

 <b>Eskom</b>	<b>Standard</b>	<b>Technology</b>
--	-----------------	-------------------

Title: **TECHNICAL EVALUATION  
STANDARD FOR SUBSTATION  
TUBULAR CLAMPS**

Unique Identifier: **240-84237021**

Alternative Reference Number: **<n/a>**

Area of Applicability: **Engineering**

Documentation Type: **Standard**

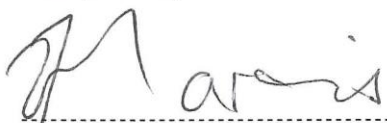
Revision: **3**

Total Pages: **27**

Next Review Date: **November 2023**

Disclosure Classification: **Controlled  
Disclosure**

Compiled by

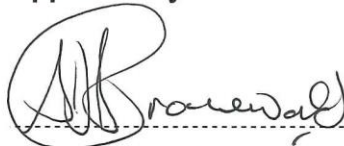


**Theunus Marais**

**Chief Engineer –  
Substation Engineering**

Date: **15/11/2018**

Approved by



**Braam Groenewald**

**Corporate Specialist –  
Substation Engineering**

Date: **15-11-2018**

Authorized by



**Phineas Tlhatlhetji**

**Senior Manager –  
Substation Engineering**

Date: **15/11/2018**

**Supported by SCOT/SC**



**Phineas Tlhatlhetji**

**Substation SC Chairperson**

Date: **15/11/2018**

## 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. Requirements .....	4
3.1 General .....	4
3.2 Desktop Evaluation .....	4
3.3 Sample Evaluation .....	5
3.4 Factory Evaluation .....	5
4. Authorization .....	6
5. Revisions .....	6
6. Development team .....	7
7. Acknowledgements .....	7
Annex A – Desktop Documentation Evaluation: Tender Technical Returnables .....	8
Annex B – Desktop Documentation Evaluation: Qualitative Criteria .....	9
Annex C – Sample Impression Assessment .....	12
Annex D – In-Factory Product Assessment .....	14
Annex E – Factory Assessment .....	17
Annex F – Factory Product and Assessment Evaluation Agreement .....	27

## 1. Introduction

This document has been developed in accordance with Eskom Procurement and Supply Management Procedure 32-1034 and is used to define the standard technical evaluation criteria to be used when evaluating pre-qualification submissions.

The document defines various aspects required to perform the technical evaluation and contains the evaluation criteria used at paper evaluation and the associated sample evaluation.

## 2. Supporting clauses

### 2.1 Scope

The scope of work for this tender includes the manufacture, testing and supply of substation clamps for tubular conductors.

#### 2.1.1 Purpose

The purpose of this document is to provide guidance for the technical evaluation of substation clamps for tubular conductors.

#### 2.1.2 Applicability

This document shall apply throughout Eskom Holdings Limited Divisions.

## 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] 32-1034, Eskom Procurement and Supply Management Procedure
- [2] 240-48929482, Tender Technical Evaluation Procedure
- [3] 240-53113923, Specification for Substation Clamps for Tube Aluminium Conductors
- [4] 240-83534936, Tubular and Stranded Conductor Clamps Additional to the Existing Standards
- [5] ISO 9001, Quality Management Systems.

### 2.2.2 Informative

None

## 2.3 Definitions

### 2.3.1 General

Definition	Description
<b>Accredited testing laboratory/authority</b>	A laboratory which is ISO/IEC 17025 accredited and/or that holds valid certification issued by ILAC (International Laboratory Accreditation Corporation) or one of its members.
<b>Certified test report</b>	A certificate of tests performed as specified within the specification, and carried out by an accredited authority or by the manufacturer and witnessed by an accredited authority that has been accredited in accordance with ISO/IEC 17011 and ISO/IEC 17025.

**ESKOM COPYRIGHT PROTECTED**

Definition	Description
<b>Eskom assessment / evaluation representative(s)</b>	The person(s) appointed by Eskom to perform evaluation of tender submission (s) in line with Eskom requirements.
<b>Routine test</b>	Tests done to verify the quality and uniformity of the workmanship and materials used in the manufacture of substation tubular conductors.
<b>Type test</b>	Tests done on the completion of the development of a new design to establish representative performance data. They need to be repeated if the design is changed to modify its performance or there is a change in the manufacturing process.

### 2.3.2 Disclosure classification

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

## 2.4 Abbreviations

None

## 2.5 Roles and responsibilities

Suppliers are responsible for manufacturing, testing and supplying products in accordance with documents [3] and [4]. All personnel involved within the substation environment shall ensure compliance to these requirements and that clamps for tubular conductors are evaluated in accordance with this document.

