

REFURBISHMENT OF COOLING TOWER CELL 7 & 8 AT OLD PHOSPHORIC PLANT ACID CONCENTRATION

30/FTP009/May '24/MN

Tender no: FTP /24/MN

Cost Code:

Revision¹: 1.0 see legend at bottom of page

Revised date: 30/04/2024

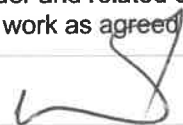
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COMPILED - RECOMMENDATION

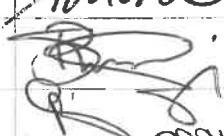
Wandile Mhlongo	Project Engineer, Civil	503064		08/05/2024
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COMPREHENSION AND ACCEPTANCE BY CLIENT

The Client warrants that he/she reviewed the Scope of Works and that this Tender and related document and that the Scope of Works comply to Production requirements and the outcome of the work as agreed between parties.

Wiseman Mvelase	Production Engineer	11670		18/05/2024
Comments:				

APPROVAL TO PROCEED

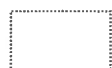
Sagie Moodley	Snr Manager Phosphoric	504385		23/5/24
Blessing Mbuyazi	Snr Manager Projects	504427		27/05/2024
Sam Mbuyazi	GM, Acid Division	500441		27/05/2024

¹ Revision Legend:

0.n = Draft, 1= Final version

Thus first draft = 0.1, second draft = 0.2, etc, and final approved = 1.0

Should the final be revised for whatever reason the revision would be 1.1 etc.

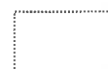
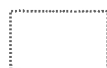


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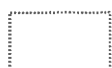


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Definitions:

For the purpose of this document the following definitions/abbreviations will apply:~

- Foskor -** - Shall only mean and refer to Foskor (Pty) Ltd.
- Tenderer -** - Shall mean a business company, organization or person who undertake to conduct such works as described in the Scope of Work section of this document and as submitted by means of return Tender.
- Contractor -** - Shall mean a business company, organization or person who undertake to conduct such works as described in the Scope of Work section of this document. Unless otherwise



specified, the Tenderer and the Contractor will be deemed to be one and the same.

He/His/Himself - - Shall also refer to the opposite gender as well or a company of individuals or combination of persons of different genders as applicable to the Tenderer.



Section A: INVITE AND TENDER INSTRUCTIONS

A.1 Invitation to Tender

A.1.1 Tenderers are invited to submit a tender in accordance with this Tender Document.

The Works consists of the **REFURBISHMENT OF COOLING TOWER CELL 7 & 8 AT OLD PHOSPHORIC PLANT ACID CONCENTRATION.**

The tender Instructions are to be found in **Section A.**

The Contract Works Forms of Tender is stipulated in **Section B.**

The detailed Scope of Work and Specifications are to be found in **Section C.**

The Conditions of Contract are stipulated by **Foskor (Pty) Ltd, Procurement Department.**

A.1.2 At the time of tendering, any queries and/or doubts within the scope, specifications or drawings shall be referred to:

Designation

Buyer: Tenders and Contracts

For the attention of

Mphumeleli Ngqulunga

Telephone

035 902 3115

Fax

035 797 3941

Cell no

Email

PhumeN@foskor.co.za

A.2 Return of Tender Documents

A.2.1 One copy of this document, duly completed and signed by the Tenderer, shall be delivered in a plain sealed envelope, distinctly marked as follows:

TENDER

Tender No.

FTP /24/MN

Contract Title:

**REFURBISHMENT OF COOLING
TOWER CELL 7 & 8 AT OLD
PHOSPHORIC PLANT ACID
CONCENTRATION**

**The Manager Procurement
FOSKOR LIMITED
21 John Ross Parkway
Richards Bay**

Closing date & time:

A.2.2 Tenders shall be placed in the **Tender Box at Foskor Richards Bay Main Administration Reception** no later than **12h00 noon** on the closing date

A.2.3 A tender sent by fax shall not be accepted.

- In case of Tenderers not being local, and not being in a position to hand deliver tender documents to the above-mentioned location, Tenderers may use an approved document courier for the



purpose of delivering the tender document to Foskor (Pty) Ltd. This would be subject to auditable proof of dispatch from the Courier Company (including time and date of dispatch).

- Such proof shall be faxed and confirmed as addressed to Superintendent: Tenders and Contracts, FOSKOR (PTY) LTD, 21 John Ross Parkway, Richards Bay, facsimile number as indicated under item A.1.3 before the closing time and date of the tender.
- Foskor shall take no responsibility for lost courier documents – prior to opening of tenders - and onus rests on Tenderer to keep duplicate of Tender Submission.
- In this case the sealed envelope shall remain addressed as per paragraph A.2.1, and shall be placed in a sealed courier bag with the following street address delivery instructions:

FOSKOR (PTY) LIMITED - (TENDER BOX)
21 John Ross Parkway
Richards Bay
3900

- A.2.4 Tenders will not be opened in public and under no circumstances will the price(s) at which any Contract was awarded be divulged to any person.
- A.2.5 In the event that the Tenderer did not submit a tender or if his tender was unsuccessful, the Tenderer shall return the Enquiry Document and Drawings within **14 days** to the **Superintendent: Tenders and Contracts**.

A.3 Site Inspection

An official Site inspection shall be held at the **Foskor, Richards Bay** site in order for the Tenderer to fully acquaint himself with prevailing site and works conditions. In so doing you are to ensure that you fully understand the context and extent of the works (refer B.5 – Site Inspection Certificate).

Date of Site Visit

Time of Site Visit

Meeting Venue

From :

To :

Report at Main Security Entrance

Please wear the following protective clothing:

Overalls (Acid Proof),
Hard Hat
Safety Shoes
Safety Glasses
Hearing protection
Gloves

Yes

Yes

Yes

Yes

Yes

Yes

IMPORTANT

- Please note that a Safety Induction is **MANDATORY** and all Tenderers to allow for at least **30 minutes** before the Site Meeting start, to complete the induction.
- The Site Visit / Inspection are **COMPULSORY**.



A.4 Examination and Completion of Documents

- A.4.1 The Tenderer shall examine all documents forming part of the Tender and submit his tender accordingly. All drawings, addendums, annexures received with the Tender documents must be returned with your company stamp and/or signature, as a comprehensive part of your Tender Submission. Failure to do so may result in disqualification from tender.

Tender in accordance with this format and submit documents as specified below.

- A.4.2 The Sections of this document shall not be separated in any way nor shall any pages be detached therefrom.
- A.4.3 The Tenderers submission is to include all Financial and Contractual detail and be signed (by authorized person) and/or company-stamped together with tender submission.
- A.4.3.1 Schedule of rates of Costs in detailed Breakdown or Labour Rates for the Works or Breakdown per Bill of Quantities
- A.4.3.2 Initial Project Program of Works, Work Methodology, and Cash Flow (structured similarly to payment terms)
- A.4.3.3 Schedule of Key Personnel on the Project
- A.4.3.4 Schedule of Similar Contracts Undertaken
- A.4.3.5 Site Inspection Certificate – signed by Tenderer as proof of attendance

A.5 Contract Documents Priority

The eventual Contract shall comprise the documents as stated in this tender document, your Tender submission by which you agree and the Foskor (Pty) Ltd Terms and Conditions, which shall be interpreted in accordance with the order of priority stated in the said Conditions.

A.6 Alterations by Tenderer

- A.6.1 Should the Tenderer propose any departures or modifications from the Conditions of Contract, Specifications, or to qualify his tender in any way, he/she shall set out his/her proposals clearly in the covering letter attached to this Tender with reference to the particular section of the document, failing which the tender will be deemed to be unqualified. Any proposed technical departures from Foskor (Pty) Ltd.'s Requirements or Specifications shall only be considered if submitted in writing together with a detailed motivation for such departures.
- A.6.2 The Tenderer shall include in respect of each proposed alteration the following:
- Reason for proposed exception;
 - Suggested re-wording;
 - Any effect on the tender price;
 - Any effect on the execution of the scope of supply;
 - Any effect on Foskor's overall program objectives.

If any of the above information is not supplied, the Tender may be regarded as non-compliant.



