Part C2: Pricing Data

C2.1 Pricing Assumptions

(No Content)

Part C2: Pricing Data

C2.2 Pricing Schedules

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1. PRICE SCHEDULES

The price schedules herewith will be used during the Contract period.

2. LABOUR COSTS

The following labour costs per appropriate skill level is required (per hour, unless otherwise specified). All prices given must **exclude** VAT.

LEVEL	NORMAL TIME	OVERTIME	TRAVELLING TIME	STANDBY TIME	DAILY LIVING OUT ALLOWANCE
Engineer (E)					
Technician (T)					
Project Manager (PM)					
Safety Officer (SO)					
Specialist Artisan(SA) / Foreman					
Artisan (A)					
Semi Skilled (SS)					
Driver – EHMV (D)					
General Worker (GW)					

Working Hours:

The contractor shall work 8 hours per day. Time shall be in accordance with DWS regulations or as agreed between the Contractor and DWS

Overtime:

The Contractor shall request in writing approval prior to working overtime. Approval will be granted at the discretion of the Engineer. The contractor shall, at request of the Engineer, indicate the benefit of the overtime to the Department. Emergency repairs will be exempted from the above prior approval process. Overtime shall be in accordance with the Basic Conditions of the Employment Act.

Travelling time:

The travelling time shall be the rates charged for personnel while travelling to and from site in order to execute the required tasks. Only 70% of the labour rate may be claimed for travelling.

Living Out Allowance:

The living out allowance shall include all food costs as well as any other costs that might arise when staying out, excluding accommodation.

Accommodation:

1. Departmental Accommodation

   The Department may at its discretion provide accommodation for the contractor's personnel at the Departmental Guesthouses situated at the Dams.

2. Contractors Mobile Accommodation. (Furnish full rates and/or unit costs for these). Failure to do so shall render this option none-available for the duration of contract.

3. Approved Establishments (Hotel, Guesthouses etc.) A maximum of R1,400.00 per person per night including dinner, bed, breakfast and parking shall be claimed. No alcohol. Approved establishments' quotation and invoice shall be kept as proof and submitted during invoicing. NO proforma invoices to be used as proof of actual expenditure.

Accommodation cost can vary on availability of DWS vs. private accommodation. The Department may at its discretion provide accommodation for the contractor's personnel at the Departmental Guesthouses at the Dams.

Cost containment as per the National Treasury requirements and Practice Notes shall be applicable.

No mark-up or handling fee shall be claimed by the Contractor for accommodation, food, beverages, fuel for vehicles or equipment, etc.

3. TRANSPORT COSTS

Tariff is in cents per kilometre (exclusive of VAT) as from the dates below: No back charge of tariffs will be made before the under-mentioned dates for invoices already processed.

The rates will be updated as the Department of Transport rates are adjusted.

The contractor must decide which vehicle/s to use in order to calculate the transport costs in the price schedules.

Petrol

<table>
<tr><td rowspan="3">Engine swept volume CC</td><td>Sedan/station wagon</td><td>Light delivery vehicle (LDV) 4x2</td><td>Light delivery vehicle (LDV) 4x4</td><td>Mini bus/MPV</td></tr>
<tr><td>A</td><td>B</td><td>C</td><td>D</td></tr>
<tr><td>From Mar 2021</td><td>From Mar 2021</td><td>From Mar 2021</td><td>From Mar 2021</td></tr>
<tr><td>Up to 1250</td><td>270.3</td><td>230.3</td><td rowspan="4">374.9</td><td rowspan="2">352.5</td></tr>
<tr><td>1251 to 1550</td><td>340.4</td><td>302.8</td></tr>
<tr><td>1551 to 1750</td><td>367.4</td><td>335.8</td><td rowspan="2">378.1</td></tr>
<tr><td>1751 to 1950</td><td>420.4</td><td>388.9</td></tr>
<tr><td>1951 to 2150</td><td>454.0</td><td>399.4</td><td rowspan="2">459.8</td><td>441.2</td></tr>
<tr><td>2151 to 2500</td><td>514.2</td><td>425.7</td><td>501.5</td></tr>
<tr><td>2501 to 3500</td><td>643.7</td><td>456.8</td><td>543.5</td><td>647.4</td></tr>
<tr><td>Over 3500</td><td>753.5</td><td>515.6</td><td>608.9</td><td>740.8</td></tr>
</table>

Diesel

Engine swept volume CC	Sedan/station wagon	Light delivery vehicle (LDV) 4x2	Light delivery vehicle (LDV) 4x4	Mini bus/MPV
	A	B	C	D
	From Mar 2021	From Mar 2021	From Mar 2021	From Mar 2021
Up to 1250	255.8	270.2	408.5	**471.9**
1251 to 1550	312.3	364.2		
1551 to 1750	**341.3**	371.8		
1751 to 1950	353.1	391.9		
1951 to 2150	417.9	394.3	**479.2**	
2151 to 2500	482.8	**412.6**		585.1
2501 to 3500	611.2	428.7	532.4	617.6
Over 3500		561.9	639.2	721.3

Heavy and Extra Heavy Motor Vehicles (Diesel)

Load Capacity in (Tonne)	Rate per Kilometre (Rand/km)
5 to 8 Tonne (drop-side)	
5 to 8 Tonne (with crane)	
10 to 14 Tonne (drop-side)	
10 to 14 Tonne (with crane)	
20 to 30 Tonne (flat-deck)	

RATE PER KILOMETRE (Rand/km) = this rate must include the driver/operator and is expressed in rand/km.

NOTE: 1) Escalation according to SEIFSA rates/indices shall apply for fuel and labour costs.

2) Complete above table in full

Rates for all vehicles not listed above must be supplied by the bidder for approval.

NB There is no provision for an additional rate for towing a trailer.

ACTUAL/DIRECT EXPENSES

Reasonable actual expenses for hiring a car, light delivery vehicle or Minibus, limited to Class B vehicles, when flying to site.

EQUIPMENT COSTS

- The cost of the equipment to perform the duties as per each item shall be included in the table. Sufficient space is provided to include detailed breakdown of the equipment to be used and its relevant cost.
- Small tools, instruments and quality control instruments cost such as vacuum cleaner, drills, angle grinders etc. shall be considered to be part of the Production Artisan, Quality Inspector's, etc labour cost.

- For the purpose of performing factory tests as required in terms of this specification and where considered practical according to the discretion of the Engineer, complete assemblies will be required.

Labour information

The Bidder shall submit, with their **bid**, a complete list of **personnel** (from the rank of Artisan upwards) to be involved with this contract together with summarised Curriculum Vitae. The **Curriculum Vitae** shall indicate details such as **name, age, nationality, date of nationality** including qualifications and **relevant** experience. The bidder shall also submit an organogram of those individuals. Find attached an example of summarised Curriculum Vitae. Failure to submit the supporting CVs with the bid **may** disqualify your bid.

Personnel: Individuals in the permanent employment of the contractor.

The contractor shall at all times keep the list updated for his and his sub-contractor's staff.

4. SPECIFIC INSTALLATION FOR ADJUDICATION PURPOSES

For the purpose of adjudication of this Bid specific sites have been chosen containing a representative number of components for the region.

The following tables refer to specific equipment that will be shown and if necessary demonstrated to the bidder at the site meeting referred to in the Instructions to bidders.

The prices below **exclude the cost of spares**. The rate includes the cost of all staff required (cost / hour) plus all overheads where appropriate, and the guarantee of all parts, materials and workmanship. The cost of equipment (such as blasting/spraying equipment, compressors, generators, machinery etc.) must be included where asked for in the pricing schedules. All prices given must **exclude** VAT.

Each table must be completed in full and the total from each brought to the summary table. Adjudication will be based on the total and not on rates.

For adjudication purposes, the Department specified the manpower level as deemed required as well as the number of hours to do the specific task. If the Bidder strongly feels that the listed manpower levels and number of hours is not a realistic indication, it should be noted at the site meeting and alternative offers may then be considered.

For adjudication purposes it shall be assumed that all the items are located at the different Dams to have a more realistic comparison of cost for contractors based in different centres.

Transport cost should reflect the transport cost of personnel to and from these sites for removal and installation of equipment as well as the transporting of equipment to and from your workshop.

5. WORKSHOP

The Contractor's workshop shall be situated where possible within the boundaries of the applicable Operational Areas or located within reasonable distance from the major schemes.

6. FACILITIES

The Contractors workshop must have the facilities to perform maintenance, repair and refurbishment of equipment.

Equipment deemed essential:

- Overhead crane, welding facilities, lathe, drill press, hydraulic press, hydraulic testing facilities (pressure testing).

7. ORGANIZATIONAL CAPABILITY

The Department will evaluate the organisation, technical personnel and supportive personnel of the contractor.

8 CENTRAL OPERATIONS VAAL DAM AREA

8.1 NEEDLE VALVE AT BOSKOP DAM 26°33'40"S 27°06'42"E

(DN 800/700, 25 Bar, with hydraulic damping system gearbox and electric actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
Project management	1 PM		6	
Disconnect and Remove	1XA, 2XGW		5;5	
Dismantle	1XA, 2XGW		5;15	
Rough blast and clean	1XSS, 1XGW		5;3	
Inspect	1XSA, 1XA		2;4	
Report, prepare quality control plans, finalising scope of work	1XPM,1XSO		3;3	
Pressure test body	1XSA,1XA, 2XGW		1;2;2	
Fettling to specification	2XSS		16	
Final blast to SA 3	1XA,1XSS		6;16	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;16	
Polish of plunger	1XA, 1XGW		5;1	
Manufacture of crank and connecting rod bushes	1XA		2	
Reassemble	1XA, 2XGW		10;15	
Pressure test	1XSA,1XA, 2XGW		1;4;4	
Pressure test certificate	1XSA		1	
Install	1XA, 2XGW		8;8	
Testing and Commission	1XSS ; 1XA		5;5	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment.	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSS, 1XA			
Transport of the equipment to site after refurbishment	1XSS, 1XA			
Travelling to site and back to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSA, 1XA			
Travel to site and back to test and commission	1XPM,1XSA, 1XA			
			Total	
Accommodation	Cost	LOA **with-out** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 8.1

For adjudication purposes the transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

The equipment is located at **Boskop Dam**

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

8.2 SPHERICAL VALVE VAAL DAM 26°53'00"S 28°06'43"E

(DN 1000, 2,5 MPA, WITH GEARBOX AND ELECTRIC / HYDRAULIC ACTUATOR)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		4	
Disconnect and Remove	1XA, 2XGW		8;8	
Dismantle	1XA, 2XGW		12;12	
Rough blast and clean	1XSS, 1XGW		6;3	
Inspect	1XPM,1XSS,1XA		2;2;4	
Report, prepare quality control plans, finalising scope of work	1XPM,1XSO		3;3	
Pressure Test	1XS,1XA, 2XGW		1;2;2	
Fettling to specification	2XSS		16	
Final blast to SA 3	1XA,1XSS		6;16	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		3;18	
Reassemble & Inspection	1XPM, 1XSS,1XA, 2XGW		2; 2;16;16	
Pressure Test	1XPM; 1XSS,1XA, 2XGW		1; 1;4;4	
Pressure test certificate	1XSA		1	
Install	1XA,2XGW		8;8	
Commission	1XSA,1XA		5;5	
Report and submit quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1X PM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSS			
Transport of the equipment to site after refurbishment	1XSS			
Travelling to site and back by to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSA;1XA			
Travel to site and back by to test and commission	1XPM, 1XSA and 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 8.2

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Vaal Dam**.

TYPE OF VEHICLE (ENGIN CAPACITY)	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

8.3 BUTTERFLY VALVE AT FIKA PATSO DAM 28°40'19"S 28°51'23"E

(DN 1500, with drop weight hydraulic / actuator) Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM		6	
Disconnect and remove	1XA, 2XGW		8;8	
Dismantle	1XA, 2XGW		9;9	
Rough blast and clean	1XSS, 1XGW		4;4	
Inspect	1XSA,1XA		2;2	
Report, prepare quality control plans, finalising scope of work	1XPM,1XSO		3;3	
Pressure test body	1XPM;1XSA, 1XA, 2XGW		1;1;3;3	
Fettling to specification	2XSS		10	
Manufacture and fit new stainless steel body seat	1XA,1XSS		9;3	
Manufacture new stainless steel clamp ring	1XA		6	
Manufacture new bushes	1XA		3	
Final blast to SA 3	1XA,1XSS		4;12	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;14	
Reassemble	1XA, 2XGW		12;12	
Pressure Test	1XPM; 1XSS,1XA, 2XGW		1;1;4;4	
Pressure test certificate	1XSA		1	
Report and submit completed quality control sheets	1XPM		2	
Install	1XA,2XGW		9;9	
Test & Commission	1XSA; 1XA		6;6	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection.	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment.	1XSS			
Transport of the equipment to site after refurbishment.	1XSS			
Travelling to site and back by to install equipment.	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XA, 2XGW			
Travel to site and back to test and commission	1XPM, 1XSA; 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 8.3

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

The equipment is located at **Fika Patso Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

