Eskom	Scope of Work	Tutuka Power Station

Title: **Tutuka Power Station Supply and Delivery of SH4 X20CrMoV11-1 Boiler tubes**

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1. Introduction

The Boiler tubing spares are installed in all units at Tutuka Power Station. This document therefore specifies the scope of work that will be an input for the open tender contract between Eskom – Tutuka power Station and service provider for SH4 X20CrMoV11-1 Boiler tubing stock items at Tutuka Power Station for five years on an “As and When “required basis.

2. Supporting Clauses

2.1 Scope

This document specifies the scope of work that will be an input to a contract between Eskom – Tutuka power Station and service provide for the supply and delivery of SH4 X20CrMoV11-1 Boiler tubing for stock items at Tutuka Power Station for five years on an “as and when “required basis.

2.1.1 Purpose

The purpose of the document is to provide technical governance in terms of a scope of work supply and delivery of SH4 X20CrMoV11-1 Boiler tubing for stock items at Tutuka Power Station. This document is intended to be the input to the NEC Part 3: Scope of Work.

2.1.2 Applicability

This document is applicable to Tutuka Power Station and services provide to supply and delivery of SH4 X20CrMoV11-1 Boiler tubing.

2.1.3 Effective date

This document will be effective from the date of its authorisation.

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] Occupational Health and Safety Act (Osh Act; Act 85 of 93)

[3] 36-681 Generation Plant Safety Regulations

[4] 32-727 SHEQ Policy

[5] 240-84513751: Material Specification and Certification Guideline for Power Generation Plant

[6] 240-87733094 Procurement of HP Pipework Material Standard in the Generation Division Rev 3

2.2.2 Informative

N/A

2.3 Definitions

Definition	Explanation
Contractor	Service provider contracted to provide a specific spares & documentation to Tutuka Power Station. Referred to as the Supplier on this document.
Employer	Tutuka Power Station
Disclosure Classification	Controlled Disclosure to external parties (either enforced by law, or discretionary).

2.4 Abbreviations

Abbreviation	Description
ISO	International Organisation for Standardisation
BOQ	Bill of Quantities
NEC	New Engineering Contracts suites
OEM	Original Equipment Manufacturer
OHS	Occupational Health & Safety
PSR	Plant Safety Regulations
SHEQ	Safety, Health, Environmental & Quality
SOW	Scope Of Work

2.5 Roles and Responsibilities

2.5.1 Contractor

a) To Supply and Delivery SH4 X20CrMoV11-1 Boiler tubing for Tutuka Power Station in accordance to specifications and technical requirements on this document.

b) Contractor shall submit all documentation as requested by the Employer during manufacturing and before delivery from manufacturer.

c) Contractor to provide schedule on deliveries of spares and lead times.

d) Material certification shall be in accordance with EN 10204 3.2 in all cases.

2.5.2 Employer

a) Compiles and submit scope of work with technical specifications and technical drawings where required.

b) Performs Quality Control of all spares on delivery at the Employer premises.

2.6 Process for Monitoring

The QCPs on incoming product and services rendered by the supplier will be done and all materials are to be signed off by the system engineer and/or maintenance supervisor/outage co-ordinator and hold/witness points should be marked to ensure the quality of the supplied goods is according to standard.

2.7 Related/Supporting Documents

N/A

3. The Works

The *works* is the Supply and Delivery of SH4 X20CrMoV11-1 Boiler tubing at Tutuka Power Station for five years on an “as and when “required basis.

3.1 Description of the works

The works is to Supply and Delivery of SH4 X20CrMoV11-1 Boiler tubing for Tutuka Power Station with technical specification as per the list. The Boiler Tubes are listed in Table 1.

