

**ESKOM GENERATION****2025**

**CAMDEN POWER STATION:  
DEGAS SUMP LINING INSPECTION  
AND REPAIRS; RE-LINING OF  
BRINE TANK, AND RUBBER LINING  
FOR DEMIN VESSELS -  
PROVISIONAL BILLS OF  
QUANTITIES**

**CONTRACT NUMBER :****CONTRACTOR :****CONTRACT AMOUNT (EXCL. VAT) :****CONTRACT AMOUNT (INCL. VAT) :**

## **TABLE OF CONTENTS**

### **Contract Data**

Notes to Tenderers

Model Preambles

### **Bill of Quantities**

- |   |                                                      |
|---|------------------------------------------------------|
| 1 | Section 1 - Preliminaries and Generals               |
| 2 | Section 2 - Degas Sump Lining Inspection and Repairs |
| 3 | Section 3 - Re-lining of Brine Tank                  |
| 4 | Section 4 - Rubber Lining for Demin Vessels          |

Final Summary

# **NOTES TO TENDERERS**

## **NOTES TO TENDERERS**

### **1. Provisional Bills of Quantities**

This document comprises Notes to Tenderers, Model Preambles and Provisional Bills of Quantities and is hereafter referred to as "the Provisional Bills of Quantities".

### **2.1 CONTRACT DOCUMENTS**

The contract documents will consist of:

2.1.1 The NEC3 Terms Service Contract third Edition third Edition 2013 together with all amendments.

2.1.2 The Model Preambles for Trades (2008 Edition) as published by the ASQS. This document is not incorporated within the text of these Provisional Bills of Quantities, accordingly the contractor is urged to make careful reference to this Document for its full intent and meaning.

2.1.3 These Provisional Bills of Quantities, including all annexures and supplementary documentation referred to therein.

2.1.4 Documents to be provided by the Contractor in terms of the requirements of these Provisional Bills of Quantities.

2.1.5 Construction Regulations 2014

2.1.6 Occupational Health and Safety Act of 1993

2.1.7 Scope of Works Document (3 no) are Enclosed with this Provisional Bills of Quantities

### **2.2 DRAWINGS**

No Drawings are available for this contract

### **3 PREAMBLES TO ALL TRADES**

Tenderers are referred to the Model Preambles for Trades, 2008 Edition, (recommended and published by the Association of South African ESKOM Officials) and the "Supplementary Preambles to All Trades" (Supplementary Preambles pages 1-10 hereof) for the full descriptions and specifications referred to in these Provisional Bills of Quantities. It should be noted that descriptions in these Provisional Bills of Quantities generally appear in brief, but whether specific reference to the Model Preambles and the "Supplementary Preambles" is made or not, they shall be deemed to apply fully to and augment the descriptions of the relevant items. No claim whatsoever will be allowed in respect of errors or omissions in pricing due to brevity of descriptions of items in the Provisional Bills of Quantities which are fully described when read in conjunction with the relevant requirements of the Model Preambles and the "Supplementary Preambles to All Trades".

The Tenderer must study the Model Preambles and the "Supplementary Preambles to All Trades" before pricing these Provisional Bills of Quantities and all prices inserted in these Provisional Bills of Quantities shall cover all costs and charges that may be considered necessary by the Tenderer for the carrying out and observance of the Provisions of the Model Preambles and the "Supplementary Preambles to All Trades". Where requirements of descriptions in the Provisional Bills of Quantities differ from the relevant requirements of the Model Preambles and the "Supplementary Preambles to All Trades", the requirements of the descriptions in the Provisional Bills of Quantities shall apply.

### **4 VALUE ADDED TAX**

Tenderers should compute their rates from the net costs (excluding value added tax). Value Added Tax at the current rate of 14% is to be added to the net sub-total on the final summary page by means of a single sum calculation to establish the tender price.

### **5 SCOPE OF WORK**

As a guide only, the work comprises as follows:-

### **6 ADDRESS WHERE DOCUMENTS CAN BE OBTAINED**

Tender documents will be available at Eskom Holdings offices or on the Eskom website.

### **7 POSSESSION OF SITE**

The date of which possession of the Site shall be given to the Contractor shall be within 5 days of the acceptance of this tender.

### **8 COMPLETION DATE**

The intended date for practical completion and penalty for each day for non-completion shall be:

Duration: This contract will be for 12 months

## **9 COMMON LAW OR BY-LAW REQUIREMENTS**

No liability for not specifically mentioning any normal contractual, Common Law or By-law requirements will be accepted by the Employer, ESKOM Official or ESKOM Official.

## **10 AREA OF WORKS**

The Tenderer shall ascertain by personal viewing of the site any restrictions to the area that may be occupied by the contractor including any restrictions imposed by any buildings, etc. and any limitations or restrictions that may be imposed by the Municipal Engineer or the Local Authorities.

Access to the site shall be logically planned and enclosed to ensure minimum disruption to existing user operations. The site is to be restricted to the fenced area.

The contractor is deemed to have allowed for all necessary temporary fencing, screening, hoardings, etc.  
Space for the storage of Building Materials must be arranged with the ESKOM Official.

The Contractor shall make all necessary provisions in all rates to take into account these requirements as no claims for extras arising from these matters will be subsequently entertained as admitted. Tenderers will be held responsible for any misunderstanding of incorrect information, however obtained, except information which may have been given in writing over the signature of the ESKOM Official.

## **11 MANAGEMENT OF WORKS**

The Contractor shall to the satisfaction of the ESKOM Official provide, in addition to the Foreman, the services of an experienced and competent Construction Manager.

The names and CV's of the Contractor's proposed Management Team shall be submitted to the ESKOM Official prior to commencement on site and, after the ESKOM Official's agreement on the composition and competence thereof has been obtained, no changes shall be made nor shall any member of the said team be removed from the project while remaining in the employ of the Contractor without the ESKOM Official's prior written approval.

The Contractor shall make necessary provisions in all rates to take into account these requirements as no claims for extras arising from these matters will be subsequently entertained or admitted.

## **12 INSPECTION OF WORK**

The Contractor shall obtain all local authority approvals if required and shall ensure that all work is also approved by the ESKOM Official prior to covering up. The fact that the work will be inspected periodically in no way absolves the Contractor from total responsibility for the quality of his workmanship and for compliance with the specification. He shall timeously notify the ESKOM Official so that foundation and other inspections can be arranged.

