Eskom	Standard	Technology

Title: **SCORING CRITERIA FOR TENDER TECHNICAL EVALUATION OF TRANSFORMERS USED IN THE HVDC SCHEMES**

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Date: 18/12/2019.

PCM Reference: **Perform High Voltage Plant Engineering**

SCOT Study Committee Number/Name: **SCOT PE SC**

Content

Executive Summary

The tender technical evaluation is one of the critical gates in the enquiry chain to ensure that the bidders understand the customer's requirements and they are capable of designing, manufacturing, testing at works, prepare for shipment, transport, erect on site, commission the equipment, and can offer the required after sales technical support services. This tender technical evaluation criterion was created to evaluate all tenders for rectifier transformers and smoothing reactors to be employed at the Eskom HVDC schemes. Compliance with this document will ensure that all suppliers bidding to supply transformers to Eskom are evaluated fairly and transparently. It streamlines the influence of an individual doing the evaluation. The assessment of each supplier will be based on the information the supplier provided during the tender stage and on the factory assessment.

It is important that each bidder clearly provides and references/index all the necessary information required in the technical schedules AB and Annexures of this document

1. Introduction

This scoring criterion shall be used in conjunction with the IEC standard, the Eskom transformer standard for HVDC as referenced in 2.2.1 below and the relevant schedules A&B, to ensure that all the suppliers are scored on the same basis and in a transparent manner. This document details the method of evaluating based on the above and the factory assessment. The factory assessment shall meet that of the factories manufacturing class 2 and above transformers, and must demonstrate the HVDC capability.

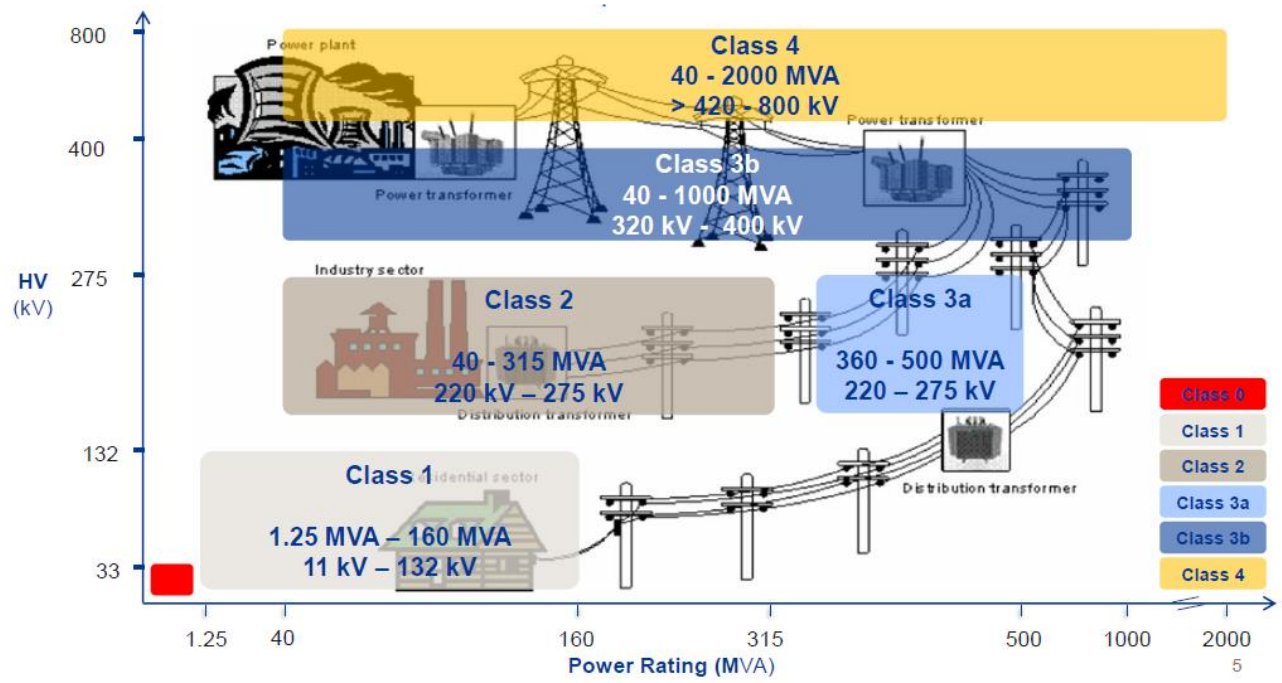

Figure 1: Classes of transformers in Eskom

2. Supporting clauses

2.1 Scope

This document covers only the evaluation criteria of the HVDC transformers to be employed in the Eskom network. It does not specify the requirements of the mentioned equipment.

