Eskom	Specification	Medupi Power Station

Title: **Medupi Power Station SOW for the DHP valves supply contract.**

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1. Introduction

Medupi Power Station's Dust handling plant utilises a dense phase pneumatic conveying system to remove the fly ash from the Boiler PJFFP hoppers at a rate of 135 t/h or 170t/h at backlog recovery rates.

This system uses various valves to either supply air or water or to convey fly ash.

Due to the erosive nature of fly ash, these valves will require replacement over time. The purpose of this contract is to be able to quickly and effectively purchase spares as and when required.

2. Supporting Clauses

2.1 Scope

To supply various types of valves on the Pneumatic conveying system at Medupi power station on an as and when required basis.

2.1.1 Purpose

The purpose of this document is to formulate the valve spare supply contract requirement.

2.1.2 Applicability

This document shall apply to the Medupi Power Station materials management department.

2.1.3 Effective date

The effective date of this document is the date of 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) **240-94418196 Medupi Power Station Dust Handling Plant and Conditioning Plant Spares Strategy**

2.2.2 Informative

2.3 Definitions

Definition	Explanation
Employer	Eskom Medupi Power Station
Supplier	Service provider contracted for supplying the DHP Valve spares as per the scope.

2.4 Abbreviations

Abbreviation	Explanation
BOM	Bill of material
DHP	Dust Handling Plant
PJFFP	Pulse Jet Fabric Filter Plant

2.5 Roles and Responsibilities

Maintenance Coal and Ash is responsible for ensuring that the Service is provided as per the SOW.

Maintenance Contracts Management will be managing the contract.

Engineering will be involved in documentation review and will be part of the quality control.

Materials Management will be responsible for handling of spares related to this contract

Commercial will be part of the contract placement process and communication with the contractor until contract award.

2.6 Process for Monitoring

N/A

2.7 Related/Supporting Documents

N/A

3. DHP Spares Scope of Work

The scope of this contract shall include the supply of various types of valves used on the DHP system at Medupi Power Station.

It is envisioned that the duration of the contract will be for 5 years.

3.1 Spare supply

1. Table 1 lists all of the spares that *Employer* envisages could be required during the duration of the contract.
2. The spares will be kept at the Medupi stores and will also be invoiced upon delivery.
3. Table 1 also indicates the estimated quantities the *Employer* anticipates will be required for the duration of this contract. This value will be used with other estimates to determine the overall contract value. It should be noted that this is just an estimate and it does not mean that the *Employer* will definitely consume the spares in the duration of the contract. These quantities are therefore not fixed and the *Contractor* will only supply spares when instructed by a task order, from the *Employer*, to do so.
4. Spares that are for some reason not included in the list will be supplied on a cost plus profit basis as indicated in Table 2.
5. The spares and components will be supplied to the “Goods Receiving” section of the Medupi main store where it will be received by the material management section. The spares will be delivered with all of the required data books, certificates and preservation requirements, where required.
6. Spares that are not catalogued can only be delivered with an approved ‘Data Capture Form’ (DCF) for that specific spare or assembly. The *Contractor* will therefore be required to submit the completed DCF to the *Employer*’s Maintenance Technician and System Engineer for approval before delivery.
7. Only once the spares have passed the Quality control checks and are booked into the system can payment be affected.
8. The Spares has to be the same in all respects when compared to the original equipment, supplied to Eskom by CBZ under the construction contract. This includes all aspects such as design, materials and material specifications, manufacturing, including manufacturing processes and acceptance testing. Where spares offered deviate from the original in any respect, it should be indicated to the *Employer*.
9. Where equipment or spares, including the whole assembly, have been upgraded/modified, the *Contractor* should indicate this to the *Employer* and indicate the detailed compatibility of the replacement part compared to the existing component.
10. Where equipment or spares are obsolete or will become obsolete in the next 5 years, the *Contractor* is to indicate this to the *Employer* and also indicate viable alternatives.
11. It is the *Contractor*’s responsibility to ensure that correct spares are delivered. If the incorrect spares are delivered, the spares will have to be replaced with the correct spares at the *Contractor* cost. This includes transport and delivery as well.
12. The following packaging requirements should be adhered to:

a) The Goods are to be packaged in such a manner that it can be transported and stored for an extended period of time without resulting in damage to the goods.
b) This includes damage due to moisture ingress, corrosion, vibration from the power station etc.

