

## SUPPLY, DELIVERY AND MAINTENANCE OF DEFOAMER AND FLOCCULANT CONTRACT AT FOSKOR, PHOSPHORIC ACID PLANT

Revision<sup>1</sup>: 0.1 see legend at bottom of page

Revised date:

NAME	TITLE	Empl. no	SIGNATURE	DATE
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### COMPILED – RECOMMENDATION

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### APPROVAL TO PROCEED

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Comments:

<sup>1</sup> 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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## Section A: SCOPE OF WORKS

### A.1. Background, Present Situation and Proposed Solution

#### A.1.1 Background and Present Situation

The Acid division of Foskor (PTY) LTD in Richards Bay is an acid and fertilizer manufacturing facility situated in Richards Bay. It operates two phosphoric acid plants referred to as new and old plant. In this process, apatite, a phosphate-bearing mineral, is digested in sulphuric acid to produce phosphoric acid. The appetite rock is mined in Phalaborwa whilst the sulphuric is produced on-site. During the production of the Phosphoric Acid precipitate and form excessive solids which must be separated through the clarification process from the main export stream.

In order to facilitate the settling of solids inside the clarifier, the flocculant polymer must be dosed at the specific rate and concentration into the clarifiers. Due to the presence of impurities in our raw material, the process of Phosphoric acid production turns to generate the foam. Foam is not good for the process since it promotes the acid carry-overs into the water circuits, and it's also environmental harmful. In order to control the foam in our process, the defoamer polymer must be added in various stages of our process.

#### A.1.2 Present Situation

Currently there is a contractor which is responsible for solid separation/reduction on the clarifiers, using the defoamer and the flocculant. The contract period for the for the supplier is coming to an end.

#### A.1.3 Proposed Solution: Reason for this Tender

To tender for the supply of flocculant and defoamer in the Phosphoric Acid Plant for a period of 36months.

#### A.1.4 Nature of Work

- This contract will be valid for a period of **36 Months** from the awarding of the contract on the below sections of the plant:

##### A.1.4.1 Concentration Section

- Supply and dosing/addition of flocculant polymer into 800 Clarifier.
- Supply and dosing/addition of flocculant polymer into 812 Maturation tank.
- Supply and dosing/addition of flocculant polymer into A Clarifier Clarifier.
- Supply and dosing/addition of defoamer and flocculant polymer into B Clarifier.
- Supply and dosing/addition of defoamer and flocculant polymer into 833 Clarifier
- Supply and dosing/addition of defoamer into New Plant Cooling Towers.
- Supply and dosing/addition of defoamer into Old Plant Cooling Towers.

##### A.1.4.2 Reaction and Filtration Section

- Supply and dosing/addition of defoamer into New Plant Reactor.
- Supply and dosing/addition of defoamer into Old Plant Reactor.
- Supply and dosing/addition of defoamer into Old Plant Gypsum slurry tank.
- Supply and dosing/addition of defoamer into New Plant Gypsum slurry tank.
- Supply and dosing/addition of defoamer into Collection Vessel for Pan Filter Number One.

- Supply and dosing/addition of defoamer into Collection Vessel for Pan Filter Number Two

## A.1.4.3 Required Acid Quality Specification

- The required clarified acid quality specification from ALL the clarifier overflows should be less than 0.2% solids. Measurement of the acid solid content shall be performed by Foskor's Laboratory as per production analysis schedule. Results will be made available to the Supplier by the Laboratory on the request of the supplier. The supplier will be required to follow up on the results periodically and liaise with the production personnel for any trouble shooting required or change in the dosing rate.
- The supplier will also be required to provide proof of ISO 9001 and ISO 14001 certificates.