2.1.1 Purpose

This document was produced in order to record the standardized scoring method.

2.1.2 Applicability

This document shall apply throughout Eskom Holdings Limited Divisions. It is applicable to all the *Contractors* that shall be tendering to supply transformers and reactors to Eskom.

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] SANS IEC61378 – Convertor transformers Part 1: Transformers for industrial applications

[2] SANS IEC61378 – Converter transformers Part 3: Application guide

[3] 240-68973110 Specification for power transformers rated above 1.25MVA and with highest voltage of 2.2kV or above.

2.2.2 Informative

[4] ISO 9001 Quality management systems

[5] 32-1034 Eskom procurement and supply management procedure

[6] 240-53207174 Practice note and guide on the implementation of the Preferential Procurement Policy Framework Act (PPPFA)

2.3 Definitions

2.3.1 General

Definition	Description
Contractor	Refers to the supplier or bidder
Equipment	Refers to a transformer or a reactor
Mark(s)	Means a point in the scoring system
Point(s)	Means a mark on the scoring system
Tender returns	A document(s), populated or compiled by the bidder, returned as a response to a tender and were part of the requirements at the time of issuing the enquiry.
Transformer	Electrical equipment used to transform power from one voltage level to another at a given frequency for the purpose of transmission or distribution.
Rectifier	Refers to the circuit that changes the energy signal from AC to DC or vice versa
Smoothing reactor	HVDC reactor used in series with the valves to smoothen the dc current.

2.3.2 Disclosure classification

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

2.4 Abbreviations

Abbreviation	Description
AC	Alternating Current
DC	Direct Current
HV	High Voltage
MVA (r)	Mega Volt-Amperes (reactive)
PDE	Power Delivery Engineering
SCOT	Steering Committee of Technology

2.5 Roles and responsibilities

All the Eskom employees and/or appointed bodies involved in the tender technical evaluation shall use this criterion.

2.6 Process for monitoring

This document and its relevance will be periodically evaluated by the relevant SCOT Care Group.

2.7 Related/supporting documents

The schedule A of the relevant AB schedules shall form part of the evaluation.

3. Specification Minimum Requirements

3.1 Methodology

The technical tender evaluation is one of the critical gates in the enquiry chain to ensure that the bidders understand the customer's requirements and they are capable of designing, manufacturing, testing at works, prepare for shipment, transport, erect on site, commission the equipment, and can offer the required after sales technical support services. This evaluation criterion will be used to measure the suppliers or bidders in these parameters. This will be achieved by doing both the desktop exercise using tender returns and by evaluating each factory that is intended for supply of the equipment to Eskom.

3.2 Mandatory Requirements

The mandatory requirements are divided into two sections. The first section is about the completeness of the returned documents, irrespective of the correctness or compliance of the information. The second section details the evaluation method for the submitted information against the requirements of the Eskom's specifications, international standards and best practices.

3.2.1 Completeness of documents

The bidder is required to submit all the information required and each document must be correctly and clearly completed. The gaps (blanks), TBA, and similar remarks will render the document incomplete. In the cases where the required information is provided as an attachment or an accompanying page, it must be so indicated and made easy to reference. If any of the required information is not available, this will result in a disqualification and no further assessment. All the technical information must be clearly indexed in the submission package.

Note: When filling schedules electronically and on Excel format make sure that the cells are adjusted such that, when printed on paper, all the information is still visible.

3.2.2 Technical Requirements

These are the important parameters that the tenderers must comply with and are not negotiable at all. If the proposal by the bidder does not meet any of the minimum requirements, the bidder will be disqualified. The parameters that are either guaranteed or offered to a value that is positively tighter than the Eskom's requirements will neither be penalized nor rewarded for the extra margin.

The list of all mandatory items is provided in Appendix A and B of this document

3.3 Factory Assessment

The factory assessment will be done for each factory that is intended to supply Eskom with the transformers and/or the reactors. Companies that have more than one factory will not be getting a blanket assessment and/or approval; each factory will be evaluated on its own merit. The checks shall be done as per the spreadsheet that Eskom has as a tool and it shall be made available to the successful factories prior to the date of evaluation. Factories that may have been evaluated before, during other tenders and were declared accredited may be exempted from the factory assessment at the discretion of Eskom.