## **13 SITE CLEANLINESS**

The Contractor shall clear away all dirt, rubbish and superfluous material as they accumulate and leave the whole of the site clean and tidy on completion to the satisfaction of the ESKOM Official. The Contractor is advised that the adjacent site is functional at all times and that the incumbents should not be unduly inconvenienced.

## **14 ORDERING OF MATERIALS**

No claims will be entertained due to non-availability of materials or labour. The Tenderer is therefore required to investigate and ensure that the specific materials and components required for the works will be available at the relevant estimated construction times, at the time of tendering.

## **15 PROGRAMME**

The Contractor will be required to submit an outline programme of work to completion of the contract within 2 weeks of acceptance of his tender followed by the detailed programme with 4 weeks of acceptance of his tender.

## **16 CONTRACT PRICE ADJUSTMENT**

This contract is not subject to escalation

## **17 PRICED PROVISIONAL BILLS OF QUANTITIES**

Tenderers must submit to the ESKOM Official a copy of the Provisional Bills of Quantities fully priced and extended, with his tender. After the Bills have been checked, and when called upon, each page of the Provisional Bills of Quantities shall be initialled and the first and last pages signed in full by the Tenderer.

## **18 DIFFERENCE AND DISCREPANCIES:**

Should there be any difference or discrepancy between the prices or particulars contained in the official Tender form and those contained in any covering letter from the Tenderer, the prices contained in the official Tender form shall prevail.

Every Tenderer shall be deemed to have waived, renounced and abandoned any conditions printed or written upon any stationery used by him for the purpose of or in connection with the submission of his Tender, which are in conflict with the Conditions of Tender or Special and General Conditions of Contract.

Tenderers are warned that any material divergence from the official conditions or specifications may render their Tenders liable to disqualification.

The Tenderers are to note that if there are any arithmetical errors in the Tenderers' form of tender, the client representative will adjust the tender price

## **19 COMMUNICATION WITH MEMBERS OF TENDER BOARD OR PROFESSIONAL TEAM**

A Tenderer shall not in any way communicate with a member of the Tender Board or Professional team or with any officer on a question affecting any contract or the supply of goods or for any work, undertaking or service which is the subject of a Tender during the period between the closing date for receipt of Tenders and the despatch of the written notification of the ESKOM Official decision on the award of the contract; provided that a Tenderer shall not hereby be precluded from obtaining from the ESKOM Official or his authorised representative information as to the date upon which the award of the contract is likely to be made or, after the decision upon the award has been made by the ESKOM Official to which the Council had delegated its powers, information as to the nature of the decision or such information as was publicly disclosed at the opening of Tenders.

## **20 IMPORT PERMITS:**

Tenderers must apply direct for any import permit and/or currency required, however the ESKOM HOLDINGS LIMITED will furnish successful Tenderers with a supporting statement if required.

## **21 PROVISIONAL BILLS OF QUANTITIES:**

No alteration, erasure, omission or addition is to be made to the text and conditions of these Provisional Bills of Quantities and should any such alteration, amendment, note or addition be made, the same will not be recognised, but the reading of the Provisional Bills of Quantities as prepared by the ESKOM Official will be adhered to.

It should be understood that the system of measurement herein adopted is the only system of measurement, which will be recognised in connection with this contract. Before the signing of the contract, the ESKOM Official will be entitled to call for adjustments of individual rates and rectify discrepancies, as he considers necessary without alterations to the Tender amount.

## **These Bills are not to be used for the purpose of ordering materials.**

## **All Bill rates are to include for material, labour, plant, wastage, transport and profit.**

## **22 TRAFFIC REGULATIONS AT ESKOM**

The Contractor shall comply with all requirements of Eskom in connection with traffic control, gaining access to the site, prevention or disruption of the flow of traffic, transporting of materials and equipment to and from the site.

## **23 PROTECTION OF PERSONS AND PROPERTY**

The Contractor shall adopt all safety measures in compliance with all statutes, regulations, etc., and shall take all measures to protect all property and to secure the safety and freedom from injury of all persons.

The Contractor shall in addition take all necessary steps to prevent nuisance from dust and the like and shall use every endeavour to minimise noise emanating from the Contract Works. The Contractor is referred to the various forms that require his attention prior to commencing work on site - All forms duly completed and signed must be forwarded to the ESKOM Official.

## **24 SETTING OUT OF THE CONTRACT WORKS**

The Site shall not be used by the Contractor for any purpose other than that of carrying out the Contract works. The Contractor shall set out the Contract Works and shall be held solely responsible and liable for the correct centre lines, levels, and gradients.

## **25 KEEP EARTHWORKS FREE FROM WATER, MUD ETC.**

The Contractor shall keep the earthworks free from water, mud, etc. by hand or machinery (including day and night attendance as necessary) as no water, mud, etc., shall be allowed to stand or accumulate.

The Contractor must cut all necessary trenches etc., and build embankments in order to divert stormwater and/or ground water and to protect the earthworks. The Contractor shall be solely responsible for any damage caused by storms, rains, surface or underground water or water from other causes.

On completion of the Contract, the Contractor shall fill in temporary trenches including compacting, and shall remove any temporary embankments all at his sole cost.

## **26 EXISTING AND ADJOINING PROPERTIES, PAVINGS ETC.**

The Contractor shall execute the whole of the Contract Works with the minimum of disturbance to the existing and adjoining premises and occupants thereof. He shall keep the Site well watered where necessary, and take all other steps, to prevent dust and shall keep pavements, surrounding roads etc., clean to the entire satisfaction of the ESKOM Official and the Authorities.

The Contractor shall leave such buildings, structures, fences, pavings, roadways, kerbs, gardens, municipal pavements, streets, etc., in the same condition at completion as they were at the commencement of the Contract. Before commencing work, the Contractor shall arrange with the owners of the existing and adjoining buildings and/or the Authorities for an inspection to be made jointly with themselves, the Contractor and the ESKOM Official in order to make written notes of any cracks defects, etc. which may later be claimed to have been caused by the operations under the Contract. Should defects be disclosed, the Contractor shall submit same in writing to the ESKOM Official before commencing the Contract, failing which it shall be understood that no such defects existed and the Contractor shall be liable for all claims in this connection.

## **27 PROCEDURE OF WORKS**

The Contractor shall be solely responsible for ensuring that the procedure of works is kept to and no deviations will be entertained.

