	Scope of Work	NTCSA
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DLFB 133 NC2-1 Scope of Work

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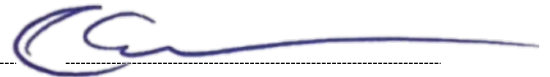
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1. Introduction

Due to the lack of spares, major overhaul of Apollo HVDC Converter Station BBC air blast circuit breakers has been delayed. The seal/gasket kit is required as spares to support the major overhaul thereof.

2. Supporting Clauses

2.1 Scope

The scope of work will cover the requirements for the Supply and Delivery of Gasket Kit DLFB 133 NC2-1 for Apollo & CS Grid.

2.1.1 Purpose

The purpose of this scope of work is to detail the minimum requirements for the supply and delivery of Gasket Kit DLFB 133 NC2-1. The Gasket Kit DLFB 133 NC2-1 is required to perform the BBC air blast circuit breaker major overhaul within the Apollo & CS Grid.

2.1.2 Applicability

This document shall apply to National Transmission Company South Africa (NTCSA) SOC Ltd Reg No 2021/539129/30 Apollo & CS Grid.

2.1.3 Effective date

The effective date shall be upon all completed signatures.

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] 32-846, Eskom Operating Regulations for High Voltage System (ORHVS)

2.2.2 Informative

[1] Electricity Regulation Act of 2006

[2] Environment Conservation Act of 1989

[3] ISO 14001 Environmental management systems

[4] ISO 45001 Occupational Health & Safety Management System

[5] ISO 9001 Quality Management Systems

[6] National Environmental Management Act of 1998

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[7] Occupational Health and Safety Act of 1993

2.3 Definitions

Term	Definition
Gasket kit (or Seal Kit)	A packaged collection of gaskets and O-rings supplied together for use in assembling, repairing or overhauling the mechanical system, e.g. air blast circuit breaker.
Air Blast Circuit Breaker	A mechanical switching device that utilizes compressed air for operating and arc quenching mechanism.

2.4 Abbreviations

Abbreviation	Explanation
HVDC	High Voltage Direct Current
NTCSA	National Transmission Company South Africa
OEM	Original Equipment Manufacturer

2.5 Roles and Responsibilities

- It is the responsibility of the compiler to ensure that this document is authorised.

2.6 Process for Monitoring

Accountability for compliance with this document shall be the responsibility of NTCSA – Apollo & CS Grid.

2.7 Related/Supporting Documents

N/A

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3. Scope of Work

The scope of work is to supply and deliver Gasket Kit DLFB 133 NC2-1 with the following core components:

Core components	O-ring Sliding seal Spring guide for pullrod drive Cotter pin Damping seal Gasket Gasket (Cu) Damping gasket Valve plug Spring tension pin Locking spring Damping disc St.st plug for DLF-interrupter drive Impact seal Vent. Piston Guide housing – cage Ventilating piston red
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4. Background

Apollo HVDC converter station consists of ten (10) BBC DLFB 133kV Air Blast Circuit Breaker. Eight (8) are bypass breakers and two (2) are pole breakers. These breakers were commissioned in the 1970s and have been in operation since. The breakers are experiencing mechanical failures such as delayed closing and air leaks. During an air leak, the bridge trips under low air pressure which results in a power loss of up to 220MW. In an event that the breaker is operated and delays to close, the bypass pair protection would trip the pole resulting in power loss of up to 880MW.

Routine preventative maintenance is executed as per work orders and it includes timing, resistance tests and inspections. The OEM recommends a major overhaul every ten years and this has not been adhered to due to lack of spares. This reduces the reliability of the breakers and as a result affects the performance of the station. The OEM, which is now Hitachi Energy, was approached but they no longer support these types of breakers as they are obsolete. An alternative is to go to the market.

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5. Motivation

The gasket/seal kit is required to perform the ten yearly major overhaul as recommended by the OEM.

6. Benefits to NTCSA

The seal kit will support the major overhaul of the obsolete BBC DLFB Air Blast Circuit Breakers at Apollo Converter Station. Completion of major overhaul task will ensure acceptable breaker performance and reliability and thus management of unplanned breakdowns and power delivery interruptions.

7. Technical Specification

The required specification for the required Gasket Kit DLFB 133 NC2-1 is as indicated in Table 1, below:

Table 1: Specification for Gasket Kit DLFB 133 NC2-1

Core components	O-ring Sliding seal Spring guide for pullrod drive Cotter pin Damping seal Gasket Gasket (Cu) Damping gasket Valve plug Spring tension pin Locking spring Damping disc St.st plug for DLF-interrupter drive Impact seal Vent. Piston Guide housing – cage Ventilating piston red
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Equipment to be used on	BBC DLFB 133 NC2-1 air blast circuit breaker Lower section Control rod drive Control block damping Charging & retrofitting device (1) Columns for CBS Control valve Blast valve (1) Exhaust valves (2) Interrupting chamber drives (2) Interrupting chambers (2) Primary control valve (1) Pilot valves (2)
Application	Pneumatic
Operating pressure	13 – 31 bars
Operating temperature	-50 – 75 deg celc

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8. Technical Evaluation Criteria - Gasket Kit DLFB 133 NC2-1

The technical tenders received will be evaluated via a document evaluation (desktop assessment) process. The evaluation exercise is performed by the appointed Eskom technical team.

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 this document. The evaluations are done to establish whether all the key tender deliverables are met.

A minimum total of **80%** is required to pass the technical requirements for the technical evaluation criteria for Gasket Kit DLFB 133 NC2-1. Should the tenders received not reach the 80% threshold, the minimum threshold may be adjusted downwards to a minimum of 70%.

	Criteria	Scoring weight		Score
1	Tenderer to confirm that they have a track record of at least one supply of the BBC DLFB Air Blast Circuit Breaker (HVDC) seal kit to other technical companies, locally and/or internationally.	Contracts or orders previously done – none	0	
		Contracts or orders previously done – one or more	20	
2	Tenderer to provide all relevant authorization documents to supply the BBC DLFB Air Blast Circuit Breaker (HVDC) seal kits in South Africa.	Company submitted accredited certification/confirmation letter from manufacturer - none	0	
		Company submitted accredited certification/confirmation letter from manufacturer – one or more	20	
3	A write-up of the BBC DLFB Air Blast Circuit Breaker (HVDC) seal kit to be provided, with technical specifications.	Company submitted a write-up of the technical specification of the seal kit detailing contents and material - none.	0	
		Company submitted a write-up of the technical specification of the seal kit detailing contents and material - compliant	10	
4	Specification matching the Eskom specification Provided below. KIT: GASKET SEAL DC AIR BLAST	Specification of the item matching the Eskom provided specification – not compliant.	0	
		Specification of the item matching the Eskom provided specification – compliant.	50	
Total score				

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Pricing Schedule

Item	Description	Quantity	Unit Price	Total Price
1	Supply and delivery of Gasket Kit DLFB 133 NC2-1 (Single Pole with Mechanical Control Block – no resistor)	10		
Total (excluding vat)				

9. Acceptance

This document has been seen and accepted by:

Name	Designation
Zanele Sethusa	Maintenance Manager
Moses Titus	Chief Engineer Maintenance
Tshepo Mpe	Engineer Maintenance
Zinhle Zwane	Snr Supervisor

10. Revisions

Date	Rev.	Compiler	Remarks
April 2026	01	MS Sibiya	Document creation

11. Development Team

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

- Mbiko Sibiya

12. Acknowledgements

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