8.4 SLEEVE VALVE AT BOSKOP DAM 26°33'40"S 27°06'42"E

(DN 1000, with Electric/hydraulic actuator) Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM		4	
Dismantle and remove	1XA, 2XGW		9;9	
Dismantle	1XA, 2XGW		16;16	
Blast and clean	1XSS;1XGW		5;3	
Inspect	1XSA,1XA		1;3	
Report, prepare quality control plans, finalising scope of work	1XPM,1XSO		3;3	
Fettling to specification	2XSS		4	
Final blast to SA 3	1XA,1XSS		5;15	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;14	
Reassemble	1XA, 2XGW		9;9	
Pressure Test	1XPM;1XS,1XA, 2XGW		1;1;3;3	
Pressure test certificate	1XSA		1	
Report and submit completed quality control sheets	1XPM		2	
Install	1XA,2XGW		14;14	
Test & Commission	1XSA, 1XA		4;4	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection.	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA and 2XGW			
Transport of the equipment to your works for refurbishment	1XSS			
Transport of the equipment to site after refurbishment	1XSS			
Travelling to site and back to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSA, 1XA			
Travel to site and back by to test and commission	1XPM, 1XSA, 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 8.4
The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Boskop Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

8.5 PUMP AT FIKA PATSO PUMPSTATION 28°40'19"S 28°51'23"E

(Centrifugal, axial flow, horizontal split, single stage, double suction, 6600 kV; 6.6 MW, flow rate = 2000 l/s)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM		6	
Efficiency test and report	1XT;1XGW		8;8	
Uncouple coupling and loosen pipe work	1XA, 2XGW		4;4	
Remove pump	1XA, 2XGW		2;2	
Dismantle in Workshops	1XA, 2XGW		16;16	
Clean pump and piping	2XGW		8	
Inspect	1XSA		9	
Report, prepare quality control plans, finalising scope of work	1XPM,1XSO		3;3	
Final blast to SA 3	1XA,1XSS		9;18	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		9;36	
Replace shaft with new Stainless Steel shaft	1XSA,1XGW		4;4	
Replace impeller with new Stainless Steel impeller	1XSA,1XGW		4;4	
Replace all brass sleeves with new brass sleeves	1XSA,1XGW		6;6	
Replace existing neck rings with two new stainless steel neck rings (include. New stainless steel bolts)	1XSA,1XGW		8;8	
Replace existing wearing rings with two new Brass wearing rings (include. New brass bolts)	1XSA,1XGW		8;8	
Replace packings	1XSA,1XGW		6;6	
Fit parts and reassemble pump	1XSA,1XGW		8;8	
Coat pump externally to colour code	1XSS		6	
Supply test report	1XSA		4	
Supply condition of plant report on all work done (Complete including motor repair report) and completed quality control report	1XT		6	
Install pump (new packing material)	1XSA, 2XGW		8;8	
Align with laser	1XSA,2XGW		4;4	
Re-couple	1XSA,2XGW		3;3	
Connect pipework	1XSA,2XGW		5;5	
Test run	1XPM;1XSA, 2XGW		2;5;5	
Efficiency test and report	1XT, 1XGW		8;8	
Commission	1XSS,1XSA		3;3	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for the efficiency testing prior to refurbishment	1XT;1XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSA, 2XGW			
Transport of the equipment to site after refurbishment	1XSA, 2XGW			
Travelling to site and back to install equipment and laser align	1XSA, 2XGW			
Travelling to site and back for the efficiency testing after to refurbishment	1XT, 1XGW			
Travel to site and back by to laser align, test and commission	1XPM, 1XSS, 1XSA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 11.5

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Fika Patso Pump Station**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

8.6 CRANE AT VAAL DAM (SERVICE AND SPECIFY REPAIRS) 26°53'00"S 28°06'43"E

(53 Ton Portal Crane, with 2 auxiliary 7,5 ton winches)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM		5	
Inspection and testing • Mechanical • Electrical	1XSA		3	
Report, prepare quality control plans, finalising scope of work	1XPM,1XSO		3;3	
Complete service • Clean • Lubricate • Inspect Safety system components and settings and adjust where required. • Inspect and adjust braking systems.	1XSA,2XSS		9;9	
Replace break shoes	1XSA,2XSS		8;8	
Replace rope with new HDG wire rope and set limits.	1XSA,2XSS		36;36	
Load test	1XSA,2XSS		8;8	
Test reports	1XSA		1	
Living out allowance	1XSA,2XSS		8 Days	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM, 1XSA,2XSS			
Travelling to site and back with load test equipment and test.	1XSA, 2XSS			
			Total	
Accommodation	Cost	**LOA** without **Meals**	**LOA** with **Meals**	Total
Guesthouse				
Contractors Mobile				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 8.6

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Vaal Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

8.7 STOP LOGS AT BOSKOP DAM 26°33'40"S 27°06'42"E

(12m x 3m, Mild Steel)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER STOP LOG	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM		16	
Dismantle	1XA,1XSS, 2XGW		16;16;16	
Rough blast and clean	1XA, 1XSS, 1XGW		16;16;16	
Inspect	1XPM,1XA		2;6	
Report, prepare quality control plans, finalising scope of work	1XPM,1XSO		3;3	
Final blast to SA 3	1XA, 1XSS; 2XGW		24;24;24	
Coat (Wet –DFT 375µm two pack epoxy plus 40µm re-coatable poly-urethane; dry – DFT 250µm two pack epoxy plus top coat of 125µm Multi-purpose epoxy)	1XA, 1XSS, 1XGW		80;80;80	
Replace seals	1XPM,1XA,2XGW		4;4;4	
Replace lashing strips with stainless steel lashing strips (coat with epoxy)	1XPM,1XA,2XGW		4;4;4	
Replace all bolts with stainless steel bolts (coat with epoxy)	1XPM,1XA,2XGW		4;4;4	
Assemble	1XPM,1XA,2XGW		4;4;4	
Test and Commission	1XPM,1XA,2XGW		8;8;8	
Test report	1XPM		4	
Report and submit completed quality control sheets	1XPM		2	
Living out allowance	1XA,1XSS, 2XGW		19 Days	
Living out allowance	1XPM		2 Days	
Cost of equipment to perform scope of work				
			Total	
Travelling time				
Travelling to site and back for pre-quotation inspection	1XPM,1XSA			
Travelling to site to do work on site	1XA,1XSS, 2XGW			
Travelling to site and back to do inspection	1XPM			
Travelling to site for pre-commissioning inspection	1XPM			
Travelling time (trip from site)	1XA,1XSS, 2XGW			
Travel to site and back for assembly, test and commission				
			Total	
Accommodation	**Cost**	**LOA without Meals**	**LOA with Meals**	**Total**
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 8.7

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Boskop Dam**.

Transport cost for item 8.7 (continues)

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

8.8 SCREENS (FIKA PATSO DAM) 28°40'19"S 28°51'23"E

(Trash Racks, Anodised Aluminium) Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER SCREEN	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM		12	
Remove	1XA, 2XGW		3;3	
Dismantle	1XA, 1XGW		24;24	
Clean	2XGW		16	
Inspect	1XA; 1XSS		2; 3	
Report, prepare quality control plans, finalising scope of work	1XPM; 1XSO		3	
Repair	1XA		24	
Corrosion protect	1XSS		24	
Assemble	1XA		24	
Test reports	1XSS		1	
Install, test and commission	1XSS, 1XA, 2XGW		5;5;5	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM,1XA; 1XSS			
Travelling to site and back to remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XA, 2XGW			
Transport of the equipment to site after refurbishment	1XA, 2XGW			
Travelling to site and back by to install, test and commission	1XPM, 1XSS, 1XA, 2XGW			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	**Total**
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 8.8

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Fika Patso Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

8.9 CREST GATES (VAAL DAM) 26°53'00"S 28°06'43"E

(Flood Control, Radial Type, 12m x 12 m, Mild Steel)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER CREST GATE	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		6	
Inspect/Evaluate	1XPM,1XA		8;8	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Blast	1XA,2XSS,4XGW		80;120;120	
Clean	1XA,4XGW		16;16	
Application of protective coating (per coat)	1XA,2XSS,4XGW		36;120;120	
Replace seals	1XPM,2XA,4XGW		2;8;8	
Replace lashing strips with stainless steel lashing strips (coat)	1XPM,2XA,4XGW		2;8;8	
Replace all fasteners with stainless steel fasteners (coat)	1XPM,2XA,4XGW		2;8;8	
Test report	1XPM; 2XA		5; 3	
Living out allowance	1XPM; 2XA; 2XSS; 4XGW		2; 18; 27; 30	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling time (1 trip to site and back) pre-quotation	1XPM			
Travelling time (2 trips to site)	2XA,2XSS,4XGW			
Travelling time (1 trip to site and back) inspection	1XPM			
Travelling time (2 trips from site)	2XA,2XSS,4XGW			
Travelling time (1 trip to site and back) inspection	1XPM			
Travelling time (one trip to site and back) commissioning	1XPM			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 8.9

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Vaal Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

8.10 ACTUATOR AT BOSKOP DAM (SERVICE) 26°33'40"S 27°06'42"E

(200-9000Nm, SA 100 E, 180 l/min)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		8;8	
Remove	1XA		1	
Dismantle	1XA		5	
Clean	2XGW		1	
Inspect	1XSS		1	
Report	1XSS		0.2	
Reassemble	1XA		5	
Re-connect wiring	1XSS		2	
Reset limits/calibrate	1XSS,1XA		1.5;1.5	
Coat	1XSS		1	
Test certificate	1XSS		1	
Commission	1XA		2	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back) to disconnect and remove equipment	1XA			
Transport of the equipment to your works for refurbishment				
Transport of the equipment to site after refurbishment				
Travelling time (1 trip to site and back) to install equipment test and commission	1XA			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 8.10

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Boskop Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

8.11 ACTUATOR AT FIKA PATSO DAM (SERVICE) 28°40'19"S 28°51'23"E

(25kNm, 16 AD, 48 u/min) Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		8;8	
Remove	1XA		1	
Dismantle	1XA		5	
Clean	2XGW		1	
Inspect	1XSS		1	
Report	1XSS		0.2	
Reassemble	1XA		5	
Re-connect wiring	1XSS		2	
Reset limits/calibrate	1XSS,1XA		1.5;1.5	
Coat	1XSS		1	
Test certificate	1XSS		0.2	
Commission	1XA		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling time (1 trip to site and back) to disconnect and remove equipment	1XA			
Transport of the equipment to your works for refurbishment				
Transport of the equipment to site after refurbishment				
Travelling time (1 trip to site and back) to install equipment test and commission	1XA			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 8.11

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Fika Patso Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

8.12 ELECTRIC MOTOR REFURBISHMENT (VAAL DAM) 26°53'00"S 28°06'43"E

(Squirrel cage, induction, star coupled, direct on line, 1650kW, 6.6 kV, 186 a, 988 rev/min, 50 Hz)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		8	
Efficiency test and report	1xT,1xGW		8;8	
Uncouple and loosen all pipework	1xA,1XSS		5;5	
Remove Motor	1XA,1XSS		12;6	
Dismantle	1XA,1XSS		4;8	
Clean	1XSS		4	
Inspect	1XT,1XA		1;3	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Clean all cooling water pipes and systems	1XGW		4	
Rewind stator to acceptable standards	1XA,1XSS		45;70	
Check temp. sensors, replace faulty ones and ensure 2 per phase.	1XA,1XSS		3;5	
Check motor heaters	1XA		1	
Vacuum pressure impregnate	1XA		3	
Repair/replace defective rotor bars	1XA,1XSS		45;45	
Re-metal white metal bearings (DE + NDE)				
Repair shaft journals				
Balance rotor	1XA		6	
Assemble motor	1XA,1XSS		10;10	
Test run motor	1XT		6	
Test report	1XT		1	
Condition of plant report (To be included in pump condition of plant report)	1XT		5	
Install	1XA,1XSS		6;6	
Reconnect	1XT,1XA,1XSS		2;4;4	
Align (Laser)	1XT,1XSS		3;3	
Test run	1XT		5	
Commission	1XT		2	
Efficiency test and report	1XT,1XGW		8;8	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back)	1XT,1XGW			
Travelling time (1 trip to site and back)	1XA,1XSS			
Travelling time (2 trips to site and back)	1XT,1XA,1XSS			
Travelling time (1 trip to site and back)	1XT,1XGW			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 8.12

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Vaal Dam**.
- Travelling to site and back by 1XT, 1XGW for the efficiency testing prior to refurbishment.
- Travelling to site and back by 1XA, 1XSS to disconnect and remove the equipment.
- Transport of the equipment to your works for refurbishment.
- Transport of the equipment to site after refurbishment.
- Travelling to and back site, two trips, by 1XT, 1XA, 1XSS to install, reconnect, align equipment and commission.

Travelling to site and back by 1XT, 1XGW for the efficiency testing after refurbishment.

