

Title: **TECHNICAL EVALUATION
STANDARD FOR POWER LINE
CARRIER LINE TRAPS AND
ASSOCIATED POST SUPPORT
INSULATORS**

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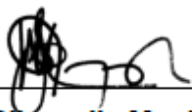
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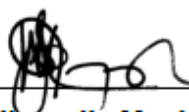
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1. Introduction

This document is compiled to standardise the technical evaluation criteria for the Power Line Carrier (PLC) Line Traps and associated post support insulators.

2. Supporting clauses

2.1 Scope

The document contains functional and objective evaluation criteria the Power Line Carrier (PLC) Line Traps and associated post support insulators used within Eskom Holdings SOC (Ltd).

2.1.1 Purpose

The document addresses the standard documented technical evaluation criteria to be used for evaluating tender submissions in line with Eskom Holdings SOC (Ltd) requirements. The criteria are documented to ensure that the evaluation process is fair, consistent, impartial, transparent, and auditable.

2.1.2 Applicability

This document shall apply throughout Eskom Holdings Limited, its Divisions, subsidiaries, and entities 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] 32-1034, Eskom procurement and supply management procedure.
- [2] 240-48929482 – Tender Engineering Evaluation Procedure
- [3] 240-57648739 – Power Line Carrier Line Traps and associated post support Insulators Standard

2.2.2 Informative

- [4] QM 58: Supplier Contract Quality Requirements Specification.

2.3 Definitions

2.3.1 General

Definition	Description
Enquiry	A competitive or non-competitive request for information, interest, quotations, or proposals made to a supplier, a group of suppliers or the market at large.
Submission	The tender in accordance with the requirements of the enquiry.
Technical Evaluation Team (TET) Member	The delegated engineers / technical specialists who are responsible to review and evaluate technical aspects of the tender documentation as per the Tender Technical Evaluation Strategy.

2.3.2 Disclosure classification

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

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2.4 Abbreviations

Abbreviation	Description
Eskom	Eskom Holdings SOC (Ltd)
kHz	Kilo-Hertz
PLC	Power Line Carrier
RFI	Request for Information
RFQ	Request for Quotation

2.5 Roles and responsibilities

The Instrument Transformer Care Group leader must ensure that this document is updated, always renewed and current.

2.6 Process for monitoring

Not applicable

2.7 Related/supporting documents

Not applicable

3. Technical tender evaluation procedure

The technical evaluation procedure is specific for line traps of each voltage level due to different technical requirements. All bidders must submit complete documents required for the technical evaluation (Table 1). The evaluation procedure has three parts i.e., Desktop, Objective and Factory assessments. Factory assessment shall be undertaken post contract award, upon placement of the first order.

All bidders who are supplying LTs to Eskom currently and have not changed their product and their manufacturing plant (factory) will be exempted from the technical evaluation, but they must still submit all required technical documents listed in Table 1 and complete the declaration form to indicate if there are changes to their product or not. Eskom will assess the changes and decide if the supplier qualifies or not.

3.1 Functionality Evaluation

3.1.1 Desktop Evaluation

This part of the evaluation starts when submissions are opened for the first time. The evaluation is done using the documents listed in Table 1 below and is done by TET members.

Table 1: Required Technical Documents

Item	Required documents
1	Completed Technical Schedule (A & B).
2	Deviations Schedule (only if there are deviations).
3	Outline Drawing for the line trap(s).
4	Outline Drawing of Insulator(s) used with the line trap.
5	Test Reports
6	Technical Manual addressing Packaging, Transportation, Installation, Storage & Maintenance.

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The documents in table 1 are required to carry out the desktop evaluation and to award scores to bidders. NB: information submitted including test reports must be in English and units on drawings must be in SI units. If the original test report is not in English, it must be translated to English and both the original report, and the translated report must be submitted.

Desktop evaluation will have a total allocation of 100 percentage points. Out of the 100 percentage points, 50 percentage points will be based on documents and the other 50 percent points will be based on test reports as captured in table 2 below.

Table 2: Point Allocation for Desktop Evaluation

Activity	Weight
Completed Technical Schedule (A & B)	35
Outline drawing	5
Insulator Drawing	5
Manual	5
Test Reports	50

3.1.1.1 Technical schedule

The technical schedule will be scored based on completeness of information provided by supplier. Non-compliance or deviation to either primary terminals, or the "Minimum Safety Factor" for the Tuning Units (and matching surge arresters) required by Eskom will have a 35 points penalty and no further scoring will take place (i.e., the supplier will be deemed to have failed the desktop evaluation). If the primary terminals and the "Minimum Safety Factor" for the Tuning Units are compliant with Eskom requirements, then the scheduled will be scored, and the rest of the items not completed in the technical schedule will have one point penalty.

3.1.1.2 Outline drawing

The units used on the outline drawing must be as per the International System of Units (SI units). The drawing must show the outline (side view), top view, mounting arrangement (bottom view) and HV terminal details of the line trap.