c) Where lifting gear is utilised to move the goods, the packaging should allow the lifting operation and ensure that the goods are not damaged in any way during the process.
d) It will also not be necessary to open packaging for any lifting or transport operation.
e) Where eye bolts are fitted to move the goods, these eye bolts should be fitted such a way that they can be easily removed and replaced with the Employers's eye bolts, ensuring that the packaging stays intact.
f) The different spares types are to be packaged separately in such a way that each type can be stored separately.
g) Packaging and labelling of spares should ensure that the spare can be identified without opening the packaging.
h) Where possible the packaging should ensure that parts can be positively identified through the packaging. Where this is not possible the packaging should allow opening and closing of the packaging and still maintain the packaging integrity afterwards.
i) Delivery packaging to have the following detail on it as a minimum (removable adhesive sticker if possible):
    - Order number,
    - A short description of component
    - The stock number
    - Manufacturing date, where possible

13. The documentation for preservation requirements should be delivered with the component, if applicable.

3.2 Valve spares Bill of Material

Table 1: Bill of materials

Item no.	Spare Description	Material Number	Exp. Qty.	Delivery Time (weeks)	Price per Item	Total Price Excl. VAT	Total Price Incl. VAT
10	VALVE, BALL: VALVE SIZE: 1/2 IN- BSPT IN; DESIGN RATING: 100 KPA; TEMPERATURE RATING: 200 DEG C; CONNECTION: BSP; BODY MATERIAL: SS; FACE TO FACE LENGTH: 57 MM; OPERATED: MANUAL; APPLICATION: ISOLATING	0614346	28				
20	VALVE, BALL: VALVE SIZE: NB 25 BSPT; DESIGN RATING: 100 KPA; TEMPERATURE RATING: 200 DEG C; CONNECTION: BSP; BODY MATERIAL: SS; FACE TO FACE LENGTH: 71 MM; OPERATED: MANUAL; APPLICATION: ISOLATING	0614347	80				
30	VALVE, BALL: VALVE SIZE: NB 50 BSPT; DESIGN RATING: 100 KPA; TEMPERATURE RATING: 200 DEG C; CONNECTION: BSP; BODY MATERIAL: SS; FACE TO FACE LENGTH: 100 MM; OPERATED: MANUAL; APPLICATION: ISOLATING	0614348	20				
40	VALVE, BUTTERFLY: TYPE: DOUBLE ACTING; VALVE SIZE: NB 100; DESIGN RATING: 900 KPA; TEMPERATURE RATING: MAX 40 DEG C; CONNECTION: FLANGE BS 4504 PN 10; BODY MATERIAL: CI GRAY GR 260 BSP 1420; FACE TO FACE LENGTH: 52 MM; OPERATED: ACTUATOR; SPECIFICATION: BUTTERFLY VALVE TO BS5155; SPECIAL FEATURES: MAINTENANCE FREE WITH SELF-LUBRICATING BEARINGS, SQUARE DRIVE SHAFTS FOR POSSIBLE DIRECT MOUNTING OF ACTUATORS; ACTUATED WITH AIR TORQUE MODEL	0614303	40				