Transport cost for item 8.12 (continues)

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

8.13 SWITCHGEAR AND CAPACITORS SERVICING PER PUMP SET (FIKA PATSO PUMP STATION)

28°40'19"S 28°51'23"E

(Medium Voltage, 6.6 kV, 1250 A, 10 MVA): Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		2;2	
Travelling time (one trip to site)	1XSA,1XA,1XSS,			
Cleaning of all switchgear units' components and capacitors (Internal and external)	1XA,1XSS		3;5	
Checking of all termination's	1XA		2	
Tightening of all loose contacts	1XSS		2	
Testing of all relevant instrumentation, relays, contactors, protection etc.	1XSA		6	
Detailed report for each individual switchgear and capacitor unit	1XSA		2	
Identification of obsolete switchgear	1XSA		1	
Detailed report of obsolete switchgear	1XSA		1	
Travelling time (one trip from site)	1XSA,1XA,1XSS,			
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back)	1XT,1XGW			
Travelling time (1 trip to site and back)	1XA,1XSS			
Travelling time (2 trips to site and back)	1XT,1XA,1XSS			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 8.13

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at Fika Patso Pump Station.
- Travelling to site by 1XSA, 1xA, 1xSS.
- Travelling from site by 1XSA, 1xA, 1xSS.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

8.14 SWITCHGEAR SERVICING (BOSKOP DAM) 26°33'40"S 27°06'42"E

(Low Voltage, 400 V) Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		2;2	
Cleaning of all switchboard units (Internal & external)	1XA,1XSS		1;1	
Checking of all termination's	1XA		½	
Tightening of all loose contacts	1XSS		2	
Testing of all relevant instrumentation, contactors, relays, etc.	1XA		4	
Detailed report for each individual switchgear unit	1XA		1	
Identification of obsolete switchgear	1XA		1	
Detailed reports of obsolete switchgear	1XA		½	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (to site)	1XA,1XSS			
Travelling time (from site)	1XA,1XSS			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 8.14
The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at Boskop Dam.
- Travelling to site by 1xA, 1xSS.
- Travelling from site by 1xA, 1xSS.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

8.15 TRANSFORMERS REFURBISHMENT (FIKA PATSO DAM) 28°40'19"S 28°51'23"E

(250 kVA, 6600/400 V, 3 Phase, 50 Hz): Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		4	
Uncouple and loosen termination's	1XA, 2xSS		1**;1**	
Remove	1XA, 2xSS		3;3	
Test oil and forward detailed report	1XA		1	
Dismantle	1XA,1XSS		4;4	
Clean	1XSS		2	
Inspect	1XA		2	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Rewind	1XA,1XSS		20;20	
Assemble	1XA,1XSS		15;15	
Replace oil with new oil	1XSS		2	
Replace all gaskets	1XSS		2	
Appropriate tests	1XT		1	
Test reports	1XT		1	
Install	1XA		5	
Reconnect	1XA		3	
Commission	1XT		1	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (to site and back)	1XA, 2XSS			
Travelling time (to site and back)	1XT,1XA			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 8.15
The transport on the item will be calculated on the following criteria:

- The equipment is located at Fika Patso dam.
- Travelling to site and back by 1XA, 2XSS to disconnect and remove the equipment.
- Transport of the equipment to your works for refurbishment.
- Transport of the equipment to site after refurbishment.
- Travelling to site and back by 1XT,1XA to install, reconnect test and commission.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

9 CENTRAL OPERATIONS USUTU RIVER AREA

9.1 NEEDLE VALVE AT NOOITGEDAGT DAM 25°56'46"S 30°04'53"E

(DN 800/700, 25 Bar, with hydraulic damping system gearbox and electric actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
Project management	1 PM		6	
Disconnect and Remove	1XA, 2XGW		5;5	
Dismantle	1XA, 2XGW		5;15	
Rough blast and clean	1XSS, 1XGW		5;3	
Inspect	1XSA, 1XA		2;4	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Pressure test body	1XSS,1XA, 2XGW		1;2;2	
Fettling to specification	2XSS		16	
Final blast to SA 3	1XA,1XSS		6;16	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;16	
Polish of plunger	1XA, 1XGW		5;1	
Manufacture of crank and connecting rod bushes	1XA		2	
Reassemble	1XA, 2XGW		10;15	
Pressure test	1XSS,1XA, 2XGW		1;4;4	
Pressure test certificate	1XSA		1	
Install	1XA, 2XGW		8;8	
Testing and Commission	1XSA ; 1XA		5;5	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment.	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSS, 1XA			
Transport of the equipment to site after refurbishment	1XSS, 1XA			
Travelling to site and back to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSA, 1XA			
Travel to site and back to test and commission	1XPM,1XSA, 1XA			
			Total	
Accommodation	Cost	LOA **with-out** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 9.1

For adjudication purposes the transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

The equipment is located at **Nooitgedacht Dam**

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

9.2 SPHERICAL VALVE AT HEYSHOPE DAM **26°59'41"S 30°31'28"E**

(DN 1000, 2,5 MPa, with gearbox and electric/hydraulic actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		4	
Disconnect and Remove	1XA, 2XGW		8;8	
Dismantle	1XA, 2XGW		12;12	
Rough blast and clean	1XSS, 1XGW		6;3	
Inspect	1XPM,1XSA,1XA		2;2;4	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Pressure Test	1XSA,1XA, 2XGW		1;2;2	
Fettling to specification	2XSS		16	
Final blast to SA 3	1XA,1XSS		6;16	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		3;18	
Reassemble & Inspection	1XPM, 1XSA,1XA, 2XGW		2; 2;16;16	
Pressure Test	1XPM; 1XSA,1XA, 2XGW		1; 1;4;4	
Pressure test certificate	1XSA		1	
Install	1XA,2XGW		8;8	
Commission	1XSA,1XA		5;5	
Report and submit quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1X PM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSS			
Transport of the equipment to site after refurbishment	1XSS			
Travelling to site and back by to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSS;1XA			
Travel to site and back by to test and commission	1XPM, 1XSS and 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 9.2

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Heyshope Dam**.

TYPE OF VEHICLE (ENGIN CAPACITY)	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
Mobilisation/Demobilisation (Contractors Mobile)			
		TOTAL TRANSPORT COST	

9.3 BUTTERFLY VALVE AT JERICHO DAM 26°39'22"S 30°29'02"E

(DN 2000, with drop weight hydraulic / actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		6	
Disconnect and remove	1XA, 2XGW		8;8	
Dismantle	1XA, 2XGW		9;9	
Rough blast and clean	1XSS, 1XGW		4;4	
Inspect	1XSS,1XA		2;2	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Pressure test body	1XPM;1XSA, 1XA, 2XGW		1;1;3;3	
Fettling to specification	2XSS		10	
Manufacture and fit new stainless steel body seat	1XA,1XSS		9;3	
Manufacture new stainless steel clamp ring	1XA		6	
Manufacture new bushes	1XA		3	
Final blast to SA 3	1XA,1XSS		4;12	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;14	
Reassemble	1XA, 2XGW		12;12	
Pressure Test	1XPM; 1XSA,1XA, 2XGW		1;1;4;4	
Pressure test certificate	1XSA		1	
Report and submit completed quality control sheets	1XPM		2	
Install	1XA,2XGW		9;9	
Test & Commission	1XSA; 1XA		6;6	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection.	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment.	1XSS			
Transport of the equipment to site after refurbishment.	1XSS			
Travelling to site and back by to install equipment.	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XA, 2XGW			
Travel to site and back to test and commission	1XPM, 1XSA; 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 9.3

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

The equipment is located at **Jericho Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

9.4 SLEEVE VALVE AT NOOIGEDACHT DAM 25°56'46"S 30°04'53"E

(DN 1000, with Electric/hydraulic actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM		4	
Dismantle and remove	1XA, 2XGW		9;9	
Dismantle	1XA, 2XGW		16;16	
Blast and clean	1XSS;1XGW		5;3	
Inspect	1XSA,1XA		1;3	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Fettling to specification	2XSS		4	
Final blast to SA 3	1XA,1XSS		5;15	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;14	
Reassemble	1XA, 2XGW		9;9	
Pressure Test	1XPM;1XSA,1XA, 2XGW		1;1;3;3	
Pressure test certificate	1XSA		1	
Report and submit completed quality control sheets	1XPM		2	
Install	1XA,2XGW		14;14	
Test & Commission	1XSA, 1XA		4;4	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection.	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA and 2XGW			
Transport of the equipment to your works for refurbishment	1XSS			
Transport of the equipment to site after refurbishment	1XSS			
Travelling to site and back to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSS, 1XA			
Travel to site and back by to test and commission	1XPM, 1XSA, 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 9.4

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Nooitgedacht Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

9.5 PUMP AT HEYSHOPE DAM 26°59'41"S 30°31'28"E

(Centrifugal, axial flow, horizontal split, single stage, double suction, 6600 kV; 6.6 MW, flow rate = 2000 l/s)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		6	
Efficiency test and report	1XT;1XGW		8;8	
Uncouple coupling and loosen pipe work	1XA, 2XGW		4;4	
Remove pump	1XA, 2XGW		2;2	
Dismantle in Workshops	1XA, 2XGW		16;16	
Clean pump and piping	2XGW		8	
Inspect	1XSA		9	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Final blast to SA 3	1XA,1XSS		9;18	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		9;36	
Replace shaft with new Stainless Steel shaft	1XSA,1XGW		4;4	
Replace impeller with new Stainless Steel impeller	1XSA,1XGW		4;4	
Replace all brass sleeves with new brass sleeves	1XSA,1XGW		6;6	
Replace existing neck rings with two new stainless steel neck rings (include. New stainless steel bolts)	1XSA,1XGW		8;8	
Replace existing wearing rings with two new Brass wearing rings (include. New brass bolts)	1XSA,1XGW		8;8	
Replace packings	1XSA,1XGW		6;6	
Fit parts and reassemble pump	1XSA,1XGW		8;8	
Coat pump externally to colour code	1XSS		6	
Supply test report	1XSA		4	
Supply condition of plant report on all work done (Complete including motor repair report) and completed quality control report	1XT		6	
Install pump (new packing material)	1XSA, 2XGW		8;8	
Align with laser	1XSA,2XGW		4;4	
Re-couple	1XSA,2XGW		3;3	
Connect pipework	1XSA,2XGW		5;5	
Test run	1XPM;1XSA, 2xGW		2;5;5	
Efficiency test and report	1xT, 1xGW		8;8	
Commission	1XSS,1XSA		3;3	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for the efficiency testing prior to refurbishment	1XT;1XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSA, 2XGW			
Transport of the equipment to site after refurbishment	1XSA, 2XGW			
Travelling to site and back to install equipment and laser align	1XSA, 2XGW			
Travelling to site and back for the efficiency testing after to refurbishment	1XT, 1XGW			
Travel to site and back by to laser align, test and commission	1XPM, 1XSS, 1XSA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 9.5

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Heyshope Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

9.6 CRANE AT JERICHO DAM (SERVICE AND SPECIFY REPAIRS) 26°39'22"S 30°29'02"E

(53 Ton Portal Crane, with 2 auxiliary 7,5 ton winches)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		5	
Inspection and testing • Mechanical • Electrical	1XSA		3	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Complete service • Clean • Lubricate • Inspect Safety system components and settings and adjust where required. • Inspect and adjust braking systems.	1XSA,2XSS		9;9	
Replace break shoes	1XSA,2XSS		8;8	
Replace rope with new HDG wire rope and set limits.	1XSA,2XSS		36;36	
Load test	1XSA,2XSS		8;8	
Test reports	1XSA		1	
Living out allowance	1XSA,2XSS		8 Days	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM, 1XSA,2XSS			
Travelling to site and back with load test equipment and test.	1XSA, 2XSS			
			Total	
Accommodation	Cost	**LOA** without **Meals**	**LOA** with **Meals**	Total
Guesthouse				
Contractors Mobile				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 9.6

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Jericho Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

9.7 STOP LOGS AT NOOITGEDAGCHT DAM 25°56'46"S 30°04'53"E

(12m x 3 m, Mild Steel) Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER STOP LOG	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM		16	
Dismantle	1XA,1xSS, 2XGW		16;16;16	
Rough blast and clean	1XA, 1XSS, 1 x GW		16;16;16	
Inspect	1XM,1XA		2;6	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Final blast to SA 3	1XA, 1XSS; 2xGW		24;24;24	
Coat (Wet –DFT 375µm two pack epoxy plus 40µm re-coatable poly-urethane; dry – DFT 250µm two pack epoxy plus top coat of 125µm Multi-purpose epoxy)	1XA, 1XSS, 1xGW		80;80;80	
Replace seals	1XPM,1XA,2XGW		4;4;4	
Replace lashing strips with stainless steel lashing strips (coat with epoxy)	1XPM,1XA,2XGW		4;4;4	
Replace all bolts with stainless steel bolts (coat with epoxy)	1XPM,1XA,2XGW		4;4;4	
Assemble	1XPM,1XA,2XGW		4;4;4	
Test and Commission	1XPM,1XA,2XGW		8;8;8	
Test report	1XPM		4	
Report and submit completed quality control sheets	1XPM		2	
Living out allowance	1XA,1XSS, 2XGW		19 Days	
Living out allowance	1XPM		2 Days	
Cost of equipment to perform scope of work				
			Total	
Travelling time				
Travelling to site and back for pre-quotation inspection	1XPM,1XSA			
Travelling to site to do work on site	1XA,1XSS, 2XGW			
Travelling to site and back to do inspection	1xPM			
Travelling to site for pre-commissioning inspection	1XPM			
Travelling time (trip from site)	1XA,1XSS, 2XGW			
Travel to site and back for assembly, test and commission				
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	**Total**
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 9.7

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Nooitgedacht Dam**.