4. Annexures

Annexure G is a mandatory tender return and forms part of this evaluation information.

5. Authorisation

This document has been seen and accepted by

Name and surname	Designation
Bheki Ntshangase	Senior Manager – PDE HV Plant
Khayakazi Dioka	Corporate Specialist – Transformers and reactors – PDE HV Plant

6. Revisions

Date	Rev	Compiler	Remarks
Dec 2019	1	S Mtetwa	New document

7. Development team

This document was developed by Sidwell Mtetwa, adopting from the other approved transformer related scoring criteria documents.

8. Acknowledgements

Not applicable.

Annex A – Mandatory Requirements – Completeness of documents

No	Item details	Score		Remarks
1	Are the schedules AB completely filled and all the information provided, including the design schedule?	Y	N	

Note: A “No” in any of these items will result in a straight disqualification

Annex B – Mandatory Requirements – Technical Requirements

No	Item details	Ref paragraph on schedules	Status		Remarks
1	Are the ratings (MVA and all voltages, including the step voltage) offered correct as per schedule A?	**T**: 6; 7; & 9.2	Y	N	
2	Is the vector group correct?	**T**: 8.1	Y	N	
3	Is the harmonic spectrum in schedule B meeting the requirements in schedule A?	**T**: 4.3	Y	N	
4	Is the winding arrangement as per the schedule	**D**:1	Y	N	
5	Is the tap changer type and positioning complying with schedule A?	**T**:9.1.1 &9.1.3	Y	N	
6	Are the impedances indicated as required in schedule A?	**T**:16	Y	N	

Notes:

- "No" in any of these items will result in an immediate disqualification
- The **T** and **D** preceding the numbers means **Technical schedule** and **Design schedule** respectively

Annex G – Vendor Questionnaire

Annexure G: Power Transformers Vendor Questionnaire				
Section 1 - General Questions				
1.1	**Please list your parent companies and subsidiaries**			
		List Information Here		
	Parent company			
	Subsidiary 1			
	Subsidiary 2			
	Subsidiary 3			
1.2	**Please indicate whether you are a manufacturer, sales or distribution company**			
	Manufacturer, sales or distribution?			
1.3	**Have you ever supplied Eskom with power transformers or shunt reactors before? If yes, which Division did you supply and what**			
1.4	**Please provide the following general financial information:**			
	Key Financials	**Turnover**	**Net Income**	
	Current Year (N) -projections			
	Last Year (N-1)			
	Previous Year (N-2)			
Section 2 - Supplier Profile				
2.1	**Which transformers are you able to manufacture and supply?**			
		MVA	**kV**	**Please indicate the annual factory capacity (total units per**
	Small power transformers			
	Medium power transformers			
	Large power transformers			
	Generation Step-Up Transformers			
2.2	**Which transformers are you able to manufacture and supply?**			
		MVA	**kV**	**Please indicate the annual factory capacity (total units per**
	Distribution Transformers	1.5 MVA to 160	6.6 kV to 132	
	Transmission Transformers	2.5 MVA to 1000	11 kV to 765	
	Transmission Transformers	100 MVAr to 400	400 kV to 765	
	Generation Transformers	1 MVA to 80	0.4 kV to 22	

	Transmission Transformer						
2,4	**Please indicate what your current total manufacturing capacity is (units/month), and any plans which you may have to increase**						
2,5	**Which port of loading will you be using?**						
2,6	**What are some of the risks that you would foresee in entering into a short term /medium term contract (5 years or less) for the**						
	Risks?						
	Risks?						
	Risks?						
2,7	**Please indicate if you currently supply generation, distribution and transmission transformers to the export market, if so, what is**						
	Please add rows as		***Current Export Volume (Unit/Month)***				
2,8	**Do you have any technology or manufacturing agreements with other transformer companies? If so, please state the nature of the**						
2,9	**Please provide the physical location of your source of supply**						

2.10	**Local suppliers, please indicate the following with regards to your BBBEE (Provide certificate please with your response)**	
	% of Black Ownerhsip	
	% of Black Female	
	Current BBBEE level	
	Corporate Social Investment	
	Youth Development Initiatives	

Section 3 - Contact Persons

3.1 During the process of questionnaire evaluation, various clarification questions may be asked. Please provide the following contact

	Contact Person	**Name**	**Email Address**	**Telephone (Office)**	**Telephone (Mobile)**	**Fax**
	Account Representative					
	Technical Representative					