## 2.6 Process for monitoring

All clamps for tubular conductors to be supplied to Eskom shall be in accordance with [3], and shall be evaluated against the criteria as stipulated in this document.

## 2.7 Related/supporting documents

This document must be applied together with document 240-53113923 and 240-83534936.

## 3. Requirements

### 3.1 General

The technical evaluation for the substation tubular conductor clamps shall be composed of two main parts namely documentation evaluation and a factory evaluation. The criteria for the technical evaluation are based on the specified requirements in the Eskom Standard 240-53113923: Specification for Substation Clamps for Tube Aluminium Conductors.

All documentation for this tender shall be in English.

For the supplier's submission to be compliant all tender technical returnables must be submitted as required, and score at least 70% in the qualitative evaluation.

### 3.2 Desktop Evaluation

The desktop evaluation shall be conducted by the Eskom assessment representatives. This part of the evaluation will start when submissions are opened the first time. It begins with the confirmation that all tender technical returnables have been submitted (Level 1 and Level 2) and will proceed to that of the qualitative criteria. Refer to Annex A. Successful submissions will then proceed to the qualitative evaluation for a detailed analysis of each submission.

**ESKOM COPYRIGHT PROTECTED**

For the qualitative criteria, the Eskom evaluating representatives will go through the remaining submissions in detail and score each item evaluated. Refer to Annex B. The tender submission must score a minimum of 70% in the qualitative evaluation to be considered as technically qualified.

### **3.3 Sample Evaluation**

As part of the qualitative tendering criteria suppliers are required to submit samples for evaluation. The samples should be the exact products that will be supplied in the event that the supplier is awarded the tender.

The tender enquiry documents shall include a list of samples to be evaluated as well as the stage in the tender process when the samples should be submitted/made available for evaluation. This will be either:

- As part of the original tender submission together with all tender and technical returnables, or
- Submitted after completion of the desktop evaluation (applicable only to submissions that were successful in the qualitative evaluation as stipulated in 3.2 above), or
- Made available for evaluation to coincide with the factory evaluation (applicable only to submissions that were successful in the qualitative evaluation as stipulated in 3.2 above).

NB: A factory evaluation will only be conducted if the supplier has met the requirements in Annex A and B.

### **3.4 Factory Evaluation**

This assessment is performed on the basis of assessing the supplier's capability to enter into a contract with Eskom with respect to a specific product or service.

This report and any actions that are listed or recommended as a result of this assessment, is by no means a confirmation or guarantee that any contract will be entered into by Eskom and the supplier or that post contract performance has been achieved.

Any actions undertaken by the supplier as a consequence of this report is for the supplier's account. Any liability for the said actions undertaken by the supplier is not transferrable to Eskom in any way.

The assessment team has no authority or responsibility in the decision taken by Eskom with respect to contracting for a product or service.

Any statements, intentions and/or actions expressed by the assessment team during the assessment and post the assessment has no effect, and does not constitute any liability to Eskom with regards to contract placement or post contract performance guarantees.

Eskom evaluating representatives will contact and arrange to visit the factory of the tenderers whose submissions have passed the desktop and sample evaluation.

At the factory of each supplier, the Eskom evaluating representatives will conduct the in-factory product evaluation using the criteria in Annex C. The criteria for this evaluation are not point scored, but are assessed on a Yes/No basis on whether or not they have been met satisfactorily. An assessment of 'No' against any criterion may eliminate the tenderer from further consideration. The criteria as per Annex D will be used for the factory assessment, and is point scored. The minimum score required to be considered as a supplier must be 70%.

At the end of this exercise, the Eskom evaluating representatives will list all the deviations, if any, on the factory product and assessment evaluation agreement (refer to Annex E). The Eskom representatives will conduct a formal discussion with the tenderer on these deviations. Herein, the tenderer will be given an opportunity to express whether they agree or disagree with Eskom's findings and if they will meet Eskom requirements before/upon the contract being awarded. At the end, Eskom and the representatives of the tenderer will sign the factory product and assessment evaluation agreement which will be used to conclude the technical evaluation report. Where the tenderer has agreed to meet Eskom requirements, all of these will form part of the contract and the verification that will be conducted afterwards.

