Eskom	Instruction	Hendrina Power Station

Title:	**Scope of Work for Supply and Delivery of Ash Plant Piping Spares**	Document Number:	**HSTTPMM056**
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TABLES

1. INTRODUCTION

This document defines the contract works to be executed by the successful bidder, of which is evaluated and selected using the Tender Technical Evaluation process. The Scope of Work (SOW) for this contract entails the supply and delivery of piping spares for the ash handling plant on an as and when required basis.

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope comprises of, but is not limited to, the supply and delivery of all required ash handling plant piping spares such as pipes, flanges, couplings, etc. All spares supplied must be accompanied by quality control documentation.

2.1.1 Purpose

The purpose of this scope of work is to outline all the spare materials required, the contract work to be performed by the contractor, and the responsibilities of all parties involved. The contract scope of work serves to support the tender technical evaluation process.

2.1.2 Applicability

This document is applicable to Hendrina Power Station.

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] 240-168966153 Generation Tender Technical Evaluation Procedure

[2] HSTTPMM055 Tender Technical Evaluation Strategy for Supply & Delivery of Piping Spares

[3] QM-58 Supplier Contract Quality Requirements Specifications

[4] SANS 719 Electric Welded Low Carbon Steel Pipes for Aqueous Fluids (Large Bore)

[5] 240-123801640 Standard for Low Pressure Pipelines as per scope

[6] 240-105691858 Materials Management Safe Work Procedures Transportation Requirements for Material Handling

2.2.2 Informative

[7] ISO 9001 Quality Management Systems

[8] 32-1-34 Eskom Procurement Policy

2.3 DEFINITIONS

Term	Definition
Contractor	Service provider contracted for supplying a specific service to Eskom Hendrina Power Station. Used interchangeably with the term *Supplier.*
Employer	The organization (Eskom) to which the supplier will be contracted for this tender and contracts that may result therefrom

Term	Definition
Employer's Premises	Hendrina Power Station
Industrial Storage Facility	Physical space suitable for the storage of the items specified in the scope of work
Piping	Components such as pipes, fittings, flanges, valves, bolts, gaskets, bellows, etc.
Returnable	Document submitted by tenderer for evaluation in support of tender bid
Spares	Parts that can be used for replacement

2.3.1 Classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
µ	Micro
BS	British Standard
CI	Cast Iron
CS	Carbon Steel
DI	Ductile Iron
FPT	Female Pipe Thread
GI	Galvanized Iron
kPa	Kilopascal
LG	Length
m	Metre
mm	Millimetre
MPT	Male Pipe Thread
OD	Outer Diameter
OEM	Original Equipment Manufacturer
ID	Inner Diameter
IN	Inch
ISO	International Organization of Standardization
QCP/QIP	Quality Control Plan / Quality Inspection Plan
PS	Power Station
SABS	South African Bureau of Standards
SCRWD	Screwed
SOW	Scope of Work
SS	Stainless Steel
STL	Steel
TET	Technical Evaluation Team
THD	Threaded

2.5 ROLES AND RESPONSIBILITIES

System Engineer – Responsible for defining the technical specifications and scope to be executed by the contractor, as well as ensuring that sound engineering practice is followed.

Contract Manager – Responsible for the procurement document(s) required to establish a contract with the contractor deemed capable of executing the scope.

Contractor – Responsible for providing all the services required for the execution of the full scope of work.

2.6 PROCESS FOR MONITORING

N/A

2.7 RELATED/SUPPORTING DOCUMENTS

N/A

3. SCOPE OF WORK

Subsequent to the issuing of a task order by the *Employer*'s representative, the contractor must:

- Supply required piping spares on an "as and when required" basis for a maximum period of sixty (60) months from the effective date,
- Transport the spares to the *Employer*'s premises,
- Always keep contingency spares in storage in case of emergencies throughout the duration of the contract. In the case of pipes, at least 300 m of pipes are to be kept available at the *contractor's* storage facility at all times.
- Supply all necessary material and test certification/documentation for the spares,
- Provide confirmation of technical specification on delivery of spares.

In case of emergencies, the *contractor* MUST deliver the required spares to the *employer's* premises WITHIN 24 hours.

3.1 EFFECTIVE DATE

This document will be effective from the date that the contract is authorized.

3.2 WORKS

A list of the piping spares to be supplied and delivered by the contractor is shown on *table 1* below.

Note: All pipe sizes are specified in nominal size (i.e., Nominal Bore, NB) unless otherwise stated.

