persons (fuses mainly for industrial application).

[9] SANS 1433-1, Terminal blocks having screwed and screw less terminals

[10] 240-75660476: ESKOM REQUIREMENTS FOR LOW VOLTAGE FUSE HOLDERS STANDARD

[11] 240-48929482: TENDER TECHNICAL EVALUATION PROCEDURE

[12] D-DT-3182: LV FUSEHOLDER

[13] D-DT-3409: FUSEHOLDER,VERTICAL 3P 400A 440V

2.2.2 Informative

[1] 32-9: Definition of Eskom documents.

[2] 32-644: Eskom documentation management standard.

[3] 474-65: Operating manual of the Steering Committee of Technologies (SCOT).

2.3 Definitions

2.3.1 General

Definition	Description
Eskom Evaluating Representative(s)	The person(s) appointed by Eskom to perform the evaluation of tender submission(s) in line with the Eskom requirements.

2.3.2 Disclosure classification

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

2.4 Abbreviations

Abbreviation	Description
LV	Low Voltage
SANS	South African National Standard

2.5 Roles and responsibilities

All Eskom employees and/or appointed bodies involved in the procurement of LV Fuseholder shall ensure that the project deliverable meets the requirements of these technical evaluation criteria. Any deviation from these requirements shall constitute non-conformance unless it was in advance agreed to by a delegated specialist and is based on sound engineering judgement.

All suppliers of the LV Fuseholder to Eskom must be conversant with the requirements of this standard and shall comply with the requirements. Suppliers shall ensure that they obtain clarity where required and obtain all supporting information or documents necessary to comply with the requirements.

2.6 Process for monitoring

The LV Fuseholder acceptance shall be based on fully compliant submission of documents, the factory assessment or sample verification and capacity shall be done during factory evaluations.

2.7 Related/supporting documents

Refer to clause/ section 2.2.

3. Requirements

The evaluation methodology will include two main parts, namely the documentation evaluation and the factory evaluation.

3.1 Documentation Evaluation

The documentation evaluation exercise is performed by the Eskom evaluating representatives. This initial part of the evaluation starts when submissions are opened and assessed for the first time. The submitted documents will be evaluated against the evaluation criteria as stated below.

Manufacturers shall supply Eskom with Type Test Certificates that clearly indicate that the product concerned (product part number / code appearing on certificate) and has passed the type testing requirements to the relevant standards as specify in the Buyer's guide D-DT-3182 and 3409 if offered). Any other RELEVANT certification can also be submitted.

The documentation evaluations are meant for establishing if all the key tender deliverables are met. The documentation evaluation will consist of two sections: mandatory technical evaluation requirements deliverables (Phase 1), and Qualitative criteria evaluation i.e., scoring phase (Phase 2: submission requirements).

The phase 1 shall be assessed on a Yes/ No basis as to whether or not the criteria are met. An assessment of 'No' against any criterion shall technically disqualify the tenderer and shall not be further evaluated against qualitative criteria.

The phase 2 (qualitative scoring criteria) is weighted evaluation criteria to reflect the relevant importance of each criterion. The minimum weighted final score (threshold) for a tenderer to be considered for a factory assessment is 70% from a technical perspective of the tendered items.

During the documentation evaluation, fully compliant type test certificates in accordance with 240-75660476 and DDT 3409 (if offered) will be required. Failure to submit and comply with the test requirements specified in those documents will lead to immediate disqualification as per phase 1.

Note: Any deviations from Eskom and SABS standards shall be listed in the technical schedule.

3.2 Sample Submission Verification

Verification is only performed on the submissions that have met all the mandatory technical evaluation requirements in level 1: mandatory gate-keeper requirements as stated in this document. Eskom Commercial shall make the arrangements for this verification.

During verification the Eskom evaluating representative(s) conducts the evaluation using checklist (Annex A). The checklist is used to verify compliance to Eskom requirements as per 240-75660476.

The following areas shall also be assessed during verification:

a) Manufacturing volume capability (if locally manufactured)

b) Material handling and storage.

c) Packaging suitable for warehouse storage up to five years.

d) Verification of sample through inspection.

At the end of this exercise, the Eskom evaluating representative(s) list all the deviations and identified risks if any. The representative conducts a formal discussion of the deviations and risks in line with Eskom's requirements. If major discrepancies and risks are identified the supplier may be disqualified.

3.3 Technical Evaluation Gate Keepers for LV Fuseholder and Brackets Mandatory Technical Evaluation Requirements

LV Fuseholder technical evaluation criteria for the documentation exercise		
Phase 1 Gatekeeper		
TASK / MEASURE		
Criteria	**Standard/clause**	**Acceptance: Yes/ No**
Copies of type test certificate/report submitted for tendered items	D-DT 3182 and DDT 3409 (if offered)	
A proof that type test report supplied performed from an accredited facility provided.		
Completed technical compliance schedule provided (Only for items offered)	240-75660476 / DDT 3182 / DDT 3409	
Any “NO” of the item intended to be offered on the above acceptance column the supplier will be disqualified.		