A.7 General

- A.7.1 Foskor (Pty) Ltd reserves the right to adjust arithmetical or obvious errors in the Tender. Such adjustments made by Foskor (Pty) Ltd will be communicated to the Tenderer prior to the acceptance of his Tender.
- A.7.2 The Tenderer (whether his Tender is accepted or not) shall treat the details of the Tender as private and confidential and no copies shall be made thereof without the permission of Foskor (Pty) Ltd.
- A.7.3 Foskor (Pty) Ltd is not bound to accept the lowest or any other Tender it may receive, nor to assign a reason for the rejection or acceptance of any Tender, and Foskor (Pty) Ltd has the right, after Tenders are opened, and before a Contract is awarded, to enter into negotiations and discussions with one or more Tenderers short-listed on a price, program or technical basis, with a view to the clarification, improvement or amendment of any particular Tender.
- A.7.4 All Tenderers tender at their own risk and Foskor (Pty) Ltd is not bound to accept any Tender and under no circumstances whatsoever will be responsible for any costs incurred by any Tenderer in compiling or submitting the tender.
- A.7.5 Furthermore, Foskor reserves the right to accept only a part of the Tender, with due communication and agreement of the Tenderer.
- A.7.6 The Tenderer is required to submit a 'bona fide' Tender, intended to be competitive and not to fix or adjust the amount of the Tender by or under or in accordance with any agreement or arrangement with any third party. The Tenderer is also obliged to ensure that it has not and will not at any time before the hour and date for the lodging of this Tender do any of the following acts:
- a) Communicate to any person the amount or approximate amount of the proposed Tender except where the disclosure, in confidence, of the amount of this Tender was necessary for the preparation of the Tender.
 - b) Enter into any agreement or arrangement with any third party that shall disqualify from or that Foskor shall refrain from using.



Section B: FORMS OF TENDER TO BE SUBMITTED

B.1 Schedule of Rates or Summary of Bill of Quantities

From Bill of Quantities – if applicable or →

qty

x rate =

ZAR

1.0 SUB TOTALS:

1.00 Preliminary & General

1.01 Demolishing & Preparation

1.02 Construction and Installation

A1

A2

A2

A2

A2

Sub Totals Sum (Excluding VAT)

A3

2.0 Add: VAT

15%

D

3.0 Total Tender Sum (Including VAT)

A4

B1.1 In the event of their being any obvious errors of pricing, extensions or additions in the priced Schedule of Quantities attached, we agree to their being corrected, and the contract amount altered accordingly.

B1.2 We further undertake that this tender cannot be withdrawn or retracted for **90** (ninety) days from the closing date.

B1.3 Notwithstanding that, this tender is submitted by invitation, it is clearly understood and agreed that there is no obligation upon Foskor to accept the lowest or any tender.

B1.4 The tendered prices are fixed and firm for the duration of the contract, and unless otherwise agreed to in writing a **10% Retention** (held for 12 months, unless otherwise specified) shall be deducted on all payments made for the Liability Period as defined in B.2. This clause also refers to 'Handover' as specified in B 2.1

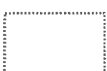
WE AGREE TO A 10% RETENTION and 12 MONTHS DEFECTS-LIABILITY RETENTION PERIOD.

B1.5 Unless or until a formal agreement is prepared and signed, this tender, shall serve as your written acceptance and constitute a binding contract between Foskor and Yourself.

Amount In Words:

Signed atOn.....

Signature
For and on behalf of the Tenderer (duly authorized)

.....
Company Stamp


Foskor Official



B.2 Initial Project Program of Works, Work Methodology and Cash Flow

(This is a workable schedule and the Contractor is in no way obligated to these dates. An obligatory final programme will only be required once the tender is awarded)

Commencement Date (Guide: 8 weeks from pre-tender briefing date)

02 September 2024

Snagging/Modification List Date

30 June 2025

Completion of Works/ Final Handover

31 July 2025

The Tenderer will be required to work

(select one of these option)

a. 06h00 to 18h00, 7 days a week

b. 07h00 to 16h00, 5 days a week and every alternate Saturday

X

c. 24 hours, 7 days a week (shift system)

Defects Liability Period Applicable (Start from Project handover)

12 months

Retention Amount:

10% of final contract amount (Refer to B1.4)

TO BE SUBMITTED WITH THIS TENDER

The Tenderer shall submit with this Tender:

- 1 Priced Bill of quantities (including Section B.5).
- 2 Initial program (Bar Chart/Gantt Chart).
- 3 Method statement.
- 4 Quality Control Plan.
- 5 Record of previous similar contracts undertaken (Section B.4).
- 6 List of valid references.
- 7 C.V's of Key Personnel and their level of experience (Section B.3).
- 8 Minimum Level 6ME or 6CE CIDB grading certificate.
- 9 Proof of professional registration for Thermodynamics/Fluid dynamics/Heat Transfer Design Engineer.
- 10 Proof of professional registration for Structural Engineer.
- 11 Signed site inspection certificate (Section B.7).



OTHER IMPORTANT NOTES

- **'Defects Liability Period'** shall be that period in force for Foskop to call upon the Contractor/Consultant to rectify at no cost to Foskop (Pty) Ltd any defects of workmanship, quality or practice; and shall remain in force **in parallel with the Warranty Period** and any other duration agreed to.
- The Tenderer is to list and motivate any deviations in terms of Project Program and/or time allowed and this is subject to approval by the Foskop (Pty) Ltd Engineer.
- It would be expected, in the event of critical work and/or work behind programme/schedule, should such be attributable to the Contractor, to make up the time and work and complete the work at no cost to Foskop (Pty) Ltd.
- The Tenderer shall, within **7 (seven)** days of contract, award submit a final detailed work methodology and program, and the final work methodology shall be verified and approved by Foskop (Pty) Ltd.
- The Tenderer is welcome to propose alternatives work methodology or approach to work, that may be of mutual benefit. This would be submitted in the form of an Alternative (clearly marked), however the Tenderer is **still to submit a tender in the form specified** in this tender.
- The Tenderer shall submit a Work Breakdown Structure (WBS) and compile a programme (use MS Projects or MS Excel to compile the Project Program).
- If the Tenderer is partially or wholly responsible for the design or design drawings according to which construction is specified, any corrections to design/design drawings shall remain for the Tenderers account for a period of 6 months (or as otherwise agreed) after project completion. This is to ensure that poor design or inaccuracy of designs is rectified at no cost to Foskop.

B.2.1 Project Completion and Handover; Warranty

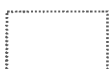
Unless otherwise agreed, Project Completion (handover), shall be deemed to be from date of Foskop issuing a Project Complete/Handover Certificate to the Contractor. This should be expected to be received within seven (7) days from date of receipt by Foskop of the complete Data Pack in its acceptably certifiable form (refer Section C of this document, **Quality Control**). Once the project has reached completion as defined by this scope, onus rests on the Tenderer to request from Foskop a Project Complete/Handover Certificate, which receipt shall define and signify the commencement of Retention Period (if applicable).

B.2.2 Initial Program to be Submitted

The interim and final project completion dates, as indicated in the above table should be used as a guideline for the Tenderer to compile the detail project schedule.

After the contract agreement is accepted (by signature of an agreement or acceptance of a Purchase Order) the dates shall be fixed and shall be applicable to the penalty clause as per agreement.

ATTACH GANT CHART AND/OR BAR CHART TO THIS PAGE



B.2.3 Table with Milestones to be Submitted

Using the critical path items from the program compile related Milestone Dates. Thus, the items/actions/ activities to be met that is critical towards the completion of the project

B.3 Schedule of Key Personnel on the Project

The Tenderer shall:

1. Complete schedule B.6.1 below concerning the Key Personnel on the project, indicating also if the person is employed by the Tenderer, a sub-contractor or temporary employed person.
2. Submit a project organogram showing the relationships and authority.

Key Personnel	Name and Surname	Full/Part Time on site, off-site?	Employed, Sub-Contractor or Temp?	Years Related Experience
Project Manager / Contract Manager				
Site Manager/ Site Supervisor				
Quality Assurance and Control				
Cooling & Dynamics Engineer				
Structural Engineer				
Safety Officer				

These persons shall not be substituted without prior consultation with and approval from Foskor (Pty) Ltd.

Failure to submit this information at the time of tender could lead to disqualification of the tender.



B.4 Schedule of Similar Contracts Undertaken

Please provide a list of work done on contract of which the Scope of Works that are similar to the one described in this document (or attach references)

[illegible]

B.5 Schedule of Labour Rates for the Works

The rates for labour indicated below shall be the Total Cost to the Company (Contractor). It shall include for all the Contractor's profits, overheads, wages, accommodation, travelling, subsistence and other costs relative to the employment by the Contractor of the personnel detailed, and for hand and portable electric or pneumatic tools and consumables normal to the trade of the respective personnel.

However, it will exclude indirect supervision as same are deemed to be included under the costs relating to the Conditions of Contract i.e. non-productive supervisors are deemed to be included in the rate.

The rates detailed herein shall **not** be subject to escalation.

The Contractor's rates per hour are based on a normal **9 hours per day**.

The application and use of these rates shall be at the sole discretion and subject to the prior approval of the Foskor designate representative.

Item No.	Category	Rate per Hour in Rands		
		Normal	Overtime	Sundays and PPH



B.6 Schedule of Equipment for the Works

The Contractor must list below all the items of major equipment, which he guarantees will be provided on site in perfect working order to complete the work. The lists of items of equipment shall provide the Contractor's warranty of ownership of such equipment unless specifically endorsed in this Annexure to the contrary as "hired" or "hire purchase equipment."

The rates for Equipment detailed below shall include all overheads, profits, and maintenance and running costs including the provision of drivers/operators where necessary.