## 4. Authorization

This document has been seen and accepted by:

Name and surname	Designation
Phineas Tlhatlhetji	Senior Manager– Substation Engineering
Benny Tladi	Middle Manager – Substation Engineering
Best Khoza	Engineer – Western Cape OU
Christy Thomas	Senior Engineer – Substation Engineering
Derrick Delly	Chief Engineer – Substation Engineering
Dickey van Eeden	Senior Technician – Free State OU
Enderani Naicker	Chief Engineer – Substation Engineering
Jason Blaauw	Senior Engineer – Standards Implementation Eastern Cape OU
Mark Pepper	Chief Engineer – Substation Engineering
Mohamed Khan	Senior Engineer – Standards Implementation KZNOU
Nkuli Pompei	Middle Manager – Substation Engineering
Payoyo Bukhosini	Engineer – Substation Engineering
Rukesh Ramnarain	Chief Engineer – Substation Engineering
Shamona Sivasamy	Senior Engineer – Standards Implementation Mpumalanga OU
Sipho Zulu	Chief Engineer – Substation Engineering
Stefan Terblanche	Senior Advisor – Standards Implementation Western Cape OU

## 5. Revisions

Date	Rev	Compiler	Remarks
Nov 2018	3	TJ Marais	3.2 Sample Evaluation: updated. Annex A: References updated to align with the new revision of 240-53113923. Annex B: Sample impression evaluation removed Annex C: Renamed to Annex D New Annex C: Sample Impression Assessment added Annex D: Renamed to Annex E Annex E: Renamed to Annex F
Nov 2017	2	TJ Marais	1. Introduction: Reference to clause 3.7.3.4 of Procedure 32-1034 removed. 2.2.1 Normative: Added 32-1034, 240-48929482, 240-83534936. 2.3.1 General: Definitions added as applicable. 2.5 Roles and responsibilities: Updated. 2.6 Process for monitoring: Updated As per the requirements of Eskom document 32-1034 (Eskom Procurement and Supply Management Procedure) all references to mandatory evaluation criteria has been removed and replaced with tender technical returnables. 3.3 Sample Evaluation: Section reworded.

**ESKOM COPYRIGHT PROTECTED**

Date	Rev	Compiler	Remarks
			3.4 Factory Evaluation: Section updated. Original Annex A (Technical Tender Evaluation Criteria) reformatted and split into Annex A (Desktop Documentation Evaluation: Tender Technical Returnables) and Annex B (Desktop Documentation Evaluation: Qualitative Criteria) Scoring table in original Annex A (now B) aligned with table 2 in 240-48929482. Original Annex B (Samples to be Submitted) removed, applicable information is covered in 240-53113927. Annex C title changed and updated, section on current bridges added and. Annex D added: Factory assessment. Annex E added: Factory and Product Assessment Evaluation Agreement
Nov 2014	1	I Chauke	Converted from old draft, formatted into a new template and allocated a new number.

## **6. Development team**

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

- Athelene Gouws, Senior Engineer
- Cobus Bosch, Senior Engineer
- Isaac Chauke, Senior Engineer
- I Hill, Senior Engineer
- Jason Blaauw, Senior Engineer
- Theunus Marais, Chief Engineer

## **7. Acknowledgements**

Not applicable.

**Annex A – Desktop Documentation Evaluation: Tender Technical Returnables**

Tender technical returnables are not point scored. These are assessed on a Yes/No basis as to whether or not all required technical returnables have been submitted. All submissions must comply with [3], 240-53113923 Specification for Substation Clamps for Tube Aluminium Conductors. The tender technical returnables are:

LEVEL 1 CRITERIA	CLAUSE in [3]	YES	NO
Is all information supplied in English?	3.12		
Has completed technical schedule B per clamp type been submitted?	3.12 (a)		
Has a full set of drawings per clamp type been submitted?	3.12 (b)		
Has a list of all type test certificates and reports specified in the specification been submitted?	3.12 (c)		
Has copies of all type test certificates and reports specified in the specification been submitted?	3.12 (c)		
Has manual(s) for handling, storage, installation and inspections of the clamps been submitted?	3.12 (d)		
Has the welding procedure been submitted?	3.12 (e)		
Has proof of accreditation of their welder been submitted?	3.12 (f)		
Has samples as per the requested list been supplied?	As per tender enquiry requirements		
LEVEL 2 CRITERIA	CLAUSE in [3]	YES	NO
Composition of raw material meets requirements as per spec	3.3.2		
Material and grade of bolts, nuts and washers according to standard	3.3.4.1 3.3.4.2 3.3.4.3		
Technical requirements (critical parameters):			
Rated current at 90°C	3.3.12 3.3.14		
Rated voltage	3.3.16		
Short-circuit withstand current	3.3.13 3.3.14		
Type tests			
Test certificates/reports validity	3.4.6		
Tests done in accordance with relevant standards/specifications	3.4.2		
Test results meet acceptance criteria as per spec	3.4.3 Annex A		
Tests done at accredited laboratory	3.4.6		

**Annex B – Desktop Documentation Evaluation: Qualitative Criteria**

After it has been confirmed that all the tender technical returnables have been submitted and that critical requirements have been met, the submission will be assessed against the following criteria (shown below with weightings) with detail as stipulated in [3], 240-53113923 Specification for Substation Clamps for Tube Aluminium Conductors.