Table 1: Boiler Tubes list

No	Eskom Stock Number	Material	QTY (6m lengths)
1	56212 Fin 101	TUBE, BOILER STRAIGHT: NOMINAL SIZE: 38 MM; WALL THICKNESS: MIN 4.5 MM; MATERIAL: X20CRMOV12-1/X20CRMOV11-1; LENGTH: 6 M; STRUCTURE: SMLS; ENDS: PLAIN FLAT SQ CUT; TYPE: FLOW 101; GRADE: 3; SPECIFICATION: EN10216-2; TEST CERTIFICATE TO BE SUPPLIED ACCORDING TO BS EN 10204: 2004 TYPE3.2; ALL TUBING TO BE STAMPED, EVERY 500M AND VERIFIED BY THIRD PARTY STAMP, AND COLOUR CODED ALONG THE WHOLE LENGTH OF THE TUBE END CAPS TO BE FITTED; HEAT NUMBERS MUST BE PRESENT ON EACH TUBE; COLOUR CODE BLUE; ADHERE TO ESKOM GOODS INFORMATION REQUIREMENTS AND THE SUPPLIER WILL COMPLY TO THE FOLLOWING STANDARD (SEE PROCUREMENT OF HIGH PRESSURE PIPEWORK AND BOILER TUBING MATERIAL STANDARD IN THE GENERATION DIVISION 240-87733094 LATEST REVISION); MATERIAL CERTIFICATION TO EN10204/3.2; CONDUCT A MATERIAL ANALYSIS (SPECTROMETER TEST) ON EACH BATCH OF MATERIAL AT THE SUPPLIER'S PREMISES PRIOR DELIVERY TO THE POWER STATION; THE POWER STATION AIA WILL BE PRESENT TO REVIEW AND VERIFIED THE SPECTROMETER RESULTS. MATERIAL NOT MEETING THE REQUIREMENTS WILL BE REJECTED; THE SPECTROMETER RESULTS MUST CORRESPOND WITH THE MATERIAL CERTIFICATE; ALL THE DOCUMENTATION WILL BE EVALUATED BY ENGINEERING INCLUDING THE SPECTROMETER TEST RESULTS SIGNED BY POWER STATION AIA UPON DELIVERY BEFORE ACCEPTANCE OF THE MATERIAL; NOTE MATERIAL WILL NOT BE ACCEPTED WITHOUT THE MATERIAL CERTIFICATES AND THE SPECTROMETER TEST CERTIFICATE SIGNED AND VERIFIED BY POWER STATION AIA	288
2	56211 Fin 102	TUBE, BOILER STRAIGHT: NOMINAL SIZE: 38 MM; WALL THICKNESS: MIN 5 MM; MATERIAL: X20CRMOV12-1/X20CRMOV11-1; LENGTH: 6 M; STRUCTURE: SMLS; ENDS: PLAIN FLAT SQ CUT; TYPE: FLOW 101; GRADE: 3; SPECIFICATION: EN10216-2; TEST CERTIFICATE TO BE SUPPLIED ACCORDING TO BS EN 10204: 2004 TYPE3.2; ALL TUBING TO BE STAMPED, EVERY 500M AND VERIFIED BY THIRD PARTY STAMP, AND COLOUR CODED ALONG THE WHOLE LENGTH OF THE TUBE END CAPS TO BE FITTED;	8160

		HEAT NUMBERS MUST BE PRESENT ON EACH TUBE; COLOUR CODE BLUE; ADHERE TO ESKOM GOODS INFORMATION REQUIREMENTS AND THE SUPPLIER WILL COMPLY TO THE FOLLOWING STANDARD (SEE PROCUREMENT OF HIGH PRESSURE PIPEWORK AND BOILER TUBING MATERIAL STANDARD IN THE GENERATION DIVISION 240-87733094 LATEST REVISION); MATERIAL CERTIFICATION TO EN10204/3.2; CONDUCT A MATERIAL ANALYSIS (SPECTROMETER TEST) ON EACH BATCH OF MATERIAL AT THE SUPPLIER'S PREMISES PRIOR DELIVERY TO THE POWER STATION; THE POWER STATION AIA WILL BE PRESENT TO REVIEW AND VERIFIED THE SPECTROMETER RESULTS. MATERIAL NOT MEETING THE REQUIREMENTS WILL BE REJECTED; THE SPECTROMETER RESULTS MUST CORRESPOND WITH THE MATERIAL CERTIFICATE; ALL THE DOCUMENTATION WILL BE EVALUATED BY ENGINEERING INCLUDING THE SPECTROMETER TEST RESULTS SIGNED BY POWER STATION AIA UPON DELIVERY BEFORE ACCEPTANCE OF THE MATERIAL; NOTE MATERIAL WILL NOT BE ACCEPTED WITHOUT THE MATERIAL CERTIFICATES AND THE SPECTROMETER TEST CERTIFICATE SIGNED AND VERIFIED BY POWER STATION AIA	
3	**56213** **Fin103**	TUBE, BOILER STRAIGHT: NOMINAL SIZE: 38 MM; WALL THICKNESS: **MIN 5.6 MM**; MATERIAL: X20CRM0V12-1/XCRMOV1-1; LENGTH: 6 M; STRUCTURE: SMLS; ENDS: PLAIN FLAT SQ CUT; TYPE: FLOW 103; GRADE: 3; SPECIFICATION: EN10216-2; ALL TUBING TO BE STAMPED, EVERY 500MM AND VERIFIED BY THIRD PARTY STAMP, AND COLOUR CODED ALONG THE WOLE LENGTH OF THE TUBE END CAPS TO BE FITTED, HEAT NUMBERS MUST BE PRESENT ON EAC H TUBE, COLOUR CODE BLUE, TEST CERTIFICATE TO BE SUPPLIED ACCORDING TO BS EN 10204:2004 TYPE 3.2; ADHERE TO ESKOM GOODS INFORMATION REQUIREMENTS AND THE SUPPLIER WILL COMPLY TO THE FOLLOWING STANDARD (SEE PROCUREMENT OF HIGH PRESSURE PIPEWORK AND BOILER TUBING MATERIAL STANDARD IN THE GENERATION DIVISION 240-87733094 LATEST REVISION); MATERIAL CERTIFICATION TO EN10204/3.2; CONDUCT A MATERIAL ANALYSIS (SPECTROMETER TEST) ON EACH BATCH OF MATERIAL AT THE SUPPLIER'S PREMISES PRIOR DELIVERY TO THE POWER STATION; THE POWER STATION AIA WILL BE PRESENT TO REVIEW AND VERIFIED THE SPECTROMETER RESULTS. MATERIAL NOT MEETING THE REQUIREMENTS WILL BE REJECTED; THE SPECTROMETER RESULTS MUST CORRESPOND WITH THE MATERIAL CERTIFICATE; ALL THE DOCUMENTATION WILL BE EVALUATED BY ENGINEERING INCLUDING THE SPECTROMETER TEST RESULTS SIGNED BY POWER STATION AIA UPON DELIVERY BEFORE ACCEPTANCE OF THE MATERIAL; NOTE MATERIAL WILL NOT BE ACCEPTED WITHOUT THE MATERIAL CERTIFICATES AND THE SPECTROMETER TEST CERTIFICATE SIGNED AND VERIFIED BY POWER STATION AIA	5184