Transport cost for item 9.7 (continues)

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

9.8 SCREENS (JERICHO DAM) **26°39'22"S 30°29'02"E**

(Trash Racks, Anodised Aluminium) Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER SCREEN	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		12	
Remove	1XA, 2XGW		3;3	
Dismantle	1XA, 1XGW		24;24	
Clean	2XGW		16	
Inspect	1XA; 1XSS		2; 3	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Repair	1XA		24	
Corrosion protect	1XSS		24	
Assemble	1XA		24	
Test reports	1XSS		1	
Install, test and commission	1XSS, 1XA, 2XGW		5;5;5	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM,1XA; 1XSS			
Travelling to site and back to remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XA, 2XGW			
Transport of the equipment to site after refurbishment	1XA, 2XGW			
Travelling to site and back by to install, test and commission	1XPM, 1XSS, 1XA, 2XGW			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	**Total**
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 9.8

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Jericho Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

9.9 CREST GATES (HEYSHOPE DAM) 26°59'41"S 30°31'28"E

(Flood Control, Radial Type, 12m x 12 m, Mild Steel)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER CREST GATE	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		6	
Inspect/Evaluate	1XPM,1XA		8;8	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Blast	1XA,2XSS,4XGW		80;120;120	
Clean	1XA,4XGW		16;16	
Application of protective coating (per coat)	1XA,2XSS,4XGW		36;120;120	
Replace seals	1XPM,2XA,4XGW		2;8;8	
Replace lashing strips with stainless steel lashing strips (coat)	1XPM,2XA,4XGW		2;8;8	
Replace all fasteners with stainless steel fasteners (coat)	1XPM,2XA,4XGW		2;8;8	
Test report	1XPM; 2XA		5; 3	
Living out allowance	1XPM; 2XA; 2XSS; 4XGW		2; 18; 27; 30	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling time (1 trip to site and back) pre-quotation	1XPM			
Travelling time (2 trips to site)	2XA,2XSS,4XGW			
Travelling time (1 trip to site and back) inspection	1XPM			
Travelling time (2 trips from site)	2XA,2XSS,4XGW			
Travelling time (1 trip to site and back) inspection	1XPM			
Travelling time (one trip to site and back) commissioning	1XPM			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 9.9

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Heyshope Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

9.10 ACTUATOR AT JERICHO DAM (SERVICE) 26°39'22"S 30°29'02"E

(200-9000Nm, SA 100 E, 180 l/min)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		8;8	
Remove	1XA		1	
Dismantle	1XA		5	
Clean	2XGW		1	
Inspect	1XSS		1	
Report	1XSS		0.2	
Reassemble	1XA		5	
Re-connect wiring	1XSS		2	
Reset limits/calibrate	1XSS,1XA		1.5;1.5	
Coat	1XSS		1	
Test certificate	1XSS		1	
Commission	1XA		2	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back) to disconnect and remove equipment	1XA			
Transport of the equipment to your works for refurbishment				
Transport of the equipment to site after refurbishment				
Travelling time (1 trip to site and back) to install equipment test and commission	1XA			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 9.10

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Jericho dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

9.11 ACTUATOR AT NOOITGEDACHT DAM (SERVICE) 25°56'46"S 30°04'53"E

(25kNm, 16 AD, 48 u/min) Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM;1XSO		8;8	
Remove	1XA		1	
Dismantle	1XA		5	
Clean	2XGW		1	
Inspect	1XSS		1	
Report	1XSS		0.2	
Reassemble	1XA		5	
Re-connect wiring	1SS		2	
Reset limits/calibrate	1XSS,1XA		1.5;1.5	
Coat	1XSS		1	
Test certificate	1XSS		0.2	
Commission	1XA		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling time (1 trip to site and back) to disconnect and remove equipment	1XA			
Transport of the equipment to your works for refurbishment				
Transport of the equipment to site after refurbishment				
Travelling time (1 trip to site and back) to install equipment test and commission	1XA			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 9.11

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Nooitgedacht Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

9.12 ELECTRIC MOTOR REFURBISHMENT (HEYHOPE DAM) 26°59'41"S 30°31'28"E

(Squirrel cage, induction, star coupled, direct on line,1650kW, 6.6 kV, 186 a, 988 rev/min, 50 Hz)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		8;8	
Efficiency test and report	1XT,1XGW		8;8	
Uncouple and loosen all pipework	1XA,1XSS		5;5	
Remove Motor	1XA,1XSS		12;6	
Dismantle	1XA,1XSS		4;8	
Clean	1XSS		4	
Inspect	1XT,1XA		1;3	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Clean all cooling water pipes and systems	1XGW		4	
Rewind stator to acceptable standards	1XA,1XSS		45;70	
Check temp. sensors, replace faulty ones and ensure 2 per phase.	1XA,1XSS		3;5	
Check motor heaters	1XA		1	
Vacuum pressure impregnate	1XA		3	
Repair/replace defective rotor bars	1XA,1XSS		45;45	
Re-metal white metal bearings (DE + NDE)				
Repair shaft journals				
Balance rotor	1XA		6	
Assemble motor	1XA,1XSS		10;10	
Test run motor	1XT		6	
Test report	1XT		1	
Condition of plant report (To be included in pump condition of plant report)	1XT		5	
Install	1XA,1XSS		6;6	
Reconnect	1XT,1XA,1XSS		2;4;4	
Align (Laser)	1XT,1XSS		3;3	
Test run	1XT		5	
Commission	1XT		2	
Efficiency test and report	1XT,1XGW		8;8	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back)	1XT,1XGW			
Travelling time (1 trip to site and back)	1XA,1XSS			
Travelling time (2 trips to site and back)	1XT,1XA,1XSS			
Travelling time (1 trip to site and back)	1XT.1XGW			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 9.12

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Heyhope Dam**.
- Travelling to site and back by 1XT, 1XGW for the efficiency testing prior to refurbishment.
- Travelling to site and back by 1XA, 1XSS to disconnect and remove the equipment.
- Transport of the equipment to your works for refurbishment.
- Transport of the equipment to site after refurbishment.
- Travelling to and back site, two trips, by 1XT, 1XA, 1XSS to install, reconnect, align equipment and commission.

Travelling to site and back by 1XT, 1XGW for the efficiency testing after refurbishment.

Transport cost for item 9.12 (continues)

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
TOTAL TRANSPORT COST			

9.13 SWITCHGEAR AND CAPACITORS SERVICING PER PUMP SET (JERICHO DAM) 26°39'22"S 30°29'02"E

(Medium Voltage, 6.6 kV, 1250 A, 10 MVA)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM;1XSO		2;2	
Travelling time (one trip to site)	1XSA,1XA,1XSS,			
Cleaning of all switchgear units' components and capacitors (Internal and external)	1XA,1XSS		3;5	
Checking of all termination's	1XA		2	
Tightening of all loose contacts	1XSS		2	
Testing of all relevant instrumentation, relays, contactors, protection etc.	1XSA		6	
Detailed report for each individual switchgear and capacitor unit	1XSA		2	
Identification of obsolete switchgear	1XSA		1	
Detailed report of obsolete switchgear	1XSA		1	
Travelling time (one trip from site)	1XSA,1XA,1XSS,			
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back)	1XT,1XGW			
Travelling time (1 trip to site and back)	1XA,1XSS			
Travelling time (2 trips to site and back)	1XT,1XA,1XSS			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 9.13

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at Jericho Dam.
- Travelling to site by 1XSA, 1xA, 1xSS.
- Travelling from site by 1XSA, 1xA, 1xSS.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

9.14 SWITCHGEAR SERVICING (NOOITGEDACHT DAM) 25°56'46"S 30°04'53"E

(Low Voltage, 400 V) Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		2;2	
Cleaning of all switchboard units (Internal & external)	1XA,1XSS		1;1	
Checking of all termination's	1XA		½	
Tightening of all loose contacts	1XSS		2	
Testing of all relevant instrumentation, contactors, relays, etc.	1XA		4	
Detailed report for each individual switchgear unit	1XA		1	
Identification of obsolete switchgear	1XA		1	
Detailed reports of obsolete switchgear	1XA		½	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (to site)	1XA,1XSS			
Travelling time (from site)	1XA,1XSS			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 9.14
The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at Nooitgedacht Dam.
- Travelling to site by 1XA, 1XSS.
- Travelling from site by 1XA, 1XSS.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

9.15 TRANSFORMERS REFURBISHMENT (HEYSHOPE DAM) 26°59'41"S 30°31'28"E

(250 kVA, 6600/400 V, 3 Phase, 50 Hz)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		4	
Uncouple and loosen termination's	1XA, 2XSS		1;1	
Remove	1XA, 2XSS		3;3	
Test oil and forward detailed report	1XA		1	
Dismantle	1XA,1XSS		4;4	
Clean	1XSS		2	
Inspect	1XA		2	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Rewind	1XA,1XSS		20;20	
Assemble	1XA,1XSS		15;15	
Replace oil with new oil	1XSS		2	
Replace all gaskets	1XSS		2	
Appropriate tests	1XT		1	
Test reports	1XT		1	
Install	1XA		5	
Reconnect	1XA		3	
Commission	1XT		1	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (to site and back)	1XA, 2XSS			
Travelling time (to site and back)	1XT,1XA			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 9.15

The transport on the item will be calculated on the following criteria:

- The equipment is located at Heyshope Dam.
- Travelling to site and back by 1XA, 2XSS to disconnect and remove the equipment.
- Transport of the equipment to your works for refurbishment.
- Transport of the equipment to site after refurbishment.
- Travelling to site and back by 1XT, 1XA to install, reconnect test and commission.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

10 CENTRAL OPERATIONS USUTU VAAL AREA

10.1 NEEDLE VALVE AT GROOTDRAAI DAM 26°55'08"S 29°17'38"E

(DN 800/700, 25 Bar, with hydraulic damping system gearbox and electric actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
Project management	1XPM;1XSO		6	
Disconnect and Remove	1XA, 2XGW		5;5	
Dismantle	1XA, 2XGW		5;15	
Rough blast and clean	1XSS, 1XGW		5;3	
Inspect	1XSA, 1XA		2;4	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Pressure test body	1XSA,1XA, 2XGW		1;2;2	
Fettling to specification	2XSS		16	
Final blast to SA 3	1XA,1XSS		6;16	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;16	
Polish of plunger	1XA, 1XGW		5;1	
Manufacture of crank and connecting rod bushes	1XA		2	
Reassemble	1XA, 2XGW		10;15	
Pressure test	1XSS,1XA, 2XGW		1;4;4	
Pressure test certificate	1XSA		1	
Install	1XA, 2XGW		8;8	
Testing and Commission	1XSS ; 1XA		5;5	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment.	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSS, 1XA			
Transport of the equipment to site after refurbishment	1XSS, 1XA			
Travelling to site and back to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSA, 1XA			
Travel to site and back to test and commission	1XPM,1XSA, 1XA			
			Total	
Accommodation	Cost	LOA **with-out** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 10.1

For adjudication purposes the transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

The equipment is located at **Grootdraai Dam**

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

10.2 SPHERICAL VALVE AT VRESAP PUMP STATION 26°52'37S 28°15'22"E

(DN 1000, 2,5 MPa, with gearbox and electric/hydraulic actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		4;4	
Disconnect and Remove	1XA, 2XGW		8;8	
Dismantle	1XA, 2XGW		12;12	
Rough blast and clean	1XSS, 1XGW		6;3	
Inspect	1XPM,1XSA,1XA		2;2;4	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Pressure Test	1XSA,1XA, 2XGW		1;2;2	
Fettling to specification	2XSS		16	
Final blast to SA 3	1XA,1XSS		6;16	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		3;18	
Reassemble & Inspection	1XPM, 1XSA, 1XA, 2XGW		2; 2;16;16	
Pressure Test	1XPM; 1XSA,1XA, 2XGW		1; 1;4;4	
Pressure test certificate	1XSA		1	
Install	1XA,2XGW		8;8	
Commission	1XSA,1XA		5;5	
Report and submit quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1X PM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSS			
Transport of the equipment to site after refurbishment	1XSS			
Travelling to site and back by to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSA;1XA			
Travel to site and back by to test and commission	1XPM, 1XSA and 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 10.2

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Vresap Pump Station**.

TYPE OF VEHICLE (ENGIN CAPACITY)	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
Mobilisation/Demobilisation (Contractors Mobile)			
		TOTAL TRANSPORT COST	

10.3 BUTTERFLY VALVE AT ZAAIHOEK DAM 27°26'18"S 30°03'34"E

(DN 2000, with drop weight hydraulic / actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		6;6	
Disconnect and remove	1XA, 2XGW		8;8	
Dismantle	1XA, 2XGW		9;9	
Rough blast and clean	1XSS, 1XGW		4;4	
Inspect	1XSS,1XA		2;2	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Pressure test body	1XPM;1XSS, 1XA, 2XGW		1;1;3;3	
Fettling to specification	2XSS		10	
Manufacture and fit new stainless steel body seat	1XA,1XSS		9;3	
Manufacture new stainless steel clamp ring	1XA		6	
Manufacture new bushes	1XA		3	
Final blast to SA 3	1XA,1XSS		4;12	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;14	
Reassemble	1XA, 2XGW		12;12	
Pressure Test	1XPM; 1XSS,1XA, 2XGW		1;1;4;4	
Pressure test certificate	1XSA		1	
Report and submit completed quality control sheets	1XPM		2	
Install	1XA,2XGW		9;9	
Test & Commission	1XSA; 1XA		6;6	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection.	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment.	1XSS			
Transport of the equipment to site after refurbishment.	1XSS			
Travelling to site and back by to install equipment.	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XA, 2XGW			
Travel to site and back to test and commission	1XPM, 1XSA; 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 10.3

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

The equipment is located at **Zaaihoek Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

10.4 SLEEVE VALVE AT GROOTDRAAI DAM 26°55'08"S 29°17'38"E

(DN 1000, with Electric/hydraulic actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		4;4	
Dismantle and remove	1XA, 2XGW		9;9	
Dismantle	1XA, 2XGW		16;16	
Blast and clean	1XSS;1XGW		5;3	
Inspect	1XSA,1XA		1;3	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Fettling to specification	2XSS		4	
Final blast to SA 3	1XA,1XSS		5;15	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;14	
Reassemble	1XA, 2XGW		9;9	
Pressure Test	1XPM;1XSS,1XA, 2XGW		1;1;3;3	
Pressure test certificate	1XSA		1	
Report and submit completed quality control sheets	1XPM		2	
Install	1XA,2XGW		14;14	
Test & Commission	1XSA, 1XA		4;4	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection.	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA and 2XGW			
Transport of the equipment to your works for refurbishment	1XSS			
Transport of the equipment to site after refurbishment	1XSS			
Travelling to site and back to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSA, 1XA			
Travel to site and back by to test and commission	1XPM, 1XSA, 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 10.4