3.1.1.3 Insulator Drawing

The units used on the drawing must be as per the International System of Units (SI units). The drawing must show the outline together with the relevant dimensions to score 5 points

3.1.1.4 Manual

The manual submitted must address packaging, transportation, installation, storage, and maintenance. A point will be allocated for each of these required items. The manual must include demonstration of how to replace the tuning units.

3.1.1.5 Test reports

The tests required are different across voltages levels. The tests required per voltage level and test names shall be clearly specified in the technical schedule(s). Depending on the number of tests required, the submitted test reports will be divided by the total number of tests required in the technical schedule and multiplied by 50 to give a total of 50 percentage points. As an example, if a particular line requires 12 type tests and a supplier submits 4 test reports, their score will be calculated as follows:

$$\text{Tests Score} = \frac{6}{12} * 50 = 25 \text{ points}$$

The minimum threshold required to pass the desktop top evaluation is 70%. The outstanding items will then be used as condition of contract award if the supplier is successful.

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3.2 Objective assessment

All items in the desktop assessment which are not fulfilled by successful OEMs (i.e., OEMs who passed the desktop evaluation) will form part of the objective assessment and be used as conditions of contract award. Eskom will negotiate with successful suppliers to indicate whether they are willing to comply with Eskom's requirements and by when (date). OEMs who are unwilling to meet Eskom's requirements or fail to comply with Eskom's requirements on the agreed date will be disqualified.

3.3 Factory and practical assessment

This assessment will be done post contract award, upon placement of the first order. The OEM will inform Eskom at least two months in advance of the date upon which the ordered units will be completed and ready for routine testing. Eskom will then send its representatives to do the factory evaluation and to witness the routine testing of the ordered units. Eskom reserves the right to waive the factory assessment where Eskom has assessed the OEM factory before.

3.3.1 Scope

Eskom representative(s) will arrange a visit to the factory on the agreed dates between Eskom and the OEM. The factory evaluation will include two activities i.e., Quality and Work practices assessment using the checklist (see Annexure B) and routine tests witnessing.

The checklist is used to verify capability of the factory to supply the required product and compliance to the equipment specification and documents submitted for the tender. The same checklists will be used across all suppliers to ensure fairness of assessment.

At the end of this exercise, Eskom assessment representative(s) will list all the deviations or improvement initiatives on the evaluation document. The representative will conduct formal discussions of the deviations in line with Eskom's requirements. Herein, the supplier shall indicate whether they agree or disagree to meet Eskom's requirements. At the end of the assessment, Eskom and supplier's representatives will sign the assessment document.

3.3.2 Confidentiality

All information reviewed, observed, recorded during factory evaluation, and reported because of this assessment will be treated as, and remains highly confidential. Eskom's cross functional team members will be the only parties included in communication pertaining to such information i.e., it will not be released to external parties and / or competitors.

3.3.3 Assessment methodology

The assessment will follow a documented OEM capability and capacity assessment criteria as shown in Annexure B. These criteria are intended to assess the technical capabilities of the supplier and the product offered for tender to ensure it meets the tender requirements. During the assessment the following areas are evaluated in detail:

- Confirmation of submitted technical schedules
- Manufacturing methods
- Work practices
- Design practices and application
- Testing facility and practices
- Raw material procurement, storage, and sub-contractor practices
- Site and other services

The factory must have the capability to do all routine tests specified in IEC 60353 and 240-57648739. The tested units / specimen must pass all the routine tests.

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4. Authorization

This document has been seen and accepted by:

Name and surname	Designation
Bheki Ntshangase	Senior Manager PDE HV Plant
Sibongile Maphosa	Engineer Instrument Transformers

5. Revisions

Date	Rev	Compiler	Remarks
Aug 2023	5	S. Maphosa	Revisions made as follows: <ul style="list-style-type: none">The composition of Desktop Evaluation was modifiedClarified 3.2 Objective Assessment Updated evaluation information and changed the document from a report to a standard
May 2022	4	S. Maphosa	Updated evaluation information and changed the document from a report to a standard
Oct 2018	3	T. Gosai	Updated the document and added Annexure A
July 2017	2	J. Schutte	Updated the document with minor changes.
Nov 2016	1	J. Schutte	Power Line Carrier Line Traps and associated post support insulators enquiry.

6. Development team

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

- Sibongile Maphosa

7. Acknowledgements

The author acknowledges the input from the members of the Instrument Transformer Care Group.