Should this, however not be possible then the Contractor shall timeously notify the ESKOM Official.

## **SPECIAL CLAUSES**

### **28 TRADE NAMES, ETC.**

All materials, fittings, finishes, etc. specified under a "Trade Name", catalogue number or reference shall be either exactly as described or of equal quality, specification and weight to those described.

The ESKOM Official's written approval must be obtained for any departure from the specification before the submission of tenders, failing which specified materials, fittings, finishings, etc. shall be deemed to have been allowed for in the tenders.

Where articles other than what the manufacturer specified are used, an adjustment of the prices will be made and Variation Orders issued to cover these adjustments.

The Contractor must take delivery of, handle, store, use, apply and/or fix all proprietary branded products in strict accordance with the manufacturer's instructions after consultation with the manufacturer's authorised representative.

### **29 CONTRACTOR'S RESPONSIBILITY**

The ESKOM Official and the other Professional Consultants shall not be responsible for any act or omission on the part of the Contractor, which may result in any patent or latent defects, in materials or workmanship, breach or neglect of any local regulations. The Contractor shall at all times be responsible for any such neglect, deviation or wrong act, whether the same is discovered before or after the final certificate, or any other Certificate, has been approved.

### **30 SITE INSTRUCTIONS AND RECORDS**

The Contractor shall supply and have available at the site of the works at all times, the following site books:-

#### **a) Site Instruction Book**

Receiving and recording instructions in a suitable A4 size triplicate book kept on site. Instructions issued shall be recorded by the ESKOM Official or other Employer's Agents to whom the ESKOM Official has delegated Authority in the book. Only site instructions issued in such a book shall be recognised.

#### **b) Daily Record Book**

The Contractor shall record in a suitable A4 size triplicate book kept at the site, a daily record of work done, all site visits by the ESKOM Official and other professional personnel and all events affecting the Works, such as progress, issue of plans, breakdown of machinery, etc. The labour, plant and material on site shall be recorded as well as work performed. Entries must be made by the Contractor and must be signed and forwarded to the ESKOM Official for his counter signature on a daily basis. Copies of these records shall be for the ESKOM Official, ESKOM Official and Contractor.

### **31 LOCATION OF TEMPORARY BUILDING AND TEMPORARY SERVICES**

The Contractor shall provide all necessary temporary works, including temporary roads, tracks, crossings, hard standing and services, etc. required for his own and Sub-Contractor's use during the construction and maintenance period.

There is no guarantee given or implied that Site Conditions will be such that the Contractor will be able to erect such offices, stores and temporary accommodation within the site boundaries and it shall be the Contractor's responsibility to adopt whatever measures he deems necessary in this regard and to obtain permission and pay all cost in connection therewith.

### **32 OCCUPATIONAL HEALTH AND SAFETY ACT NO 85 OF 1993 (THE ACT)**

By the submission of a tender, any Tenderer will, if awarded the contract to which this tender document relates, be deemed to be the mandatory as envisaged by Section 37 (2) of the Act. As a mandatory the successful Tenderer will be deemed to be the "Principal Contractor" and an Employer in his/her/their own right with duties as prescribed in the Act and accordingly will be deemed to have agreed to be solely responsible for ensuring that in connection with the service to which this tender document relates, all work will be performed and machinery and plant used in accordance with the Act. Should the Contractor, for whatever reason be unable to perform as required by the Act, the Contractor undertakes to inform the Employer accordingly.

**The Contractor will be required to:-**

- 1 Provide the Employer with a health and safety programme and plan specifically related to the Works and ensure that the programme and plan are implemented and maintained, with the programme being subject to audit, at least once a month, by the Employer;
- 2 Exercise discretion and if deemed relevant (by the Contractor) appoint a full-time or part-time Construction Safety Officer (in writing) to assist in the control of all safety related aspects, and to give input into the health and safety plan;
- 3 Appoint (in writing) a full time competent Supervisor (as defined in the Regulation in terms of the Act) to supervise the project;
- 4 Provide the Employer and any sub-contractors that may be engaged by the Contractor and/or nominated sub-contractors with a programme of construction for the Works as well as a method statement with the necessary details and procedures for execution;
- 5 Provide the Employer both before commencing and during construction work with a copy of a risk assessment performed by a competent person who has been appointed in writing by the Contractor, and the risk assessment must form part of the health and safety plan;
- 6 Ensure that every employee or person (including visitors) who enters the site of the Works undergoes health and safety induction training pertaining to hazards identified on the site of the Works and upon such training having been successfully completed, the Contractor must issue written confirmation by a competent person to the trained employees or persons who shall be further instructed to carry such confirmation with them at all times whilst on the site of the
- 7 Issue, on loan, the necessary personal protective equipment to visitors to the site of the Works; and
- 8 Be in good standing with the Compensation Commissioner at all times during the duration of the Contract

The Contractor will be deemed to have satisfied himself with his obligations in terms of the Act and to have allowed for all costs arising from compliance with the Act as no claim for extra costs arising from compliance with, and obligations in terms of the Act will be entertained.

**33 CONTRACTORS TO VISIT SITES PRIOR TO SUBMISSION OF TENDER**

The contractors are urged to visit all the sites that has been identified to get an overview of the nature of works, numbered assets and the location of the building prior to pricing this document.

**34. PRICING OF THESE GENERAL NOTES**

The Contractor may allow in his pricing for any additional costs arising out of these "General Notes" as no later claims for additional costs will be considered.

**CAMDEN POWER STATION: DEGAS SUMP LINING INSPECTION AND REPAIRS; RE-LINING OF BRINE TANK, AND RUBBER LINING  
FOR DEMIN VESSELS - PROVISIONAL BILLS OF QUANTITIES**