Criteria	Section	% weight	Weighted Score
Clamp Range	B1	25	
Technical Schedules	B2	45	
Outline Drawings	B3	20	
History of Supply	B4	10	
<b>Total</b>		<b>100</b>	

For each evaluation criteria, the extent to which submissions comply with the requirements shall be scored based on the following, with a total score of 85 normalised to 100%.

5	<b>COMPLIANT</b> Meet technical requirement(s) AND; No foreseen technical risk(s) in meeting technical requirements.
4	<b>COMPLIANT WITH ASSOCIATED QUALIFICATIONS</b> Meet technical requirement(s) with; Acceptable technical risk(s) AND/OR; Acceptable exceptions AND/OR; Acceptable conditions.
2	<b>NON-COMPLIANT</b> Does not meet technical requirement(s) AND/OR; Unacceptable technical risk(s) AND/OR; Unacceptable exceptions AND/OR; Unacceptable conditions.
0	<b>TOTALLY DEFICIENT OR NON-RESPONSIVE</b>

Threshold: The score that each tenderer receives will provide a numeric basis for tender comparison. The minimum weighted average score required for sections B1 to B4 for a tubular conductor clamp to be considered must be 70% or above.

B1	CLAMPING RANGE			
ITEM NO	DESCRIPTION	UNIT	CRITERIA	SCORE
B1.1	Does the supplier supply all the clamps required?	% of required clamps listed	> 90 %	5
			70 – 90%	4
			30 – 70%	2
			< 30%	0
Clamping Range (maximum points: 5)			Score	
CLAMPING RANGE (section weight: 25%)			Weighted Score = (Score) * $\left(\frac{25}{5}\right)$	

**TECHNICAL EVALUATION STANDARD FOR  
SUBSTATION TUBULAR CLAMPS**
Unique Identifier: **240-84237021**Revision: **3**Page: **10 of 27**

B2	TECHNICAL SCHEDULES			
ITEM NO	DESCRIPTION	UNIT	CRITERIA	SCORE
B2.1 Compliance with Technical Requirements (40%)	Does the supplier comply with the technical requirements as stipulated in the Technical Schedules?	% compliance	> 90 %	5
			70 – 90%	4
			30 – 70%	2
			< 30%	0
	Technical Requirements (maximum points: 5)		Score 1	
	Technical Requirements (sub-section weight: 40%)		Weighted Score 1 = (Score 1) * $\left(\frac{40}{5}\right)$	
B2.2 Deviation schedule provided (5%)	Has a deviation schedule been completed for deviations from the specification?	% compliance	> 90 %	5
			70 – 90%	4
			30 – 70%	2
			< 30%	0
	Deviation schedule (maximum points: 5)		Score 2	
	Deviation schedule (sub-section weight: 5%)		Weighted Score 2 = (Score 2) * $\left(\frac{5}{5}\right)$	
TECHNICAL SCHEDULES (section weight: 40%)			Weighted Score 1 + Weighted Score 2 =	

<b>B3</b>	<b>OUTLINE DRAWINGS</b>			
<b>ITEM NO</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>CRITERIA</b>	<b>SCORE</b>
B3.1	Clamp description	% drawings correct	> 90 %	5
			70 – 90%	4
			30 – 70%	2
			< 30%	0
B3.2	Eskom code	% drawings correct	> 90 %	5
			70 – 90%	4
			30 – 70%	2
			< 30%	0
B3.3	Drawing number	% drawings correct	> 90 %	5
			70 – 90%	4
			30 – 70%	2
			< 30%	0

**ESKOM COPYRIGHT PROTECTED**

B3	OUTLINE DRAWINGS			
ITEM NO	DESCRIPTION	UNIT	CRITERIA	SCORE
B3.4	Ratings	% drawings correct	> 90 %	5
			70 – 90%	4
			30 – 70%	2
			< 30%	0
B3.5	Dimensions including weight (in kg)	% drawings correct	> 90 %	5
			70 – 90%	4
			30 – 70%	2
			< 30%	0
Outline Drawings (maximum points: 25)			Score	
OUTLINE DRAWINGS (section weight: 20%)			Weighted Score = (Score) * $\left(\frac{20}{25}\right)$	