Item no.	Spare Description	Material Number	Exp. Qty.	Delivery Time (weeks)	Price per Item	Total Price Excl. VAT	Total Price Incl. VAT
	AT201U D B; EN ISO 5211: F05+FO7-N-14DS; OPERATING PRESS MAX 8 BAR; ANCILLARY ATTACH: AA1; PRESSURE CONN: G1/8'' SERIAL NUMBER 12293799; ACTUATOR PNEUMATIC DIMENSIONS: 210.5MM; PRESSURE RATING: MAX 8BAR; TRAVEL 90DEG; OPERATED: PNEUMATIC; DUBBEL ACTING; MATERIAL: AL ALLOY EXTRUDED; ACTUATOR SERIAL NO: 12028865; 90 DEG ROTATION WITH STROKE ADJUSTMENT +/- 4 DEG; ; PRESSURE CONN: G1/8; ACTUATOR WITH FITTED WITH: LIMIT SWITCH BOX: POTENTIAL: 24VDC; CURRENT: 10A; ACTION: (2) SPDT; ACTUATOR: MECHANICAL LEVER; CONTACT ARRANGEMENT: 1P; ENCLOSURE: IP68; REFERENCE NO: TVA-M2WYNCM						
50	VALVE, BUTTERFLY: TYPE: DOUBLE ACTING; VALVE SIZE: NB 50; DESIGN RATING: 900 KPA; TEMPERATURE RATING: -15 TO 105 DEG C; CONNECTION: FLANGE BS 4504 PN 10; BODY MATERIAL: CI GRAY GR 260 BSP 1420; FACE TO FACE LENGTH: 43 MM; OPERATED: ACTUATOR PNEUMATIC; SPECIAL FEATURES: MAINTENANCE FREE WITH SELF-LUBRICATING BEARINGS, SQUARE DRIVE SHAFTS FOR POSSIBLE DIRECT MOUNTING OF ACTUATORS	0614305	30				
60	VALVE, BUTTERFLY: TYPE: DOUBLE ACTING; VALVE SIZE: NB 80 MM; DESIGN RATING: 900 KPA; TEMPERATURE RATING: MAX 40 DEG C; CONNECTION: FLANGE BS 4504 PN 10; BODY MATERIAL: CI GRAY GR 260 BSP 1420; FACE TO FACE LENGTH: 46 MM; OPERATED: ACTUATOR; SPECIAL FEATURES: MAINTENANCE FREE WITH SELF-LUBRICATING BEARINGS, SQUARE DRIVE	0614304	50				

Item no.	Spare Description	Material Number	Exp. Qty.	Delivery Time (weeks)	Price per Item	Total Price Excl. VAT	Total Price Incl. VAT
	SHAFTS FOR POSSIBLE DIRECT MOUNTING OF ACTUATORS; REFERENCE NO: TVA-M2WYNCM; ACTUATOR PNEUMATIC: DIMENSIONS: 210.5MM; PRESSURE RATING: MAX 8BAR; TRAVEL: 90 DEG; OPERATED: PNEUMATIC; DUBBEL ACTING: MATERIAL: AL ALLOY EXTRUDED; ACTUATOR SERIAL NO: 12028865; 90 DEG ROTATIONAL WITH STROKE ADJUSTMENT+/- 4DEG; AIR TORQUE MODEL AT201U D B; PRESSURE CONN; G1/8" ACTUATOR FITTED WITH: LIMIT SWITCH BOX: POTENTIAL: 24VDC; CURRENT: 10A; ACTION (2) SPDT; ACTUATOR ; MECHANICAL LEVER; CONTACT ARRANGEMENT: IP68 .						
70	VALVE, BUTTERFLY: TYPE: PINLESS DISC; VALVE SIZE: NB 100; DESIGN RATING: 900 KPA; TEMPERATURE RATING: -15 TO 105 DEG C; CONNECTION: WAFER; BODY MATERIAL: CI ASTM A126 CL B; FACE TO FACE LENGTH: 52 MM; OPERATED: MANUALLY; SPECIAL FEATURES: MAINTENANCE FREE WITH SELF-LUBRICATING BEARINGS, SQUARE DRIVE SHAFTS FOR POSSIBLE DIRECT MOUNTING OF ACTUATORS; FLANGE DIMENSIONS AND DRILLING IN ACCORDANCE WITH ISO STANDARD 5211/1	0614306	5				
80	VALVE, BUTTERFLY: TYPE: WAFER TO BS5155; VALVE SIZE: NB 150; DESIGN RATING: 900 KPA; TEMPERATURE RATING: MAX 40 DEG C; CONNECTION: FLANGE BS 4504 PN 10, WAFER; BODY MATERIAL: CI GRAY; FACE TO FACE LENGTH: 46 ML; OPERATED: MANUAL, HAND; GRADE: 260-BSP 1420; SPECIAL FEATURES: MAINTENANCE FREE WITH SELF-LUBRICATING	0629347	3				