| Item No                                                                              | Description                                       | Unit | Qty | Rate | Amount |
|--------------------------------------------------------------------------------------|---------------------------------------------------|------|-----|------|--------|
| <b><u>SECTION .01 - PRELIMINARIES AND GENERALS</u></b>                               |                                                   |      |     |      |        |
| <b><u>Site Establishment and Contractual Requirements</u></b>                        |                                                   |      |     |      |        |
| 1                                                                                    | Contractual Requirements                          | Sum  | 1   | R    | R      |
| 2                                                                                    | Site Establishment                                | Sum  | 1   | R    | R      |
| 3                                                                                    | Planning, Quality Assurance and Control           | Sum  | 1   | R    | R      |
| 4                                                                                    | Data Books                                        | Sum  | 1   | R    | R      |
| 5                                                                                    | Site Manager                                      | Sum  | 1   | R    | R      |
| 6                                                                                    | Maintain Site Establishment                       | Sum  | 1   | R    | R      |
| 7                                                                                    | Contractual overheads                             | Sum  | 1   | R    | R      |
| 8                                                                                    | Site De-establishment                             | Sum  | 1   | R    | R      |
| <b><u>Compilation and Supply of Safety File prior to commencement of Project</u></b> |                                                   |      |     |      |        |
| 9                                                                                    | Compilation and Supply of Safety File             | Sum  | 1   | R    | R      |
| <b><u>Supply and Issuing of Personal Protective Equipment (PPE)</u></b>              |                                                   |      |     |      |        |
| 10                                                                                   | Safety books                                      | Sum  | 1   | R    | R      |
| 11                                                                                   | Denim overall                                     | Sum  | 1   | R    | R      |
| 12                                                                                   | Hardhat with chin strap                           | Sum  | 1   | R    | R      |
| 13                                                                                   | Safety Gloves                                     | Sum  | 1   | R    | R      |
| 14                                                                                   | Safety Glasses                                    | Sum  | 1   | R    | R      |
| 15                                                                                   | Ear Plugs                                         | Sum  | 1   | R    | R      |
| <b><u>Medicals and Induction</u></b>                                                 |                                                   |      |     |      |        |
| 16                                                                                   | Medicals In and exit                              | Sum  | 1   | R    | R      |
| 17                                                                                   | Induction                                         | Sum  | 1   | R    | R      |
| <b><u>Health, Safety Environmental and Quality</u></b>                               |                                                   |      |     |      |        |
| 18                                                                                   | Health and Safety Overheads and SAPS verification | Sum  | 1   | R    | R      |
| 19                                                                                   | Environmental Overheads                           | Sum  | 1   | R    | R      |
| 20                                                                                   | Quality overheads                                 | Sum  | 1   | R    | R      |
| <b><u>Site Team Accommodation and Travelling Expenses</u></b>                        |                                                   |      |     |      |        |
| 21                                                                                   | Accommodation                                     | Sum  | 1   | R    | R      |
| 22                                                                                   | Travelling                                        | Sum  | 1   | R    | R      |
| <b>Grand Total - Carried to Final Summary</b>                                        |                                                   |      |     |      | R      |

**CAMDEN POWER STATION: DEGAS SUMP LINING INSPECTION AND REPAIRS; RE-LINING OF BRINE TANK, AND  
RUBBER LINING FOR DEMIN VESSELS - PROVISIONAL BILLS OF QUANTITIES**

| Item No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Unit | Qty | Rate | Amount |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|--------|
|         | <p><b><u>SECTION 1 - DEGAS SUMP LINING</u></b></p> <p><b><u>PREAMBLE</u></b></p> <p><b><u>Currency</u></b></p> <p>All pricing and amounts to be in the currency of South African Rans (ZAR)</p> <p>All individual amounts in these bills of quantities exclude Value Added Tax (VAT) VAT is to be calculated as a lump sum and added to the total of all values in the Final Summary under the item provided for VAT</p> <p>The contractor shall comply with all requirements of the "Code of Good Practice for Employment and Conditions of Work for Special Public Works Programmes" issued in terms of the "Basic Conditions of Employment Act, 1997 (Act No. 75 of 1997)" and the related "Ministerial Determination", for the employment of locally employed temporary workers on a labour-intensive infrastructure project under the Expanded Public Works Programme (EPWP)</p> <p>A detailed and / or itemised breakdown of the P&amp;G's Items will be requested only from the successful bidders for vetting by the employer.</p> <p><b><u>BACKGROUND</u></b></p> <p>Part of the production of demineralised water involves the removal of carbon dioxide. At Camden Power Station, water is transferred from the cation vessel to the degasser tower where carbon dioxide is removed and the water is then temporarily stored in the degas sump from where the degas pumps take suction. The water is then pumped to the Anion vessels where the next stage of demineralisation occurs.</p> <p>There are two degas concrete sumps that have a loose liner system installed i.e. the lining is fixed at the top of the sump and is not attached to the walls of the sump. The lining and the sumps need to be inspected and repaired where necessary.</p> <p>The condition of the degas sumps and lining has deteriorated over the years and needs to be repaired.</p> <p><b><u>SCOPE OF WORKS</u></b></p> <p>The following scope of work shall involve the full spectrum of work required to inspect and repair both the degas sumps and the loose lining.</p> <p>The Contractor shall take note and make provision that there will be a time delay between the availability of the sumps in order to ensure continued Demin water production.</p> |      |     |      |        |