Table 1: Spares List

Material No.	Short Description	Long Description
0000651	UNION, PIPE: 20 MM; FBSP; GI	UNION, PIPE: SIZE: 20 MM; CONNECTION: FBSP; MATERIAL: GALVANIZED IRON; SPECIFICATION: BS 1387; SABS 62
0000652	UNION, PIPE: 25 MM; FPT; STL GALV; SABS 763	UNION, PIPE: SIZE: 25 MM; CONNECTION: FPT; MATERIAL: GALVANIZED STEEL; SPECIFICATION: SABS 763

0000667	NIPPLE, PIPE: BARREL; ID 20 MM; LG 54 MM; THD	NIPPLE, PIPE: TYPE: BARREL; INSIDE DIAMETER: 20 MM; LENGTH: 54 MM; CONNECTION: THD; MATERIAL: STL GALV; RATING: 4830 KPA; SPECIFICATION: SABS 763; 62-1971 TABLE 9 FIG 3C
0038973	PIPE SP: VENTURI; CI; ASH EJECTOR	PIPE, SPECIAL PURPOSE: TYPE: VENTURI; DIMENSIONS: ID 152.4 MM X OD 203.2 MM X LG 1.397 M; MATERIAL: CAST IRON; APPLICATION: ASH EJECTOR; DRAWING NO: 3679 REV 1; REFERENCE NO: R36067, UNK; NI-HARD TAIL PIPE FOR 6 IN X 8 IN SPARGO DUST HOPPER FEEDER EJECTOR ON HYDROVAC, FLANGE OD 457MM, BORE DIAMETER: 200MM, OD AT VICTAULIC CONNECTION: 231.77MM, EIGHT HOLES ON BOLT ON FLANGE TO SUIT 22MM BOLTS, BIN NO: 950-13 SUPERSEDED BY BIN: 950.058
0056022	PIPE MTLC: ID 312 X OD 324 MM; STL; 6 MM	PIPE, METALLIC: NOMINAL PIPE SIZE DESIGNATION: ID 312 X OD 324 MM; MATERIAL: CARBON STEEL; LENGTH: 12.3 M; WALL THICKNESS: 6 MM; CONSTRUCTION: LONGITUDINALLY WELDED; END TYPE: PLAIN; GRADE: B; SPECIFICATION: SABS 719; TO SUIT JOHNSON COUPLING, DO NOT SUPPLY COUPLINGS
0729638	PIPE MTLC: ID 308 X OD 314 MM; STL; 8 MM	PIPE, METALLIC: NOMINAL PIPE SIZE DESIGNATION: ID 308 X OD 324 MM; MATERIAL: CARBON STEEL; LENGTH: 12.3 M; WALL THICKNESS: 8 MM; CONSTRUCTION: LONGITUDINALLY WELDED; END TYPE: PLAIN; GRADE: B; SPECIFICATION: SABS 719; TO SUITE JOHNSON COUPLINGS
0057174	REDUCER, PIPE: CONCENTRIC, 25 X 20 MM, FPT	REDUCER, PIPE: TYPE: CONCENTRIC; NOMINAL SIZE: 25 X 20 MM; CONNECTION: FPT; MATERIAL: STL; SPECIFICATION: BS S1740-1965 AMENDMENT 1 TABLE 13
0057274	PLUG, PIPE: 25 MM, SQUARE HD, MPT, STEEL	PLUG, PIPE: SIZE: 25 MM; HEAD: SQ; CONNECTION: NPT; MATERIAL: STL; SPECIFICATION: BS 1740 AMENDMENT 1 TABLE 25; FOR STEAM APPLICATION
0057348	NIPPLE, PIPE: SEAMLESS SHORT, 25 MM	NIPPLE, PIPE: TYPE: BARREL; INSIDE DIAMETER: 25 MM; LENGTH: 65 MM; CONNECTION: THD; MATERIAL: STL; GRADE: 4.6; RATING: 4830 KPA; SPECIFICATION: SABS 62-1971 TABLE 9 FIG 3C; FOR STEAM BARREL
0239263	COUPLING PIPE: 324 MM; QUICKFIT; DI; 16 BAR	COUPLING, PIPE: SIZE: 324 MM; CONNECTION: QUICKFIT; MATERIAL: DI; RATING: 16 BAR; 300NB DOUBLE, 204MM WD, ADAPTOR CENTRE SLEEVE, TO BE PAINTED WITH RED OXIDE, BOLTS METRIC, M12 X 280MM, NUTS M12, TO BE ELECTRO GALVANIZED
0175885	FLANGE PIPE: 100 MM; SPEC BS 10 TABLE E	FLANGE, PIPE: TYPE: PLATE BOSSED FORGED NON-SCREWED; PIPE SIZE: 100 MM; SPECIFICATION: BS 10 TABLE E; DRLLED, BSP THREADED, STEAM
0039205	NOZZLE: ASH CRUSHER; THD; SS	NOZZLE: TYPE: ASH CRUSHER; CONNECTION: THD; MATERIAL: SS; SUPPL P/N: 950/015; FOR USE WITH 1 IN BSP; HOLE SIZE 9.525 MM
0656147	CASCADE CLAMP 300NB	CLAMP: TYPE: CASCADE; DIMENSIONS: WD 8 MM; MATERIAL: MILD STEEL; CLAMPING RANGE: 322 MM; ID 322 MM; REQUIRED FOR ASH PIPE LEAKS; WILL CONTROL ENVIRONMENTAL SPILLAGE ISSUE
0631794	STRAINER: DUP; 16 IN; ASTM A106 GR B;304 UM	STRAINER: TYPE: DUPLEX; DIMENSIONS: 16 IN; MATERIAL: ASTM A106 GR B; FILTERING RETENTION: 304 µM; MESH: 40 MM; 14 INCH CAST STEEL; THE

