| Eskom | Report | Technology |
|---|---|---|

Title: **TECHNICAL EVALUATION CRITERIA FOR MINIATURE CIRCUIT BREAKERS AND MOULDED CASE CIRCUIT BREAKERS**

| | |
|---|---|
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# 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 on the MCBs and MCCBs to be used for Eskom. It has clauses developed to address various aspects required to perform the technical evaluation. This is developed based on the Eskom standard or Buyer's guide.

This document contains both the evaluation criteria used for the documentation and samples supplied. The document also contains technical schedules to be completed and submitted.

# 2. Supporting clauses

## 2.1 Scope

The document covers the criteria for the evaluation of the MCBs and MCCBs 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 MCBs and MCCBs in line with 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, 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 National document(s)

[1] SANS 556-1: Low voltage switchgear

[2] VC 8036: Compulsory specification for circuit breakers

### 2.2.2 Eskom document(s)

[3] D-DT 3083: CB, MINI 50A 230V 5kA POLE TOP BOX D3083.

[4] D-DT 3034: CB 40A 230V 5kA 1P D3034

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### 2.2.3 Informative

[5] 32-9: Definition of Eskom documents.

[6] 32-644: Eskom documentation management standard.

[7] 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 |
|---|---|
| **MCB** | Miniature Circuit Breaker |
| **MCCB** | Moulded Case Circuit Breaker |
| **LV** | Low Voltage |

## 2.5 Roles and responsibilities

All Eskom employees and/or appointed bodies involved in the procurement of MCBs and MCCBs 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 MCBs and MCCBs to Eskom must be conversant with the requirements of this standard, and shall comply with the requirements. No deviations will be accepted and suppliers shall ensure that they obtain clarity where required and obtain all supporting information or documents necessary to comply with this document.

## 2.6 Process for monitoring

Acceptance shall be based on fully compliant submission of documents.

## 2.7 Related/supporting documents

Refer to clause/ section 2.2.

# 3. Requirements

This document contains the technical evaluation criteria of MCBs and MCCBs. The evaluation is for the submitted documentation. Samples maybe requested for inspection before tender award.

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## 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 in clause 3.3 below.

During the documentation evaluation; fully compliant in accordance with D-DT 3083 and D-DT 3034 will be required. Failure to submit and comply with the tests requirements specified in these documents will lead to immediate disqualification.

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 (Level 1: mandatory technical requirement), and scoring phase (level 2: submission requirements). The Level 1 mandatory technical requirement constitute a total of 80% of the total technical evaluation score, while the level 2 submission requirements constitute 20% of the technical evaluation score.

The tender submission must meet all the level 1 technical (mandatory technical requirements). Failure to meet all the mandatory requirements will result to a score of 0% of the 80% (listed above); thus a tenderer can only obtain 0% or 80%, and nothing in between for level 1 mandatory technical requirement.

Technical evaluation score = 80% (level 1 mandatory technical requirements) + 20% (level 2 submission requirement.

Once a tenderer gets a “No” at Level 1 it becomes an automatically disqualification and when it is all “Yes” then a full 80% is achieved and then proceed to a Level 2 scoring.

Supplier may tender for both Pole top box MCBs and Underground breakers (MCBs and MCCBs) or either. The evaluation will be done on the items tendered or offered.

**Note:** Only a 100% compliant score achieved at level 1 mandatory technical requirement equates to full compliance. Any score below 100% of level 1 mandatory technical requirement will result to immediate disqualification.

## 3.2 Evaluation at factory

There will be no factory evaluation for this tender. Inspection of items shall be made in the warehouses of successful tenderers.

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## 3.3 Technical Evaluation Gate Keepers for MCBs and MCCBs: Mandatory Technical Requirements

