Eskom	Report	Technology

Title: Technical Criteria For Procurement of Insulation Piercing connectors and PG Clamps

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Date:….2019/11/08……....	Date:2019/11/13……	Date: …2019/12/03……

Contents

1. INTRODUCTION

This document provides an overview of Eskom's Limpopo Operating Unit technical evaluation criteria to be used when evaluating the tender submissions for the supply of insulation Piercing connectors and PG Clamps.

2. SUPPORTING CLAUSES

2.1.1 Scope

The document contains the technical requirements and returnable for tenderers of the following product (s) which currently are not on a National or Provincial Contract.

Eskom Standard	SAP No.	Description	Eskom Drawing Number
Buyers Guide	0165494	CLAMP,IPC BIMET 35-95I/6-25I D3039	D-DT- 3039
Buyers Guide	0165496	CLAMP,IPC BIMET 35-95I/35-95I D3039	D-DT- 3039
Buyers Guide	0175104	CLAMP,IPC BIMET 16-95I/1.5-10I D3039	D-DT- 3039
Buyers Guide	0578664	CONNECTOR,TEE:RUN 25MM2 TO 95MM2 AL/CU	D-DT- 3039
Buyers Guide	0578665	CONNECTOR,TEE:RUN 25MM2 TO 95MM2 AL/CU	D-DT- 3039
Buyers Guide	0165498	CLAMP,IPC BIMET 35-95B/6-25I D3039	D-DT- 3039
Buyers Guide	0165521	CLAMP,IPC BIMET 35-95B/35-95I D3039	D-DT- 3039
Buyers Guide	0165495	CLAMP:P/G ;4-15 M; 4-15 T ;AL-AL	D-DT-3158
Buyers Guide	0198221	CLAMP:P/G ;8-17.5 M 7.5-17.5 T ;AL-CU	D-DT-3058
Buyers Guide	0604742	CLAMP:P/G ;6-15 M 4-12 T ;AL-CU	D-DT-3058

2.1.2 Purpose

The aim of the document is to formalize the requirements that should be met by the supplier / manufacturer for the product (s) requested. Eskom specification 240-75883122 and buyer's D-DT- 3039 currently refer NRS 018 for type testing; this document has since been withdrawn and replaced SANS 50483-4. Eskom LOU will accept IPC connectors Type tested to NRS 018 until such time that issues surrounding the withdrawal of NRS 018 are sorted and clear directive is given from National.

2.1.3 Applicability

This document shall apply throughout Eskom Limpopo Operating Unit.

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] ISO 9001, Quality Management Systems.

[2] Eskom Drawing No**.** D-DT- 3039, D-DT-3158 and D-DT-3058

[3] IEC 61284

[4] NRS 018

[5] 240-75883122: Fittings for Bare Neutral Aerial Bundled Conductor

[6] SANS 50483-4: Test requirements for low voltage aerial bundled cable accessories - Part 4: Connectors

2.2.2 Informative

N/A

2.3 DEFINITIONS

2.3.1 General

Definition	Description
Tender	A tender refers to an open or closed competitive request for quotations / prices against a clearly defined scope / specification.

2.3.2 Disclosure classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
ISO	International Standard Organisation
LAP	List of Accepted Products
LOU	Limpopo Operating Unit
SI	Standards Implementation Department

Abbreviation	Description
ISO	International Standard Organisation
IPC	Insulation Piercing Connector
PG	Parallel Groove

3. TENDER REQUIREMENTS

3.1 IMPORTANT INFORMATION

The following shall be submitted by the tenderer. Please note that if any of the requested documentation is omitted (i.e. not submitted); the tender application may be discarded / disqualified without requesting tenderer to submit outstanding documentation. Eskom will treat all documents submitted by the tender as **confidential.** Eskom shall request to conduct factory visits, witnessing and or submission of samples. Eskom reserves the right to witness any or all of these tests.

3.2 List of Returnable

3.2.1 Type test reports as per SANS 50483-4

3.2.2 Manufactures Drawings with critical dimensions

3.2.3 Annexure A:Completed A & B technical schedules

3.2.4 Annexure B: Completed Deviation schedule

4. TECHNICAL EVALUATION CRITERIA

4.1 TECHNICAL EVALUATION STAGES

This will be a desktop evaluation of the mandatory requirements. Products will be evaluated individually. Each tender needs to meet the entire mandatory technical requirements to procced to evaluation stage 2, a “NO” to any of the mandatory requirements as listed below will lead to immediate disqualification.