B4	HISTORY OF SUPPLY			
ITEM NO	DESCRIPTION	UNIT	CRITERIA	SCORE
B4.1	Has the supplier supplied clamps to Eskom before?		Yes	5
			No	0
B4.2	What is the general level of satisfaction with previous products received? (Suppliers that have not previously supplied to Eskom will get full marks for this section)		Acceptable	5
			Generally acceptable	4
			Generally unacceptable	2
			Unacceptable	0
B4.3	How many non-conformances have been issued against the supplier's products in the last 5 years? (Suppliers that have not previously supplied to Eskom will get full marks for this section)	Number	0	5
			1 - 5	4
			6 - 10	2
			> 10	0
History of Supply (maximum points: 15)			Score	
HISTORY OF SUPPLY (section weight: 10%)			Weighted Score = (Score) * $\left(\frac{10}{15}\right)$	

**Annex C – Sample Impression Assessment**

Tender submission that passed the minimum requirements as set out in Annex B for the qualitative evaluation will be submitted to a sample impression assessment.

For each evaluation criteria, the extent to which submissions comply with the requirements shall be scored based on the following, with a total score of 35 normalised to 100%.

5	<b>COMPLIANT</b> Meet technical requirement(s) AND; No foreseen technical risk(s) in meeting technical requirements.
0	<b>NON-COMPLIANT</b> Does not meet technical requirement(s) AND/OR; Unacceptable technical risk(s) AND/OR; Unacceptable exceptions AND/OR; Unacceptable conditions.

Threshold: The score that each sample receives will provide a numeric basis for tender comparison. The minimum weighted average score required for a tubular conductor clamp to be considered must be 70% or above.

All criteria scored as a “No” will have to be corrected to comply with before contracts can be entered into.

C	SAMPLE IMPRESSION		
ITEM NO	DESCRIPTION	CRITERIA	SCORE
C1	Surface finish impression	Acceptable	5
		Not acceptable	0
C2	Dimensions according to specification/drawings submitted?	Yes	5
		No	0
C3	Identification marks: Manufacture's identification	Yes	5
		No	0
C4	Eskom clamp code number	Yes	5
		No	0
C5	Nominal size or range of sizes of conductors with which the clamp is intended to be used	Yes	5
		No	0
C6	Bolted clamps:		
C6.1	Contact surface of current-carrying clamp grooved	Yes	5
		No	0
C6.2	Bolt diameter $\geq 10\text{mm}$	Yes	5
		No	0
C6.3	Nuts, bolts and washers from correct material	Yes	5
		No	0
C6.4	Bolts not protruding to potentially cause corona	Yes	5
		No	0
C6.5	Bolt torque stamped on clamp	Yes	5
		No	0


**ESKOM COPYRIGHT PROTECTED**

C	SAMPLE IMPRESSION		
ITEM NO	DESCRIPTION	CRITERIA	SCORE
C7	Compression clamps:		
C7.1	Sleeve tubing diameter according to spec	Yes	5
		No	0
C7.2	Compression sleeve tube marked with position and number of compressions and die size	Yes	5
		No	0
C7.3	Compression sleeve tube marked with conductor diameter and legible	Yes	5
		No	0
C7.4	Quality of welds (no cracks, voids, incomplete penetration, incomplete fusion, undercutting or inclusions)	Yes	5
		No	0
C7.5	Drilled hole of Ø4mm	Yes	5
		No	0
C8	Are pads serrated machined	Yes	5
		No	0
C9	Busbar support clamps:		
C9.1	PCD as specified	Yes	5
		No	0
C9.2	Slots as specified	Yes	5
		No	0
Sample Impression		Score	

**SAMPLE IMPRESSION Weighted Score:**

<b>Compression clamps:</b> <b>Sum of sections C1 – C7</b> (maximum score 75)	<b>Weighted Score =</b> $(\text{Score}) * \left(\frac{100}{75}\right)$	
<b>Pad clamps:</b> <b>Sum of sections C1 – C6 + C8</b> (maximum score 55)	<b>Weighted Score =</b> $(\text{Score}) * \left(\frac{100}{55}\right)$	
<b>Busbar support clamps:</b> <b>Sum of sections C1 – C6 + C9</b> (maximum score 60)	<b>Weighted Score =</b> $(\text{Score}) * \left(\frac{100}{60}\right)$	

**Annex D – In-Factory Product Assessment**

	<b>SUBSTATION TUBULAR CLAMPS</b> <b>IN-FACTORY PRODUCT ASSESSMENT CHECK SHEET</b>
---	--

**TECHNICAL EVALUATION TEAM**

Name	Signature	Date

**DOCUMENT REQUIREMENTS**

The following documents must be provided by the supplier at the factory before the start of the assessment:

- Welding procedure,
- Accreditation of welder/s,
- Routine tests records,
- Storage and handling procedures,
- Inspection manual/s.

