



Eskom

Standard

Technology

Title: **TECHNICAL EVALUATION
CRITERIA FOR PORTABLE
DISSOLVED GAS ANALYSERS
AND FOR SUPPLY,
INSTALLATION, TESTING AND
COMMISSIONING OF ONLINE
DISSOLVED GAS ANALYSERS**

Unique Identifier: **240-185000331**

Alternative Reference Number: **n/a**

Area of Applicability: **Engineering**

Documentation Type: **Standard**

Revision: **1**

Total Pages: **8**

Next Review Date: **February 2030**

Disclosure Classification: **Controlled
Disclosure**

Compiled by

Sanele Miya

**Engineer: - Transformer &
Reactors**

Date: 20/02/2025

Approved by

Sidwell Mtetwa

**Corporate Specialist: -
Transformer & Reactors**

Date: 20/02/2025

Authorized by

Bheki Ntshangase

Senior Manager: - SE&D

Date: 20/02/2025

Supported by SCOT/SC

Bheki Ntshangase

SCOT/SC PE Chairperson

Date: 20/02/2025

Content

	Page
1. Introduction	3
2. Supporting clauses	3
2.1 Scope.....	3
2.1.1 Purpose	3
2.1.2 Applicability.....	3
2.2 Normative/informative references.....	3
2.2.1 Normative	3
2.2.2 Informative.....	3
2.3 Definitions	3
2.3.1 General.....	3
2.3.2 Disclosure classification	4
2.4 Abbreviations	4
2.5 Roles and responsibilities	4
2.6 Process for monitoring.....	4
2.7 Related/supporting documents	4
3. Evaluation Criteria.....	4
3.1 Mandatory Requirements	4
3.2 Desktop Evaluation.....	5
4. Authorization	6
5. Revisions	6
6. Development team.....	6
7. Acknowledgements.....	6
Annex A – Functionality Evaluation Criteria for Online DGA	7
Annex B – Functionality Evaluation Criteria for Portable DGA	8

Tables

Table 1: Mandatory Reequipments	5
Table 2: Qualitative Evaluation Criteria Scoring	5

1. Introduction

The technical tender evaluation is a critical step in the inquiry chain, ensuring that bidders understand the customer's requirements as outlined in specification document 240-64917195 for the online dissolved gas analyser and portable DGA system used in transformers and reactors. This standard establishes the technical evaluation criteria for assessing tender submissions for online/portable dissolved gas analysers. It explains the evaluation criteria to ensure a uniform evaluation process. The outlined criteria guarantee fairness to prospective suppliers and maintain the integrity of the evaluation process.

2. Supporting clauses

2.1 Scope

This document covers only the evaluation criteria for the supplying, installation, testing and commissioning of online DGA system tender returns. It does not specify the requirements of the mentioned equipment.

2.1.1 Purpose

This document was produced to record the standardized scoring method.

2.1.2 Applicability

This document shall apply throughout Eskom Holdings Limited Divisions wherein Eskom/NTCSA 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] 240-64917195 - Technical Standard for Online Dissolved Gas Analysers for Application in Power Transformers and Reactors
- [2] ISO 9001, Quality Management Systems.

2.2.2 Informative

None

2.3 Definitions

2.3.1 General

Definition	Description
Original Equipment Manufacturer	A company that manufactures a product that is sold to another company, which resells the product under its own brand name.
Point(s)	Means a mark on the scoring system
Submission	The tender returnables submitted by the tenderer in accordance with the requirements of the enquiry.
Technical evaluator	End-users and technical experts nominated by the end-user and divisional technical functionaries with the necessary technical expertise.

Definition	Description
Tenderer	The person, firm or company, whether incorporated or not, who tenders for the work with a view to execute the works on contract.

2.3.2 Disclosure classification

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

2.4 Abbreviations

Abbreviation	Description
DGA	Dissolved Gas Analyser
OEM	Original Equipment Manufacturer
SCOT	Steering Committee of Technology
SE&D	Substation Equipment and Diagnosis

2.5 Roles and responsibilities

All the Eskom/ employees and/or appointed bodies involved in the procurement of online DGA/ portable DGA shall ensure that the product is technically evaluated as per the criteria in this standard and meets the requirements of this standard.

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 and B of the relevant AB schedules shall form part of the evaluations.

3. Evaluation Criteria

This evaluation criterion will assess suppliers or bidders based on specific parameters through a desktop review of their tender submissions. The desktop evaluation will be based on selected clauses from the Technical Standard for Online Dissolved Gas Analysers for application in Power Transformers and Reactors (document 240-64917195), and will assess the completeness of technical returnable documents, compliance with mandatory requirements.

3.1 Mandatory Requirements

The details of the required returnable submissions will be reviewed by Eskom/NTCSA evaluating representatives to ensure that mandatory requirements are met. These mandatory requirements are non-negotiable criteria that tenderers must comply with. If a bidder's proposal does not meet these minimum requirements, the bidder will be disqualified. A list of all mandatory items is provided in Table 1. Submissions that receive a "No" on any mandatory requirement specified in Table 1 will not proceed to the desktop evaluation.