		CONTRACTOR MUST COME TO SITE AND SUPPLY A SIMILAR STRAINER CURRENTLY INSTALLED; IT MUST FIT IN THE EXISTING SPACE; 015/4758
0628121	FEEDER: EJECTOR; FLY ASH	FEEDER: TYPE: EJECTOR; APPLICATION: FLY ASH; WEIR FEEDER (HYDROVAC) 12 X 9.5 MM; NOZZLES
0707338	STRAINER: BASKET; DIA 255 X LG 250 MM; 70	STRAINER: TYPE: BASKET; DIMENSIONS: DIA 255 X LG 250 MM; MATERIAL: STAINLESS STEEL 316; FILTERING RETENTION: 200 µM; MESH: 70MM; MICRON: 0.25 UM; THE STRAINER MUST BE ABLE TO STOP PARTICLES OF 0.3MM TO PASS THROUGH FROM OUTSIDE, THE BOTTOM IS A SOLID STEEL PLATE, THE TOP HAS 4 OFF M16 BOLT HOLES WITH PCD 175MM AND BOLT SQUARE OF 125MM AND AN INTERNAL OPENNING WITH 100MM DIAMETER, THE STRAINER IS NOT USING A WIRE MESH, BUT STEEL RINGS PRESSED TOGETHER (SITE CLARIFICATION RECOMMENDED FOR EVERY QUOTE), THE WATER FLOWS THROUGH THE STRAINER FROM BORE HOLE MUST NOT BE RESTRICTED MORE THAN 5%, BEFORE DELIVERY THE ENGINEER MUST HAVE THE OPPORTUNITY TO INSPECT THE STRAINER AT THE SUPPLIERS PREMISES
0557270	COUPLING: FLANGE; 300 MM; MILD STEEL; FLAT FACE	COUPLING: TYPE: FLANGE; SIZE: 300 MM; MATERIAL: MILD STEEL; SPECIFICATION: SABS 1123; CONNECTION 1: FACE; CONNECTION 2 SIZE: 324 MM; THICKNESS: 20 MM; FLAT FACE FLANGED DRILLED ACCORDING TO TABLE D; MANUFACTURED ACCORDING TO SANS 1123
0632511	STRAINER: BASKET; DIA 280 X LG 320 MM;200	STRAINER: TYPE: BASKET; DIMENSIONS: DIA 280 X LG 320 MM; MATERIAL: SS GR 304; FILTERING RETENTION: 200 UM; MESH: 0.2 MM; 8 HOLES; M17 HOLE; ID 152MM; HOLE TO HOLE 235MM
0175886	COUPLING SHFT FLEX: TAPERLOCK;4040	COUPLING, SHAFT FLEXIBLE: TYPE: TAPERLOCK; TAPER LOCK SERIES: 4040; SUPPL P/N: H160; 2 X BUSHES; NO BORE; 1 NATURAL TYRE; TYPE H FLANGES; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).

3.3 MATERIAL CERTIFICATES AND GUARANTEES

The following documentation must be supplied to the *Employer*'s representative before any item is accepted on site:

- Material Certificate for all metallic products.
- Applicable guarantee/warranty, where applicable.

3.4 GENERAL REQUIREMENTS

Other piping related spares not listed in the spares list can and will be required on an as and when basis subject to approval by both the *employer* and the *contractor*.

3.4.1 Storage

The *contractor* must have a suitably sized storage facility where a minimum amount of all the spares listed in section 3.2 are to be kept for when the *Employer* requires them urgently. It is the responsibility of the *contractor* to ensure the safekeeping of spares, and that the quality of spares is not negatively impacted whilst in storage.

The spares listed in table 1 must always be available and ready for delivery at the *Employer's* premises at request.

3.4.2 Handling And Transportation

The *contractor* is expected to practice safe handling techniques during the onloading, offloading, and throughout the transportation of the spare listed in section 3.2. The *Employer's* representative will not accept any damaged items upon delivery.

Should the delivered spares be found to be defective or non-functional during or after delivery, the contractor remains responsible for the handling and transportation in the replacement process of the item(s).

4. DEVELOPMENT TEAM

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

Banele Sibisi

5. ACKNOWLEDGEMENTS

N/A