Table1: The table below shows the scoring that will be applied:

Item	Description	Weight	Compliant(Yes/No)

Mandatory Criteria (Evaluation Stage 1)			
1	Annexure A: technical AB Schedule(s)	60%	
2	Manufacture drawing(s)	10%	
3	Type test report(s)	20%	
4	Annexure B: Deviation Schedule	10%	
Note! Failure to meet any of the mandatory criteria will immediately lead to disqualification.			

4.2 Scoring functional Criteria(Annex A)

The tenderer needs to obtain a weighted score of **95%** in order to pass this Evaluation phase.

Requirements shall be scored as shown on table below:

Criteria	Score
Fully compliant	5
Partially compliant - minor deviation	2
Non-compliant	0

5. REVISION HISTORY

Date	Revision	Compiler	Remarks
November 2019	0	Sello Lekalakala	First Issue

ANNEX A: TECHNICAL SCHEDULE

Enquiry number: ……. **Spec.ref no D-DT- 3039**

Supplier Name:…….. **Date:……**

Eskom SAP number:…….

Technical Schedules A and B

Schedule 1 – Procurement of Insulation Piercing Connector

Schedule A: Purchaser's specific requirements(Eskom)

Schedule B: Guarantees and Particulars of equipment offered (Supplier)

No.	DESCRIPTION	SCHEDULE A	SCHEDULE B
1	**General Product Information**		
	Eskom drawing number and Revision	xxxxxxxxxxxxx	
	Manufacturer	xxxxxxxxxxxxx	
	Country of origin	xxxxxxxxxxxxx	
	Manufacturer's Product Code	xxxxxxxxxxxxx	
	Catalogue reference number	xxxxxxxxxxxxx	
2	**Type testing**	SANS 50483-5	
	Test Facility; note! Provide proof of accreditation of test facility if not SABS	SABS/NETFA	
4	**Tests**		
	a) Test for mechanical damage to the main conductor.	Yes	
	b) Branch cable pull-out test	Yes	
	c) Connector bolt tightening test	Yes	
	d) Shear head function test	Yes	
	e) Low temperature impact test	Yes	
	g) Electrical ageing test	Yes	
	h) Dielectrical voltage test	Yes	
	i)Tensile test at high temperature / Thermal test	Yes	
	j) Endurance test under mechanical and thermal stresses	Yes	
	k)Visual examination	Yes	
	l) Dimensional and material verification	Yes	
	m) Corrosion ageing test	Yes	
	n) Climatic ageing test	Yes	
	o)Test for permanent marking	Yes	
	p)Bolt tightening test	Yes	
	q)Low temperature assembly test	Yes	
5	Is the IPC colour code correct	See D-DT-3039	

6	Manufacture drawing submitted?	YES	
7	Conductor range(Min/Max)	See D-DT-3039	
8	**Marking/packing/documentation**		
	a) Method of packing offered	Individually/collective	
	b)Number of fittings per package	xxxxxxxxxxxx	
	c)Corrosion and damage protection method	xxxxxxxxxxxx	
	d)Packing suitable for storage	YES	
	e)Gross mass of bulk packs kg	30kg Max	
	f)Details of installation instructions provided	Comply	
9	Is a deviation schedule (Annex B) completed and submitted?	Comply	

Declaration that the scheduled has been completed by us **(Sign or insert company Stamp).**

Signed by : _____

(Full Name)

Signature : _____

ANEXXURE B: DEVIATION SCHEDULE

Any deviations from this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost-effective than that specified by Eskom.
The deviation schedule is to be completed and signed by all tenderers

Item	Proposed deviation

4 (e) (i) U) (n) (q)	**Connectors have been in service for around 30 years in South African conditions. Many of these tests apply to European conditions.**
	When Eskom did test the IPC connectors in 1996 they did not deem that the cost of these tests were justified based on SA conditions. In addition SABS/NETFA was not able to conduct these tests

Declaration that the scheduled has been completed by us (signs or insert company stamp).
signed by : _____
(full name)
signature : _____