## A.1.4.4 Dosing Equipment

- The supplier shall supply the defoamer and the flocculant dosing equipment for dosing in **ALL** the prescribed equipment. The dosing equipment should be enclosed for corrosion protection, any leaks and always kept clean. The servicing and the maintenance of this equipment will be the responsibility of the contractor. the dosing equipment for defoamer and the flocculant should not be more than three years. The piping and pumps installation should be included on the equipment cost

## A.1.4.5 Trial Work

- Foscok expects that the supplier of the defoamer and flocculant shall continuously conduct trial in order to find the optimum dosing point and /or find appropriate alternative with better performance. Any trial work to be conducted during the term of the agreement with the supplier's products shall be to the account of the supplier.

Foskor reserves the right to conduct trials with the supplier and/or any other supplier to enhance its business activities without exclusivity or restriction or limitation.

## A.1.4.6 Operations Support

The supplier will be required to offer a support that should cover the running of the dosing system for 24/7. Any defects on the system will be reported to Foskor personnel and prompt solution will be agreed upon. The supplier will be required to perform the equipment inspection and hand in the check sheet to the Phosphoric Plant Production Engineer. The supplier will be responsible for scheduling monthly feedback meetings with Foskor Production Personnel. The supplier will be required to submit the weekly report on results/performance to the Production Engineer.

The Technician to provide proof of training in form of certificate/qualification.

## C.1.4.6 Material Safety Data Sheet

- The supplier shall be obliged to supply Foskor with all safety data sheet (SDS) of the products to be used at Fosko's site prior to commencement of this agreement. All contractor personnel shall be deemed to knowledgeable of the contents of the SDS once received. Any update to the SDS shall immediately be communicated to Foskor in writing.

All Personal Protective Equipment (PPE) requirements of the supplier's personnel shall be for the supplier's account and must conform to FOSKOR's prescribed standards as stipulated by FOSKOR's SHREQ Department. At no point shall FOSKOR provide PPE to the contracted employees. In the event where FOSKOR is compelled to supply PPE, FOSKOR will deduct such cost from any money due to the Supplier or to invoice the supplier for payment to be made within 30 days from date of invoice.

## A.1.5.6 FOSKOR's Responsibility

- FOSKOR will be responsible for supply of water, air and electricity to the dosing system. The supplier will have to communicate with the plant personnel if any of the above is missing

## A.2. Legislation, Standards and Codes of Practice

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

Number	Title / Description	Revision	Remarks
Act 85 of 1993	Occupational Health and Safety (OHS Act)	Latest	Applicable
API Std. 619	Rotary-Type Compressors	Latest	Not Applicable
ASME B31.	Pressure Piping	Latest	Not Applicable
ASME I	Power Boilers	Latest	Not Applicable
ASME VIII	Rules for Construction of Pressure Vessels	Latest	Not Applicable
ASME V	NDT Specifications	Latest	Not Applicable
ASME IX	Qualifications Standards for Welding Specifications	Latest	Not Applicable
TEMA C	Construction of Heat Exchangers	Latest	Not Applicable
AWS D1.1	Structural Welding Code - Steel	Latest	Not Applicable
SABS 1431	Weldable Structural Steels	Latest	Not Applicable

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



## A.3. Foskor Specifications

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

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
OTHER	STANDARDS on this Tender		
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	YES
FD001	Design Criteria for Structures	Latest	No
FG001	General Requirements for Projects	Latest	YES
FL001	Design & Fabrication Criteria for Ladders & Walkways	Latest	No
FM001	General Mechanical Specification	Latest	YES
FM003	Welding of Fabricated Equipment	Latest	YES
FM002	Rubber Lining of Vessels and Piping	Latest	No
FM003	Welding of Fabricate Equipment	Latest	No
FM432	Insulation of Vessels and Piping	Latest	No
FQ001	General Engineering Quality Requirements	Latest	YES
FQ002	Non-Destructive Testing	Latest	No
FS001	Specification for the Fabrication & Erection of Structural Steel Work	Latest	No
FS002	Specification of Roof and Side Cladding	Latest	No
FV001	Requirements Vessels, Tanks and Heat Exchangers	Latest	No
GM5	Pipe Standards Including Auxiliary Equipment	Latest	No
GM6/COP9	Engineering Drawing and Document requirements	Latest	No
GQ1	Quality Control Procedure for Contractors	Latest	No
GS1	Structural Steelwork and Plate Work Fabrication and Erection	Latest	No
MC001	Corrosion Protection Colour Coding	Latest	YES
MC002	Scope of Corrosion Protection Richards Bay	Latest	YES