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Grootdraai Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

10.5 PUMP AT VRESAP PUMPSTATION 26°52'37"S 28°15'22"E

(Centrifugal, axial flow, horizontal split, single stage, double suction, 6600 kV; 6.6 MW, flow rate = 2000 l/s)

Total Distance _____ km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		6;6	
Efficiency test and report	1XT;1XGW		8;8	
Uncouple coupling and loosen pipe work	1XA, 2XGW		4;4	
Remove pump	1XA, 2XGW		2;2	
Dismantle in Workshops	1XA, 2XGW		16;16	
Clean pump and piping	2XGW		8	
Inspect	1XSA		9	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Final blast to SA 3	1XA,1XSS		9;18	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		9;36	
Replace shaft with new Stainless Steel shaft	1XSA,1XGW		4;4	
Replace impeller with new Stainless Steel impeller	1XSA,1XGW		4;4	
Replace all brass sleeves with new brass sleeves	1XSA,1XGW		6;6	
Replace existing neck rings with two new stainless steel neck rings (include. New stainless steel bolts)	1XSA,1XGW		8;8	
Replace existing wearing rings with two new Brass wearing rings (include. New brass bolts)	1XSA,1XGW		8;8	
Replace packings	1XSA,1XGW		6;6	
Fit parts and reassemble pump	1XSA,1XGW		8;8	
Coat pump externally to colour code	1XSS		6	
Supply test report	1XSA		4	
Supply condition of plant report on all work done (Complete including motor repair report) and completed quality control report	1XT		6	
Install pump (new packing material)	1XSA, 2XGW		8;8	
Align with laser	1XSA,2XGW		4;4	
Re-couple	1XSA,2XGW		3;3	
Connect pipework	1XSA,2XGW		5;5	
Test run	1XPM;1XSA, 2XGW		2;5;5	
Efficiency test and report	1XT, 1XGW		8;8	
Commission	1XSS,1XSA		3;3	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for the efficiency testing prior to refurbishment	1XT;1XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSA, 2XGW			
Transport of the equipment to site after refurbishment	1XSA, 2XGW			
Travelling to site and back to install equipment and laser align	1XSA, 2XGW			
Travelling to site and back for the efficiency testing after to refurbishment	1XT, 1XGW			
Travel to site and back by to laser align, test and commission	1XPM, 1XSS, 1XSA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 10.5

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Vresap Pump Station**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

10.6 CRANE AT ZAAIHOEK DAM (SERVICE AND SPECIFY REPAIRS) 27°26'18"S 30°03'34"E

(53 Ton Portal Crane, with 2 auxiliary 7,5 ton winches)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		5;5	
Inspection and testing • Mechanical • Electrical	1XSA		3	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Complete service • Clean • Lubricate • Inspect Safety system components and settings and adjust where required. • Inspect and adjust braking systems.	1XSA,2XSS		9;9	
Replace break shoes	1XSA,2XSS		8;8	
Replace rope with new HDG wire rope and set limits.	1XSA,2XSS		36;36	
Load test	1XSA,2XSS		8;8	
Test reports	1XSA		1	
Living out allowance	1XSA,2XSS		8 Days	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM, 1XSA,2XSS			
Travelling to site and back with load test equipment and test.	1XSA, 2xSS			
			Total	
Accommodation	Cost	**LOA** without **Meals**	**LOA** with **Meals**	Total
Guesthouse				
Contractors Mobile				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 10.6

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Zaaihoek Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

10.7 STOP LOGS AT GROOTDRAAI DAM 26°55'08"S 29°17'38"E

(12m x 3 m, Mild Steel)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER STOP LOG	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM,1XSO		16,16	
Dismantle	1XA,1xSS, 2XGW		16;16;16	
Rough blast and clean	1XA, 1XSS, 1XGW		16;16;16	
Inspect	1XPM,1XA		2;6	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Final blast to SA 3	1XA, 1XSS; 2xGW		24;24;24	
Coat (Wet –DFT 375µm two pack epoxy plus 40µm re-coatable poly-urethane; dry – DFT 250µm two pack epoxy plus top coat of 125µm Multi-purpose epoxy)	1XA, 1XSS, 1xGW		80;80;80	
Replace seals	1XPM,1XA,2XGW		4;4;4	
Replace lashing strips with stainless steel lashing strips (coat with epoxy)	1XPM,1XA,2XGW		4;4;4	
Replace all bolts with stainless steel bolts (coat with epoxy)	1XPM,1XA,2XGW		4;4;4	
Assemble	1XPM,1XA,2XGW		4;4;4	
Test and Commission	1XPM,1XA,2XGW		8;8;8	
Test report	1XPM		4	
Report and submit completed quality control sheets	1XPM		2	
Living out allowance	1XA,1XSS, 2XGW		19 Days	
Living out allowance	1XPM		2 Days	
Cost of equipment to perform scope of work				
			Total	
Travelling time				
Travelling to site and back for pre-quotation inspection	1XPM,1XSA			
Travelling to site to do work on site	1XA,1XSS, 2XGW			
Travelling to site and back to do inspection	1XPM			
Travelling to site for pre-commissioning inspection	1XPM			
Travelling time (trip from site)	1XA,1XSS, 2XGW			
Travel to site and back for assembly, test and commission				
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	**Total**
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 10.7

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Grootdraai Dam**.

Transport cost for item 10.7 (continues)

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

10.8 SCREENS (VRESAP PUMP STATION) 26°52'37S 28°15'22"E

(Trash Racks, Anodised Aluminium)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER SCREEN	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM,1XSO		12,12	
Remove	1XA, 2XGW		3;3	
Dismantle	1XA, 1XGW		24;24	
Clean	2XGW		16	
Inspect	1XA; 1XSS		2; 3	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Repair	1XA		24	
Corrosion protect	1XSS		24	
Assemble	1XA		24	
Test reports	1XSS		1	
Install, test and commission	1XSS, 1XA, 2XGW		5;5;5	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM,1XA, 1XSS,1XSO			
Travelling to site and back to remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XA, 2XGW			
Transport of the equipment to site after refurbishment	1XA, 2XGW			
Travelling to site and back by to install, test and commission	1XPM, 1XSS, 1XA, 2XGW			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	**Total**
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 10.8

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Vresap Pump Station**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

10.9 PUMP AT ZAAIHOEK DAM (Horizontal split centrifugal pump)

27°26'18"S 30°03'34"E

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		6;6	
Efficiency test and report	1XT;1XGW		8;8	
Uncouple coupling and loosen pipe work	1XA, 2XGW		4;4	
Remove pump	1XA, 2XGW		2;2	
Dismantle in Workshops	1XA, 2XGW		16;16	
Clean pump and piping	2XGW		8	
Inspect	1XSA		9	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Final blast to SA 3	1XA,1XSS		9;18	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		9;36	
Replace shaft with new Stainless Steel shaft	1XSA,1XGW		4;4	
Replace impeller with new Stainless Steel impeller	1XSA,1XGW		4;4	
Replace all brass sleeves with new brass sleeves	1XSA,1XGW		6;6	
Replace existing neck rings with two new stainless steel neck rings (include. New stainless steel bolts)	1XSA,1XGW		8;8	
Replace existing wearing rings with two new Brass wearing rings (include. New brass bolts)	1XSA,1XGW		8;8	
Replace packings	1XSA,1XGW		6;6	
Fit parts and reassemble pump	1XSA,1XGW		8;8	
Coat pump externally to colour code	1XSS		6	
Supply test report	1XSA		4	
Supply condition of plant report on all work done (Complete including motor repair report) and completed quality control report	1XT		6	
Install pump (new packing material)	1XSA, 2XGW		8;8	
Align with laser	1XSA,2XGW		4;4	
Re-couple	1XSA,2XGW		3;3	
Connect pipework	1XSA,2XGW		5;5	
Test run	1XPM;1XSA, 2XGW		2;5;5	
Efficiency test and report	1XT, 1XGW		8;8	
Commission	1XSS,1XSA		3;3	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for the efficiency testing prior to refurbishment	1XT;1XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSA, 2XGW			
Transport of the equipment to site after refurbishment	1XSA, 2XGW			
Travelling to site and back to install equipment and laser align	1XSA, 2xGW			
Travelling to site and back for the efficiency testing after to refurbishment	1xT, 1xGW			
Travel to site and back by to laser align, test and commission	1XPM, 1XSS, 1xSA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 10.9

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

The equipment is located at **Zaaihoek Dam.TYPE OF VEHICLE**	**RATE/ KM**	**TOTAL DISTANCE**	**TOTAL AMOUNT**
		TOTAL TRANSPORT COST	

10.10 ACTUATOR AT GROOTDRAAI DAM (SERVICE) 26°55'08"S 29°17'38"E

(200-9000Nm, SA 100 E, 180 l/min)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM,1XSO		8,8	
Remove	1XA		1	
Dismantle	1XA		5	
Clean	2XGW		1	
Inspect	1XSS		1	
Report	1XSS		0.2	
Reassemble	1XA		5	
Re-connect wiring	1SS		2	
Reset limits/calibrate	1XSS,1XA		1.5;1.5	
Coat	1XSS		1	
Test certificate	1XSS		1	
Commission	1XA		2	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back) to disconnect and remove equipment	1XA			
Transport of the equipment to your works for refurbishment				
Transport of the equipment to site after refurbishment				
Travelling time (1 trip to site and back) to install equipment test and commission	1XA			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 10.10

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Grootdraai dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

10.11 ACTUATOR AT VRESAP PUMP STATION (SERVICE) 26°52'37S 28°15'22"E

(25kNm, 16 AD, 48 u/min)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM,1XSO		8,8	
Remove	1XA		1	
Dismantle	1XA		5	
Clean	2XGW		1	
Inspect	1XSS		1	
Report	1XSS		0.2	
Reassemble	1XA		5	
Re-connect wiring	1SS		2	
Reset limits/calibrate	1XSS,1XA		1.5;1.5	
Coat	1XSS		1	
Test certificate	1XSS		0.2	
Commission	1XA		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling time (1 trip to site and back) to disconnect and remove equipment	1XA			
Transport of the equipment to your works for refurbishment				
Transport of the equipment to site after refurbishment				
Travelling time (1 trip to site and back) to install equipment test and commission	1XA			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 10.11

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Vresap Pump Station**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

10.12 ELECTRIC MOTOR REFURBISHMENT (ZAAIHOEK DAM) 27°26'18"S 30°03'34"E

(Squirrel cage, induction, star coupled, direct on line,1650kW, 6.6 kV, 186 a, 988 rev/min, 50 Hz)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM,1XSO		8,8	
Efficiency test and report	1XT,1XGW		8;8	
Uncouple and loosen all pipework	1XA,1XSS		5;5	
Remove Motor	1XA,1XSS		12;6	
Dismantle	1XA,1XSS		4;8	
Clean	1XSS		4	
Inspect	1XT,1XA		1;3	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Clean all cooling water pipes and systems	1XGW		4	
Rewind stator to acceptable standards	1XA,1XSS		45;70	
Check temp. sensors, replace faulty ones and ensure 2 per phase.	1XA,1XSS		3;5	
Check motor heaters	1XA		1	
Vacuum pressure impregnate	1XA		3	
Repair/replace defective rotor bars	1XA,1XSS		45;45	
Re-metal white metal bearings (DE + NDE)				
Repair shaft journals				
Balance rotor	1XA		6	
Assemble motor	1XA,1XSS		10;10	
Test run motor	1XT		6	
Test report	1XT		1	
Condition of plant report (To be included in pump condition of plant report)	1XT		5	
Install	1XA,1XSS		6;6	
Reconnect	1XT,1XA,1XSS		2;4;4	
Align (Laser)	1XT,1XSS		3;3	
Test run	1XT		5	
Commission	1XT		2	
Efficiency test and report	1XT,1XGW		8;8	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back)	1XT,1XGW			
Travelling time (1 trip to site and back)	1XA,1XSS			
Travelling time (2 trips to site and back)	1XT,1XA,1XSS			
Travelling time (1 trip to site and back)	1XT,1XGW			
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 10.12

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Zaaihoek Dam**.
- Travelling to site and back by 1xT, 1xGW for the efficiency testing prior to refurbishment.
- Travelling to site and back by 1xA, 1xSS to disconnect and remove the equipment.
- Transport of the equipment to your works for refurbishment.
- Transport of the equipment to site after refurbishment.
- Travelling to and back site, two trips, by 1XT, 1XA, 1XSS to install, reconnect, align equipment and commission.

Travelling to site and back by 1xT, 1xGW for the efficiency testing after refurbishment.