|                                                                                                                                                                                                                                                        |                                        |      |   |   |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------|---|---|----------|
| <b><u>CONTRACTOR'S RESPONSIBILITIES</u></b>                                                                                                                                                                                                            |                                        |      |   |   |          |
| To ensure a fully functional internal lining system for two Degas Sumps at Camden Power Station.                                                                                                                                                       |                                        |      |   |   |          |
| Internal inspections has revealed that there appears to be water trapped between the lining and the concrete sump. The Contractor is expected to remove the water, inspect the concrete sump and repair any defects found without damaging the lining. |                                        |      |   |   |          |
| The supply of all equipment for the repair and testing of the sump and lining system                                                                                                                                                                   |                                        |      |   |   |          |
| For his own traveling and accommodation to perform the entire scope                                                                                                                                                                                    |                                        |      |   |   |          |
| For site establishment and storage of all tools and equipment required to execute the entire scope                                                                                                                                                     |                                        |      |   |   |          |
| <b><u>SPECIFICATION DOCUMENT</u></b>                                                                                                                                                                                                                   |                                        |      |   |   |          |
| The Contractor is referred to the Works Specification Document 240 1615 48503 for the full details of the scope and they are urged to read this document prior to pricing this work                                                                    |                                        |      |   |   |          |
| <b><u>RATES</u></b>                                                                                                                                                                                                                                    |                                        |      |   |   |          |
| The tenderer is advised that any rate that is required for work must include the following breakdown:                                                                                                                                                  |                                        |      |   |   |          |
| :Material, Labour, Plant, Wastage, Transport and Profit.                                                                                                                                                                                               |                                        |      |   |   |          |
| <b><u>WORKING HOURS</u></b>                                                                                                                                                                                                                            |                                        |      |   |   |          |
| The Contractor is advised that this contract is 7 days including Public Holidays and the Contractor must make due allowance in his tender price                                                                                                        |                                        |      |   |   |          |
| <b><u>PRICING OF THE PROVISIONAL BILLS OF QUANTITIES</u></b>                                                                                                                                                                                           |                                        |      |   |   |          |
| Any items left unpriced will be understood to be provided free of charge and no claim for any extras arising out of the Tenderers omission to price any item will be entertained                                                                       |                                        |      |   |   |          |
| <b><u>BILL NO. 01 - PRE-WORKS INSPECTION</u></b>                                                                                                                                                                                                       |                                        |      |   |   |          |
| <b><u>WATER ANALYSIS</u></b>                                                                                                                                                                                                                           |                                        |      |   |   |          |
| 1                                                                                                                                                                                                                                                      | Water Analysis as per SOW              | Item | 1 | R | R        |
| <b><u>SUMP 1 - PRE-WORKS INSPECTION</u></b>                                                                                                                                                                                                            |                                        |      |   |   |          |
| 2                                                                                                                                                                                                                                                      | Pre-Works visual inspection            | Item | 1 | R | R        |
| 3                                                                                                                                                                                                                                                      | Take Measurements and compile drawings | No   | 1 | R | R        |
| 4                                                                                                                                                                                                                                                      | Compile Report                         | No   | 1 | R | R        |
| <b><u>SUMP 2 - PRE-WORKS INSPECTION</u></b>                                                                                                                                                                                                            |                                        |      |   |   |          |
| 5                                                                                                                                                                                                                                                      | Pre-Works visual inspection            | Item | 1 | R | R        |
| 6                                                                                                                                                                                                                                                      | Take Measurements and compile drawings | No   | 1 | R | R        |
| 7                                                                                                                                                                                                                                                      | Compile Report                         | No   | 1 | R | R        |
| <b>Sub-Total</b>                                                                                                                                                                                                                                       |                                        |      |   |   | <b>R</b> |

|    |                                                                                |      |     |   |          |
|----|--------------------------------------------------------------------------------|------|-----|---|----------|
|    | <b><u>BILL NO. 02: SUMP 1 LINING</u></b>                                       |      |     |   |          |
|    | <b><u>WORKS PREPARATION</u></b>                                                |      |     |   |          |
| 8  | Stripping of Old Liner                                                         | m2   | 122 | R | R        |
| 9  | Liner Disposal - with certificate                                              | Sum  | 1   | R | R        |
| 10 | Drawings and Weld Map                                                          | Sum  | 1   | R | R        |
|    | <b><u>CONCRETE REPAIRS</u></b>                                                 |      |     |   |          |
| 11 | Spalling Repair (Assume 20% of Sump Area)                                      | m2   | 25  | R | R        |
| 12 | Concrete Coating                                                               | m2   | 122 | R | R        |
|    | <b><u>LINING</u></b>                                                           |      |     |   |          |
| 13 | Floor Geo-Membrane                                                             | m2   | 25  | R | R        |
| 14 | HDPE Lining                                                                    | m2   | 122 | R | R        |
|    | <b><u>POST WORKS INSPECTION OF VESSEL</u></b>                                  |      |     |   |          |
| 15 | Post Works Visual Inspection                                                   | Item | 1   | R | R        |
|    | <b>Sub-Total</b>                                                               |      |     |   | <b>R</b> |
|    | <b><u>BILL NO. 03: SUMP 2 LINING</u></b>                                       |      |     |   |          |
|    | <b><u>WORKS PREPARATION</u></b>                                                |      |     |   |          |
| 16 | Stripping of Old Liner                                                         | m2   | 122 | R | R        |
| 17 | Liner Disposal - To AquaPlan re-use facility [cradle to rave] with certificate | Trip | 1   | R | R        |
| 18 | Drawings and Weld Map                                                          | Sum  | 1   | R | R        |
|    | <b><u>CONCRETE REPAIRS</u></b>                                                 |      |     |   |          |
| 19 | Spalling Repair (Assume 20% of Sump Area)                                      | m2   | 25  | R | R        |
| 20 | Concrete Coating                                                               | m2   | 122 | R | R        |
|    | <b><u>LINING</u></b>                                                           |      |     |   |          |
| 21 | Floor Geo-Membrane                                                             | m2   | 25  | R | R        |
| 22 | HDPE Lining                                                                    | m2   | 122 | R | R        |
|    | <b><u>POST WORKS INSPECTION OF VESSEL</u></b>                                  |      |     |   |          |
| 23 | Post Works Visual Inspection                                                   | Day  | 1   | R | R        |
|    | <b>Sub-Total</b>                                                               |      |     |   | <b>R</b> |
|    |                                                                                |      |     |   |          |
|    | <b>Grand Total - Carried to Final Summary</b>                                  |      |     |   | <b>R</b> |

**CAMDEN POWER STATION: DEGAS SUMP LINING INSPECTION AND REPAIRS; RE-LINING OF BRINE TANK, AND  
RUBBER LINING FOR DEMIN VESSELS - PROVISIONAL BILLS OF QUANTITIES**

| Item No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Unit | Qty | Rate | Amount |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|--------|
|         | <p><b><u>SECTION 3 - RE-LINING OF BRINE TANK</u></b></p> <p><b><u>PREAMBLE</u></b></p> <p><b><u>Currency</u></b></p> <p>(ZAR)</p> <p>All individual amounts in these bills of quantities exclude Value Added Tax (VAT) VAT is to be calculated as a lump sum and added to the total of all values in the Final Summary under the item provided for VAT</p> <p>The contractor shall comply with all requirements of the "Code of Good Practice for Employment and Conditions of Work for Special Public Works Programmes" issued in terms of the "Basic Conditions of Employment Act, 1997 (Act No. 75 of 1997)" and the related "Ministerial Determination", for the employment of locally employed temporary workers on a labour-intensive infrastructure project under the Expanded Public Works Programme (EPWP)</p> <p>A detailed and / or itemised breakdown of the P&amp;G's Items will be requested only from the successful bidders for vetting by the employer.</p> <p><b><u>BACKGROUND</u></b></p> <p>During the demineralisation process organic material may be absorbed on the anion resins, this is organic fouling. This organic fouling may cause a capacity reduction resulting in early leakage of silica on the mixed bed vessel. Organic de-fouling (also called an alkaline brine wash) is a process that is used to remove these organics from the anion resin.</p> <p>The alkaline brine solution is mixed in the rubber lined brine tank. The lining and the tank need to be inspected and repaired/replaced where necessary.</p> <p>The condition of the lining in the brine tank has deteriorated over the years and needs to be replaced.</p> <p><b><u>SCOPE OF WORKS</u></b></p> <p>The following scope of work shall involve the full spectrum of work required to inspect and repair the brine tank and internal lining.</p> <p><b><u>CONTRACTOR'S RESPONSIBILITIES</u></b></p> <p>To ensure a fully functional internal and external lining system for the brine tank at Camden Power Station.</p> |      |     |      |        |