Contractor's rates per day are based on **9 hours per day**.

The rates detailed herein shall not be subject to escalation. No payment in respect of standing time shall be paid for items of equipment not listed below.

This Schedule must be accurately completed. Phrases such as "adequate equipment will be provided" will not be accepted. The application and use of these rates shall be at the sole discretion and subject to the prior approval of the Engineer.

Item	Description	Rate/hr	Rate/Day	Standing Time/Hour



B.7 Site Inspection Certificate – To be signed by Tenderer

This is to **CERTIFY**, that we
(Name(s) in CAPITAL LETTERS) (Referred to on the Form as "We")

representing and being duly authorized by:

.....
(Name of Company and Address) (Referred to on the Form as "We")

1. Visited the SITE on (date);
2. Received the TENDER Documents (including all attachments and subsequent correspondence related to this tender);
3. Carefully examined the SITE and made ourselves familiar with all local conditions likely to influence the WORKS and the cost thereof;

We further CERTIFY that we are satisfied with the description of the WORKS and explanations given by Foskor (Pty) Ltd and that we fully understand the nature of this TENDER.

I/We are,

Yours faithfully

SIGNATURE: _____

ON BEHALF OF: _____

DATE: _____

AS WITNESS: _____



Section C: SCOPE OF WORKS

C.1. Background, Present Situation and Proposed Solution

C.1.1 Background

Foskor, Acid Division in Richards Bay is a chemical plant that processes elemental sulphur to produce sulphuric acid, phosphate rock to produce phosphoric acid and process the former acids to react with ammonia in the production of mono-ammonia phosphate fertilizer.

Sulphuric acid is mainly sold to customers in the southern parts of the African continent, whilst phosphoric acid and MAP fertilizer attracts customers at a global scale. In the heart of the Phosphoric Acid Plant is a concentration section where phosphoric acid is concentrated from 27,5% to 52,5% strength and the heating and cooling of the process plays a vital role in the efficiency and quality of product.

Cooling in the Old Phosphoric Acid Plant is achieved through a water-based cooling tower system that was commissioned in 1976 and that is characterized by a reinforced concrete structure lined with a GRP membrane, a motor-powered fan assembly, internals constructed of a timber structure and timber fill and a water distribution pipe system blanketed with a layer of polypropylene drift eliminators that allow a free flow of air whilst retaining water in the system.

C.1.2 Present Situation

Inefficiency challenges are experienced in various sections of the plant and are evident as far as the Old Concentration Plant cooling tower cells 7 & 8. The current condition of the cooling tower cells has degraded to a point where the desired volume and quality of concentrated acid is not achievable under normal ambient conditions as cooling of acid is not sufficient to maintain the vacuum at the Old Concentration Plant as well as flash cooler vacuum system in the Old Reaction and Filtration Section. During the summer months when temperatures are expected to exceed 32°C (actual average range is currently 37-39 °C) cooling of the acid is poor resulting in poor performance of the concentration plant.

The current operating cooling performance ranges as follow:

- o 300 m3/hr. water flow
- o Inlet temperature: 45°C, Outlet 37 - 39°C

From a visual inspection, inside of cells 7 & 8 it was observed that timber support structure had failed and collapsed and major repairs may be necessary. Drift eliminators and water distribution troughs are badly broken, cracked, clogged and in a state of disrepair. Also, splash bars within and including the timber structure are heavily scaled. Mechanical fan assembly and drive unit must be completely serviced.

The lack of sufficient cooling of the plant translates to higher operational temperatures resulting in poor efficiency and quality, lower production rates and a higher rate of scaling of the equipment.

C.1.3 Proposed Solution: Reason for this Tender

Due to the severity of the condition of Old Cooling Tower Cells 7 & 8 it is proposed that cells 7 & 8 be refurbished and reinstated to its desired operating parameters.



The desired cooling performance:

- o 900 m³/hr. water flow
- o Inlet temperature: 45°C, Outlet 32°C

It is proposed that the Cooling Tower Refurbishment includes redesign in thermodynamics, fluid dynamics, heat transfer, and structural design by a Professional Engineer. Also, it is proposed that defective elements such as timber structure & splash bars, water distribution troughs and drift eliminators are replaced with new parts. Servicing of mechanical fan assembly and drive unit must be provisioned.

C.2. Legislation, Standards and Codes of Practice

Latest revisions or amendments of the listed codes and specification are applicable to this contract:

Number	Title / Description	Revision
COP6	Control Of Construction Work	Latest
Act 85 of 1993	Occupational Health and Safety (OHS Act)	Latest
S28 NEMA (1998)	Duty and care of environmental degradation	Latest
SANS 10100	The Structural use of concrete	Latest
ISO 9001	Quality Management System	Latest
COP 06	Control Of Construction Work	Latest
COP 09	Drawing Standard and Specifications	Latest
COP 82	Waste Management	Latest

All work listed in this scope of work shall be completed in accordance with the specifications and codes as listed above. It is the responsibility of the Tenderer to be in possession of the latest standards and codes as listed above in the execution of this project.

C.3. Foskor Specifications

All work listed in this scope of work shall be completed in accordance with the specifications listed below.



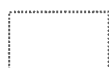
Those specifically applicable to this Tender is **marked with "YES"**, **however** it does not exclude other specification listed or implied, and it remains the Tenderer's responsibility to ensure that work execution and tender prepared is in line and meets the requirements of all standards indicated or not.

Number	Title / Description	Version	Applicable
APPLICABLE	FOSKOR SPECIFICATION on this Tender		
E003	Industrial Electrical Installations	Latest	Yes
EC1	Installation, Testing and Commissioning of Electrical Equipment	Latest	Yes
FC005	General Earth Works to Plant and Building	Latest	
FD001	Design Criteria for Structures	Latest	
FG001	General Requirements for Projects	Latest	Yes
FL001	Design & Fabrication Criteria for Ladders & Walkways	Latest	
FM001	General Mechanical Specification	Latest	Yes
FM003	Welding of Fabricated Equipment	Latest	
FQ001	General Engineering Quality Requirements	Latest	Yes
FS 001	Specification for the Fabrication & Erection of Structural Steel Work	Latest	
GM5	Pipe Standards Including Auxiliary Equipment	Latest	
GM6/COP9	Engineering Drawing and Document requirements	Latest	Yes
GQ1	Quality Control Procedure for Contractors	Latest	Yes
GS1	Structural Steelwork and Plate Work Fabrication and Erection	Latest	
MC001	Corrosion Protection Colour Coding	Latest	
MC004	General Plant Painting Specification Low Temperature	Latest	
MC006	Repair/Touch-up of Damaged Steelwork	Latest	
MC009	General Plant Protection High Corrosive Areas	Latest	
SS-000000-C-006	General specification for concrete construction	Latest	Yes
SS-000000-C-007	Concrete specification	Latest	Yes
SS-000000-C-012	Grouting	Latest	Yes
SS-000000-Q-001	General quality requirements	Latest	Yes
SS-000000-S-001	Fabrication and erection of structural steelwork	Latest	
DD-000000-C-001	Civil design criteria	Latest	Yes
DD-000000-S-001	Structural design criteria	Latest	Yes

It is the responsibility of the Tenderer to be in possession of the latest specifications as listed above or implied in the execution of this project.

The Contractor is referred to the Specification mentioned for full descriptions of materials and methods referred to in these Bills of Quantities/Lump Sum documents, insofar as they apply.

The Contractor is advised to study the referred to specification, before pricing Bills of Quantities/Lump Sum documents.



No claim whatsoever will be allowed in respect of errors in pricing due to brevity of description of items in the Bills of Quantities/Lump Sum documents which are fully described when read in conjunction with the relevant Preambles and/or Specifications.

Suppliers of materials and the like, whose quality systems apply with one or more of the SABS/SANS and ISO 90001 Series should be used whenever possible in the absence of a particular SABS/SANS Specification Standard Mark.

The Contractor is hereby informed that where SABS/SANS Specifications are referred to in these Bills of Quantities/Lump Sums documents and Specifications thereto, then ONLY the Specification of Work Clauses will apply. The method of measurement and payment clauses will NOT apply to this Contract.

C.4. Project Requirements

The main works is of Mechanical/ Civil nature and requires the supply of all (including but not limited to):

- Materials;
- Specifications;
- Labour;
- Tools;
- Consumables;
- Transport;

The Contractor shall further ensure that all work is executed with a detailed quantity of work and/or design detail is provided and complies with the specifications as set out in this document.

C.5. Plant Data

All work listed in the document will be constructed for installation at the

FOSKOR RICHARDS BAY

21 JOHN ROSS PARKWAY

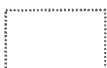
RICHARDS BAY

3900

C.6. Drawings and/or Equipment Manuals

The following drawing, data and/or manuals remain the property of Foskor (Pty) Ltd and shall be returned to Foskor (Pty) Ltd on completion of the work.