**D1 WELDING**

ITEM	CLAUSE in [3]	EVALUATION ASPECT	YES/NO
D1.1	3.3.6	Is welding done using a tungsten inert-gas-shielded arc or a metal inert-gas-shielded arc process?	
D1.2		Are welding jigs used to ensure the correct alignment of sleeves?	
D1.3		Are welds clean, sound, smooth, and uniform without overlaps, properly fused and completely sealed?	
D1.4	3.3.6 3.12 (e)	Is there a welding procedure?	
D1.5	3.3.6 3.12 (f)	Is the welder accredited? Verify certificate against employee identity.	
Comment/s:			

**ESKOM COPYRIGHT PROTECTED**

**D2 COMPRESSION CLAMPS**

ITEM	CLAUSE in [3]	EVALUATION ASPECT	YES/NO
D2.1	3.3.5	Are compression sleeves manufactured from extruded tubing to suit specified conductors?	
D2.2		Is line boring or drilling techniques used? If yes, is the tolerance on the wall thickness less than 5%?	
D2.3		Are compression sleeves pre-greased and have a dust cap applied?	
D2.4		Do the compression sleeves have a 4mm diameter hole drilled to serve as a passage for the flow of excess grease during compression?	
D2.5		Are the compression sleeves marked externally with the position and number of compressions required?	
Comment/s:			

**D3 BOLTED CLAMPS**

ITEM	CLAUSE in [3]	EVALUATION ASPECT	YES/NO
D3.1	3.3.4	Do the bolts comply with the requirements as specified?	
D3.2		Do the nuts and washers comply with the requirements of SANS 1700?	
D3.3		Do the bolts and nuts have hexagonal heads?	
D3.4		Are the bolts treated to prevent seizure? What is the method of treatment?	
Comment/s:			

**D4 WELDED COUPLERS (EWI INSERTS)**

ITEM	CLAUSE in [3]	EVALUATION ASPECT	YES/NO
D4.1	3.3.10	Are the inserts smooth-finished?	
D4.2		Is the tolerance of the outer diameter approximately 1% of the specified outer diameter?	
D4.3		Is the thickness tolerance of the tubular conductor less than ±1%?	
Comment/s:			

**D5 CURRENT BRIDGES**

ITEM	CLAUSE in [3]	EVALUATION ASPECT	YES/NO
D5.1	3.3.11	Are all current bridges made of a minimum of two aluminium conductors?	
D5.2		Are the current bridges securely fastened?	
Comment/s:			

**D6 SAMPLE AND ROUTINE TEST RECORDS**

ITEM	CLAUSE in [3]	EVALUATION ASPECT	YES/NO
D6.1	3.4.4 3.4.5	Are there procedures available to conduct sample and routine tests?	
D6.2		Are records of sample and routine tests available?	
D6.3		Are sample and routine tests conducted regularly and as per the suppliers' procedure?	
Comment/s:			

**D7 PACKAGING**

ITEM	CLAUSE in [3]	EVALUATION ASPECT	YES/NO
D7.1	3.6	Are the clamps marked with the following identification marks: Manufacturer's identification Eskom clamp code number Nominal size or range of sizes of conductors with which the clamp is intended to be used	
D7.2	3.8	Are individual clamps packaged in sealed, heavy duty, UV stabilized bags?	
D7.3		Are the sealed clamps packaged for delivery in strong durable containers?	
D7.4		If wooden crates are used, are they treated?	
D7.5		On the container, is there a label with the following: Eskom's order number Eskom SAP number Eskom clamp designation/code; Manufacturer's name Content of crate/container (i.e. a parts list) Overall dimensions of crate/container Total mass of the crate/container Pictograms/symbols showing correct storage and stacking Instructions of the crates/containers Delivery address	
Comment/s:			

**ESKOM COPYRIGHT PROTECTED**

**Annex E – Factory Assessment**
**SUBSTATION TUBULAR CLAMPS  
FACTORY ASSESSMENT CHECK SHEET**
**MAIN REPRESENTATIVES**

Company					Country			
<b>Eskom</b>	Name		Designation		Signature		Date	
<b>Tenderer</b>	Name		Designation		Signature		Date	
<b>Factory</b>	Name		Designation		Signature		Date	

**E1 WORK SYSTEMS**

Item	Evaluation aspect	Criteria	Score	Evidence and comments
E1.1	Works procedures and instructions: a. What work procedures are in place? b. What ISO standards are used?	Both in place and documents are traceable	5	
		Both in place, but documents non-traceable	4	
		Either 'a' or 'b' are omitted	2	
		None	0	
E1.2	Continuous improvement and International compliance: Do they fully comply with EN 755?	Full compliance	5	
		Partial compliance	4	
		Non-compliance	0	