The supply of all equipment for the repair and testing of the tanks and lining system

For his own traveling and accommodation to perform the entire scope

For site establishment and storage of all tools and equipment required to execute the entire scope

The brine tank is to be inspected and tested using non - destructive testing (NDT's) to check for any defects such as pinholes or cracks. Any defects found are to be repaired by the Contractor. NB. All welding work must comply with 240-106628253 - Standard for Welding Requirements on Eskom Plant. Welding procedures and welding QCP's must be supplied to Eskom for approval prior to welding work (if required) commencing. All weld repairs must be 100% NDT and inspected by an Eskom Welding Inspector

All pipework connected to the tank to be removed and repaired where necessary. If the condition of the pipework is beyond repair then the components should be replaced with like for like material

Removal of the old rubber lining and preparation of the tank metal surface for re-lining

Complete re-lining of the brine tank including external corrosion protection

Once the new lining has been checked and accepted by Eskom, re-installation of all pipework

The disposal of the old liner from the brine tank to an Eskom approved dumping site

#### **SPECIFICATION DOCUMENT**

The Contractor is referred to the Specification Document (Document Identifier No: 240-1656 15647) for the full details of the scope and they are urged to read this document prior to pricing this work

#### **RATES**

include the following breakdown:

**:Material, Labour, Plant, Wastage, Transport and Profit.**

#### **WORKING HOURS**

The Contractor is advised that this contract is 7 days including Public Holidays and the Contractor must make due allowance in his tender price

#### **PRICING OF THE PROVISIONAL BILLS OF QUANTITIES**

Any items left unpriced will be understood to be provided free of charge and no claim for any extras arising out of the Tenderers omission to price any item will be entertained

#### **BILL NO. 01 - INSPECTIONS**

##### **PRE-INSPECTION**

- 1 Pre-Works visual inspection
- 2 Pre-works spark test
- 3 Pre-works hardness test

|      |   |   |
|------|---|---|
| Item | 1 | R |
| Item | 1 | R |
| Item | 1 | R |

|   |
|---|
| R |
| R |
| R |

##### **POST-INSPECTION**

- 4 Post-works visual inspection
- 5 Post-works spark test
- 6 Post-works hardness test

|      |   |   |
|------|---|---|
| Item | 1 | R |
| Item | 1 | R |
| Item | 1 | R |

|   |
|---|
| R |
| R |
| R |

|    |                                                                                                                    |      |    |   |           |
|----|--------------------------------------------------------------------------------------------------------------------|------|----|---|-----------|
| 7  | Post-works blasting profile                                                                                        | Item | 1  | R | R         |
|    | <b>Sub-Total</b>                                                                                                   |      |    |   | <b>R</b>  |
|    | <b><u>BILL NO. 02 - WORKS PREPARATION (PROVISIONAL)</u></b>                                                        |      |    |   |           |
|    | <b><u>VESSEL INTERNALS REMOVAL AND INSTALLATION</u></b>                                                            |      |    |   |           |
| 8  | Removal of internals and pipe connections                                                                          | Item | 1  | R | R         |
| 9  | Inspection of internals and pipe connections                                                                       | Item | 1  | R | R         |
| 10 | Installation of internals and pipe connections                                                                     | Item | 1  | R | R         |
|    | <b><u>LINING REMOVAL AND DISPOSAL</u></b>                                                                          |      |    |   |           |
| 11 | Stripping of old rubber                                                                                            | m2   | 11 | R | R         |
| 12 | Rubber disposal                                                                                                    | Sum  | 1  | R | R         |
|    | <b>Sub-Total</b>                                                                                                   |      |    |   | <b>R</b>  |
|    | <b><u>BILL NO. 03 - RE-LINING</u></b>                                                                              |      |    |   |           |
|    | <b><u>SURFACE PREPARATION AND RUBBER LINING OF FLAT SURFACES</u></b>                                               |      |    |   |           |
| 13 | Surface preparation with <2% silica (where brush, grinding and blasting) for all surfaces                          | m2   | 11 | R | R         |
| 14 | PR 50A 6mm BUTYL rubber lining                                                                                     | m2   | 11 | R | R         |
|    | <b><u>RUBBER LINING OF SUPPORT BEAMS, BRACKETS, NOZZLES AND MANHOLE COVERS</u></b>                                 |      |    |   |           |
| 15 | PR 50A 6mm BUTYL rubber lining                                                                                     | m2   | 1  | R | Rate Only |
|    | <b>Sub-Total</b>                                                                                                   |      |    |   | <b>R</b>  |
|    | <b><u>BILL NO. 04: OTHER WORKS</u></b>                                                                             |      |    |   |           |
|    | <b><u>Repairs and Welding</u></b>                                                                                  |      |    |   |           |
| 34 | ISO3834 Welding Repair (Stainless steel off site) Repair of pipe or distributor                                    | Item | 1  |   | Rate Only |
| 35 | Rubber lining of 80 NB Process connection nozzle (and surface prep with <2% silica grit, and up to max 2m length)  | Item | 1  |   | Rate Only |
| 36 | Rubber lining of 100 NB Process connection nozzle (and surface prep with <2% silica grit, and up to max 2m length) | Item | 1  |   | Rate Only |
| 37 | Rubber lining of 150 NB Process connection nozzle (and surface prep with <2% silica grit, and up to max 2m length) | Item | 1  |   | Rate Only |
| 38 | Rubber lining of 200 NB Process connection nozzle (and surface prep with <2% silica grit, and up to max 2m length) | Item | 1  |   | Rate Only |
| 39 | Collection from site                                                                                               | Item | 1  |   | Rate Only |
| 40 | Delivery to site                                                                                                   | Item | 1  |   | Rate Only |
| 41 | Budgetary allowance for repairs and welding works                                                                  | Item | 1  | R | R         |
|    | <b>Sub-Total</b>                                                                                                   |      |    |   | <b>R</b>  |
|    |                                                                                                                    |      |    |   |           |
|    | <b>Grand Total - Carried to Final Summary</b>                                                                      |      |    |   | <b>R</b>  |