Drawing No.	Title / Description	Revision
2356/1-1	PILES BASIN SLAB	
2356/1-3	FRONT & SIDE VIEWS LONGITUDINAL SECTION	
2356/1-4	FAN STACK WALL FRAMING AND DETAILS	



2356/1-13	CARPENTARY	
2356/1-17	WOOD LIST	
2356/1-19	REINFORCEMENT (PART II WALLS)	

All work listed in this Scope of Work shall be completed in accordance with the latest copies of drawings/specifications as listed above. It is the responsibility of the Tenderer to ensure that the Tenderer has the latest copies of drawings/specifications as listed above for the execution of this project.

On completion of the project the Contractor must certify all documentation and drawings for correctness and conformance, specifying which standards and regulatory acts these conform to.

3.7

Scope of Work - General

The scope of work calls for a minimum **6ME or 6CE CIDB Principal Contractor** and includes for the following:

The Contractor to supply as per the complete Bill of Quantities submitted and which includes but not limited to: Engineering Design, Demolition Work, and Reconstruction, etc. The supply of any equipment/material that is suggested by the Contractor must be approved by Foskop.

The contractor to provide with his tender method of repairs and work program that will be within the provisioned quantities for repairs. The period of construction covers the hand over to the successful supplier and the final completion of the repair work, including hand over back to Foskop. No delays shall be entertained.

All specialized equipment/material shall be installed as per recommendation by the manufacturer of the supplied material/equipment. Any deviations from Manufacturer recommendations must be suitably justified. Access to areas of repair will be provided using scaffold equipment as issued from Foskop.

All completed work will be inspected and approved by Foskop. The Contractor shall ensure that all 'acceptance approvals' are received from Foskop (Pty) Ltd before proceeding to the next stage.

After completion of repair work, the Contractor must allow for final inspection, passing & Handover of the project works with Foskop (Pty) Limited and the nominated Contractor.

The Work calls for the successful contractor as required by the scope of work to make good of defective structural concrete elements and make safe and functional for its purpose – "Fit-for-Purpose".

The project to be undertaken in terms of the latest revisions and amendments of all relevant legislation, standards and Codes of Practices. The Contractor will complete the Works in accordance with all statutory obligations, construction regulations (e.g. Labour Regulations etc.) and all other relevant requirements. The Contractor is specifically reminded of the requirements in terms of the Occupation Health and Safety Act, Act 85 of 1993 and latest amendments in terms of this project.

The design, selection and supply of all equipment to be supplied by the Contractor shall be approved by Foskop



All work carried out shall be in accordance with the Installation recommended or specified by the manufacturer of the supplied material.

C.7.1 Scope Of Work - Extent

The Contractor understands and shall fully satisfy the scope of required services, as described in the tender **FTP /24/MN** handed out at the site inspection held on (date) _____, which is generalized as follows:

- Provide safety controls and equipment
- Demolition work
- Civil concrete repairs
- Construction and installation of mechanical work

C.7.1.1 Planning, Demolition and Preparation.

Refurbishment of Cooling Tower Cells No. 7 & 8 with Intention to Improve and Upgrade

- 1) Carry out physical inspection and evaluation of the existing cooling tower cells with a view to improve cooling tower performance, which will comprise of:
 - Assessing the water distribution system and causes for uneven water distribution.
 - Inspection of the condition of the packing (fill), drift eliminators and the protective coating. Determine suitable packing and mist eliminators as well as the effectiveness and appropriateness of its use.
 - Assessing the basin. Reasonable estimation of the water flow rate and airflow in and out of the cooling tower in consideration to any proposed improvements and/or upgrade.
 - Provide complete design and drawings for proposed improvements/upgrade and new technology with minimal impact and modifications to existing cooling tower configuration.
 - Engineering process design to include but not limited to;
 - i. thermodynamics, fluid dynamics, and heat transfer,
 - ii. extensive knowledge and understanding of open circuit cooling, natural and forced draft systems, wet and dry cooling as well as direct and indirect cooling.
 - iii. understanding of safety protocols related to cooling tower installation, maintenance, and operation,
 - iv. awareness of environmental considerations, such as water conservation and chemical treatment.
 - Provide structural design of cooling tower internals.
 - Design and drawings to be approved by FOSKOR prior to commencement of new installation.
- 2) Supply and install cooling tower internal structural members manufactured from prior approved materials of construction as per approved design, such as **"PINE WOOD and TREATED WITH CCA (COPPER CHROMATE, ARSENIC) FLUIDS.**
- 3) Supply and install water distribution system as per approved design such as rectangular shaped launders/troughs, to be provided by the contractor.
- 4) Supply and installation of all the necessary materials to build cooling tower cell of suitable materials of construction that is fit for purpose from the point of feeder pipe discharge located at the external face of concrete wall to include but not limited to;
 - Mist eliminators,



- Primary water distributor,
- Secondary water distributors,
- Cooling tower packing/internal fill,
- Support structure for cooling tower packing/internal fill,
- Suitable fasteners made from 904L stainless steel or similar approved,
- Supply supervision, labour, tools & equipment, and tackles.

5) The job list for the Refurbishment is as follows:

- Dismantling and stripping of existing cooling tower internals and disposing into free issue skips.
 - All material removed from cooling tower cells must be cut up into sections smaller than 2m and dispose into free issue skips.
 - Dismantle and remove fan and blades and forward to Foskor for servicing.
 - Clean internal walls with High-Pressure cleaning/blasting.
 - Supply and install new cooling tower internals as per approved design. Contractor to provide material quality certificates.
 - Supply and install perforated polypropylene walkways on top of primary and secondary water distribution system.
 - Complete assembly and installation of the mechanical fan assembly and drive unit. Foskor will free issue electric motor, drive pulley, bearing block with shaft and fan hub. Installation to be complete with alignment and tensioning. Contractor to supply all other spares to complete fan assembly including, but not limited to 5 groove banded v-belts, taper lock bushes, fan blades, 904L stainless steel fasteners and lubricants etc.
 - Install steel fan guards to be manufactured of carbon steel and corrosion protected as per Foskor MC004 specification.
 - Supply and install steel motor guards to be manufactured of 316 stainless steel.
 - Supply and install Cargo nets of 2,5m radius, manufactured with 12mm, 16 braid, rope with 120mm mesh.
 - Commission cooling tower cells 7 & 8.
- 6) All equipment provided by FOSKOR must be handled with care. Any loss and/or damage to the free issue equipment will be for the contractor's account.
- 7) Contractor to demonstrate cooling tower performance by post commissioning assessment and report. This is necessary as the supplier must be able to guarantee the required cooling tower performance based on the approved cooling tower design.
- 8) The use of sub-contractors shall, be subjected to Foskor's scrutiny, and criteria such as HSDA rating, capacity and reputation for successful supply and installation.
- 9) The Contractor shall submit on completion of the work the following documents in a complete data pack to the Foskor Project Leader or his representative:
- Design calculations and drawings,
 - Signed quality control documents,



- Inspection reports,
 - Material and quality test certificates & manufactures certificates, including material compositions,
 - Materials technical data sheets,
 - Final acceptance and sign off on all documentation by the third-party competent person such as Professional Engineer,
 - “As-built” drawings in A1/A0 hard copy, CAD format, and PDF format on CD – ROM , P & ID ‘s and wiring diagrams where applicable.
 - Structural Engineer certificate for the installation of structural support system.
- 10) The contractor must strictly follow the supplied pricing schedule to compile quotation. Any deviations will automatically disqualify tender. All lifting equipment and specialized manpower/equipment must be included in the contractor’s rates for works.



11) All the material must be suitable and effectively withstand the following parameters with minimal adverse impact:

Original Design Parameters

Water Inlet Temperature	45°C
Water Flow	3500m ³ /hr.
Water Outlet Temperature	32°C
Airflow	624m ³ /sec
Heat Load	46 – 55 x106 Kcal/Hr.
Wet Bulb Temperature	26°C
Dry Bulb Temperature	29°C

Until otherwise notified, Foskor (Pty) Ltd have designated Mr. Humphrey Mabunda (Project Supervisor) and Mr. Wandile Mhlongo (Project Engineer) to act as Foskor representatives, and they are authorized to give instructions and to provide information to you on Foskor's behalf.

1. It is preferred that the supplier submit contact details for a designated 'point of contact' person who will be authorized to receive information and act on supplier's behalf.
2. Foskor's Health & Safety Representative will deal with all matters relating to the Health & Safety specifications and Construction Regulations relating to this assignment.
3. A pre-requisite of this contract is that the supplier confirms that he shall carry the necessary professional/construction indemnity insurance cover to the extent of the liabilities contemplated.
4. The Tenderer should determine the work methodology and approach. However, it is imperative that the outcome of the works meets all the criteria related to this project.