Transport cost for item 10.12 (continues)

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

10.13 SWITCHGEAR AND CAPACITORS SERVICING PER PUMP SET (GROOTDRAAI PUMP STATION)

(Medium Voltage, 6.6 kV, 1250 A, 10 MVA) **26°55'08"S 29°17'38"E**

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM,1XSO		2	
Travelling time (one trip to site)	1XSA,1XA,1XSS,			
Cleaning of all switchgear units' components and capacitors (Internal and external)	1XA,1XSS		3;5	
Checking of all termination's	1XA		2	
Tightening of all loose contacts	1XSS		2	
Testing of all relevant instrumentation, relays, contactors, protection etc.	1XSA		6	
Detailed report for each individual switchgear and capacitor unit	1XSA		2	
Identification of obsolete switchgear	1XSA		1	
Detailed report of obsolete switchgear	1XSA		1	
Travelling time (one trip from site)	1XSA,1XA,1XSS,			
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back)	1XT,1XGW			
Travelling time (1 trip to site and back)	1XA,1XSS			
Travelling time (2 trips to site and back)	1XT,1XA,1XSS			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 10.13

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Grootdraai Pump Station**.
- Travelling to site by 1XSA, 1XA, 1XSS.
- Travelling from site by 1XSA, 1XA, 1XSS.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

10.14 SWITCHGEAR SERVICING (VRESAP PUMP STATION) 26°52'37S 28°15'22"E

(Low Voltage, 400 V)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM,1XSO		2,2	
Cleaning of all switchboard units (Internal & external)	1XA,1XSS		1,1	
Checking of all termination's	1XA		½	
Tightening of all loose contacts	1XSS		2	
Testing of all relevant instrumentation, contactors, relays, etc.	1XA		4	
Detailed report for each individual switchgear unit	1XA		1	
Identification of obsolete switchgear	1XA		1	
Detailed reports of obsolete switchgear	1XA		½	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (to site)	1XA,1XSS			
Travelling time (from site)	1XA,1XSS			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 10.14

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Vresap Pump Station**.
- Travelling to site by 1xA, 1xSS.
- Travelling from site by 1xA, 1xSS.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

10.15 TRANSFORMERS REFURBISHMENT (GROOTDRAAI DAM) 26°55'08"S 29°17'38"E

(250 kVA, 6600/400 V, 3 Phase, 50 Hz)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM,1XSO		4,4	
Uncouple and loosen termination's	1XA, 2XSS		1,1	
Remove	1XA, 2XSS		3,3	
Test oil and forward detailed report	1XA		1	
Dismantle	1XA,1XSS		4;4	
Clean	1XSS		2	
Inspect	1XA		2	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Rewind	1XA,1XSS		20,20	
Assemble	1XA,1XSS		15,15	
Replace oil with new oil	1XSS		2	
Replace all gaskets	1XSS		2	
Appropriate tests	1XT		1	
Test reports	1XT		1	
Install	1XA		5	
Reconnect	1XA		3	
Commission	1XT		1	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (to site and back)	1XA, 2XSS			
Travelling time (to site and back)	1XT,1XA			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 10.15

The transport on the item will be calculated on the following criteria:

- The equipment is located at Grootdraai Dam.
- Travelling to site and back by 1XA, 2xSS to disconnect and remove the equipment.
- Transport of the equipment to your works for refurbishment.
- Transport of the equipment to site after refurbishment.
- Travelling to site and back by 1XT,1XA to install, reconnect test and commission.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

11 CENTRAL OPERATIONS TUGELA VAAL AREA

11.1 NEEDLE VALVE AT STERKFONTEIN DAM 28°23'07"S 29°00'30"E

(DN 800/700, 25 Bar, with hydraulic damping system gearbox and electric actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
Project management	1 PM		6	
Disconnect and Remove	1XA, 2XGW		5;5	
Dismantle	1XA, 2XGW		5;15	
Rough blast and clean	1XSS, 1XGW		5;3	
Inspect	1XSA, 1XA		2;4	
Report, prepare quality control plans, finalising scope of work	1XPM,1XSO		3,3	
Pressure test body	1XSA,1XA, 2XGW		1;2;2	
Fettling to specification	2XSS		16	
Final blast to SA 3	1XA,1XSS		6;16	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;16	
Polish of plunger	1XA, 1XGW		5;1	
Manufacture of crank and connecting rod bushes	1XA		2	
Reassemble	1XA, 2XGW		10;15	
Pressure test	1XSA,1XA, 2XGW		1;4;4	
Pressure test certificate	1XSA		1	
Install	1XA, 2XGW		8;8	
Testing and Commission	1XSA ; 1XA		5;5	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment.	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSS, 1XA			
Transport of the equipment to site after refurbishment	1XSS, 1XA			
Travelling to site and back to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSA, 1XA			
Travel to site and back to test and commission	1XPM,1XSA, 1XA			
			Total	
Accommodation	Cost	LOA **with-out** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 11.1

For adjudication purposes the transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Sterkfontein Dam**

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.2 SPHERICAL VALVE AT DRIEL DAM 28°45'47"S 29°17'25"E

(DN 1000, 2,5 MPa, with gearbox and electric/hydraulic actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		4	
Disconnect and Remove	1XA, 2XGW		8;8	
Dismantle	1XA, 2XGW		12;12	
Rough blast and clean	1XSS, 1XGW		6;3	
Inspect	1XPM,1XSS,1XA		2;2;4	
Report, prepare quality control plans, finalising scope of work	1XPM,1XSO		3,3	
Pressure Test	1XSS,1XA, 2XGW		1;2;2	
Fettling to specification	2XSS		16	
Final blast to SA 3	1XA,1XSS		6;16	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		3;18	
Reassemble & Inspection	1XPM, 1XSS,1XA, 2XGW		2; 2;16;16	
Pressure Test	1XPM; 1XSS,1XA, 2XGW		1; 1;4;4	
Pressure test certificate	1XSS		1	
Install	1XA,2XGW		8;8	
Commission	1XSS,1XA		5;5	
Report and submit quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1X PM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSS			
Transport of the equipment to site after refurbishment	1XSS			
Travelling to site and back by to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSS;1XA			
Travel to site and back by to test and commission	1XPM,1XSS & 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 11.2

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Driel Dam**.

TYPE OF VEHICLE (ENGIN CAPACITY)	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.3 BUTTERFLY VALVE AT KILBURN PUMP STATION 28°35'52"S 29°07'00"E

(DN 2000, with drop weight hydraulic / actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM,1XSO		6,6	
Disconnect and remove	1XA, 2XGW		8;8	
Dismantle	1XA, 2XGW		9;9	
Rough blast and clean	1XSS, 1XGW		4;4	
Inspect	1XSA,1XA		2;2	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Pressure test body	1XPM;1XSA, 1XA, 2XGW		1;1;3;3	
Fettling to specification	2XSS		10	
Manufacture and fit new stainless steel body seat	1XA,1XSS		9;3	
Manufacture new stainless steel clamp ring	1XA		6	
Manufacture new bushes	1XA		3	
Final blast to SA 3	1XA,1XSS		4;12	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;14	
Reassemble	1XA, 2XGW		12;12	
Pressure Test	1XPM; 1XSA,1XA, 2XGW		1;1;4;4	
Pressure test certificate	1XSS		1	
Report and submit completed quality control sheets	1XPM		2	
Install	1XA,2XGW		9;9	
Test & Commission	1XSA; 1XA		6;6	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection.	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment.	1XSS			
Transport of the equipment to site after refurbishment.	1XSS			
Travelling to site and back by to install equipment.	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XA, 2XGW			
Travel to site and back to test and commission	1XPM, 1XSS; 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 11.3

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Kilburn Pump Station**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.4 SLEEVE VALVE AT STERKFONTEIN DAM 28°23'07"S 29°00'30"E

(DN 1000, with Electric/hydraulic actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM		4	
Dismantle and remove	1XA, 2XGW		9;9	
Dismantle	1XA, 2XGW		16;16	
Blast and clean	1XSS;1XGW		5;3	
Inspect	1XSA,1XA		1;3	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Fettling to specification	2XSS		4	
Final blast to SA 3	1XA,1XSS		5;15	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;14	
Reassemble	1XA, 2XGW		9;9	
Pressure Test	1XPM;1XSA,1XA, 2XGW		1;1;3;3	
Pressure test certificate	1XSS		1	
Report and submit completed quality control sheets	1XPM		2	
Install	1XA,2XGW		14;14	
Test & Commission	1XSA, 1XA		4;4	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection.	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA and 2XGW			
Transport of the equipment to your works for refurbishment	1XSS			
Transport of the equipment to site after refurbishment	1XSS			
Travelling to site and back to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSS, 1XA			
Travel to site and back by to test and commission	1XPM, 1XSS, 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 11.4

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Sterfontein Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.5 PUMP AT DRIEL PUMPSTATION 28°45'47"S 29°17'25"E

(Centrifugal, axial flow, horizontal split, single stage, double suction, 6600 kV; 6.6 MW, flow rate = 2000 l/s)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM,1XSO		6;6	
Efficiency test and report	1XT;1XGW		8;8	
Uncouple coupling and loosen pipe work	1XA, 2XGW		4;4	
Remove pump	1XA, 2XGW		2;2	
Dismantle in Workshops	1XA, 2XGW		16;16	
Clean pump and piping	2XGW		8	
Inspect	1XSA		9	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Final blast to SA 3	1XA,1XSS		9;18	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		9;36	
Replace shaft with new Stainless Steel shaft	1XSA,1XGW		4;4	
Replace impeller with new Stainless Steel impeller	1XSA,1XGW		4;4	
Replace all brass sleeves with new brass sleeves	1XSA,1XGW		6;6	
Replace existing neck rings with two new stainless steel neck rings (include. New stainless steel bolts)	1XSA,1XGW		8;8	
Replace existing wearing rings with two new Brass wearing rings (include. New brass bolts)	1XSA,1XGW		8;8	
Replace packings	1XSA,1XGW		6;6	
Fit parts and reassemble pump	1XSA,1XGW		8;8	
Coat pump externally to colour code	1XSS		6	
Supply test report	1XSA		4	
Supply condition of plant report on all work done (Complete including motor repair report) and completed quality control report	1XT		6	
Install pump (new packing material)	1XSA, 2XGW		8;8	
Align with laser	1XSA,2XGW		4;4	
Re-couple	1XSA,2XGW		3;3	
Connect pipework	1XSA,2XGW		5;5	
Test run	1XPM;1XSA, 2XGW		2;5;5	
Efficiency test and report	1XT, 1XGW		8;8	
Commission	1XSS,1XSA		3;3	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for the efficiency testing prior to refurbishment	1XT;1XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XSA, 2XGW			
Transport of the equipment to site after refurbishment	1XSA, 2XGW			
Travelling to site and back to install equipment and laser align	1XSA, 2XGW			
Travelling to site and back for the efficiency testing after to refurbishment	1XT, 1XGW			
Travel to site and back by to laser align, test and commission	1XPM,1XSS, 1XSA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 11.5

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Driel Pump Station**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

11.6 CRANE AT JAGERSRUST (SERVICE AND SPECIFY REPAIRS) 28°35'52"S 29°07'00"E

(53 Ton Portal Crane, with 2 auxiliary 7,5 ton winches)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		5	
Inspection and testing • Mechanical • Electrical	1XSA		3	
Report, prepare quality control plans, finalising scope of work	1XPM,1XSO		3;3	
Complete service • Clean • Lubricate • Inspect Safety system componebts and settings and adjust where required. • Inspect and adjust braking systems.	1XSA,2XSS		9;9	
Replace break shoes	1XSA,2XSS		8;8	
Replace rope with new HDG wire rope and set limits.	1XSA,2XSS		36;36	
Load test	1XSA,2XSS		8;8	
Test reports	1XSA		1	
Living out allowance	1XSA,2XSS		8 Days	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM, 1XSA,2XSS			
Travelling to site and back with load test equipment and test.	1XSA, 2xSS			
			Total	
Accommodation	Cost	**LOA** without **Meals**	**LOA** with **Meals**	Total
Guesthouse				
Contractors Mobile				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 11.6

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Jagersrust**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.7 STOP LOGS AT STERKFONTEIN DAM 28°23'07"S 29°00'30"E

(12m x 3 m, Mild Steel)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER STOP LOG	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		16;16	
Dismantle	1XA,1XSS, 2XGW		16;16;16	
Rough blast and clean	1XA, 1XSS, 1XGW		16;16;16	
Inspect	1XPM,1XA		2;6	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Final blast to SA 3	1XA, 1XSS; 2XGW		24;24;24	
Coat (Wet –DFT 375µm two pack epoxy plus 40µm re-coatable poly-urethane; dry – DFT 250µm two pack epoxy plus top coat of 125µm Multi-purpose epoxy)	1XA, 1XSS, 1XGW		80;80;80	
Replace seals	1XPM,1XA,2XGW		4;4;4	
Replace lashing strips with stainless steel lashing strips (coat with epoxy)	1XPM,1XA,2XGW		4;4;4	
Replace all bolts with stainless steel bolts (coat with epoxy)	1XPM,1XA,2XGW		4;4;4	
Assemble	1XPM,1XA,2XGW		4;4;4	
Test and Commission	1XPM,1XA,2XGW		8;8;8	
Test report	1XPM		4	
Report and submit completed quality control sheets	1XPM		2	
Living out allowance	1XA,1XSS, 2XGW		19 Days	
Living out allowance	1XPM		2 Days	
Cost of equipment to perform scope of work				
			Total	
Travelling time				
Travelling to site and back for pre-quotation inspection	1XPM,1XSA			
Travelling to site to do work on site	1XA,1XSS, 2XGW			
Travelling to site and back to do inspection	1xPM			
Travelling to site for pre-commissioning inspection	1XPM			
Travelling time (trip from site)	1XA,1XSS, 2XGW			
Travel to site and back for assembly, test and commission				
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	**Total**
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 11.7

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Sterkfontein Dam**.