**CAMDEN POWER STATION: DEGAS SUMP LINING INSPECTION AND REPAIRS; RE-LINING OF BRINE TANK, AND RUBBER LINING FOR DEMIN VESSELS - PROVISIONAL BILLS OF QUANTITIES**

| Item No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Unit | Qty | Rate | Amount |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|--------|
|         | <p><b><u>SECTION 4 - RUBBER LINING FOR DEMIN VESSELS</u></b></p> <p><b><u>PREAMBLE</u></b></p> <p><b><u>Currency</u></b></p> <p>All pricing and amounts to be in the currency of South African Rans (ZAR)</p> <p>All individual amounts in these bills of quantities exclude Value Added Tax (VAT) VAT is to be calculated as a lump sum and added to the total of all values in the Final Summary under the item provided for VAT</p> <p>The contractor shall comply with all requirements of the "Code of Good Practice for Employment and Conditions of Work for Special Public Works Programmes" issued in terms of the "Basic Conditions of Employment Act, 1997 (Act No. 75 of 1997)" and the related "Ministerial Determination", for the employment of locally employed temporary workers on a labour-intensive infrastructure project under the Expanded Public Works Programme (EPWP)</p> <p>A detailed and / or itemised breakdown of the P&amp;G's Items will be requested only from the successful bidders for vetting by the employer.</p> <p><b><u>BACKGROUND</u></b></p> <p>Demin water is produced when all dissolved solids are removed from the water. These solids, in the form of cations and anions, are removed in the cation, anion and mixed bed vessels (i.e. a demin train) by the use of ion exchange resin through a process called demineralisation.</p> <p>There are three (3) demineralised water trains at Camden Power Station, each consisting of a cation, an anion and a mixed bed vessel and associated flanges, manholes and pipes that are rubber lined.</p> <p>Repairs are required on two (2) of the demineralised water trains.</p> <p>The condition of the rubber lining in the demineralised vessels and fittings has deteriorated over the years and needs to be replaced.</p> <p><b><u>SCOPE OF WORKS</u></b></p> <p>The following scope of work shall involve the full spectrum of work required to install a new lining system for the demin vessels and the associated pipework, flanges and manholes and shall include removal of the existing liner, sandblasting of the steel, application of the liner, testing of the liner including guarantees and the disposal of the old liner to an Eskom approved dumping site.</p> <p>NB. Four of the vessels to be completely re-lined and the condition of the remaining two vessels will be assessed by Eskom and the Contractor first to determine if patch repairs will be conducted or if the vessels will be completely re-lined. The scope will also include removal and loading of resin and inspection and repair (if necessary) of the laterals and nozzles inside the vessels and will apply to the following:</p> <ul style="list-style-type: none"> <li>• Train 2 (Cation and Anion - lining condition to be assessed after inspection. Based on inspection, decision will be made if required, but costs for this must be included. Mixed Bed – full scope)</li> <li>• Train 3 (Cation, Anion and Mixed Bed) – full scope</li> </ul> <p>The Contractor shall take note and make provision that there will be a time delay between the availability of the vessels in order to ensure continued Demin water production. One train of vessels will be available at a time to conduct lining replacement. The next or following train of vessels will only be available once a relined train has been refurbished and commissioned. Eskom will advise on the order of repair based on plant availability and conditions.</p> <p><b><u>SPECIFICATION DOCUMENT</u></b></p> |      |     |      |        |

The Contractor is referred to the Specification Document (Document Identifier No: 240-132029773) for the full details of the scope and they are urged to read this document prior to pricing this work

#### **RATES**

following breakdown:

:**Material, Labour, Plant, Wastage, Transport and Profit.**

#### **WORKING HOURS**

The Contractor is advised that this contract is 7 days including Public Holidays and the Contractor must make due allowance in his tender price

#### **PRICING OF THE PROVISIONAL BILLS OF QUANTITIES**

Any items left unpriced will be understood to be provided free of charge and no claim for any extras arising out of the Tenderers omission to price any item will be entertained

#### **BILL NO.01 - RUBBER LINING FOR DEMIN VESSELS**

##### **Resin Removal and Loading**

|   |                                |     |   |   |   |
|---|--------------------------------|-----|---|---|---|
| 1 | Unloading of Resin             | Sum | 1 | R | R |
| 2 | Resin transfer equipment usage | Sum | 1 | R | R |
| 3 | Resin storage (incl bulk bags) | Sum | 1 | R | R |
| 4 | Loading of resin               | Sum | 1 | R | R |

##### **Training for Resin unloading and loading**

|   |                                                              |     |   |   |   |
|---|--------------------------------------------------------------|-----|---|---|---|
| 5 | Training of Client personnel for resin loading and unloading | Sum | 1 | R | R |
|---|--------------------------------------------------------------|-----|---|---|---|

##### **Lining Removal and Disposal**

|   |                                                                                 |    |     |   |   |
|---|---------------------------------------------------------------------------------|----|-----|---|---|
| 6 | Removal of internals and laterals (Including nozzles)                           | No | 6   | R | R |
| 7 | Stripping of old rubber                                                         | m2 | 190 | R | R |
| 8 | Rubber disposal - To AquaPlan Reuse facility (Cradle to grave) with certificate | No | 6   | R | R |

##### **Rubber lining of flat surfaces , support beams, brackets, nozzles and manhole covers, including surface preparation (Grinding, blasting and lining). All tools, labour, materials, etc. required.**

|    |                                                                                              |    |     |   |   |
|----|----------------------------------------------------------------------------------------------|----|-----|---|---|
| 9  | Surface preparation with <2% silic (Grinding and blasting)                                   | m2 | 190 | R | R |
| 10 | Chem 15 rubber lining for flat surfaces and surface priming (Vessel shed, top dome brackets) | m2 | 190 | R | R |