Table 1: Mandatory Reequipments

No	Item details	Score		Remarks
1	Are the schedules AB filled, and all the information provided?	Y	N	
2	The gas and moisture detection compliant with Table 2 of the specification 240-64917195	Y	N	
3	Manual	Y	N	

3.2 Desktop Evaluation

The evaluation of the tender submission will be based on the tenderers' ability to meet the technical requirements. A weighted scorecard approach will be applied, as outlined in Table 2 (Qualitative Evaluation Criteria Scoring). To pass the technical evaluation, tenderers/bidders must achieve a minimum score of 80% based on the criteria specified in either Annex A or Annex B, depending on the product. Annex A evaluates permanent online DGA, while Annex B evaluates portable DGA.

Table 2: Qualitative Evaluation Criteria Scoring

%	Definition
100	COMPLIANT - Meet technical requirement(s) AND; - No foreseen technical risk(s) in meeting technical requirements;
80	COMPLIANT WITH ASSOCIATED QUALIFICATIONS Meet technical requirement(s) with; - Acceptable technical risk(s) AND/OR; - Acceptable exceptions AND/OR; - Acceptable conditions.
0	NON-COMPLIANT OR TOTALLY DEFICIENT OR NON-RESPONSIVE Does not meet technical requirement(s) AND/OR; - Unacceptable technical risk(s) AND/OR; - Unacceptable exceptions AND/OR; - Unacceptable conditions.
Note 1: Foreseen acceptable risk(s), exceptions and conditions includes: - Evidence that is missing or in conflict with the requirements that is considered minor, correctable prior to contract award and does not prevent the evaluating team from making a confident evaluation of the offer. Note 2: Foreseen unacceptable risk(s), exceptions and conditions includes: - Evidence that is missing or in conflict with the requirements that is considered a significant deficiency and/or significant deviation from the requirements or The Employers intent.	

4. Authorization

This document has been seen and accepted by:

Name and surname	Designation
Bheki Ntshangase	Senior Manager – SCOT Plant Study Committee Chair
Sidwell Mtetwa	Corporate Specialist – SCOT Transformer CG Chair
Khayakazi Dioka	Corporate Specialist – Transformers & Reactors
Mantsie Hlakudi	Chief Engineer – Transformers & Reactors
Mashilo Moabelo	Chief Engineer – Dx Transformers
Lionel Jordaan	Snr Consultant – Gx Transformers
Nad Moodley	Middle Manager – Gx Peaking Transformers
Matome Matlhadisa	Corporate Specialist – Grids
Bongani Qwabe	Chief Technologist – Secondary Plant
Londiwe Ngema	Engineer - Transformers & Reactors

5. Revisions

Date	Rev.	Compiler	Remarks
February 2025	1	S Miya	New Document

6. Development team

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

- Sanele Miya

7. Acknowledgements

The development team would like to acknowledge all members of the Transformer Care Group who contributed to this standard.

**TECHNICAL EVALUATION CRITERIA FOR PORTABLE DISSOLVED GAS ANALYSERS
AND FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF ONLINE
DISSOLVED GAS ANALYSERS**
Unique Identifier: **240-185000331**Revision: **1**Page: **7 of 8**
Annex A – Functionality Evaluation Criteria for Online DGA

Item	Functionality criteria	A			B	Score (AxB)	Location of evidence (file and tab numbers)
		Compliant (100% of Weighting)	Compliant with associated qualifications (80% of Weighting)	Non-compliant (0% of Weighting)	Criteria Weighting (%)		
1	What is the life expectancy of the gas analyser?	≥10 years	<10 years but ≥5 years	<5 years	10		
2	Self-calibration facility for gas and moisture integrated on the system?	Yes		No	15		
3	The gas and moisture detection compliant with Table 2 of the specification 240-64917195	Yes		No	25		
5	Does the product provide local and remote indication of the measured parameters, trend the data and be able to provide alarm indications locally and remotely (through SCADA, via software and Direct SMS)?	Yes		No	20		
6	IP rating of the gas analyser enclosure	IP 56 and better		Below IP 56	10		
7	The following communication interfaces and mediums should be available to communicate with the product: - IEC61850 Protocol - TCP/IP using http - Web interface not software and downloading files using FTP - Multimode Fibre Ethernet port (100BaseFX) with Duplex LC connector and Copper Ethernet port (100BaseTX) with RJ45 Connector - GPRS/GSM Modem and 5GHz Wireless (As optional extras)	Yes, to all	3 to 4 conditions	2 or less conditions	20		

ESKOM COPYRIGHT PROTECTED

**TECHNICAL EVALUATION CRITERIA FOR PORTABLE DISSOLVED GAS ANALYSERS
AND FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF ONLINE
DISSOLVED GAS ANALYSERS**

Unique Identifier: **240-185000331**

Revision: **1**

Page: **8 of 8**

Annex B – Functionality Evaluation Criteria for Portable DGA

Item	Functionality criteria	A			B	Score (AxB)	Location of evidence (file and tab numbers)
		Compliant (100% of Weighting)	Compliant with associated qualifications (80% of Weighting)	Non-compliant (0% of Weighting)	Criteria Weighting (%)		
1	What is the life expectance of the gas analyser?	≥5 years	<5 years but ≥3 years	<3 years	10		
2	Self-calibration facility for gas and moisture integrated on the system?	Yes		No	15		
3	The gas and moisture detection compliant with Table 2 of the specification 240-64917195	Yes		No	25		
4	IP rating of the gas analyser enclosure	IP 56 and better		Below IP 56	10		
5	Does the product have a thermal printer incorporated?	Yes		No	20		
6	Does the product have a USB connection that allows communication with external computer?	Yes		No	20		

ESKOM COPYRIGHT PROTECTED