| **Pole top box MCBs** | | |
|---|---|---|
| **Level 1 Gatekeeper** | | |
| **TASK / MEASURE** | | |
| **Criteria** | **Standard/clause** | **Acceptance: Yes/ No** |
| Is a full list as well as complete English copies of type test reports as per the specification requirements submitted? | D-DT 3083 | |
| Are completed technical schedules submitted in the provided excel format? | Technical Schedules provided | |
| Proof of compliance with VC 8036 (a copy of the type test certificates from an independent accredited test authority are required) | N/A | |
| Tripping curves in electronic format – Microsoft Excel. The upper and lower limits of the breaker's tripping characteristic are to be provided. Note that since the compulsory specification, VC 8036, references SANS 60947-2, the MCB should conform to the SANS 60947-2 gates. This means that the conventional non-tripping current should be 1.05 times the rated current of the MCB and the conventional tripping current of the MCB should be 1.3 times the rated current of the MCB. The conventional tripping time is one hour for the 50A and 63A MCBs and two hours for the 120/ 125 A MCB. | N/A | |
| A statement that the circuit breaker supplied complies with each requirement stipulated in the buyer's guide drawing referenced (D-DT-3083). There shall be a separate clause in the statement of compliance for each stipulation in the buyer's guide drawing. The statement of compliance shall be on the supplier's letterhead and shall be signed. | D-DT 3083 | |
| As an alternative to the instantaneous trip requirements in the buyer's guide the supplier may choose to provide test results that prove that the breakers supplied will discriminate with a 20A standard curve circuit breaker for a prospective fault current of up to 1000 A | D-DT 3083 | |
| Copy of SABS permit to apply SABS mark or a copy of RCC/NRCS. | N/A | |

**Note: Any one "NO" (relevant to the item tendered) on the above scores the supplier will be disqualified**.

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| **Underground MCBs and MCCBs (D-DT 3034)** | | |
|---|---|---|
| **Level 1 Gatekeeper** | | |
| **TASK / MEASURE** | | |
| **Criteria** | **Standard/clause** | **Acceptance: Yes/ No** |
| Is a full list as well as complete English copies of type test reports as per the specification requirements submitted? | D-DT 3034 | |
| Are completed technical schedules submitted in the provided excel format? | Technical Schedules provided | |
| Proof of compliance with VC 8036 (a copy of the type test certificates from an independent accredited test authority are required) (MCBs: D-DT 3034) | N/A | |
| As an alternative to the instantaneous trip requirements in the buyer's guide the supplier may choose to provide test results that prove that the breakers supplied will discriminate with a 20A standard curve circuit breaker for a prospective fault current of up to 1000 A ( e.g. 50A and 40 MCBs) | D-DT 3083 and 3034 | |
| Proof of compliance with SANS 556-1 or SANS 60947-6 (Test report or certificate) | D-DT 3034 | |
| Tripping curves in electronic format provided (where applicable). | D-DT 3034 | |
| Copy of SABS permit to apply SABS mark or LOA (NRCS) | N/A | |

**Note: Any one "NO" (for tendered items) on the above scores the supplier will be disqualified**

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### 3.3.1 Level 2 score

| **MCBs and MCCBs** | | | |
|---|---|---|---|
| **Level 2 scoring/rating - (only submission that passes Level 1 gatekeepers)** | | | |
| **testing and type testing Weight: 10** | | | |
| **Criteria** | **Clause** | **Weight** | **Score** |
| Were tests performed in the last 10 years? Test reports submitted | SANS docs | 5 | |
| Are all tests reports/certificate or requested documents submitted and complied? | Technical Criteria | 5 | |
| • For Type testing performed within the last 10 Years supplier gets 100% and loses 20 % for each additional year. | | **Total** | **/10** |
| **Technical schedules Weight: 5 Total** | | | |
| **Criteria** | **Clause** | **Weight** | **Score** |
| Correctness of completion i.e. no “TBA”, “Comply”, “Noted”, “supplied later” (“Noted” acceptable only when Eskom informs), completed technical schedule | Technical schedules provided | | |
| • Penalty is applicable for each deviation from meeting Eskom specification and deviations. | | **Total** | **/5** |
| **Packaging Weight: 5** | | | |
| **Criteria** | **Clause** | **Weight** | **Score** |
| Is packaging explain thoroughly by the tenderer | N/A | 5 | |
| • No information given score will be zero. | | **Total** | **/5** |

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## 3.4 Conclusion

This report is effective to specify the technical evaluation criteria for MCBs and MCCBs in Eskom. Suppliers are to complete technical schedule as part of the tender returnable.

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 |
|---|---|
| Alex Ndlela | Senior Manager Substation and Line Engineering |
| Jutas Maudu | Senior Engineer |

# 5. Revisions

| Date | Rev. | Compiler | Remarks |
|---|---|---|---|
| March 2017 | 1 | Jutas Maudu | New document. |
| March 2021 | 2 | Jutas Maudu | Document updated- NCRS incorporated |

# 6. Development team

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

- Jutas Maudu: Senior Engineer HV Plant, Group Technology
- Saini Sande: SI

# 7. Acknowledgements

None

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