##### **Inspection and Installation of Filter Nozzle (Nozzle supplied by client)**

|    |                     |      |   |   |   |
|----|---------------------|------|---|---|---|
| 11 | Nozzle Inspection   | Item | 6 | R | R |
| 12 | Installation labour | Item | 6 | R | R |

|    |                                                                                                                                                                                           |      |    |   |          |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----|---|----------|
|    | <b><u>Inspection and Installation of Lateral Set: cation and Arion each have one set. Mixed fed has three sets</u></b>                                                                    |      |    |   |          |
| 13 | Lateral visual inspection                                                                                                                                                                 | Item | 6  | R | R        |
| 14 | Dye Pen test on lateral                                                                                                                                                                   | Item | 6  | R | R        |
| 15 | Installation labour                                                                                                                                                                       | Item | 6  | R | R        |
|    | <b><u>Repair single Distributor (Extent of repairs to be confirmed after inspections)Distributor has header and laterals</u></b>                                                          |      |    |   |          |
| 16 | ISO3834 Welding repairs (off site) and welding documentation and NOT after repair                                                                                                         | No   | 3  | R | R        |
|    | <b><u>Replace of Single Distributor. Distributor header and lateral</u></b>                                                                                                               |      |    |   |          |
| 17 | ISO3834 Welding repairs (off site) and welding documentation and NOT after repair                                                                                                         | No   | 3  | R | R        |
|    | <b><u>Pre-Inspection as per SOW (including pre-spark test of vessel)</u></b>                                                                                                              |      |    |   |          |
| 18 | Pre-Works visual inspection                                                                                                                                                               | Item | 6  | R | R        |
| 19 | Pre-Works Sparks Test                                                                                                                                                                     | No   | 6  | R | R        |
| 20 | Post-Works Hardness test                                                                                                                                                                  | No   | 6  | R | R        |
|    | <b><u>NDT of vessels (spark test, hardness test, blanting profile)</u></b>                                                                                                                |      |    |   |          |
| 21 | Post-Works Blasting - Blasting Profile                                                                                                                                                    | No   | 6  | R | R        |
| 22 | Pre-Works visual inspection                                                                                                                                                               | Item | 6  | R | R        |
| 23 | Pre-Works Sparks Test                                                                                                                                                                     | No   | 6  | R | R        |
| 24 | Post-Works Hardness test                                                                                                                                                                  | No   | 6  | R | R        |
|    | <b><u>Rubber Lining of Process connection nozzle including surface preparation (Grinding, stripping, blasting and lining) (including all tools, labour, materials etc, required).</u></b> |      |    |   |          |
|    | <b>80 NB</b>                                                                                                                                                                              |      |    |   |          |
| 25 | Surface preparation with <2% silica (Stripping, grinding and blasting)                                                                                                                    | Item | 6  | R | R        |
| 26 | Chemoline 18 rubber lining and surface priming (80 NB Spool Piece)                                                                                                                        | m    | 12 | R | R        |
|    | <b>100 NB</b>                                                                                                                                                                             |      |    |   |          |
| 27 | Surface preparation with <2% silica (Stripping, grinding and blasting)                                                                                                                    | Item | 6  | R | R        |
| 28 | Chemoline 18 rubber lining and surface priming (80 NB Spool Piece)                                                                                                                        | m    | 12 | R | R        |
|    | <b>150 NB</b>                                                                                                                                                                             |      |    |   |          |
| 29 | Surface preparation with <2% silica (Stripping, grinding and blasting)                                                                                                                    | Item | 6  | R | R        |
| 30 | Chemoline 18 rubber lining and surface priming (80 NB Spool Piece)                                                                                                                        | m    | 12 | R | R        |
|    | <b>200 NB</b>                                                                                                                                                                             |      |    |   |          |
| 31 | Surface preparation with <2% silica (Stripping, grinding and blasting)                                                                                                                    | Item | 6  | R | R        |
| 32 | Chemoline 18 rubber lining and surface priming (80 NB Spool Piece)                                                                                                                        | m    | 12 | R | R        |
|    | <b><u>Supply of stainless steel clamps</u></b>                                                                                                                                            |      |    |   |          |
| 33 | Supply 50mm S/S316 Clamps                                                                                                                                                                 | No   | 50 | R | R        |
| 34 | Installation labour (parallel to current scope)                                                                                                                                           | Item | 1  | R | R        |
|    | <b><u>Supply of stainless bolts</u></b>                                                                                                                                                   |      |    |   |          |
| 35 | Supply S/S316 bolts as required                                                                                                                                                           | No   | 50 | R | R        |
| 36 | Installation labour (parallel to current scope)                                                                                                                                           | Item | 1  | R | R        |
|    | <b><u>Supply of Stainless Steel Nuts</u></b>                                                                                                                                              |      |    |   |          |
| 37 | Supply of S/S316 Nuts as required                                                                                                                                                         | No   | 50 | R | R        |
| 38 | Installation labour (parallel to current scope)                                                                                                                                           | Item | 1  | R | R        |
|    | <b><u>Supply of Stainless steel washers</u></b>                                                                                                                                           |      |    |   |          |
| 39 | Supply S/S316 washers as required                                                                                                                                                         | No   | 50 | R | R        |
| 40 | Installation labour (parallel to current scope)                                                                                                                                           | Item | 1  | R | R        |
|    | <b>Grand Total - Carried to Final Summary</b>                                                                                                                                             |      |    |   | <b>R</b> |

**CAMDEN POWER STATION: DEGAS SUMP LINING INSPECTION AND REPAIRS; RE-LINING OF BRINE TANK, AND  
RUBBER LINING FOR DEMIN VESSELS - PROVISIONAL BILLS OF QUANTITIES**

**FINAL SUMMARY**

| <b>No.</b> | <b><u>Description</u></b>                                             |  |  | <b>Amount</b> |
|------------|-----------------------------------------------------------------------|--|--|---------------|
| 1          | Section 1 - Preliminaries and Generals                                |  |  | R             |
| 2          | Section 2 - Degas Sump Lining Inspection and Repairs BOQ              |  |  | R             |
| 3          | Section 3 - Re-lining of Brine Tank BOQ                               |  |  | R             |
| 4          | Section 4 - Rubber Lining for Demin Vessels BOQ                       |  |  | R             |
| 5          | <b>Sub Total</b>                                                      |  |  | <b>R</b>      |
| 6          | Value Added Tax @ 15%                                                 |  |  | <b>R</b>      |
| 7          | <b>Grand Total Incl VAT - Carried to Form of Offer and Acceptance</b> |  |  | <b>R</b>      |