C.7.2 Site Conditions

The site is located on the Foskor (Pty) Ltd Richards Bay Plant comprising of the Sulphuric Acid Plant, Phosphoric Acid section and the Granulation Plant. The Tenderer is deemed to have viewed the site and to have thoroughly acquainted themselves with the extent, nature and conditions affecting the work to be done before submitting his tender.



Access to the area is free of obstructions, however the Contractor must take note that unexpected unsafe conditions e.g., acid leaks, if any will take priority for containing of these and returning to a safe working condition.

It will be imperative for the successful Tenderer to liaise with the Foskor (Pty) Ltd.'s designated project leader (Foskor representative) to ensure safety whenever site access is required.

Full acid resistant PPE (personal protective equipment/clothing) must be worn/used at all times.

Be cautious of Foskor equipment, employees and contractor employees doing their routine maintenance and daily duties in the area at all times.

As it will be deemed that the prevailing conditions have been taken into account when tendering, no claims for extras arising from failure to observe all site conditions will be admitted.



C.7.3 Services which are known to exist on the site

The following services exist on the site:

- Water and air pipes.
- Acid pipes.
- Steam pipes.
- Electrical & Instrumentation cables and cable racks.

C.7.3.1 Foskor Supplied Services

Foskor (Pty) Ltd shall be responsible for:		Applicable:
1	Supply a copy of the relevant Foskor Procedure Specification(s).	refer C.3
2	Supply a copy of reference drawings if required.	refer C.6
4	Provide access to electricity connection points ▪ Any connection and consumption will be monitored by Tenderer and verified by Foskor on defined intervals (usually at the beginning and end of contract)	YES
5	Provide access to potable water ▪ Connection and consumption would need to be monitored by Successful Tenderer (Contractor) and verified by Foskor on intervals (usually at the beginning and end of contract) defined by Foskor	YES
6	Provide a suitable area for site establishment for Successful Tenderer (Contractor). ▪ Successful Tenderer to formally in writing motivate, request and define the area and services it deems necessary for site establishment. ▪ Foskor will at its own discretion (if request is approved) allocate a site establishment area, however Foskor can should it deem necessary retract or re-define its approval by giving reasonable notice to the successful Tenderer	ON REQUEST
7	Provide access to ablutions facilities. (not change rooms) ▪ Successful Tenderer (Contractor)'s workers to be fully dressed in required PPE when coming on site. ▪ The successful Tenderer to ensure that its workers/subcontractors/ supplier that are making use of facilities, do so in an orderly and well-mannered way. ▪ Successful Tenderer is not allowed to make use of Foskor's change room or tearoom facilities unless agreed to in writing. ▪ The successful Tenderer might be called on to assist with the maintenance and cleaning of ablutions, should Foskor at its discretion be of the opinion that it be necessary. Cost associated with such cannot be claimed from Foskor (Pty) Ltd.	YES
8	Assist in issuing of work clearances and HIRA certificates.	YES



C.7.3.2 Successful Tenderer (Contractor) Responsibilities

The successful Tenderer (Contractor) shall be responsible for (inter alia):		Applicable:
1	Supply of own labour, supervision, equipment, specialized manpower and other staff to fulfill the scope of work.	YES
2	Supply suitable (approved) Personal Protective Equipment (PPE)	YES
3	To ensure that all work is reviewed by designated Foskor (Pty) Ltd representative at all stages and/or agreed milestones of the project. All work completed needs to be inspected and approved by the designated Foskor representative (e.g. Project Supervisor/ Manager)	YES
4	After installation/construction and commissioning the successful Tenderer shall conduct final inspection of all work together with designated Foskor (Pty) Ltd representative to compile SNAG list.	YES
5	To ensure that all acceptance approvals as per the Quality Control Policy (QCP) are received before work is finally handed over.	YES

Note that concerning above:

- i. No claims towards losses will be accommodated.
- ii. All items that the Successful Tenderer will bring to Foskor (Pty) Ltd, will be subjected to review and approval by Foskor (Pty) Ltd and shall conform to Foskor procedures.

C.7.4 Certification by Recognized Bodies

Only Tenderers registered with the relevant Board (e.g. CIDB, ISO 9001 etc.) of South Africa in accordance with the Regulations of the Occupational Health and Safety Act will be accepted and permitted to do work under this contract.

C.7.5 Requirement for the termination, diversion, or maintenance of existing services

Only Applies if/where electrical conductors, pipe conduits, electrical transmitters, ducting or ventilatic services are affected. Unless identified as part of the scope, the Contractor must immediately bring to Foskor's attention any previously unspecified or obstructing services existing in his area of work and without terminating/diverting/hindering such services.

C.7.6 Nominated Sub-Tenderers

Should the tenderer anticipate using Subcontractors for any part of the scope, these must be specified below.

The following Sub-Tenderers are nominated:



Contractor	Concerning Works	Contact

C.7.7 Invoicing and Payment

Payment will be made by Foskor (Pty) Ltd, after approval (with consideration for the construction, completion and defects corrections of the Works) by the Foskor (Pty) Ltd's Project Representative (i.e. Engineer, Project Supervisor) of the submitted Payment Certificate to the Tenderer within **30 (thirty)** days from the date of the Tenderers approved invoice.

The invoice shall be approved in accordance with the provisions of Foskor (Pty) Ltd.'s terms and conditions.

The invoice submitted is to be in a format acceptable to the Foskor (Pty) Ltd's Project Representative and need to contain the following minimum information:

- Company details, registration no and VAT registration no,
- Purchase Order no & Date of Invoice,
- Copy of Purchase Order,
- Detail description of work done to date,
- Value of the current claim and work done (excl. VAT),
- VAT charged.

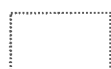
C.7.8 Standing Time

Standing time is defined as a period of time measured in hours, when the Contractor's normal operational cycle is affected by causes caused by Foskor (Pty) Ltd and results in normal stoppage or major disruption to the regular progress of the Works.

Payment to the Contractor for standing time will be certified only where, in Foskor (Pty) Ltd's opinion, the delay was clearly beyond the reasonable control of the Contractor and the Contractor further took all reasonable measures to avoid or reduce such delay and such delay imposed direct costs to the Contractor.

C.7.9 Progress of Works

Should Foskor (Pty) Ltd at any time be of the opinion that the rate of progress of the Works or any part thereof is too slow to ensure the completion of the Works or any part thereof by the Completion Date, Foskor (Pty) Ltd shall so notify the Contractor in writing, with specific reference to this Clause, and the Contractor shall thereupon, subject to the approval of Foskor (Pty) Ltd take such steps as are necessary to expedite progress so as to complete the Works or the said part thereof by the Due Completion Date.



C.7.10 Penalty

If the Contractor, by the Due Completion Date, fails to complete the Works to the extent which entitles him to receive a Certificate of Practical Completion, the Contractor shall be liable to Foskor (Pty) Ltd for an amount of **0.1% for every Calendar Day that the works is late or such portion of the contract price as is associated with that part of the Works.**

The imposing of such penalty shall not relieve the Contractor from the obligation to complete the Works or from his obligations and liabilities under the Contract.

C.7.11 Claims: Extension of Time for Completion, Additional Payments or Compensation**C.7.11.1 Claims Procedure**

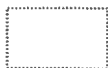
The following provisions shall apply:

- i. Claims are to be submitted in writing within **7 days** after the circumstances, event, act or omission giving rise to such claim has arisen or occurred to the Foskor (Pty) Ltd Project Representative
- ii. Submit **written notice** to the Foskor (Pty) Ltd Project Representative of the intention to claim within **7 days** after the circumstances, event, act or omission giving rise to such claim has arisen or occurred. The Notice and subsequent claim to set out:
 - a. Particulars of the circumstance, event, act or omission giving rise to the claim concerned;
 - b. Provisions of the portion of the contract on which he intends to make the claim;
 - c. Length of extension of time, if any, claimed and the basis of calculation thereof, and
 - d. The Price Adjustment, if any, claimed and the basis of calculation thereof.
- iii. If the Contractor cannot reasonably comply with any of the provision above within the said period 14 days, he shall:
 - a. Notify the Foskor (Pty) Ltd Project Representative in writing of his intention to make the claim and comply with such requirements as he reasonably can;
 - b. Deliver additional information in writing that is reasonably required by Foskor (Pty) Ltd; and
 - c. Comply as soon as practical with such requirements as described above in this clause within a time agreed to by the Foskor (Pty) Ltd Project Representative.
- iv. In the event of failure to comply to any of the provisions, the claim would not be accommodated and Foskor (Pty) Ltd would be discharged of all liability in connection with the claim.

C.7.11.2 Extension of Time for Completion

The whole works shall be completed within the time agreed upon.

If any circumstances of any kind whatsoever may occur and as such, fairly entitle the Contractor to any extension of time for the completion of the works or portion thereof, then the Foskor (Pty) Ltd Project Representative will consider a claim duly submitted.