MC004	General Plant Painting Specification Low Temperature	Latest	YES
MC006	Repair/Touch-up of Damaged Steelwork	Latest	No
MC009	General Plant Protection High Corrosive Areas	Latest	No
MC010	Painting Tank Grillage	Latest	No
SS-000000-C-006	General specification for concrete construction	Latest	No
SS-000000-C-007	Concrete specification	Latest	No
SS-000000-C-012	Grouting	Latest	No
SS-000000-Q-001	General quality requirements	Latest	No
SS-000000-S-001	Fabrication and erection of structural steelwork	Latest	No
DD-000000-C-001	Civil design criteria	Latest	No
DD-000000-S-001	Structural design criteria	Latest	No

Where there is contradiction between the Foskor Specification and Legislation, Standards and Codes of Practice, Foskor specifications must take precedence. It is the responsibility of the Tenderer to highlight to Foskor the contradictions on the above.

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 Tenderer 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 ISO 9000 Series should be used whenever possible in the absence of a particular SABS/SANS Specification Standard Mark.

The Tenderer 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.

## A.4. Project Requirements

The main purpose of this Scope of Works is for the Supply of Defoamer and Flocculant (including the dosing equipment, piping and fittings) at Foskor, phosphoric acid section, for a period of 36 months.



## A.5 Plant Data

All work listed in the document will be performed at the **FOSKOR RICHARDS BAY PLANT, 21 JOHN ROSS PARKWAY**

## A.6. Drawings and Technical Data

### A.6.1 Drawings and Technical Data

#### Specification data for the flocculant dosing unit

Specification data for this flocculant dosing unit should be for a continuous process operation for suitable Phosphoric Acid Clarification.

#### Specifications

- **System type:** A continuous type, fully automated system.
- **Application:** Suitable for Phosphoric Acid Clarification (27%P<sub>2</sub>O<sub>5</sub> and 54%P<sub>2</sub>O<sub>5</sub>) with average solid content into the clarifier of 4% and to achieve 0.2% on the overflow.
- **Construction material:** Typically uses corrosion-resistant materials Polypropylene.
- **Mounting:** Often a compact, skid-mounted design for quick installation, especially for containerized or modular units.

#### Performance and operational parameters

- **Capacity:** The volume of flocculant solution that can be prepared and dosed per unit of time, specified in liters per hour (L/hr).
- **Solution concentration:** The adjustable percentage of flocculant in the water, typically ranging from 0.05% to 0.4%.
- **Dosing rate:** The controlled volume of flocculant solution injected into the process stream, which can be measured in liters per hour (L/hr).
- **Hydration/maturation time:** The minimum required time for the dry flocculant to mix with water and achieve a fully dissolved, homogenous solution. Continuous, three-chamber systems separate mixing, aging, and storage.
- **Water quality requirements:** Water supply into the flocculant unit is from the potable water supply.

#### Components and features

- **Preparation unit:**
  - **Hopper and feeder:** A storage hopper with a vibrator and a variable-speed screw conveyor for accurate feeding of powdered flocculant.
  - **Wetting head:** A dual-nozzle system that properly wets the flocculant powder to prevent clumping.
  - **Mixing tanks:** It must be a three-chamber tank system (mixing, maturation, storage) to ensure a complete, lump-free solution. The tanks are equipped with agitators.
- **Dosing and injection:**
  - **Dosing pump:** A metering pump (positive displacement pump e.g. gear pumps, diaphragm pumps, progressive cavity pumps) with a variable-speed drive (VSD) for precise control over the dosing rate.
- **Control system:**
  - **Programmable Logic Controller (PLC):** Automates the preparation and dosing process and controls components like mixers, pumps, and valves.