4	56214 Fin 104	TUBE, BOILER STRAIGHT: NOMINAL SIZE: 38 MM; WALL THICKNESS: MIN 6.3 MM; MATERIAL: X20CRM0V12-1/XCRMOV1-1; LENGTH: 6 M; STRUCTURE: SMLS; ENDS: PLAIN FLAT SQ CUT; TYPE: FLOW 104, 105; GRADE: 3; SPECIFICATION: EN10216-2; ALL TUBING TO BE STAMPED, EVERY 500MM AND VERIFIED BY THIRD PARTY STAMP, AND COLOUR CODED ALONG THE WOLE LENGTH OF THE TUBE END CAPS TO BE FITTED, HEAT NUMBERS MUST BE PRESENT ON EAC H TUBE, COLOUR CODE BLUE, TEST CERTIFICATE TO BE SUPPLIED ACCORDING TO BS EN 10204:2004 TYPE 3.2; ADHERE TO ESKOM GOODS INFORMATION REQUIREMENTS AND THE SUPPLIER WILL COMPLY TO THE FOLLOWING STANDARD (SEE PROCUREMENT OF HIGH PRESSURE PIPEWORK AND BOILER TUBING MATERIAL STANDARD IN THE GENERATION DIVISION 240-87733094 LATEST REVISION); MATERIAL CERTIFICATION TO EN10204/3.2; CONDUCT A MATERIAL ANALYSIS (SPECTROMETER TEST) ON EACH BATCH OF MATERIAL AT THE SUPPLIER'S PREMISES PRIOR DELIVERY TO THE POWER STATION; THE POWER STATION AIA WILL BE PRESENT TO REVIEW AND VERIFIED THE SPECTROMETER RESULTS. MATERIAL NOT MEETING THE REQUIREMENTS WILL BE REJECTED; THE SPECTROMETER RESULTS MUST CORRESPOND WITH THE MATERIAL CERTIFICATE; ALL THE DOCUMENTATION WILL BE EVALUATED BY ENGINEERING INCLUDING THE SPECTROMETER TEST RESULTS SIGNED BY POWER STATION AIA UPON DELIVERY BEFORE ACCEPTANCE OF THE MATERIAL; NOTE MATERIAL WILL NOT BE ACCEPTED WITHOUT THE MATERIAL CERTIFICATES AND THE SPECTROMETER TEST CERTIFICATE SIGNED AND VERIFIED BY POWER STATION AIA	8640

3.2 Documentation

The following are the *Supplier*'s requirements:

a) As per tender returnable *and*

b) The *Supplier* will ensure proper handling of the spares (from procurement of equipment, storage and transportation).

c) The *Supplier* shall supply preservation and storage procedure/s.