Item no.	Spare Description	Material Number	Exp. Qty.	Delivery Time (weeks)	Price per Item	Total Price Excl. VAT	Total Price Incl. VAT
	BEARINGS, SQUARE DRIVE SHAFTS FOR POSSIBLE DIRECT MOUNTING OF ACTUATORS						
90	VALVE, BUTTERFLY: TYPE: WAFER TO BS5155; VALVE SIZE: NB 200; DESIGN RATING: 900 KPA; TEMPERATURE RATING: MAX 40 DEG C; CONNECTION: FLANGE BS 4504 PN 10, WAFER; BODY MATERIAL: CI GRAY; FACE TO FACE LENGTH: 46 ML; OPERATED: MANUAL, HAND; GRADE: 260-BSP 1420; SPECIAL FEATURES: MAINTENANCE FREE WITH SELF-LUBRICATING BEARINGS, SQUARE DRIVE SHAFTS FOR POSSIBLE DIRECT MOUNTING OF ACTUATORS	0629349	6				
100	VALVE, BUTTERFLY: TYPE: WAFER TO BS5155; VALVE SIZE: NB 80; DESIGN RATING: 900 KPA; TEMPERATURE RATING: MAX 40 DEG C; CONNECTION: FLANGE BS 4504 PN 10, WAFER; BODY MATERIAL: CI GRAY; FACE TO FACE LENGTH: 46 ML; OPERATED: MANUAL, HAND; GRADE: 260-BSP 1420; SPECIAL FEATURES: MAINTENANCE FREE WITH SELF-LUBRICATING BEARINGS, SQUARE DRIVE SHAFTS FOR POSSIBLE DIRECT MOUNTING OF ACTUATORS	0629348	5				
110	VALVE, CHECK: TYPE: 207V FLEXIBLE MEMBRANE; VALVE SIZE: 15 MM; DESIGN RATING: 16 BAR; TEMPERATURE RATING: -10 TO 100 DEG C; CONNECTION: FEMALE BSP; BODY MATERIAL: CI; FACE TO FACE LENGTH: 86 MM; OPERATED: ELASTIC MEMBRANE; SOFTGOODS: MEMBRANE FKM; O RING FKM; SOCLA 207V; CLOSING SYSTEM: FLEXIBLE MEMBRANE (THICK ELASTOMER DISC) HELD IN ITS CENTRE ON A METAL SEAT CONSISTING OF A RIGID; SELF-CLOSING	0623764	200				