- **Sensors and probes:** Includes sensors for flow rate, turbidity, pressure, and tank levels to enable real-time feedback and control.
- **Human-Machine Interface (HMI):** A user-friendly interface for monitoring and adjusting the system.
- **Safety features:** Includes dual containment, leak detection, overflow protection, and low-level alarms. The whole unit must be sealed in the container for corrosion protection.

## Technical Data

833 Clarifier	
Solids (%)	2
Temperature (°C)	66
Flowrate (m <sup>3</sup> /hr)	164
Density (kg/m <sup>3</sup> )	1300
Acid strength (%P <sub>2</sub> O <sub>5</sub> )	26 to 27

800 Clarifier	
Solids (%)	3,5 to 4
Temperature (°C)	60
Flowrate (m <sup>3</sup> /hr)	65
Density (kg/m <sup>3</sup> )	1690
Acid strength (%P <sub>2</sub> O <sub>5</sub> )	52,5 to 54

B Clarifier	
Solids (%)	2 to 4
Temperature (°C)	65
Flowrate (m <sup>3</sup> /hr)	160
Density (kg/m <sup>3</sup> )	1300
Acid strength (%P <sub>2</sub> O <sub>5</sub> )	26 to 27

A Clarifier	
Solids (%)	3,5 to 4
Temperature (°C)	60
Flowrate (m <sup>3</sup> /hr)	85
Density (kg/m <sup>3</sup> )	1690

Acid strength (%P <sub>2</sub> O <sub>5</sub> )	52,5 to 54
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812 Maturation Tank	
Solids (%)	0,5
Temperature (°C)	45
Flowrate (m <sup>3</sup> /hr)	60
Density (kg/m <sup>3</sup> )	1690
Acid strength (%P <sub>2</sub> O <sub>5</sub> )	52,5 to 54

## A.7 Scope of Work

### A.7.1 Concentration Section

- Supply and dosing/addition of flocculant polymer into 800 Clarifier.
- Supply and dosing/addition of flocculant polymer into 812 Maturation tank.
- Supply and dosing/addition of flocculant polymer into A Clarifier Clarifier.
- Supply and dosing/addition of defoamer and flocculant polymer into B Clarifier.
- Supply and dosing/addition of defoamer and flocculant polymer into 833 Clarifier
- Supply and dosing/addition of defoamer into New Plant Cooling Towers.
- Supply and dosing/addition of defoamer into Old Plant Cooling Towers.

### A.7.2 Reaction and Filtration Section

- Supply and dosing/addition of defoamer into New Plant Reactor.
- Supply and dosing/addition of defoamer into Old Plant Reactor.
- Supply and dosing/addition of defoamer into Old Plant Gypsum slurry tank.
- Supply and dosing/addition of defoamer into New Plant Gypsum slurry tank.
- Supply and dosing/addition of defoamer into Collection Vessel for Pan Filter Number One.
- Supply and dosing/addition of defoamer into Collection Vessel for Pan Filter Number Two

### A.7.3 Required Acid Quality Specification

- The required clarified acid quality specification from ALL the clarifier overflows should be less than 0.2% solids. Measurement of the acid solid content shall be performed by Foskor's Laboratory as per production analysis schedule. Results will be made available to the Supplier by the Laboratory on the request of the supplier. The supplier will be required to follow up on the results periodically and liaise with the production personnel for any trouble shooting required or change in the dosing rate.

## A.7.4 Dosing Equipment

- The supplier shall supply the defoamer dosing equipment for dosing in **ALL** the prescribed equipment.

## A.7.5 Trial Work

- Foskor expects that the supplier of the defoamer and flocculant shall continuously conduct trial in order to find the optimum dosing point and /or find appropriate alternative with better performance. Any trial work to be conducted during the term of the agreement with the supplier's products shall be to the account of the supplier.

Foskor reserves the right to conduct trials with the supplier and/or any other supplier to enhance its business activities without exclusivity or restriction or limitation. The supplier will be required to perform the equipment inspection and hand in the check sheet the check sheet to the Phosphoric Plant Production Engineer. The supplier will be responsible for scheduling monthly feedback meetings with Foskor Production Personnel.

