

	<b>MEMORANDUM (MEMO)</b>	Unique Identifier	SSE-5/8/2022
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<b>To:</b>	All Substation Engineering Staff
<b>From:</b>	Rukesh Ramnarain, Chief Engineer Substation Engineering
<b>Copy:</b>	Subhas Maharaj, Senior Manager Substation Engineering
<b>Date:</b>	2022/08/11
<b>Ref:</b>	Amendment to 240-122922894 Rev 4
<b>Subject:</b>	<b>Interim Tender Technical Evaluation Criteria for Substation Tubular Conductors</b>

## 1. Purpose

The purpose of this memorandum is to define the tender technical evaluation criteria for substation tubular conductors until such time that document [1] listed below is revised for Eskom Holdings SOC Ltd, Transmission division engineering projects.

## 2. Applicability

This memorandum will only be applicable to Revision 4 of document 240-122922894.

## 3. Reference Documents

- [1] 240-122922894 Rev 4, Technical Evaluation Standard for Substation Tubular Conductors.
- [2] 240-122922610 Rev 1, Specification for Substation Tubular Conductors.
- [3] 240-48929482 Rev 1, Tender Engineering Evaluation Procedure.

## 4. Reasons for Changes Required to 240-122922894 Rev 4

According to Annex B of 240-122922894, revision 4, the following is mentioned: "The score that each tenderer receives will provide a numeric basis for tender comparison. The minimum weighted average score required for the qualitative evaluation for a busbar tubular conductor to be considered shall be 90%."

In the previous revision (revision 3), the minimum weighted average score was 70%. Unfortunately, there is no justification in revision 4 of this standard for changing the minimum weighted average score from 70% to 90%.

According to section 3.4.2.4 (Minimum Weighted Final Score) of reference [3], a minimum weighted final score of 70% must be used and any deviation from this threshold shall be defined and motivated in the relevant Tender Technical Evaluation Strategy.

Therefore, going forward all Eskom Holdings SOC Ltd Transmission Engineering Projects will be evaluated based on the 70% threshold.

If no test certificates or test reports have been submitted, then the applicable score for the item will be five (5) (full marks). In this instance, the successful supplier must supply all the outstanding test certificates and reports prior to manufacturing of the product.

## 5. Updated Tender Technical Evaluation Criteria

Annex A and B reflect the update that will be made to [2] and must be used until such time that Revision 5 of the document is published.

Yours sincerely



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## 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 documents have been submitted. All submissions must comply with [2], 240-122922610 Specification for Substation Tubular Conductors. The tender technical returnables are:

CRITERIA	CLAUSE in [3]	YES	NO
Is all information supplied in English?	3.1		
Is customer reference list and confirmation of local technical support provided?	3.1.1		
Has completed technical schedule B per product been submitted?	Annex A		
Has the technical deviations sheet per product been submitted and signed?	Annex B		
Have raw material certificates been submitted?	3.2.2/3.2.3		
Have tube dimensional tolerance certificates per product offered been submitted?	3.2.6		
Have electrical resistivity / conductivity test report been submitted?	3.3.1		
Have the following mechanical type test reports been submitted?			
Tensile Strength Test	3.3.2.1		
0.2% Proof Strength Test	3.3.2.2		
Elongation Test	3.3.2.3		

## Annex B – Desktop Documentation Evaluation: Qualitative Criteria

After it has been confirmed that all the tender technical returnables have been submitted, the submission will be assessed against the following criteria (shown below with their weightings) with detail as stipulated in [2], 240-122922610 Specification for Substation Tubular Conductors.

Criteria	Section	% Weight	Weighted Score
Material properties	B1	30	
Manufacturing method, shape, dimensions and dimensional tolerances	B2	30	
Electrical requirements	B3	20	
Mechanical requirements	B4	20	
<b>Total</b>		<b>100</b>	

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

NO	in [2]				
B1	3.2.2	Material properties			
B1.1	3.2.2	Type of Alloy		6061	5
				Non-compliant	0
B1.2	3.2.2	Designation		AlMg1SiCu	5
				Non-compliant	0
B1.3	3.2.2	Temper		T6	5
				Non-compliant	0
B1.4	3.2.3	Chemical composition		Non-compliant	0 for element
		Silicon (Si)	%	0.40 – 0.80	5
		Iron (Fe)	%	≤ 0.70	5
		Copper (Cu)	%	0.15 – 0.40	5
		Manganese (Mn)	%	≤ 0.15	5
		Magnesium (Mg)	%	0.80 – 1.20	5
		Chromium (Cr)	%	0.04 – 0.35	5
		Zinc (Zn)	%	≤ 0.25	5
		Titanium (Ti)	%	≤ 0.15	5
		Other	%	0.05 – 0.15	5
		Aluminium (Al)	%	95.85 – 98.56	5
Tubular conductor properties (Maximum points: 65)					Score
Tubular conductor properties (section weight: 30%)		Weighted score = (Score)*(30/65)			

NO	in [2]				
B2		Manufacturing method, shape, dimensions and dimensional tolerances			
B2.1	3.2.4	Manufacturing method		Die/mandrel	5
				Porthole/bridge	5
				Other	0
B2.2		Shape		Round	5
				Non-compliant	0
B2.3	3.2.5	Outer Diameter	mm	As specified	5
				Non-compliant	0
B2.4	3.2.5	Wall thickness	mm	As specified	5
				Non-compliant	0
B2.5	3.2.5	Length	m	As specified	5
				Non-compliant	0
B2.6	3.2.6.1	Tolerance on outer diameter (applicable OD only)	mm	OD 80mm: ±1.1	5
				OD 120mm: ±1.4	5
				OD 200mm: ±2.0	5
				OD 250mm: ±3.0	5
				Non-compliant	0
B2.7	3.2.6.2	Tolerance on wall thickness (dependent on OD and manufacturing method)	%	As specified	5
				Non-compliant	0
B2.8	3.2.6.3	Tolerance on length (dependent on OD and specified length)	mm	As specified	5
				Non-compliant	0
B2.9	3.2.6.4	Tolerance of straightness (applicable OD only)	mm/m	OD 80mm: ±1.5	5
				OD 120mm: ±1.5	5
				OD 200mm: ±2.5	5
				OD 250mm: ±2.5	5
				Non-compliant	0
Manufacturing method, shape dimensions and dimensional tolerances (Maximum points: 45)					
Manufacturing method, shape dimensions and dimensional tolerances (section weight: 30%)				Weighted score = (Score)*(30/45)	

ITEM NO	CLAUSE in [3]	DESCRIPTION	UNIT	Criteria	Score
B3		Electrical requirements			
B3.1	3.3.1.1	Electrical resistivity at 20°C (verified on test certificate/test report)	Ωm	≤ 0.037 x 10 <sup>-6</sup>	5
				Non-compliant	0
Electrical requirements (Maximum points: 5)					Score
Electrical requirements (Section weight: 20%)				Weighted score = (Score)* (20/5) —	

ITEM NO	CLAUSE in [3]	DESCRIPTION	UNIT	Criteria	Score
B4		Mechanical requirements			
B4.1	3.3.2.1	Tensile Strength Test (verified on test certificate/test report)	MPa	As specified	5
				Non-compliant	0
B4.2	3.3.2.2	0.2% Proof Stress Test (verified on test certificate/test report)	MPa	As specified	5
				Non-compliant	0
B4.3	3.3.2.3	Elongation Test (verified on test certificate/test report)	%	As specified	5
				Non-compliant	0
Mechanical requirements (maximum points: 15)				Score	
Mechanical requirements (section weight: 20%)				Weighted score = (Score)*(20/15)	