

 Eskom	Report	Technology
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Title: **FACTORY EVALUATION
CRITERIA FOR PHILLIPI 132KV
CABLE PROJECT**

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1. Introduction

This document details the factory evaluation criteria to be used for assessing HV(132kV) cable OEMs supplying the 132kV cable forming part of the Phillipi Transmission substation extension. The 132kV cable will connect Transformer 3 to the 132kV GIS. The factory evaluation criteria will form part of the overall tender evaluation process conducted on the cable OEMs.

2. Supporting clauses

2.1 Scope

The document covers the factory evaluation criteria of the HV cable that form part of the Phillipi 132kV cable project.

2.1.1 Purpose

The factory evaluation criteria forms part of the overall tender evaluation for the HV(132kV) cable and serves as a means of conducting due diligence and assurance of the capabilities of an OEM to meet the technical requirements. It provides objective criteria by which an OEM can be assessed either as part of the technical functional requirement of a tender or as a means of due diligence for pre- or post-contract award with an OEM or supplier.

2.1.2 Applicability

This document shall apply for Eskom Holdings Limited, Transmission 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] 240-170000106 REV 1, PHILIPPI SUBSTATION 132 KV CABLE SYSTEMS FROM TRFR 3 TO 132 KV GIS

2.2.2 Informative

NA

2.3 Definitions

2.3.1 General

Definition	Description
Eskom Evaluating Representative(s)	The person(s) appointed by Eskom to perform the evaluation 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
HV	High Voltage
EHV	Extra High Voltage
OEM	Original Equipment Manufacturer
SOP	Standard Operating Procedures
QITP	Quality Inspection and Test Plans
QCP	Quality Control Plans

2.5 Roles and responsibilities

All Eskom employees and/or appointed bodies involved in the procurement process shall utilise this document as the basis for the factory evaluation process.

The Procurement cross-functional team shall determine, as part of the project execution strategy, whether this evaluation criteria will form part of the functional technical requirements or as a means of due diligence towards pre- or post-contract award with the OEM or supplier.

Tenderers shall note the evaluation criteria contained in this document and ensure compliance to the stipulated requirements.

2.6 Process for monitoring

Eskom will monitor the compliance to this document.

2.7 Related/supporting documents

Refer to clause/ section 2.2.

3. Factory Evaluation

The Eskom evaluating representative shall conduct the evaluation using Table 1 below. Table 1 will be used to assess and verify factory production processes, quality assurance, capability, and conformance to Eskom's requirements.

Each activity will be scored in relation to their compliance, that is demonstration of evidence, and will be allocated a score as outlined in Table 1.

The OEM need to achieve 90 points out of 100 to be deemed technically responsive/qualified.

Table 1: Factory evaluation Check list

Item Nr	Item description	Activity assessed	Compliance (yes/no)	Score
1.	Production processes			
	a. Wire drawing process			
		SOP in place detailing plant setup or configuration, operation, and maintenance requirements		3

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		Process controlled through process control system		2
		Staff trained and competent to operate plant		2
	b. Conductor stranding/manufacturing process			
		SOP in place detailing plant setup or configuration, operation and maintenance requirements		3
		Able to produce specialised conductors (i.e., segmental, enamel coated)		2
		Able to produce required conductor size for project		2
		Processes controlled through process control system		2
		Staff trained and competent to operate plant		2
	c. Extrusion line process			
		Triple head extrusion in a Continuous Vulcanising (CV) line,		3
		Dry curing employed		2
		Able to produce insulation level required and for conductor size required		2
		In-production quality monitoring systems employed to monitor curing and scorching characteristics		2
		Clean room facility complying to at least Class 1000.		2
		SOP in place detailing plant setup or configuration, operation and maintenance requirements		2
		Process controlled through process control system		2

		Staff trained and competent to operate plant		2
	d. Application of tapes and bedding layers			
		SOP in place detailing plant setup or configuration, operation, and maintenance requirements		3
		Process controlled through process control system		2
		Staff trained and competent to operate plant		2
	e. Metal sheathing/wiring process			
		SOP in place detailing plant setup or configuration, operation, and maintenance requirements		3
		Process controlled through process control system		2
		Staff trained and competent to operate plant		2
	f. Outer sheathing			
		SOP in place detailing plant setup or configuration, operation, and maintenance requirements		3
		Process controlled through process control system		2
		Staff trained and competent to operate plant		2
2.	Material handling and storage			
	Inbound raw material handling, control and defects management.	QCP and/or QITP in place		3
	In process material handling, control, and defects management	QCP and/or QITP in place		3
3.	Design Process			
		Design process, procedures, software and tools are able to translate customer requirements.		2

		Integration of the design process into the production of the product and/or production plan.		2
		Staff trained and competent to perform design functions		3
4.	In process quality control procedures and sample testing			
		Laboratory equipped to perform the range of sample tests required		3
		Laboratory and/or quality inspection and test equipment are calibrated		2
		QCP and/or QITP in place for wire and conductor quality checks		2
		QCP and/or QITP in place for extruded main insulation quality checks		2
		QCP and/or QITP in place for metal sheath and/or wire quality checks		2
		QCP and/or QITP in place for outer sheath quality checks		2
5.	Routine test requirements			
		Test and measuring equipment are in place and calibrated		3
		Safety measures are in place for HV testing		2
		Voltage test SOP are in place		2
		Partial discharge SOP are in place		2
		Electrical test on outer sheath SOP is in place		2
		Test result management and QCP in place		2
		Staff trained and competent to perform testing functions		2

6.	Packaging, marking and transportation			
		Cable marking/ identification SOP and QCP in place		1
		Cable drumming SOP and QCP in place		1
		Transporting and shipping requirements procedures in place		1
OEM will be required to score a minimum of 90/100 to be deemed technically responsive/qualified for tender award				/100

4. Conclusion

This report specifies the factory evaluation criteria for HV (132kV) cable. The cable OEM will be assessed in relation to Table 1, through objective evidence. Where this evaluation forms part of the functional technical requirements, the OEM is required to score a minimum of 90 points out of 100 in this evaluation to be deemed technically responsive/qualified. Should the evaluation be conducted as part of due diligence towards contract placement, the scoring is not required. In the latter case, discussions between Eskom and the OEM can pursue to enable conformance of any outstanding technical requirements.

5. Authorization

This document has been seen and accepted by:

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Bheki Ntshangase	Senior Manager: Asset Management: SED
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6. Revisions

Date	Rev	Compiler	Remarks
November 2022	0	F Witbooi	New document

7. Development team

The following personnel is involved in the development of this document:

- Fernando Witbooi Chief Technologist: Asset Management: SED

8. Acknowledgements

Not applicable.