## A.7.6 Operations Support

- The supplier will be required to offer a support that should cover the running of the dosing system for 24/7. Any defects on the system will be reported to Foskor personnel and prompt solution will be agreed upon. The supplier will be required to perform the

## A.8 Tender Deliverables

The following documentation shall be returned by all Tenders together with their offers:

- Company Profile (If supplier has not previously supplied similar product to Foskor Richards Bay)
- Reference Letter (Similar Contract Undertaken).
- Price including cost and delivery date

### A.8.1 Site Conditions

The site is located on the Foskor (Pty) Ltd Richards Bay Plant, approximately 200 meters from the main entrance, at the section of the plant known as Phosphoric Acid Plant. The Tenderer is deemed to have viewed the site and to have thoroughly acquainted himself with the extent, nature and conditions affecting the work to be done before submitting his tender.

Full Foskor approved acid resistant PPE (personal protective equipment/clothing) must be always worn/used.

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

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.

## A.8.2 Services which are known to exist on the site

The following services exist on the site:

- Electrical and Instrumentation Cables.
- Other unknown services (e.g., spillage drainage system etc.)

## A.8.3 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 <ul style="list-style-type: none"> <li>▪ Any connection and consumption will be monitored by Tenderer and verified by Foskor on defined intervals (usually at the beginning and end of contract)</li> </ul>	YES
5	Provide access to potable water <ul style="list-style-type: none"> <li>▪ 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</li> </ul>	YES
6	Provide a suitable area for site establishment for Successful Tenderer (Contractor). <ul style="list-style-type: none"> <li>▪ Successful Tenderer to formally in writing motivates, request and define the area and services it deems necessary for site establishment.</li> <li>▪ 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</li> </ul>	YES
7	Provide access to ablutions facilities. (not change rooms) <ul style="list-style-type: none"> <li>▪ Successful Tenderer (Contractor)'s workers to be fully dressed in required PPE when coming on site.</li> <li>▪ The successful Tenderer ensures that its workers/subcontractors'/ supplier that are making use of facilities, do so in an orderly and well-mannered way.</li> <li>▪ Successful Tenderer is not allowed to make use of Foskor's change room or tearoom facilities unless agreed to in writing.</li> <li>▪ The successful Tenderer might be called on to assist with the maintenance and cleaning of ablutions, should Foskor at its discretion believe it be necessary. Cost associated with such cannot be claimed from Foskor (Pty) Ltd.</li> </ul>	YES
8	Assist in issuing work clearances and HIRA certificates.	YES

## A.8.3 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., Process Supervisor/ Engineer)	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.	N/A
5	To ensure that all acceptance approvals as per the Quality Control Policy (QCP) are received before work is finally handed over.	N/A

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.

## A.8.4 Certification by Recognized Bodies

Not Applicable.

## A.8.5 Requirement for the termination, diversion, or maintenance of existing services

Not Applicable.

## A.8.6 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



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## A.8.7 Invoicing and Payment

Payment will be made by Foskor (Pty) Ltd, after approval by the production engineer after submitting the payment certificate to the tenderer within 30 days from the date of statement

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 Foskor (Pty) Ltd Production 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.

## A.8.8 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.

## A.8.9 Penalty

Not Applicable.

## A.8.10 Claims: Extension of Time for Completion, Additional Payments or Compensation

### A.8.10.1 Claims Procedure

- i. Not Applicable.

### A.8.10.2 Extension of Time for Completion

Not Applicable.

## A.8.11 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
  - (vi) Has, without the approval of the FOSKOR (Pty) Ltd Project Representative, subcontracted any part of the Contract, or
  - (vii) 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.

## **A.8.12 Urgent remedial work**

Not Applicable.

## **A.9 FOSKOR Safety Documents to be submitted, Environmental and Site Management**

### **A.9.1 Site Conditions**

The work areas can be noisy and dusty during the loading and offloading process; therefore, ear protection and dust mask are required.