C.7.12 Cancellation of the Contract by Foskor (Pty) Ltd

If:

- (a)
 - (i) The estate of the Contractor shall be sequestrated (provisionally or finally), or
 - (ii) The Contractor shall publish a notice of surrender of his estate as insolvent, or
 - (iii) The Contractor, being a company or a close corporation, shall go into liquidation (provisionally or finally), or
 - (iv) The Contractor shall assign the Contract without the consent in writing of Foskor (Pty) Ltd having first been obtained, or
 - (v) The Contractor shall enter into a compromise with the general body of his creditors, or
 - (vi) The Contractor shall have an execution levied on his goods, or
- (b) the Foskor (Pty) Ltd Project Representative shall certify in writing to Foskor (Pty) Ltd, and to the Contractor/Consultant, with specific reference to this Clause, that in his opinion the Contractor/Consultant:
 - (i) has abandoned or repudiated the Contract, or
 - (ii) has, without reasonable excuse, failed to commence the Works in terms of the time allowed and agreed to, or
 - (iii) has suspended the progress of the Works without due cause, or
 - (iv) has failed to proceed with the Works with due diligence, or
 - (v) is not executing the Works in accordance with the Contract, or
 - (vii) has, without the approval of the Foskor (Pty) Ltd Project Representative, subcontracted any part of the Contract, or
 - (viii) has failed to provide the Surety ship, Professional Indemnity within the time stipulated and for 14 days after receiving a written notice from the Foskor (Pty) Ltd Project Representative, referring specifically to the default concerned and to this Clause, failed to remedy the default,

Foskor (Pty) Ltd may, by written notice to the Contractor, terminate the Contract and withhold any payments due until further notice.

.7.13 Urgent remedial work

All designs changes or remedial action must be communicated to the Foskor Engineer or the authorized Foskor Designate. Approval of such must be sought and received as early as not to impose undue costs and delays. Should there however be remedial work necessary, the Contractor shall, upon approval from the Foskor Engineer/Designate, effect these with care, accuracy and speed, so as not to impose undue extension of time and /or cost.

If any work as done by Foskor (Pty) Ltd is work which the Contractor was liable to do at his own expense under the Contract, all costs incurred by Foskor (Pty) Ltd in so doing shall be determined by Foskor (Pty) Ltd or its agent and shall on demand be paid by the Contractor to Foskor (Pty) Ltd.

C.8. Foskor Safety Documents to be submitted, Environmental and Site Management**C.8.1 SHREQ Requirements**

The successful Tenderer will be required to comply and ensure continuous compliance with



Foskor standards and national regulations:

- Compliance with COP6 (Contractor Management).
 - Compliance and signing of Section 37(2) Agreement in terms of the OHSAct at the Foskor (Pty) Ltd Safety Department.
 - Compliance with Legislation requirements which includes the OHSAct, NEMA (National Environment Management Act) and other relevant applicable Legislation.
- * *copy of requirements available from Foskor SHREQ Department.*

C.8.2 Environmental Management Specifications

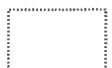
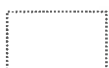
In order to ensure that the construction works is designed for an environmentally sensitive area, strict compliance to the Environmental Management Plan (EMP) guidelines may be requested after appointment of the contractor.

The EMP shall be part of the terms of reference for all contractors/consultants, sub-contractors/consultants and suppliers.

A copy of the EMP requirements is available from Foskor (Pty) Ltd SHREQ department.

All MSDS's to be submitted to Foskor (Pty) Ltd.

Waste disposal needs to comply to Foskor (Pty) Ltd Waste Management Plan.



C.9 OHSA 1993 Health and Safety Specification

This specification covers the health and safety requirements to be met by the successful Tenderer (Contractor) to ensure a continued safe and healthy environment for all workers, employees and subcontractors/consultants and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2003, and all other safety codes and specifications referred to in the said Construction regulations.

C.9.1. Health and Safety Induction

The successful Tenderer (Contractor) shall ensure that all employees under his control, including the subcontractors/consultants and their employees, undergo a health and safety induction training course by a Foskor competent person before entering site.

- a. The Contractor shall ensure all his/her personnel have attended the Safety Induction, by Foskor (Pty) Ltd before they enter site.
- b. The Contractor on entering site, must wear Foskor minimum required PPE at all times namely safety glasses, acid resistant overalls, safety harnesses (on heights), safety boots or steel cap gumboots, ear protection, Tychem suite (when working in the vessel/Dry Tower) and **gas masks (Half-mask double filter – screw type with filter type A1B1E1K1 – North Safety Product or similar approved product) and goggles (Uvex ultravision – W1663459B – DIN CE 0196) preferably in a pouch.** Should a Contractor be found on site without the above-mentioned safety clothing, he will be removed from site and will not be allowed to return. FFP3 dust mask fitted with an exhalation valve must be used when working in dust in on the B&D Store.
- c. **Overalls must be Blue Sweet Orr overall (80% Ployester 20% Viscose Rayon Acid repellent) with Company names either on front of jacket or back OR Blue North Safety Acid/Flame overall (Flame retardant acid resistant anti-static ATPV 15.4CAL/CM2) with company names either on front of jacket or back and fluorescent reflective strips to be stitched onto sleeves and on the knees.**
- d. The Contractor shall demarcate the relevant work area. The Contractor shall supply and erect an appropriate name board with all relevant information and contact details at the work area.
- e. The job risk assessment shall be carried out at the start of each shift. This risk assessment shall cover all activities planned for the relevant shift. The risk assessment shall be submitted to Foskor (Pty) Ltd at the start of each day shift and each night shift.
- f. The Contractor must take safety precautions when working on site.
- g. The Contractor must remove all their equipment within 48 hours after project completion/closure.
- h. A complete safety file to be submitted to Foskor (Pty) Ltd Safety Department before any work commences.
- i. The Contactor's vehicle when entering the Plant must have rotating orange lights on at all times.
- j. **The Contractor and their employees must undergo a full medical at either Foskor (Pty) Ltd's Clinic or Caredoc Richards Bay or their approved by Foskor (Pty) Ltd. A full lung function test must be done. If a project is longer than twelve months, then a complete medical including lung function tests must be done again and thereafter the lung function test. Medical certificates are valid for one year only. For medical costs and bookings please contact Sister at Foskor (Pty) Ltd Clinic on 035 902 3287.**
- k. A once-off fee is also required for access cards from Foskor Security. Please contact the Foskor (Pty) Ltd Security Reception at 035 902 3267 for information.
- l. No access to elevated platforms, roof and scaffolding will be allowed during rainy days.



MANDATORY AS ENVISAGED BY SECTION 37(2) OF 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 in accordance with the Act.

It is further noted that:-

- a) The Contractor shall comply with all Foskor Regulations and Safety Standards.
- b) The Contractor shall fully comply with the OHS Act (Act 85 of 1993).
- c) The Contractor shall fully comply with Covid-19 compliance as part of Section 37(2) of the Act.

IMPORTANT NOTE

The above is a summary of some of matters as defined in the Act. The successful Tenderer (Contractor) is required and advised in his own interest to make a careful study of the Act and the Construction regulations.

Ignorance of the Act and the Regulations will not be accepted in any proceedings, as valid reason if non-conformance to the Act and the Regulations are committed.

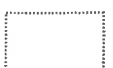
C.10. Applicable General Conditions of Contract

Unless expressly otherwise indicated, Foskor General Conditions of Contract and the FIDIC terms of Contract would apply, and is available from the Manager Procurement Foskor Richards Bay.

C.11. Quality Management

The successful Tenderer is to adhere to Foskor (Pty) Ltd's Quality Management System and specifications incorporated in this Tender Document.

To ensure that all installations are carried out in a controlled manner, the Contractor shall demonstrate this by means of the internal quality system, which shall include as a minimum a QCP for each piece of equipment. The QCP must be approved by Foskor before commencement of any work.



C.12. Quality Control:

- i. A detailed QCP (Quality Control Plan) shall be submitted within 3 days of contract award.
- ii. Quality of work must be monitored and controlled at a high level at all times.
- iii. At each hold and witness point all work shall be suspended until the specified inspection has been completed and the QCP updated and signed accordingly by Foskor (Pty) Ltd or its representative.
- iv. At each milestone, the designated Foskor (Pty) Ltd Quality Representative must approve the quality and standard of work being produced.
- v. It shall be the responsibility of the Successful Tenderer (Contractor) to give Foskor (Pty) Ltd timely notice of hold and witness points requiring their intervention.