Item no.	Spare Description	Material Number	Exp. Qty.	Delivery Time (weeks)	Price per Item	Total Price Excl. VAT	Total Price Incl. VAT
	MEMBRANE; OPENING REGULATED BY THE ELASTICITY AND THE THICKNESS OF THE MEMBRANE; REFERENCE NO: 207V 149B14076; PART NO: 002.0080						
120	VALVE, CHECK: TYPE: 207V VESSEL; VALVE SIZE: 50 MM; DESIGN RATING: 16 BAR; TEMPERATURE RATING: -10 TO 100 DEG C; CONNECTION: FEMALE BSP; BODY MATERIAL: CI; FACE TO FACE LENGTH: 172 MM; OPERATED: ELASTIC DIAPHRAGM; SOFTGOODS: MEMBRANE FKM; O RING FKM; APPLICATION: PJFFP ASH CONVEYING; SOCLA 207V; CLOSING SYSTEM: FLEXIBLE MEMBRANE (THICK ELASTOMER DISC) HELD IN ITS CENTRE ON A METAL SEAT CONSISTING OF A RIGID; SELF-CLOSING MEMBRANE; OPENING REGULATED BY THE ELASTICITY AND THE THICKNESS OF THE MEMBRANE; PART NO: 149b1826	0623765	600				
130	VALVE, CHECK: TYPE: SELF CLOSING MEMBRANE; VALVE SIZE: NB 80; DESIGN RATING: 16 BAR; TEMPERATURE RATING: MIN 10; MAX 100 DEG C; CONNECTION: FEMALE (BSP); BODY MATERIAL: CAST IRON AND PROXY; FACE TO FACE LENGTH: 234 MM; OPERATED: CLOSING SYSTEM: FLEXIBLE MEMBRANE (THICK ELASTOMER DISC) HELD IN ITS CENTRE ON A METAL SEAT CONSISTING OF A GRID; SOFTGOODS: SEAL: FKM/VITON; APPLICATION: PNEUMATIC CONVEYING AIR SUPPLY VALVE; SPECIFICATION: SOCLA TYPE 207V; PART NO: 149B 15296	0688402	50				

Item no.	Spare Description	Material Number	Exp. Qty.	Delivery Time (weeks)	Price per Item	Total Price Excl. VAT	Total Price Incl. VAT
140	VALVE, CHECK: TYPE: NON RETURN WAFER ,DUEL PLATE; VALVE SIZE: NB 100; DESIGN RATING: 16 BAR; TEMPERATURE RATING: -10 TO 100 DEG C; CONNECTION: FLANGE BS 4504, PN 10 WAFER; BODY MATERIAL: DI; FACE TO FACE LENGTH: 64 MM; OPERATED: SPRING LOADED; SOFTGOODS: SEAL EPDM	0629433	30				
150	VALVE, DIAPHRAGM: TYPE: JET PULSE; VALVE SIZE: 40 MM; DESIGN RATING: 860 KPA; TEMPERATURE RATING: -60 DEG C; CONNECTION: THD; BODY MATERIAL: AL DIE CAST; DIAPHRAGM MATERIAL: VITON; FACE TO FACE LENGTH: 137.9 MM; OPERATED: AIR; APPLICATION: WATER TREATMENT PLANT; SPECIFICATION: K4522; GRADE: 305-SS; HIGH PERFORMANCE VALVES; SPRING: SS 304; DIAPHRAGM SEAT: PA-66; SEALS: NITRILE/VITON COATED MILD STEEL; PART NO: RCA45T	0618973	140				
160	VALVE, GATE: VALVE SIZE: NB 300; TYPE: KNIFE GATE; CONNECTION: PN 10, WAFER; FACE TO FACE LENGTH: 70 MM; BODY MATERIAL: CI GR GG25; OPERATED: HANDWHEEL; SOFTGOODS: SEAT EPDM; TEMPERATURE RATING: 120 DEG C; DESIGN RATING: 6 BAR; PART NO: EX04	0614330	20				
170	VALVE, SOLENOID: PIPE SIZE: 12 MM; STYLE: 5/1 WAY; POTENTIAL: 24 VDC; DESIGN RATING: 0-10 BAR; CONNECTION: G1/4 IN; BODY MATERIAL: NBR; OPERATED: AIR SPRING; ENCLOSURE RATING: IP65; MEDIUM: COMPRESSED AIR; NEUTRAL; POWER: 2 W; CURRENT: 1 A; ORIFICE SIZE: 0.8 MM; APPLICATION: FLY ASH TRANSFER;	0620638	12				