Transport cost for item 11.7 (continues)

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.8 SCREENS (DRIEL WIER) 28°45'47"S 29°17'25"E

(Trash Racks, Anodised Aluminium)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER SCREEN	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		12	
Remove	1XA, 2xGW		3;3	
Dismantle	1XA, 1XGW		24;24	
Clean	2XGW		16	
Inspect	1XA; 1XSS		2; 3	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Repair	1XA		24	
Corrosion protect	1XSS		24	
Assemble	1XA		24	
Test reports	1XSS		1	
Install, test and commission	1XSS, 1XA, 2xGW		5;5;5	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM,1XA; 1XSS			
Travelling to site and back to remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XA, 2XGW			
Transport of the equipment to site after refurbishment	1XA, 2XGW			
Travelling to site and back by to install, test and commission	1XPM, 1XSS, 1XA, 2XGW			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	**Total**
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 11.8

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Driel Wier**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.9 CREST GATES (KILBURN PUMP STATION) 28°35'52"S 29°07'00"E

(Flood Control, Radial Type, 12m x 12 m, Mild Steel)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER CREST GATE	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1 PM		6	
Inspect/Evaluate	1XPM,1XA		8;8	
Report, prepare quality control plans, finalising scope of work	1XPM;1XSO		3;3	
Blast	1XA,2XSS,4XGW		80;120;120	
Clean	1XA,4XGW		16;16	
Application of protective coating (per coat)	1XA,2XSS,4XGW		36;120;120	
Replace seals	1XPM,2XA,4XGW		2;8;8	
Replace lashing strips with stainless steel lashing strips (coat)	1XPM,2XA,4XGW		2;8;8	
Replace all fasteners with stainless steel fasteners (coat)	1XPM,2XA,4XGW		2;8;8	
Test report	1XPM; 2XA		5; 3	
Living out allowance	1XPM; 2XA; 2XSS; 4XGW		2; 18; 27; 30	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling time (1 trip to site and back) pre-quotation	1XPM			
Travelling time (2 trips to site)	2XA,2XSS,4XGW			
Travelling time (1 trip to site and back) inspection	1XPM			
Travelling time (2 trips from site)	2XA,2XSS,4XGW			
Travelling time (1 trip to site and back) inspection	1XPM			
Travelling time (one trip to site and back) commissioning	1XPM			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 11.9

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Kilburn Pump Station**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.10 ACTUATOR AT STERKFONTEIN DAM (SERVICE) 28°23'07"S 29°00'30"E

(200-9000Nm, SA 100 E, 180 l/min)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		8;8	
Remove	1XA		1	
Dismantle	1XA		5	
Clean	2XGW		1	
Inspect	1XSS		1	
Report	1XSS		0.2	
Reassemble	1XA		5	
Re-connect wiring	1SS		2	
Reset limits/calibrate	1XSS,1XA		1.5;1.5	
Coat	1XSS		1	
Test certificate	1XSS		1	
Commission	1XA		2	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back) to disconnect and remove equipment	1XA			
Transport of the equipment to your works for refurbishment				
Transport of the equipment to site after refurbishment				
Travelling time (1 trip to site and back) to install equipment test and commission	1XA			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 11.10

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Sterkfontein Dam**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

11.11 ACTUATOR AT DRIEL WIER (SERVICE) 28°45'47"S 29°17'25"E

(25kNm, 16 AD, 48 u/min)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		8;8	
Remove	1XA		1	
Dismantle	1XA		5	
Clean	2XGW		1	
Inspect	1XSS		1	
Report	1XSS		0.2	
Reassemble	1XA		5	
Re-connect wiring	1SS		2	
Reset limits/calibrate	1XSS,1XA		1.5;1.5	
Coat	1XSS		1	
Test certificate	1XSS		0.2	
Commission	1XA		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling time (1 trip to site and back) to disconnect and remove equipment	1XA			
Transport of the equipment to your works for refurbishment				
Transport of the equipment to site after refurbishment				
Travelling time (1 trip to site and back) to install equipment test and commission	1XA			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 11.11

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Driel Wier**.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.12 ELECTRIC MOTOR REFURBISHMENT (KILBURN PUMP STATION) 28°35'52"S 29°07'00"E

(Squirrel cage, induction, star coupled, direct on line, 1650kW, 6.6 kV, 186 A, 988 rev/min, 50 Hz)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		8;8	
Efficiency test and report	1XT,1XGW		8;8	
Uncouple and loosen all pipework	1XA,1XSS		5;5	
Remove Motor	1XA,1XSS		12;6	
Dismantle	1XA,1XSS		4;8	
Clean	1XSS		4	
Inspect	1XT,1XA		1;3	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Clean all cooling water pipes and systems	1XGW		4	
Rewind stator to acceptable standards	1XA,1XSS		45;70	
Check temp. sensors, replace faulty ones and ensure 2 per phase.	1XA,1XSS		3;5	
Check motor heaters	1XA		1	
Vacuum pressure impregnate	1XA		3	
Repair/replace defective rotor bars	1XA,1XSS		45;45	
Re-metal white metal bearings (DE + NDE)				
Repair shaft journals				
Balance rotor	1XA		6	
Assemble motor	1XA,1XSS		10;10	
Test run motor	1XT		6	
Test report	1XT		1	
Condition of plant report (To be included in pump condition of plant report)	1XT		5	
Install	1XA,1XSS		6;6	
Reconnect	1XT,1XA,1XSS		2;4;4	
Align (Laser)	1XT,1XSS		3;3	
Test run	1XT		5	
Commission	1XT		2	
Efficiency test and report	1XT,1XGW		8;8	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back)	1XT,1XGW			
Travelling time (1 trip to site and back)	1XA,1XSS			
Travelling time (2 trips to site and back)	1XT,1XA,1XSS			
Travelling time (1 trip to site and back)	1XT,1XGW			
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 11.12

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Kilburn Pump Station**.
- Travelling to site and back by 1XT, 1XGW for the efficiency testing prior to refurbishment.
- Travelling to site and back by 1XA, 1XSS to disconnect and remove the equipment.
- Transport of the equipment to your works for refurbishment.
- Transport of the equipment to site after refurbishment.
- Travelling to and back site, two trips, by 1XT, 1XA, 1XSS to install, reconnect, align equipment and commission.

Travelling to site and back by 1XT, 1XGW for the efficiency testing after refurbishment.

Transport cost for item 11.12 (continues)

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.13 SWITCHGEAR AND CAPACITORS SERVICING PER PUMP SET (STERKFONTEIN DAM)

(Medium Voltage, 6.6 kV, 1250 A, 10 MVA) **28°23'07"S 29°00'30"E**

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		2;2	
Travelling time (one trip to site)	1XSA,1XA,1XSS,			
Cleaning of all switchgear units' components and capacitors (Internal and external)	1XA,1XSS		3;5	
Checking of all termination's	1XA		2	
Tightening of all loose contacts	1XSS		2	
Testing of all relevant instrumentation, relays, contactors, protection etc.	1XSA		6	
Detailed report for each individual switchgear and capacitor unit	1XSA		2	
Identification of obsolete switchgear	1XSA		1	
Detailed report of obsolete switchgear	1XSA		1	
Travelling time (one trip from site)	1XSA,1XA,1XSS,			
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back)	1XT,1XGW			
Travelling time (1 trip to site and back)	1XA,1XSS			
Travelling time (2 trips to site and back)	1XT,1XA,1XSS			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 11.13

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Sterkfontein Dam**.
- Travelling to site by 1XSA, 1XA, 1XSS.
- Travelling from site by 1XSA, 1XA, 1XSS.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.14 SWITCHGEAR SERVICING (DRIEL WIER) 28°45'47"S 29°17'25"E

(Low Voltage, 400 V)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		2;2	
Cleaning of all switchboard units (Internal & external)	1XA,1XSS		1;1	
Checking of all termination's	1XA		½	
Tightening of all loose contacts	1XSS		2	
Testing of all relevant instrumentation, contactors, relays, etc.	1XA		4	
Detailed report for each individual switchgear unit	1XA		1	
Identification of obsolete switchgear	1XA		1	
Detailed reports of obsolete switchgear	1XA		½	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (to site)	1XA,1XSS			
Travelling time (from site)	1XA,1XSS			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 11.14

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- The equipment is located at **Driel Wier**.
- Travelling to site by 1xA, 1xSS.
- Travelling from site by 1xA, 1xSS.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

11.15 TRANSFORMERS REFURBISHMENT (KILBURN PUMP STATION) 28°35'52"S 29°07'00"E

(250 kVA, 6600/400 V, 3 Phase, 50 Hz)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		4;4	
Uncouple and loosen termination's	1XA, 2XSS		1;1	
Remove	1XA, 2XSS		3;3	
Test oil and forward detailed report	1XA		1	
Dismantle	1XA,1XSS		4;4	
Clean	1XSS		2	
Inspect	1XA		2	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Rewind	1XA,1XSS		20;20	
Assemble	1XA,1XSS		15;15	
Replace oil with new oil	1XSS		2	
Replace all gaskets	1XSS		2	
Appropriate tests	1XT		1	
Test reports	1XT		1	
Install	1XA		5	
Reconnect	1XA		3	
Commission	1XT		1	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (to site and back)	1XA, 2XSS			
Travelling time (to site and back)	1XT,1XA			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 11.15

The transport on the item will be calculated on the following criteria:

- The equipment is located at **Kilburn Pump Station**.
- Travelling to site and back by 1XA, 2xSS to disconnect and remove the equipment.
- Transport of the equipment to your works for refurbishment.
- Transport of the equipment to site after refurbishment.
- Travelling to site and back by 1XT,1XA to install, reconnect test and commission.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

12 CENTRAL OPERATIONS FREE STATE AREA

12.1 BUTTERFLY VALVE AT KNELLPOORT DAM 29°46'54"S 26°53'20"E

(DN 1000, with hydraulic actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		6;6	
Disconnect and remove	1xA, 2XGW		8;8	
Dismantle	1xA, 2XGW		9;9	
Rough blast and clean	1XSS, 1XGW		4;4	
Inspect	1XSS,1XA		2;2	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Pressure test body	1XPM;1XSS, 1XA, 2XGW		1;1;3;3	
Fettling to specification	2XSS		10	
Manufacture and fit new stainless steel body seat	1XA,1XSS		9;3	
Manufacture new stainless steel clamp ring	1XA		6	
Manufacture new bushes	1XA		3	
Final blast to SA 3	1XA,1XSS		4;12	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;14	
Reassemble	1xA, 2XGW		12;12	
Pressure Test	1XPM;1XSS,1XA, 2XGW		1;1;4;4	
Pressure test certificate	1XSS		1	
Report and submit completed quality control sheets	1XPM		2	
Install	1XA,2XGW		9;9	
Test & Commission	1XS; 1XA		6;6	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection.	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment.	1XSS			
Transport of the equipment to site after refurbishment.	1XSS			
Travelling to site and back by to install equipment.	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XA, 2XGW			
Travel to site and back to test and commission	1XPM, 1XSS; 1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 12.1

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

12.2 SLEEVE VALVE AT BLOEMHOF DAM 27°40'02"S 25°37'03"E

(DN 1000, with Electric/hydraulic actuator)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		4;4	
Dismantle and remove	1XA, 2XGW		9;9	
Dismantle	1XA, 2XGW		16;16	
Blast and clean	1XSS;1XGW		5;3	
Inspect	1XSS,1XA		1;3	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Fettling to specification	2XSS		4	
Final blast to SA 3	1XA,1XSS		5;15	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		2;14	
Reassemble	1XA, 2XGW		9;9	
Pressure Test	1XPM;1XSA,1XA, 2XGW		1;1;3;3	
Pressure test certificate	1XSA		1	
Report and submit completed quality control sheets	1XPM		2	
Install	1XA,2XGW		14;14	
Test & Commission	1XSA, 1XA		4;4	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection.	1XPM, 1XA, 2XGW			
Travelling to site and back to disconnect and remove the equipment	1XA and 2XGW			
Transport of the equipment to your works for refurbishment	1XSS			
Transport of the equipment to site after refurbishment	1XSS			
Travelling to site and back to install equipment	1XA, 2XGW			
Travel to site and back for pre-commissioning tests	1XSS, 1XA			
Travel to site and back by to test and commission	1XPM,1XSA,1XA			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 12.2
The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

12.3 PUMP AT VANDERKLOOF DAM PUMPSTATION 29°59'37"S 24°43'48"E

(Centrifugal, axial flow, horizontal split, single stage, double suction, 6600 kV; 6.6 MW, flow rate = 2000 l/s)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		6;6	
Efficiency test and report	1XT;1XGW		8;8	
Uncouple coupling and loosen pipe work	1XA, 2XGW		4;4	
Remove pump	1XA, 2XGW		2;2	
Dismantle in Workshops	1XA, 2XGW		16;16	
Clean pump and piping	2XGW		8	
Inspect	1XSA		9	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Final blast to SA 3	1XA,1XSS		9;18	
Coat (Epoxy minimum DFT of 400µm internally and epoxy 250µm & polyurethane 40µm)	1XA,1XSS		9;36	
Replace shaft with new Stainless Steel shaft	1XSA,1XGW		4;4	
Replace impeller with new Stainless Steel impeller	1XSA,1XGW		4;4	
Replace all brass sleeves with new brass sleeves	1XSA,1XGW		6;6	
Replace existing neck rings with two new stainless steel neck rings (include. New stainless steel bolts)	1XSA,1XGW		8;8	
Replace existing wearing rings with two new Brass wearing rings (include. New brass bolts)	1XSA,1XGW		8;8	
Replace packings	1XSA,1XGW		6;6	
Fit parts and reassemble pump	1XSA,1XGW		8;8	
Coat pump externally to colour code	1XSS		6	
Supply test report	1XSA		4	
Supply condition of plant report on all work done (Complete including motor repair report) and completed quality control report	1XT		6	
Install pump (new packing material)	1XSA, 2XGW		8;8	
Align with laser	1XSA,2XGW		4;4	
Re-couple	1XSA,2XGW		3;3	
Connect pipework	1XSA,2XGW		5;5	
Test run	1XPM;1XSA, 2XGW		2;5;5	
Efficiency test and report	1XT, 1XGW		8;8	
Commission	1XSS,1XSA		3;3	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for the efficiency testing prior to refurbishment	1XT;1XGW			
Travelling to site and back to disconnect and remove the equipment	1XA,2XGW			
Transport of the equipment to your works for refurbishment	1XSA,2XGW			
Transport of the equipment to site after refurbishment	1XSA,2XGW			
Travelling to site and back to install equipment and laser align	1XSA,2XGW			
Travelling to site and back for the efficiency testing after to refurbishment	1XT,1XGW			
Travel to site and back by to laser align, test and commission	1XPM,1XSA, 1XSS			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 12.3