### **A.9.2 Safety SHE**

- i) Proper PPE is always required.
- ii) The contractor shall comply with all FOSKOR Regulations and Safety standards.
- iii) The contractor must be familiar with COP6 and submission of a safety plan for approval by FOSKOR Safety Department will be required prior to site access.
- iv) The contractor shall fully comply with the OHS Act (85 of 1993) especially Section 37(2).
- v) Contractor to sign Section 37(2) agreement at the Safety office.
- vii) Checklist to be kept as record for a period of 3 months, for plant Audit purposes.

### **A.9.3 SHREQ Requirements**

The successful Tenderer will be required to comply and ensure continuous compliance with FOSKOR standards and national regulations:

- a) Familiarize itself and comply with FOSKOR Safety Standards and Regulations, including COP6 and COP82.
- b) Submit a safety plan for approval to the FOSKOR Safety Department prior to site access/ site establishment.

- c) Fully comply with the OHS Act (Act 85 of 1993). It is essential to sign the Section 37(2) agreement with the Safety Department prior to site access.
- d) Ensure compliance with Environmental legislation (Spills, Incident and waste management), and contact the Environmental Department for waste management.
- e) On entering the site, must always wear the following Foskor minimum required PPE namely: hard hat, safety glasses, safety steel cap boots or gum boots, ear protection, acid/flammable retardant overall (Approved to supplier – North Safety). Additional PPE are safety harness (for working at height) and recommends gas masks (Half mask single filter – screw type with filter type A1BE1K1 – 3M product or similar approved product) and goggles (Uvex ultra vision W1663459B) – DINCE 0196) preferably in a pouch. Should supplier staff be found on site without the above (must wear) – mentioned safety clothing, he/she will be removed from site and will not be allowed to return.
- f) Provide appropriate safety procedures and written work instructions to the staff and sub-contractors to minimize the risk of injury.
- g) Ensure all his/her personnel have attended the safety Induction by Foskor before they enter site and
- h) Renew his/her clearance certificate every day before work starts and sign off at the end of each shift at the plant control room. With new permit a new HIRA is to be filled completed in conjunction with Foskor responsible person.

#### **A.9.4. Environmental Management Specification**

- To ensure that the construction works are designed for an environmentally sensitive area, strict compliance with the Environmental Management Plan (EMP) guidelines may be requested after the appointment of the contractor.
- The EMP shall be part of the 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 SDS's to be submitted to Foskor PTY Ltd.
- Waste disposal needs to comply to Foskor PTY Ltd Waste Management Plan.

#### **The following safety violation will lead to immediate dismissal from site:**

- Start up or shut down of plant(s) or equipment without following the required procedures.
- Working without HIRA and clearance in all the identified required tasks.
- Working within a height of 2 meters or higher without using the correct fall arrest.
- Working on equipment that requires isolation and lockout, but the isolation and lockout not conducted/done.
- Tampering with and/or making safety devices inoperable.
- Operating or allowing operation of mobile equipment (Including locomotives) without a valid license.
- Using/Allowing the defective mobile equipment (including locomotive) to be operated while defective.
- Willful misconduct that could lead to an incident.
- Allowing equipment/items to leave the plant being tested for radiation, cleared and permission granted by authorized official.
- Tampering with electrical switch gear or conducting work in substations whilst not authorized.

**A.10 OHSA 1993 Health and Safety Specifications**

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

This specification shall be read with 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

- A safety plan for the work to be done by the contractor.
- The contractor must appoint a qualified Safety Officer with at least a Diploma in Safety Management or
- SAMTRAC or either on a full-time or part-time basis to conduct the following responsibilities:
  - Conduct and submit audits monthly
  - Conduct and submit inspections monthly
  - Compile and submit safety reports to Safety Department
  - Perform safety talks and awareness training and submit evidence to Foskor.
  - Visibility on site.
  - Conduct inspections on PPE and provide evidence to Foskor.
  - Continuously update safety file
- A contractor to submit a comprehensive task-based risk assessment that has acknowledged Foskor baseline risk assessment and method statement.
- A contractor to appoint a full-time supervisor to manage and supervise all the activities of his/her employer.