Item no.	Spare Description	Material Number	Exp. Qty.	Delivery Time (weeks)	Price per Item	Total Price Excl. VAT	Total Price Incl. VAT
	SPECIFICATION: 5413; ACTUATED KNIFE GATE SOLENOID VALVE; PART NO: V63D513A-A213J						
180	VALVE: TYPE: KNIFE GATE; VALVE SIZE: NB 250; DESIGN RATING: 10 BAR; TEMPERATURE RATING: -30 TO 75 DEG C; FACE TO FACE LENGTH: 83 MM; CONNECTION: FLANGE, PN 10; OPERATED: HANDWHEEL, BEVEL GEAR; BODY MATERIAL: STL GJS400; STYLE: 2 WAY; SPECIFICATION: MODEL VG; BI-DIRECTIONAL WAFER VALVE EQUIPED WITH 2 METAL REINFORCED RUBBER SLEEVES; SOFTGOODS: GATE AISI GR 304; PACKING EPDM; SEAT RUBBER NATURAL; PART NO: VG08	0614334	45				
190	VALVE: : TYPE: KNIFE GATE; VALVE SIZE: NB 300; DESIGN RATING: 10 BAR; TEMPERATURE RATING: RUBBER SEATS: (-30) DEGREE CELCIUS -75 DEGREE CELCIUS; FACE TO FACE LENGTH: 90 MM; CONNECTION: FLANGE PN 10; OPERATED: HAND WHEEL OPERATED BEVEL GEAR; BODY MATERIAL: STEEL GJS400; SPECIFICATION: MODEL VG; BI-DIRECTIONAL WAFER VALVE EQUIPMENT WITH TWO METAL REINFORCED RUBBER SLEEVES; SOFTGOODS: SEAT: NATURAL RUBBER; GATE: AISI304 PACKING EPDM; OEM P/N: VG08-300NB	0694190	45				
200	VALVE: TYPE: RESILIENT SEAL RISING SPINDLE GATE; VALVE SIZE: NB 100; DESIGN RATING: 16 BAR; TEMPERATURE RATING: 160 DEG C; FACE TO FACE LENGTH: 229 MM; CONNECTION: FLANGE; OPERATED: HANDWHEEL; BODY MATERIAL: SGI GR	0630239	6				

Item no.	Spare Description	Material Number	Exp. Qty.	Delivery Time (weeks)	Price per Item	Total Price Excl. VAT	Total Price Incl. VAT
	420/12 BS 2789; SPECIFICATION: SANS 665; SLIM RESILIENT GATE SANS 665 RS PN16						
210	VALVE: TYPE: RESILIENT SEAL RISING SPINDLE GATE; VALVE SIZE: NB 80; DESIGN RATING: 16 BAR; TEMPERATURE RATING: 160 DEG C; FACE TO FACE LENGTH: 203 MM; CONNECTION: FLANGE; OPERATED: HANDWHEEL; BODY MATERIAL: SGI GR 420/12 BS 2789; SPECIFICATION: SANS 665; SLIM RESILIENT GATE SANS 665 RS PN16	0630240	6				
220	VALVE: TYPE: RESILIENT SEAL RISING SPINDLE GATE; VALVE SIZE: NB 250; DESIGN RATING: 16 BAR; TEMPERATURE RATING: 160 DEG C; FACE TO FACE LENGTH: 330 MM; CONNECTION: FLANGE; OPERATED: HANDWHEEL; BODY MATERIAL: SGI GR 420/12 BS 2789; SPECIFICATION: SANS 665; SLIM RESILIENT GATE SANS 665 RS PN16	0630241	6				
230	VALVE: TYPE: RISING SPINDLE GATE; VALVE SIZE: NB 100; DESIGN RATING: 16 BAR; TEMPERATURE RATING: 160 DEG C; FACE TO FACE LENGTH: 229 MM; CONNECTION: FLANGE; OPERATED: ACTUATOR ELECTRIC; BODY MATERIAL: DI; SPECIFICATION: SANS 665; SLIM RESILIENT GATE SANS 665 RS PN16	0630243	10				
240	VALVE: TYPE: RISING SPINDLE GATE; VALVE SIZE: NB 250; DESIGN RATING: 16 BAR; TEMPERATURE RATING: 160 DEG C; FACE TO FACE LENGTH: 330 MM; CONNECTION: FLANGE; OPERATED: ACTUATOR ELECTRIC; BODY MATERIAL: DI; SPECIFICATION: SANS 665; SLIM RESILIENT GATE SANS 665 RS PN16	0630238	5				