Annex C – Technical Schedules

Technical Schedules A and B for PG CLAMPS (Al/Cu) D3058

Schedule A: Purchasers specific requirements

Schedule B: Guarantees and technical particulars of equipment offered

1	2	3	4
Item	**Description**	**Schedule A**	**Schedule B**
1	Product Information		
1.1	□ Purchasing details		
1.1.1	SAP No		xxxxxxxxxx
1.1.2	Manufacturer	xxxxxxxxxx	
1.1.3	Country of origin	xxxxxxxxxx	
1.1.4	Manufacturer's Product Code	xxxxxxxxxx	
1.1.5	Drawing number & Revision number	xxxxxxxxxx	
1.1.6	Physical identification mark on product	xxxxxxxxxx	
1.1.7	Compliance to critical dimensions on Buyer's Guide	3058	
1.1.8	Item sample required	YES	
1.2	□ Mechanical and electrical properties		
1.2.1	Material Grade/Material used:	xxxxxxxxxx	

1.2.2		PG Bolts		xxxxxxxxxx	
1.2.3		PG Body		xxxxxxxxxx	
1.2.4		Tensile strength	MPa	xxxxxxxxxx	
1.2.5		Washer dimensions (Diameter and thickness)		xxxxxxxxxx	
1.2.6		Conductor range		xxxxxxxxxx	
1.2.7		Elongation	mm	xxxxxxxxxx	
1.2.8		Anti galling measures taken?		xxxxxxxxxx	
1.2.9		Thread size		M8 bolt	xxxxxxxxxx
1.2.10		Filler content		xxxxxxxxxx	
1.2.11		Dielectric strength		xxxxxxxxxx	
1.2.12		Fabrication method			
		a) Extrusion		xxxxxxxxxx	
		b) Forging		xxxxxxxxxx	
1.2.13		Electrical jointing compound used/type		xxxxxxxxxx	
1.3	□	PG Clamps (Al/Cu) are required for the following conductor types			
1.3.1		Cross-sectional area of the smallest conductor	mm^2		xxxxxxxxxx
1.3.2		Breaking force of the smallest conductor	kN		xxxxxxxxxx

1.3.3 1.3.4 1.3.5 1.3.6	Current rating @ 75 degrees Celsius of the A smallest conductor		xxxxxxxxxx
	Cross-sectional area of the largest conductor mm^2		xxxxxxxxxx
	Breaking force of the largest conductor kN		xxxxxxxxxx
	Current rating @ 75 degrees Celsius of the A largest conductor		xxxxxxxxxx
2 2.1	Test Authority □ Preferred person/organisation	SABS/NEFT A	xxxxxxxxxx
3 3.1 3.1.1 3.1.2 3.1.3 3.1.4 3.1.5 3.1.6	Electrical Jointing Compound □ General		
	Trade name	xxxxxxxxxx	
	Type of compound	xxxxxxxxxx	
	Recommended quantity per fitting	xxxxxxxxxx	
	Are grooves pre-treated and individually packed?	YES	
	Source of supply	xxxxxxxxxx	
	Temperature rating:		
	a) Continuous	xxxxxxxxxx	
	b) Maximum under short-circuit conditions	xxxxxxxxxx	
4 4.1 4.1.1 4.1.2 4.2 4.2.1 4.2.2 4.2.3 4.2.4 4.2.5 4.2.6	Documentation (to be submitted with tender) Note: All documentation to be provided in electronic format. □ General		
	Outline drawings of item Sets	1	
	Material grade certification	YES	
	□ Test reports	Required	Report Number
	Verification of general dimensions	YES	
	Verification of material type	YES	
	Mechanical Tests	YES	
	- Mechanical bolt tightening test (SANS 61284)	YES	
	- Slip test (SANS 61284)	YES	
	- Heat cycle test (SANS 61284)	YES	
	- Corrosion test (SANS 61284)	YES	

NOTE: The deviation schedule is to be completed and signed by all tenderers

ANNEX D: Deviation schedule

Any deviations from this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost-effective than that specified by Eskom.

Item	Clause	Proposed deviation

SIGNATURES

Supplier: _____ _____ _____
Name (Print) Sign Date

Manufacturer: _____ _____ _____
Name (Print) Sign Date

Eskom: _____ _____ _____
Name (Print) Sign Date