**ESKOM COPYRIGHT PROTECTED**

Item	Evaluation aspect	Criteria	Score	Evidence and comments
E1.3	QMS documented and applied? QCP documented and applied? (choose one of each)	QMS and QCP's in place and traceable	5	
		QMS and QCP's in place	4	
		QMS and some QCP's in place	1	
		None in place	0	
E1.4	Quality inspections, audits and reviews:  Separately list all inspections, audits and reviews done. (choose one of each)	All inspections, audits and reviews in place, up to date and traceable	5	
		All inspections, audits and reviews in place	4	
		Some inspections, audits and reviews in place	2	
		None in place	0	
E1.5	Staff training and accreditation systems and controls:  What training is offered to staff?  Who are they accredited with?  (choose minimum 2 random staff members and question)	Staff trained and accredited, and traceable	5	
		Staff trained and accredited, not traceable	4	
		Staff trained	2	
		Staff not trained	0	
E1: WORK SYSTEMS SCORE (maximum 25)				

ESKOM COPYRIGHT PROTECTED

**E2 OPERATION – MANUFACTURING METHODS**

Item	Evaluation aspect	Criteria	Score	Evidence and comments
E2.1	Quality assurance and verification of base material	Material quality checked, handled, stored and catalogued correctly, and is traceable	5	
		Material quality checked, handled, stored and catalogued correctly	4	
		Some of the above not complied to	2	
		No traceability of base material, or stored incorrectly	0	
E2.2	Clean conditions in workshop/factory	Clean-room environment (dust free, static free)	5	
		Workshop is clean overall	4	
		Workshop is fairly clean	2	
		Workshop not clean	0	
E2.3	What is the quality and availability of test reports?	Test certificate has all relevant data, easy to read and understand, signed off by authorised personnel and is traceable	5	
		Test certificate has all relevant data, easy to read and understand, signed off by authorised personnel	4	
		Test certificate has relevant data, not signed off by authorised personnel	2	
		No test certificates are available	0	

**ESKOM COPYRIGHT PROTECTED**

Item	Evaluation aspect	Criteria	Score	Evidence and comments
E2.4	What is the supplier's estimate of current capacity limit?	Can meet on time delivery for Eskom requirements	5	
		Some potential delays for the production of Eskom requirements	4	
		Major delays anticipated	0	
E2.5	Are there any bottlenecks in the manufacturing process? (e.g., test bay, material supply, extrusion, etc.)	Can meet on time delivery for our units	5	
		Some potential delays for the production of our unit	4	
		Major delays anticipated	0	
E2.6	Does the supplier intend to make use of a substitute factory if capacity increase is required? If so, has it been disclosed to and evaluated by Eskom?	No	5	
		Yes, fully accredited	4	
		Yes, not accredited yet	0	
E2.7	How will the supplier expedite orders if required?	Adequate process to fast-track orders, and is traceable	5	
		Adequate process to fast-track orders	4	
		Process exists, but needs improvement	2	
		No process	0	

**ESKOM COPYRIGHT PROTECTED**

Item	Evaluation aspect	Criteria	Score	Evidence and comments
E2.8	Product compliance to specifications.	Aligns completely to Eskom specifications	5	
		Partially aligns to Eskom specifications	4	
		Doesn't align to Eskom specifications	0	
E2.9	What are factory failure rates for the last 5 years?	Less than 1%, and traceable	5	
		Less than 1%	4	
		Between 1 – 2%	2	
		Greater than 2%	0	
E2.10	What processes are in place to handle failures?	Adequate process, and is traceable	5	
		Adequate process	4	
		Process exists, but needs improvement	2	
		No process	0	
E2: OPERATION – MANUFACTURING METHODS SCORE (maximum 50)				

ESKOM COPYRIGHT PROTECTED

**E3 TECHNICAL INFRASTRUCTURE**

Item	Evaluation aspect	Criteria	Score	Evidence and comments
E3.1	What manufacturing equipment/tools does the supplier have, who manufactures this equipment, what is the capacity of this equipment?	Equipment/tools bought from accredited and known manufacturers, and traceable	5	
		Equipment/tools bought from accredited and known manufacturers	4	
		Some equipment/tools bought from accredited and known manufacturers	2	
		Equipment/tools bought from unrecognised manufacturers	0	
E3.2	How are supervisors and employees trained on handling equipment?	Certificate or accreditation, and traceable	5	
		Certificate or accreditation	4	
		Some workers accredited, certified	2	
		No certificate or accreditation	0	
E3.3	What is the maintenance operating model for the production line?	Complete maintenance procedures and records, and traceable	5	
		Complete maintenance procedures and records	4	
		Incomplete maintenance procedures and records,	2	
		Limited/no maintenance procedures or records	0	
E3: TECHNICAL INFRASTRUCTURE SCORE (maximum 15)				