3.3.1 Technical evaluation criteria for LV Fuseholder and Bracket– Qualitative scoring criteria

LV Fuseholder technical evaluation for the documentation exercise			
Phase 2 scoring/rating - (only submission that passes Phase 1)			
Type testing Weight: 40%			
Criteria	**Standards**	**Weight**	**Score**
All test reports/certificates submitted (Fuseholder and Bracket) comply with standards in DDT 3182 and 3409	DDT 3182 and 3409	20%	
Type tests performed in the last 10 years	DDT 3182 and 3409	10%	
Proof of an accredited test facility supplied		10%	
• For Type testing performed within the last 10 Years supplier gets 100% and loses 20 % for each additional year. • For the type test certificate or report compliance supplier gets 100 % if complied with all requirements in DDT 3182 and 3409 for offered item, and loses 20% for each missing requirement		**Total**	**/40%**
Technical schedules for LV Fuseholder/bracket: Weight: 30%			
Criteria	**Clause (240-75660476)**	**Weight**	**Score**
Correctness of completion i.e., no “TBA”, “Noted”, “supplied later” (“Noted” acceptable only when Eskom is informed), completed technical schedule	Technical schedule A & B	10%	
Does schedule B meet Eskom schedule A requirement?	Technical schedules A & B	15%	
Completed technical deviations (Where applicable – 100 % score is obtained where there are no deviations)	Technical schedules A & B	5%	
NB: The technical schedules B are provided on the Annexures of the Fuseholder/bracket specification. • 5% will be deducted for each section which is not completed on schedule B.		**Total**	**/30%**
Construction of fuseholder/bracket: Weight 20%			
Criteria	**Clause**	**Weight**	**Score**
Marking of the Fuseholder in accordance with Eskom specification (construction drawings submitted)		10%	
Signed, dated and approved drawings supplied		5%	
Dimensions shown on the drawing		5%	
		Total	**/20%**
Packaging Method: Weight 10%			
Criteria	**Clause**	**Weight**	**Score**
Method of LV fuses packaging explained thoroughly in the submissions.		10%	
		Total	**/10%**

3.4 Conclusion

The technical evaluation criteria for this project are specified in clause 3.3 of this document.

4. Authorization

This document has been seen and accepted by:

Name and surname	Designation
Mfundi Songo	Senior Manager

5. Revisions

Date	Rev	Compiler	Remarks
Feb 2021	1	Jutas Maudu	New document.
May 2023	2	Jutas Maudu	Document updated

6. Development team

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

- Jutas Maudu: Technology & Engineering (CoE)
- Masithembe Ngcwama GOU
- Itani Phafula LIMLANGA

7. Acknowledgements

Not applicable.

Annex A – Verification checklist

Clause: 240-75660476	Description		Yes/No
4.1	Does the fuse holder comply with SANS 60947-3?	Marking indicated	
4.2.1.2	Altitude above sea level.	1800m	
4.1.1.3	Does the fuse holder withstand lightning conditions up to 14 strikes/km2/year?		
4.1.1.5	Prolonged exposure to solar radiation.		
4.2.1	Is the fuse holder consisted of two parts? The upper housing and the lower, detachable, hinged housing.		
4.2.2	Is the fuse holder constructed in such a way that the conductor slopes downward away from the fuse holder?		
4.2.3	Does the fuse holder have holes for drainage?		
4.2.4	Does the fuse holder have any additional removable hoods or covers?		
4.2.5	Fuse holder shall have a life cycle of at least 15 years. Are special steps taken to ensure this life provided?		
4.2.6	Precautions shall be taken to ensure that no accidental electrical connection can arise between the external conductive parts of the fuse holder and a live conductor.		
4.3.1	Is it possible to open the fuse holder, remove and replace the lower housing using a link stick with a standard disconnect attachment?		
4.3.2	Are the steps taken to ensure ease of opening, removal and replacement of the lower housing? See 240-75660476		
4.3.3	Are the closed and open positions of the unit clearly visible from ground level with the unit mounted at 9 m above ground?		
4.3.4	Does the fuse holder have a fuse-blown indicator? Does the indicator face downwards i.e. towards the ground?		
4.4.1	Two types of units	Either 160A or 400A single-pole unit	
4.4.2	160A fuse holder shall accept NH00 fuse and 400A fuse holder shall accept NH2.		

Clause: 240-75660476	Description		Yes/No
4.4.3	Are all metallic parts of the fuse holder electrochemically compatible with the following? contacts of the fuse link aluminium conductor copper conductor		
4.4.4	Did the fuse holder pass temperature rise and overload tests? Is the watt loss clearly marked on the fuse holder?		
4.5.1	Are the terminals standard screw-in pillar type? Do the terminals for 160A fuse holder accept Al conductors from 16 mm2 to 70 mm2? Do the terminals for 400A fuse holder accept Cu conductors from 70mm2 to 185mm2 on the outgoing terminals and ACSR conductors on incoming terminal?		
4.5.2	Does screw-in pillar type comply with SANS 1433-1?		
4.5.3	Do terminals have anti-corrosive properties?		
4.5.4	Are two bolts used? If yes, is the method of tightening not detrimental to the terminal?		
4.5.5	Are terminal bolts having stranded hexagonal heads? Are M13 bolt heads used?		
4.5.6	It shall not be possible to insert the conductor too far into the unit such that it interferes with the fuses.		
4.5.7	There shall be one incoming and two outgoing terminals for both 160A and 400A fuse holders.		