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

12.4 CRANE AT BLOEMHOF DAM (SERVICE AND SPECIFY REPAIRS) 27°40'02"S 25°37'03"E

(52 Ton Portal Crane, with auxiliary 10 ton winches)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		5;5	
Inspection and testing • Mechanical • Electrical	1XSA		3	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Complete service • Clean • Lubricate • Inspect Safety system componebts and settings and adjust where required. • Inspect and adjust braking systems.	1XSA,2XSS		9;9	
Replace break shoes	1XSA,2XSS		8;8	
Replace rope with new HDG wire rope and set limits.	1XSA,2XSS		36;36	
Load test	1XSA,2XSS		8;8	
Test reports	1XSA		1	
Living out allowance	1XSA,2XSS		8 Days	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM, 1XSA,2XSS			
Travelling to site and back with load test equipment and test.	1XSA, 2XSS			
			Total	
Accommodation	Cost	**LOA** without **Meals**	**LOA** with **Meals**	Total
Guesthouse				
Contractors Mobile				
Departmental				
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 12.4

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

12.5 STOP LOGS AT NEUSBERG WEIR 28°42'31"S 20°29'39"E

(2,6m x 1,5 m, 3CR12 Stainless Steel)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER STOP LOG	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		16;16	
Dismantle	1XA,1XSS, 2XGW		16;16;16	
Rough blast and clean	1XA, 1XSS,1XGW		16;16;16	
Inspect	1XPM,1XA		2;6	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Final blast to SA 3	1XA, 1XSS; 2XGW		24;24;24	
Coat (Wet –DFT 375µm two pack epoxy plus 40µm re-coatable poly-urethane; dry – DFT 250µm two pack epoxy plus top coat of 125µm Multi-purpose epoxy)	1XA, 1XSS, 1XGW		80;80;80	
Replace seals	1XPM,1XA,2XGW		4;4;4	
Replace lashing strips with stainless steel lashing strips (coat with epoxy)	1XPM,1XA,2XGW		4;4;4	
Replace all bolts with stainless steel bolts (coat with epoxy)	1XPM,1XA,2XGW		4;4;4	
Assemble	1XPM,1XA,2XGW		4;4;4	
Test and Commission	1XPM,1XA,2XGW		8;8;8	
Test report	1XPM		4	
Report and submit completed quality control sheets	1XPM		2	
Living out allowance	1XA,1XSS, 2XGW		19 Days	
Living out allowance	1XPM		2 Days	
Cost of equipment to perform scope of work				
			Total	
Travelling time				
Travelling to site and back for pre-quotation inspection	1XPM,1XSA			
Travelling to site to do work on site	1XA,1XSS, 2XGW			
Travelling to site and back to do inspection	1XPM			
Travelling to site for pre-commissioning inspection	1XPM			
Travelling time (trip from site)	1XA,1XSS,2XGW			
Travel to site and back for assembly, test and commission				
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	**Total**
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 12.5

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

Transport cost for item 12.5 (continues)

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

12.6 SCREENS (ALLEMANSKRAAL DAM) 28°17'19"S 27°08'42"E

(Trash Racks, Anodised Aluminium)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER SCREEN	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		12;12	
Remove	1XA, 2xGW		3;3	
Dismantle	1XA, 1XGW		24;24	
Clean	2XGW		16	
Inspect	1XA; 1XSS		2; 3	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Repair	1XA		24	
Corrosion protect	1XSS		24	
Assemble	1XA		24	
Test reports	1XSS		1	
Install, test and commission	1XSS, 1XA, 2XGW		5;5;5	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling to site and back for pre-quotation inspection	1XPM,1XA; 1XSS			
Travelling to site and back to remove the equipment	1XA, 2XGW			
Transport of the equipment to your works for refurbishment	1XA, 2XGW			
Transport of the equipment to site after refurbishment	1XA, 2XGW			
Travelling to site and back by to install, test and commission	1XPM,1XSS,1XA, 2XGW			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	**Total**
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 12.6

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

12.7 CREST GATES (GARIEP DAM) 30°37'34"S 25°30'33"E

(Flood Control, Radial Type, 12m x 12 m, Mild Steel)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK PER CREST GATE	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		6;6	
Inspect/Evaluate	1XPM,1XA		8;8	
Report, prepare quality control plans, finalising scope of work	1XPM		3	
Blast	1XA,2XSS,4XGW		80;120;120	
Clean	1XA,4XGW		16;16	
Application of protective coating (per coat)	1XA,2XSS,4XGW		36;120;120	
Replace seals	1XPM,2XA,4XGW		2;8;8	
Replace lashing strips with stainless steel lashing strips (coat)	1XPM,2XA,4XGW		2;8;8	
Replace all fasteners with stainless steel fasteners (coat)	1XPM,2XA,4XGW		2;8;8	
Test report	1XPM; 2XA		5; 3	
Living out allowance	1XPM;2XA;2XSS; 4XGW		2; 18; 27; 30	
Report and submit completed quality control sheets	1XPM		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling time (1 trip to site and back) pre-quotation	1XPM			
Travelling time (2 trips to site)	2XA,2XSS,4XGW			
Travelling time (1 trip to site and back) inspection	1XPM			
Travelling time (2 trips from site)	2XA,2XSS,4XGW			
Travelling time (1 trip to site and back) inspection	1XPM			
Travelling time (one trip to site and back) commissioning	1XPM			
			Total	
Accommodation	Cost	LOA **without** Meals	LOA **with** Meals	Total
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 12.7

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

12.8 SWITCHGEAR AND CAPACITORS SERVICING PER PUMP SET (VANDERKLOOF PUMP STATION) 29°59'37"S 24°43'48"E

(Medium Voltage, 6.6 kV, 1250 A, 10 MVA)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM,1XSO		2;2	
Travelling time (one trip to site)	1XSA,1XA,1XSS,			
Cleaning of all switchgear units' components and capacitors (Internal and external)	1XA,1XSS		3;5	
Checking of all termination's	1XA		2	
Tightening of all loose contacts	1XSS		2	
Testing of all relevant instrumentation, relays, contactors, protection etc.	1XSA		6	
Detailed report for each individual switchgear and capacitor unit	1XSA		2	
Identification of obsolete switchgear	1XSA		1	
Detailed report of obsolete switchgear	1XSA		1	
Travelling time (one trip from site)	1XSA,1XA,1XSS,			
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (1 trip to site and back)	1XT,1XGW			
Travelling time (1 trip to site and back)	1XA,1XSS			
Travelling time (2 trips to site and back)	1XT,1XA,1XSS			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 12.8

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- Travelling to site by 1XSA, 1XA, 1XSS.
- Travelling from site by 1XSA, 1XA, 1XSS.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

12.9 SWITCHGEAR SERVICING (SPITSKOP DAM) 28°07'21"S 24°30'02"E

(Low Voltage, 400 V)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		2;2	
Cleaning of all switchboard units (Internal & external)	1XA,1XSS		1;1	
Checking of all termination's	1XA		½	
Tightening of all loose contacts	1XSS		2	
Testing of all relevant instrumentation, contactors, relays, etc.	1XA		4	
Detailed report for each individual switchgear unit	1XA		1	
Identification of obsolete switchgear	1XA		1	
Detailed reports of obsolete switchgear	1XA		½	
Cost of equipment to perform scope of work				
			Total	
Travelling				
Travelling time (to site)	1XA,1XSS			
Travelling time (from site)	1XA,1XSS			
			Total	
		TOTAL (excl. VAT)		

Transport cost for item 12.9

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

- Travelling to site by 1XA, 1XSS.
- Travelling from site by 1XA, 1XSS.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
		TOTAL TRANSPORT COST	

12.10 ACTUATOR AT TEEBUS ORANGE FISH TUNNEL DAM (SERVICE) 31°25'26"S 25°38'13"E

(200-9000Nm, SA 100 E, 100l/min)

Total Distance_____km (1 trip to site & back)

SCOPE OF WORK	SPECIFY LEVEL OF MANPOWER	RATE	NO OF HOURS	TOTAL
General project management	1XPM;1XSO		8;8	
Remove	1XA		1	
Dismantle	1XA		5	
Clean	2XGW		1	
Inspect	1XSS		1	
Report	1XSS		0.2	
Reassemble	1XA		5	
Re-connect wiring	1SS		2	
Reset limits/calibrate	1XSS,1XA		1.5;1.5	
Coat	1XSS		1	
Test certificate	1XSS		0.2	
Commission	1XA		2	
Cost of equipment to perform scope of work				
			Total	
Travelling Time				
Travelling time (1 trip to site and back) to disconnect and remove equipment	1XA			
Transport of the equipment to your works for refurbishment				
Transport of the equipment to site after refurbishment				
Travelling time (1 trip to site and back) to install equipment test and commission	1XA			
			Total	
Accommodation	Cost	**LOA without Meals**	**LOA with Meals**	
Guesthouse				
Contractors Mobile (-200 CREDIT)				
Departmental				
			Total	
			TOTAL (excl. VAT)	

Transport cost for item 12.10

The transport cost on the item will be calculated on the following criteria: See the Travelling time in the Table above for the detail of trips and select the type of vehicle to be used.

TYPE OF VEHICLE	RATE/ KM	TOTAL DISTANCE	TOTAL AMOUNT
	TOTAL TRANSPORT COST		

SUMMARY: CENTRAL OPERATIONS

CENTRAL OPERATIONS VAAL DAM AREA

TABLE NUMBER	SUB-TOTAL (excluding VAT)
Sub Total From Item 8.1	
Sub Total From Item 8.2	
Sub Total From Item 8.3	
Sub Total From Item 8.4	
Sub Total From Item 8.5	
Sub Total From Item 8.6	
Sub Total From Item 8.7	
Sub Total From Item 8.8	
Sub Total From Item 8.9	
Sub Total Mechanical	
Sub Total From Item 8.10	
Sub Total From Item 8.11	
Sub Total From Item 8.12	
Sub Total From Item 8.13	
Sub Total From Item 8.14	
Sub Total From Item 8.15	
Sub Total Electrical	
GRAND TOTAL (excluding VAT)	
GRAND TOTAL (including VAT)	

CENTRAL OPERATIONS USUTU RIVER AREA

TABLE NUMBER	SUB-TOTAL (excluding VAT)
Sub Total From Item 9.1	
Sub Total From Item 9.2	
Sub Total From Item 9.3	
Sub Total From Item 9.4	
Sub Total From Item 9.5	
Sub Total From Item 9.6	
Sub Total From Item 9.7	
Sub Total From Item 9.8	
Sub Total From Item 9.9	
Sub Total Mechanical	
Sub Total From Item 9.10	
Sub Total From Item 9.11	
Sub Total From Item 9.12	
Sub Total From Item 9.13	
Sub Total From Item 9.14	
Sub Total From Item 9.15	
Sub Total Electrical	
GRAND TOTAL (excluding VAT)	
GRAND TOTAL (including VAT)	

CENTRAL OPERATIONS USUTU VAAL AREA

TABLE NUMBER	SUB-TOTAL (excluding VAT)
Sub Total From Item 10.1	
Sub Total From Item 10.2	
Sub Total From Item 10.3	
Sub Total From Item 10.4	
Sub Total From Item 10.5	
Sub Total From Item 10.6	
Sub Total From Item 10.7	
Sub Total From Item 10.8	
Sub Total From Item 10.9	
Sub Total Mechanical	
Sub Total From Item 10.10	
Sub Total From Item 10.11	
Sub Total From Item 10.12	
Sub Total From Item 10.13	
Sub Total From Item 10.14	
Sub Total From Item 10.15	
Sub Total Electrical	
GRAND TOTAL (excluding VAT)	
GRAND TOTAL (including VAT)	

CENTRAL OPERATIONS TUGELA VAAL AREA

TABLE NUMBER	SUB-TOTAL (excluding VAT)
Sub Total From Item 11.1	
Sub Total From Item 11.2	
Sub Total From Item 11.3	
Sub Total From Item 11.4	
Sub Total From Item 11.5	
Sub Total From Item 11.6	
Sub Total From Item 11.7	
Sub Total From Item 11.8	
Sub Total From Item 11.9	
Sub Total Mechanical	
Sub Total From Item 11.10	
Sub Total From Item 11.11	
Sub Total From Item 11.12	
Sub Total From Item 11.13	
Sub Total From Item 11.14	
Sub Total From Item 11.15	
Sub Total Electrical	
GRAND TOTAL (excluding VAT)	
GRAND TOTAL (including VAT)	

CENTRAL OPERATIONS FREE STATE AREA

TABLE NUMBER	SUB-TOTAL (excluding VAT)
Sub Total From Item 12.1	
Sub Total From Item 12.2	
Sub Total From Item 12.3	
Sub Total From Item 12.4	
Sub Total From Item 12.5	
Sub Total From Item 12.6	
Sub Total From Item 12.7	
Sub Total Mechanical	
Sub Total From Item 12.8	
Sub Total From Item 12.9	
Sub Total From Item 12.10	
Sub Total Electrical	
GRAND TOTAL (excluding VAT)	
GRAND TOTAL (including VAT)	