3.3 Acceptance of Spares

3.3.1 Spares Identification

Each spare is identifiable by means of an Eskom SAP Material number (as is used in the Power Station), part description, OEM and/or OEM part number.

3.3.2 Obsolescence

Not applicable

3.3.3 Packaging

I. All supplied spares shall be packaged in such a manner that they will be transported and stored without damage. This includes preventing damage due to moisture ingress, dust and foreign objects. The contractor's procedure shall be used during transportation and storage.

II. Delivery packaging shall include as a minimum the following details:

a) Purchase Order Number

b) Part Description

c) Part number

d) Eskom SAP Material number

e) Drawing number, where applicable

f) Physical address of Tutuka Power Station and the *Supplier*

g) Contact details of the *Supplier*

h) Delivery note number

i) Certificates according to EN 10204 including all detailed results for destructive, mechanical and non-destructive testing

3.3.4 Acceptance of spares

a) No incorrect, damaged or faulty spares will be accepted.

b) All the spares will be inspected and accepted by Engineering and/or OEM Technician before payment could be processed.

c) Data capturing forms information must be supplied and must meet an acceptable level.

d) The Supplier must ensure that the supply and preservation of spares is done in compliance with preservation specifications and good engineering practice.

e) The Supplier to advise the Purchasers warehouse/stores on effective storage of spares and preservation.

f) Upon delivery of the goods at the Eskom stores, an inspection of goods and the receipt must be conducted by the End-user and the Supplier with 48 hours of delivery.

g) The Supplier must supply the Purchaser with warrantee certificates, test certificates and the complete data book of spares at the time of delivery which shall be uploaded into the SAP system Goods Receipt document as per Work Instruction, Receive Materials - 240-54820279.

h) The Supplier must deliver the goods as per the agreed to delivery times.

i) The Supplier to provide EN 10204 3.2 Material certificates.

3.3.5 Information to be provided to the Supplier.

As per the tender returbable's

3.4 Spares Management

The Purchaser may request the Supplier to provide accurate description of all spare parts included in the spares list.

3.5 Equipment Required

The Supplier and his sub-suppliers must possess the tools and equipment to satisfy the requirements for the scope.

3.6 Consumables Required

The Supplier must supply his own consumables to satisfy the requirements for scope.

3.7 Workshop

The Supplier and his sub-suppliers are required to have suitable premises with the required tools and equipment to be able to conduct the scope of work. Eskom reserves the right to inspect the workshop premises to make sure that it is kept up to standard.

3.8 Standards, Specification and Procedures

All material and equipment shall be new and of the standard and quality specified. The design and manufacture of equipment and the complete installation shall be carried out and tested in accordance with the latest issue or amendments of the following Standards and Regulations, as applicable:

Table 2: Relevant Standards and Codes

Document Number	Title
Eskom Standards	
4. 240-28463367	SHE Organization
5. 240-30008949	Safety, Health and Environmental Specifications for Contractors
6. 240-49230111	Hazard and Operability Analysis (HAZOP) Guideline (Rev 1)
7. 240-55944466	Supplier Contract Quality Requirement's Specification
8. 32-421	Cardinal Rules
9. 36-681	Generation Plant Safety Regulations
10. OPS 0158	AKZ Power Plant Classification System
11. QM 58	Supplier Contract Quality Requirements
General Standards	
Document Number	**Title**
12. ISO 9001	Quality Management Systems.
13. OSH Act 85 of 1993	Occupational Health and Safety Act and Regulations Act 85 of 1993.

13.1 Planned KEY PERFORMANCE INDICATORS (KPI)

a) The KPI's will be used to determine the successful performance of the scope. The Supplier is required to perform in order to meet these targets. The KPI's are to be agreed to between parties and are subject to change on an annual basis, based on the need.

- First committed delivery date
- Quality
- Compliance to the agreed Scope of Work, hold points and Quality Control Plans

14. Acceptance

This document has been seen and accepted by:

Name	Designation
RF Mametsa	Materials Manager
Sello Kgantsi	Boiler Maintenance Manager
P Chauke	Boiler Engineering Senior Engineer
L Masote	Engineering Middle Manager
T.E Maremene	Middle Manager Maintenance
L. Jacobs	Snr MRP
R Rijsbergen	Outage Co-ordinator

15. Revisions

Date	Rev.	Compiler	Remarks
May 2025	1	I Uyangaphi	First revision

16. Development Team

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

- Lorness Jacobs
- Themba Mahlangu

17. Acknowledgements

- Riaan Rijsbergen
- Themba Mahlangu
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