C.13. Tender Returnable Document

- i. Priced bill of quantities
- ii. Signed site inspection certificate.
- iii. Initial program
 - a. Submit Bar Chart/Gantt Chart.
- iv. Method statement.
 - a. Repair/upgrade installation of cooling tower internal and external equipment.
- v. Quality Control Plan.
 - a. Submit quality assurance plan indicating surveillance, verification, witness and holding points.
- vi. Technical Data Sheets for all material to be used under this project.
 - a. Submit material technical data sheets for all materials of construction.
- vii. Proposed project Team
 - a. Submit organogram indicating team structure and the number of personnel committed to the project.
 - b. Submit C.V's with certified copies of qualifications and experience of key personnel (Contracts Manager/Project Manager, Site Supervisor/Forman, Quality Controller, and Safety Officer) as well as the number of crewmen committed to the project.
- viii. Record of experience of Bidder
 - a. Submit record of completed similar projects from 5ME or 5CE CIDB grading for Principal Contractor and 6ME or 6CE CIDB grading for Sub-Contractor with proof of appointment and proof of completion for projects outside of Foskor Acid Division (traceable reference with contact details to be included for verification). Indicate largest contracts completed in the past 5 years.
- ix. Proof of professional registration for competency in thermodynamics, fluid dynamics, and heat transfer engineering design.
- x. Proof of professional registration for competency in structural engineering design.
- xi. Submit valid CIDB 6ME or 6CE grading certificates.

Section D – Technical Evaluation Criteria

Suppliers will be evaluated as per Technical Evaluation Criteria below as per tender submission.

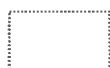


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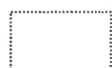
No.	Returnable Documents	Comments	Mandatory
1	Initial Project schedule (Bar chart/Gantt chart)	Proposed delivery	
2	Method Statement	Adherence to scope of work and safety	
3	Traceable Record of Similar Contracts Undertaken and References	Level of experience	
4	CIDB grade certificate	CIDB grade 6ME	Mandatory
5	Proof of professional registration for Design Engineer	Professional registration certificates	
6	Project Team Organogram and C.V's of Key Personnel	Level of competency of project team	
7	Site Inspection Certificate	Signed by Foskor Project Leader	Mandatory
8	Quality Control Plan		
9			

TECHNICAL REQUIREMENTS (Evaluation Criteria)

No.	Technical Criteria Description	Contribution%	Proof/Documents to be submitted	Notes
1	Mandatory - Compliance with Scope of Work Specifications - Weight not to be less than 10%			
a)	Suitability of methodology in alignment with safe work procedure and care of environment. Scoring: Yes(Acceptable) = 10%, No(Not acceptable) = 0%	10%	Submit a method statement that is relative to the project.	Methodology and procedure is the core of a technical submission and demonstrates the supplier's comprehension of the scope of work.
2	Reliability - Supplier reliability to complete the project safely within time, quality, and budget - Weight not to be less than 50%			
a)	Suitability of project schedule in alignment with Foskor guide as per B.2 of tender document presented within realistic timeline. Scoring: Shortest Duration - practical completion = 20% Upper Median -Practical completion = 15% Median - Practical Completion = 10% Lower Median - Practical Completion = 5% Longest Duration - Practical Completion = 0%	20%	Tenderer to submit project schedule in Ms. Projects format	Suitability and completeness of the planned schedule in comparison to Foskor's expectations. Require contractors to prepare detailed critical path schedule that show all tasks and activities that affect time and interrelationships between trades.
b)	Suitability of QCP (quality control plan). Scoring: Yes(Acceptable) = 10%, No(Not acceptable) = 0%	10%		QCP is an important indicator of the level of quality control of the project activities.
c)	Previous experience in similar work, environment, magnitude and complexity. Previous experience in cooling towers. 4 or more References will be 20% 3 References will be 15% 2 Reference will be 10% 1 Reference will be 5% 0 Reference will be 0%	20%	Submit a list of projects undertaken and completed with description, duration of project starts and completion, project amount as well as appointment letters and completion certificates with contact details of references.	Records of previous projects successfully completed by the supplier provide an indication of the level of experience.



3	Competency - Supplier experience & team competency - Weight not to be less than 40%			
3.1	Key Personnel - Weight not to be less than 20%			
b)	Professional registration with regulating engineering body. Professional Mechanical Engineer = 5% Relevant experience post registration of 1-5 years = 1% - 5% Professional Structural Engineer = 5% Relevant experience post registration of 1-5 years = 1% - 5%	20%	Submit a list of projects undertaken and completed with description, duration of project starts and completion, project amount as well as appointment letters and completion certificates with contact details of references.	Records of previous projects successfully completed by the supplier provide an indication of the level of experience.
3.2	Site Manager/Supervisor/Quality Controller - Weight not to be less than 10%			
a)	Experience Scoring Previous experience with the construction of similar projects (Construction/Refurbishment of cooling towers) Relevant experience 10 years and greater is 10% Relevant experience of 1-9 years is 1% to 9% respectively	10%	Submit CV with list of projects undertaken and completed with description, time of project start and completion, project Amount as well as references with contact details.	Records of previous projects successfully completed by the engineer/technologist provide an indication of the level of experience.
3.	Health and Safety Officer - Weight not to be less than 10%			
a)	SACPCMP Registration: Construction Health and Safety Officer Scoring: Yes = 5%, No = 0%	5%	Submit Candidate's qualification	Records of qualification indicate competency of candidate
b)	Experience as a Health and Safety Officer Scoring Previous experience with construction of similar projects Relevant experience 3 years and above = 5% Relevant experience 2 years = 3% Relevant experience 1 year = 1%	5%	Submit CV with list of projects undertaken and completed with description, time of project start and completion, project Amount as well as references with contact details.	Records of previous projects successfully completed by the engineer/technologist provide an indication of the level of experience.
Total Technical Score:		100%		
NOTE: Scoring to add to 70 in total				
DISQUALIFICATION CRITERIA **				
1 Mandatory requirement not met.				



A. COMPANY EXPERIENCE IN RELATION TO SCOPE OF WORKS

The Tenderer will receive a maximum of 20 points based on information provided in this schedule.

The following is a statement of work of similar nature recently successfully executed by myself/ ourselves:

1. Points will be given for projects completed of similar nature and size (construction/refurbishment of cooling towers). No points will be allocated for other civil construction/building or mechanical projects.
2. The tenderer must list at least 4 cooling tower construction projects (similar size and nature) completed in the last 10 years.
3. The tenderer will receive a maximum 5 points for each relevant project listed.
4. The maximum points for each criterion are listed below.
5. Positive feedback from the Clients/Client Representatives from the designated/ listed contact person will contribute towards points allocated for the attached certified certificates of completion.
6. Positive feedback from the Consulting Engineers from the designated/ listed contact person will contribute towards points allocated for the attached certified certificates of completion.
7. Only projects of minimum grade 3 CIDB designation or higher value are applicable.
8. Points for certified completion certificates attached will be given for similar nature and size projects. Negative feedback will forfeit all points, meaning zero (0) points will be allocated for the attached certificates of completion.
9. Failure to submit all relevant information per project will result in the forfeiture of all points for that relevant project.
10. The experience of the Tenderer or joint venture partners in a consortium will be evaluated on basis of experience in similar projects or similar areas and conditions in relation to the scope of work required for this project.



Certified Appointment letter of Relevant Work (to be attached) (max 1 points/ project)	Consulting Engineer: Contact Person and Telephone Number (max 1 point)	Employer Contact Person and Telephone Number (max 1 point)	Value of Work (inclusive of VAT) (max 1 point)	Date Completed Certified Certificate) (max 1 points/ project)	Points awarded by the Engineer
Attach additional pages if more spaces are required			Total Points		

SIGNATURE: DATE:
(of person authorised to sign on behalf of the Tenderer



Foskor Official



B. SCHEDULE OF KEY PERSONNEL

Note to tenderer:

The tenderer shall receive a maximum of 40 points based on the information provided on this schedule.

The tenderer shall provide details of previous experience required for this project. The tenderer is referred to the tender data clause 4.1.1 (b) and shall insert in the space provided below details of the key personnel required be in employment of the tenderer, in order for the tenderer to be eligible to submit a tender for this project. Proof of registration, if applicable, must be appended to this form.

KEY PERSONNEL EXPERIENCE (SITE MANAGER/SITE SUPERVISOR)

The tenderer shall provide details of previous experience required for this project. Proof of registration must be attached for this form.

Name	Position in team	ECSA Reg No	Category	SACPCMP Reg No	Category	No of Year Experience
	Site Manager/ Site Supervisor					



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Technical / Managerial Experience

(List only the most recent 5 projects of the key staff that the tenderer considers relevant to the specified scope of work.)

Description of Project	Position held	Project Start Date	Project Completion Date	Contract value	Client and Contact Person	Contact No



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KEY PERSONNEL EXPERIENCE (MECHANICAL DESIGN ENGINEER)

The tenderer shall provide details of previous experience required for this project. Proof of registration must be attached for this form.

Name	Position in team	ECSA Reg No	Category	SACPCMP Reg No	Category	No of Year Experience
	MECHANICAL DESIGN ENGINEER					

Technical / Managerial Experience

(List only the most recent 5 projects of the key staff that the tenderer considers relevant to the specified scope of work.