**ESKOM COPYRIGHT PROTECTED**

**E4 DESIGN PRACTICES AND APPLICATIONS**

Item	Evaluation aspect	Criteria	Score	Evidence and comments
E4.1	Describe your design criteria basis and guidelines: Electrical and Mechanical	Specific software/ tools for designs are in place and used	5	
		Software/tools are available, however no clear philosophy on how it should be used	2	
		Have tools only, no philosophy	0	
E4.2	Provide design process flowchart / systems for similar products	Up to date flowchart	5	
		Flowchart not current	2	
		No flowchart	0	
E4.3	How is internal design verification/validation ensured as part of the design process?	Authorised person checks and signs off design	5	
		No checks, self-release	0	
E4.4	What is the process to deal with design change requests, internal or external?	Formalised process, and traceable, including updating of manufacturing plan and schedules	5	
		No formal process	0	
E4.5	How is the final/approved design linked to the manufacturing process?	Approved inspection and test plans includes hold points to verify execution of design	5	
		No monitoring system	0	

**ESKOM COPYRIGHT PROTECTED**

Item	Evaluation aspect	Criteria	Score	Evidence and comments
E4.6	How does the system flag excursions outside internal design rules?	Flags excursions, calibration is current	5	
		Flags some but not all excursions	4	
		No excursions flagged, not calibrated properly	0	
E4.7	How do you support/co-ordinate external partners for component manufacturers, if any?	Clear functional role, responsibilities and collaboration with suppliers	5	
		None	0	
E4: DESIGN PRACTICES AND APPLICATIONS SCORE (maximum 35)				

**E5 TESTING FACILITY AND PRACTICES**

Item	Evaluation aspect	Criteria	Score	Evidence and comments
E5.1	Provide proof of calibration of all test equipment	Calibrated by accredited person/institution within date and traceable	5	
		Calibrated by accredited person/institution within date	4	
		Calibrated within date	2	
		Not calibrated	0	
E5.2	Dimensional requirements	Within requirements and traceable	5	
		Not within requirements	0	
E5.3	Electrical requirements	Within requirements and traceable	5	
		Not within requirements	0	

**ESKOM COPYRIGHT PROTECTED**

Item	Evaluation aspect	Criteria	Score	Evidence and comments
E5.4	Mechanical requirements	Within requirements and traceable	5	
		Not within requirements	0	
E5.5	Test capabilities	Fully capable of performing type, acceptance and routing tests, and is traceable	5	
		Fully capable of performing acceptance and routing tests, and is traceable	4	
		Capable of performing acceptance and routing tests	2	
		Cannot perform any tests	0	
E5.6	Reports, timeousness, quality thereof	All test reports produced immediately, checked by accredited person, and is traceable	5	
		All test reports produced immediately, and is traceable	4	
		Test reports produced	2	
		No test report available	0	
E5.7	List all in-house type tests done			
E5: TESTING FACILITY AND PRACTICES SCORE (maximum 35)				


ESKOM COPYRIGHT PROTECTED

Criteria	Section	Maximum score	Achieved score
Work systems	E1	25	
Operation – manufacturing methods	E2	50	
Technical infrastructure	E3	15	
Design practices and applications	E4	35	
Testing facility and practices	E5	35	
	<b>Total</b>	<b>160</b>	
		Percentage obtained = $\left(\frac{\text{Achieved Score}}{160}\right) * 100$	

Factory threshold: The minimum score required to be considered as a supplier must be 70% or above.

**ESKOM COPYRIGHT PROTECTED**

**Annex F – Factory Product and Assessment Evaluation Agreement**

		<b>SUBSTATION TUBULAR CLAMPS</b> <b>FACTORY PRODUCT and ASSESSMENT EVALUATION AGREEMENT</b>							
		Response	Tenderer		Factory		Eskom		Target Date
Item	Deviation Description		Agree	Disagree	Agree	Disagree	Agree	Disagree	

**MAIN REPRESENTATIVES**

Company					Country			
<b>Eskom</b>	Name		Designation		Signature		Date	
<b>Tenderer</b>	Name		Designation		Signature		Date	
<b>Factory</b>	Name		Designation		Signature		Date	

**ESKOM COPYRIGHT PROTECTED**

When downloaded from the WEB, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the WEB.