Annex A – Functionality Evaluation Criteria – Desktop Evaluation

Specifications Referred to	240-57648379 and IEC 60353
Voltage Class Referred to	Refer to Technical Schedules A & B
Desktop Evaluation	
Documents and test reports – 100 points	
Documents	Weight
Completed Technical Schedule (A & B)	35
Outline drawing	5
Insulator drawing	5
Equipment Manual	5
Test Reports (score rationalised depending on the number of test reports required and test reports submitted)	50

Annex B – Factory Evaluation Criteria

1 GENERAL INFORMATION	
Name of Manufacturer:	
Name of Manufacturer:	
Registered name and full street address of the factory at which the audit and inspection is done:	
Factory Representatives	
Name:	Position:
Name:	Position:
Name:	Position:
Name:	Position:

2 RECEIVING / GOODS INWARDS INSPECTION AND STORAGE		
Are materials, components and sub-assemblies verified by the factory as complying with the applicable requirements	Yes	No
Comments: Inspect the receiving data sheets, manufacturer's quality plan, physical inspections, etc.		
If the factory relies on certificates of conformity of test results from suppliers, do these clearly identify the products, specifications, quantity of items, dated and signed?	Yes	No
Comments:		
Are records from incoming inspection(s) appropriate and kept by the factory?	Yes	No
Comments:		
Are non-conforming products/components/materials clearly identified and segregated to prevent their use?	Yes	No
Comments:		
Are records of raw material received kept / saved? In what format and for how long?	Yes	No
Comments:		
Is there a system in place to manage reception and allocation of raw materials?	Yes	No
Comments:		
3 PRODUCTION LINE INSPECTION AND ROUTINE TESTS		
ASSEMBLY: Do personnel have readily available up-to-date procedures, assembly instructions, photographs, drawings or reference samples?	Yes	No
Comments:		

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PRODUCTION LINE TEST: Do personnel have readily available up-to-date procedures, work instructions, and drawings related to required testing to be carried out on the intermediate stage and the final product related to conformance of the finished product.	Yes	No
Comments:		
Are the test results monitored for trends or recurrences and reported to production / quality management?	Yes	No
Comments:		
Are repaired and reworked products re-inspected in accordance with documented procedures?	Yes	No
Comments:		
Do the Production Line Inspection and Routine Tests performed by the factory sufficiently cover all the applicable requirements?	Yes	No
Comments:		
Are personnel involved in the assembly and quality control adequately briefed on their duties and competent to perform them?	Yes	No
4 CALIBRATION OF TEST EQUIPMENT AND TESTING FACILITY		
Is all equipment used for testing calibrated?	Yes	No
Comments:		
Is the equipment provided with a label or similar method indicating the date of the last calibration and the next due date?	Yes	No
Comments:		
Are records from equipment calibrations appropriate and kept by the factory.	Yes	No
Comments:		
Do the records indicate that the calibration is traceable to National/International Metrology Standards?	Yes	No
Comments:		
Does the factory have the capability to carry out all routine tests?	Yes	No
Comments:		
Do test reports identify the test specimen, are properly signed and stored?	Yes	No
Comments:		
5 FACTORY CAPABILITY AND QUALITY MANAGEMENT SYSTEM		
Does the factory have a documented Quality Management System?	Yes	No
Comments:		
Does the factory regularly perform internal audits of its quality management system, and periodically check that all documented procedures, including those required for certification, are followed?	Yes	No
Comments:		

Are records from internal audits and corrective actions available and are they sufficiently detailed to demonstrate that the Quality Management System is effective?	Yes	No
Comments:		
Are personnel carrying out the internal audits and checks mentioned in 10.2, appropriately trained and, in addition, independent of the process being audited?	Yes	No
Comments:		
6 COMPLAINTS / NON-CONFORMANCE		
Does the factory have a documented system for handling complaints?	Yes	No
Comments:		
Does the factory review complaints from customers or others, and take appropriate action?	Yes	No
Comments:		
Are records kept of the complaints and of corrective actions taken?	Yes	No
Comments:		
7 Change Control		
Is there a documented procedure covering control of products and production process changes?	Yes	No
Does the procedure cover the review and approval of product or production process changes by responsible personnel / management?	Yes	No
Are there provisions to ensure that changes to the product construction are accepted by competent / authorised personnel?	Yes	No
Is there an up-to-date parts list or similar evidence available specifying the components/parts to be used during production of the products?	Yes	No
8 Design Practices		
Are designs done in-house?	Yes	No
Comments:		
Does the company have design tools and guidelines?	Yes	No
Comments:		
Is there a design process workflow system?	Yes	No
Comments:		
Is there a documented process for verification and validation of designs?	Yes	No
Comments:		
Are new designs approved and verified by competent personnel?	Yes	No
Comments:		
Following final design approval, is there a process in place to link the new design to the manufacturing process?	Yes	No

9 FINDINGS
10 CONCLUSIONS
11 RECOMMENDATION(S)

A copy of this report is provided to the undersigned contact person in the factory, who confirms to be aware of the contents by signing below:

Date:	Date:
Auditor's Name:	Factory Representative:
Signature:	Signature:

ACKNOWLEDGEMENT BY THE AUDITED FACTORY

We acknowledge and agree with the content of this Factory Inspection Audit Report.	
We acknowledge the content of this Factory Inspection Audit Report, and we disagree with the content as reported in the following clauses/sub-clauses and/or findings.	
Comments:	
Date:	
Contact Person's Name and Position:	
Signature:	