Description of Project	Position held	Project Date	Start Date	Project Completion Date	Contract value	Client and Contact Person	Contact No

(DETAILED CV MUST BE ATTACHED HERETO)

SIGNATURE: DATE:

(of person authorised to sign on behalf of the Tenderer)



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KEY PERSONNEL EXPERIENCE (STRUCTURAL DESIGN ENGINEER)

The tenderer shall provide details of previous experience required for this project. Proof of registration must be attached for this form.

Name	Position in team	ECSA Reg No	Category	SACPCMP Reg No	Category	No of Year Experience
	STRUCTURAL DESIGN ENGINEER					

Technical / Managerial Experience

(List only the most recent 5 projects of the key staff that the tenderer considers relevant to the specified scope of work.

Description of Project	Position held	Project Date	Start Date	Project Completion Date	Contract value	Client and Contact Person	Contact No

(DETAILED CV MUST BE ATTACHED HERETO)

SIGNATURE: DATE:

(of person authorised to sign on behalf of the Tenderer)



Foskor Official



KEY PERSONNEL EXPERIENCE (SAFETY OFFICER)

The tenderer shall provide details of previous experience required for this project. Proof of registration must be attached for this form.

Name	Position in team	ECSA Reg No	Category	SACPCMP Reg No	Category	No of Year Experience
	SAFETY OFFICER					

Technical / Managerial Experience

(List only the most recent 5 projects of the key staff that the tenderer considers relevant to the specified scope of work.

Description of Project	Position held	Project Date	Start Date	Project Completion Date	Contract value	Client and Contact Person	Contact No

(DETAILED CV MUST BE ATTACHED HERETO)

SIGNATURE: DATE:

(of person authorised to sign on behalf of the Tenderer)



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C. CONSTRUCTION METHOD STATEMENT AND PRELIMINARY PROGRAMME

CONSTRUCTION METHOD STATEMENT

The tenderer will receive a maximum of 10 points based on information provided in this schedule.

The refurbishment of Foskop Cooling Towers consists of the reconstruction of the existing cells.

The quality criteria will be as follows (maximum 7 pages):

- 1) Approach method= 6 points
- 2) Construction Administration = 2.0 points
- 3) Safety controls = 2.0 points

The Tenderer shall attach a method statement reflecting the execution of the various activities, construction methods and quality control comprising the refurbishment work for this contract, including implementation of safety controls during construction. The statement shall be in accordance with the information supplied in the Contract, requirements of the Project Specifications and with all other aspects of this Tender.

PRELIMINARY PROGRAMME

The tenderer will receive a maximum of 20 points based on the executive programme.

The quality criteria will be as follow:

1. Applicable activities / tasks (showing more than 10 (ten) tasks) = 10 points
2. Float indicated = 2 points
3. Resources allocation indicated =5 points
4. Critical path= 3.0 points

The tenderer shall detail below or attach a preliminary programme reflecting the desired sequence and tempo of execution of the various activities comprising the work for this contract. The programme shall be in accordance with the information supplied in the Contract, requirements of the Project Specifications and with all other aspects of this Tender.

The Execution Programme must be based on the completion time as specified in the Contract Data.

PLEASE NOTE: the cash flow projection from the contractor (to be submitted before commencement of the execution of the contract) must be in accordance with this execution plan in order to ensure proper cash flow management by the employer and to minimise delayed payments.

Programme										
Activity and Resource	Month									

*Attach additional pages if more space is required

SIGNATURE: DATE

(of person authorised to sign on behalf of the Tenderer)



D. QUALITY MANAGEMENT QUESTIONNAIRE

The tenderer will receive a maximum of 10 points based on information provided in this schedule.

1. Does the Tenderer have a quality management system which is certified in terms of the **ISO 9001: 2015** (4 points)

Yes	No
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- 1.1 If "yes ", tendered to supply brief summary of structure of system (6 points)

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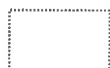
- 1.2 If "no", does the tenderer intend to apply for the certification and by when?

Yes	No
-----	----

DATE:

If the tenderer does not intend to apply for certification, he shall submit details of the quality management plan presently in place. The quality plan must address the following key aspects:

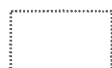
Key Aspects	Points
Organisation;	0.5
Staff responsibility and Authority;	0.5
Personnel Qualifications;	0.5
Construction Quality Control;	1
Definable features of work;	0.5
3 Phase Inspection Activities;	1
Submittal Management	0.5
Documentation and Reporting Requirements	0.5
Testing and Observations;	1



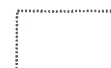
Section E – Schedules of Quantities

Supplier to submit with this tender Schedules of Quantities or Bill Of Quantities for all work to be done under this scope.

****Failure to fully complete this Bill of Quantity may lead to disqualification.**



		PROJECT NAME: PHOSPHORIC ACID PLANT - OLD COOLING TOWER CELLS 07 & 8 REFURBISHMENT PROJECT NUMBER: CONTRACT NUMBER: FTP /24/MN PROJECT LEADER: Wandile Mhlongo PROJECT CLIENT: Phosphoric Acid Plant			
ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SECTION 1: PRELIMINARY & GENERAL				
1,1	Foskor Plant Access: Medicals and Induction	No.			
1,2	Site Establishment and De-establishment	Sum	1		
1,3	Provide adequate safety control measures for work area. Make provision for the following but not limited to: • Preparation and approval of SHREQ file and risk assessment. • Install and maintain barricades around work area with a 1,0m-1,8m high shade cloth and in close proximity to running equipment. • Safety/warning signage.	Sum	1		
1,4	Fixed-Term P&G's (Specify)	Sum	1		
1,5	Time related P&G's (Specify)	Month			
1,6	Scaffold hire	Month			
1,7	High-Pressure clean walls and fan assembly.	m ²	440		
1,8	Placement of plastic sheets to protect existing works from contamination	m ²	440		
1,9	Professional Engineer design and sign off all HVAC and structural engineering design and sign off construction.	Sum	1		
1,10	Supply 25T crane (Provisional)	day			
1,11	Supply 8T crane (Provisional)	day			
SUB-TOTAL OF SECTION 1 CARRIED FORWARD TO SUMMARY				R	



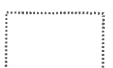
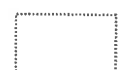


PROJECT NAME: *PHOSPHORIC ACID PLANT - OLD COOLING TOWER CELLS 07 & 8 REFURBISHMENT*
 PROJECT NUMBER:
 CONTRACT NUMBER: *FTP /24/MN*
 PROJECT LEADER: *Wandile Mhlongo*
 PROJECT CLIENT: *Phosphoric Acid Plant*

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SECTION 2: DEMOLISHING & PREPARATION					
2,1	Supply materials and construct floor decking to protect basin from contamination.	Sum	2		
2,2	Removal, dismantling and disposing of existing elements inside the cells (Including drift eliminators, water pipe system, carpentry work, etc.)	Sum	2		
2,3	Saw-cut, trim and remove existing GRP lining.	m ²	100		
SUB-TOTAL OF SECTION 2 CARRIED FORWARD TO SUMMARY					R



		PROJECT NAME: PHOSPHORIC ACID PLANT - OLD COOLING TOWER CELLS 07 & 8 REFURBISHMENT PROJECT NUMBER: CONTRACT NUMBER: FTP /24/MN PROJECT LEADER: Wandile Mhlongo PROJECT CLIENT: Phosphoric Acid Plant			
ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SECTION 3: CONSTRUCTION and INSTALLATION WORK				
3,1	Supply and install 5mm thick GRP lining to vertical concrete walls	m ²	100		
3,2	Supply and install all 904L stainless steel fasteners	kg	250		
3,3	Supply and construct structural support system complete with fill/splash bars/packing.	Sum	2		
3,4	Supply and install cooling tower primary water distribution	No.	2		
3,5	Supply and install cooling tower primary water distribution	No.	40		
3,6	Supply and install walkways manufactured of Polypropylene/fibreglass grating.	m ²	60		
3,7	Supply and install water distribution nozzles	No.	80		
3,8	Supply and install mist eliminators	Sum	2		
3,9	Supply spares and install mechanical fan assembly	No.	2		
3,10	Install fan guards	No.	2		
3,11	Install motor guards	No.	2		
3,12	Install cargo net	No.	2		
3,13	Other, as per design (please specify)				
3,14					
3,15					
3,16					
SUB-TOTAL OF SECTION 3 CARRIED FORWARD TO SUMMARY				R	



	PROJECT NAME: <i>PHOSPHORIC ACID PLANT - OLD COOLING TOWER CELLS 07 & 8 REFURBISHMENT</i> PROJECT NUMBER: CONTRACT NUMBER: <i>FTP /24/MN</i> PROJECT LEADER: <i>Wandile Mhlongo</i> PROJECT CLIENT: <i>Phosphoric Acid Plant</i>
DESCRIPTION	AMOUNT
SECTION 1: PRELIMINARY & GENERAL	R
SECTION 2: DEMOLISHING & PREPARATION	R
SECTION 3: CONSTRUCTION and INSTALLATION WORK	R
TOTAL FINAL SUMMARY	R