Item no.	Spare Description	Material Number	Exp. Qty.	Delivery Time (weeks)	Price per Item	Total Price Excl. VAT	Total Price Incl. VAT
250	KIT, VALVE REPAIR: TYPE: DIAPHRAGM PULSE; APPLICATION: GOYEN DIAPHRAGM PULSE VALVE RCA45T; COMPRISING: DIAPHRAGM; RETURN SPRINGS; REFERENCE NO: 0 1-6 ETH00 KA01-20; PART NO: K4502	0647915	100				
260	REGULATOR, PRESSURE: TYPE: AIR PRESSURE; INLET PRESSURE: 0.4-8 BAR; OUTLET PRESSURE: 0.4-8 BAR; CONNECTION: G3/4 IN-BSPP; BODY MATERIAL: ALUMINIUM; PART NO: B68G-6GK-AR3-RLN	0629350	15				
270	VALVE, BUTTERFLY: TYPE: ACTUATOR; VALVE SIZE: NB 100; DESIGN RATING: 16 BAR; TEMPERATURE RATING: 15 TO 105 DEG C; CONNECTION: DESIGNED TO FIT WOTHOUT GASKETS BETWEEN FLANGES DRILLED TO SABS1123 NP1000; BODY MATERIAL: CAST IRON TO ASTM A126 CLASS B; FACE TO FACE LENGTH: 160 (INSTALLED CONDITION) MM; OPERATED: AUMA ACTUATOR WITH: SGR05.1-F07; COM NO: 23045265; SOFTGOODS: EDDM LINER; APPLICATION: DIRTY WATER CONTROL; SPECIFICATION: SLIM 100NB; MOUNTING FLANGE DIMENSIONS AND DRILLING IN ACCORDANCE WITH ISO STANDARD 5211/1; STYLE: WAFER TYPE; CONNECT TO AUMA ACTUATOR AS COMPLETE UNIT; OPERATED: BY AN AUMA ACTUATOR WITH FOLLOWING SPECS: SGR 05.1-F07; COM NO: 23045265; NO1813NS85317 T:32S/90; T CLOSE: 100-150NM; T OPEN:100-150NM; LUB:F15; TEMP:-40 TO +60 DEGREEG CELCIUS; IP67; MATCHED TO: AM 01.1; NO:3418MA 73418; TPA:00R3BB-0E1-000; MSP: 111700-A28EK 3~400V; IP68; CONTR: 4-20MA	0692050	30				

Table 2: Profit margin on spares not specified

Item no.	***Resource Description***	***% Mark-up***	***Estimated % of total spares in Table 1 above***	***Total Estimate cost (excl. VAT)***	***Total Estimate cost (Incl. VAT)***
280	*Miscellaneous spares not specified in Table 1 (Cost plus profit basis)*		*20%*		
	***Estimated total unspecified spares cost**:*				

4. Acceptance

This document has been seen and accepted by

Name	Designation

5. Revisions

Date	Rev.	Compiler	Remarks
September 2020	1	PG van Biljon	First revision

6. Development Team

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

Name	Designation
PG van Biljon	System Engineer