**A.11 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.

**A.12. 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.

**A.12.1 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 (Service Provider) to give Foskor (Pty) Ltd timely notice of hold and witness points requiring their intervention

## A.13 Summary of Documents to be Submitted with this Tender

1. Technical Data Sheet and SDS's
2. Proof of ownership/lease of the Flocculant dosing unit/equipment.
3. Proof of ISO certificates 9001 and 14001.
4. Proof of manufacturing plant with certified laboratory.
5. Proof of performance letters from previous and current work, magnitude and complexity.

## Section B: FORMS OF TENDER TO BE SUBMITTED

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

Description	Rate (Rands)/Unit	Unit	Total (Rands)
Flocculant Dosing Equipment Rental (Rate/per month)			
Flocculant Supply (Rate/kg)			

Service Fee (Rate per month) – Flocculent System			
Defoamer Dosing Equipment Rental (Rate/per month)-			
Defoamer Supply (Rate/kg)			
Service Fee (Rate per month) – Defoamer System			
Technician (Rate/hr) @ NT			
Technician (Rate/hr) @ 1.5			
Technician (Rate/hr) @ 2			
SHE office on Adhoc (Rate/hr)			
Site Supervisor (Rate/hr)			
Piping, fittings and installation (Rate/m)			
Full PPE cost x 2 sets per year (Rate/person)			

NB. Service fee includes repair of equipment, spare parts and the call out fees during the breakdowns on both the defoamer equipment and the flocculent dosing equipment.

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

- Not Applicable.



## B.2.1 Project Completion and Handover; Retention

Not Applicable.

## B.2.2 Initial Programme to be Submitted

Not Applicable.

## B.2.3 Table with Milestones to be Submitted

Not Applicable.

## 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
SHE Officer				
Site Supervisor				
Operator/Technician				

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)

Completed Month, Year	Description	Client Name	Contact Person & Details	Value

### 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 some 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 including 30 minute lunch.

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

[illegible]

## 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 including 30 minute lunch.**

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 our sole discretion and subject to the prior approval of the Engineer.

[illegible]

## Section C: TECHNICAL EVALUATION CRITERIA

Project Title: Supply, delivery and Maintenance of the Defoamer and the Flocculant

Tender No.:

No.	Mandatory Document	Comments	Mandatory
1	Proof of flocculant dosing unit/equipment	Submit proof of ownership or purchase/ Proof of lease agreement.	Yes
2	Manufacturing Plant Site Visit	Foskor to do a site visit to supplier's plant. Provide proof of certification of the laboratory.	Yes

TECHNICAL REQUIREMENTS (Evaluation Criteria)

No.	Technical Criteria Description	Contribution%	Proof/Documents to be submitted	Notes
1	Compliance			
a)	Safety Officer qualification and experience in industrial cleaning or similar environment  Scoring: Yes (having qualification) = 10% No (not having qualification) = 0%  Experience Between 2 to 5 years = 5% 6 years or more =10%	20%	National Diploma in Safety Management or SAMTRACK. Provide proof of experience. Eg CV with references, recommendation letters from previous employers	To provide the qualification, to be able to do the proper risk assessment for the job.
b)	Bidders to submit technical data sheet and SDS's  Scoring: Yes (Data sheet available) = 10% No (Data sheet not available) = 0%	10%	Provide proof of suppliers' product data sheets.	This information is essential to complete evaluation bid
2	Reliability- Supplier reliability to complete the work safely in time and quality			
a)	The age of the flocculant unit/equipment.  Scoring: More than 5 years = 5% Between 2 to 4 years =15% Less than 1 year =25%	25%	Provide the year the equipment was bought or manufactured. Bidders to provide proof of purchase indicating the year the equipment was purchased.	This information is essential for complete evaluation of the bid
b)	After hours callouts in case of breakdowns, or the quality is off specification.  Scoring: If it is less than 2 hours = 15% (Acceptable) If it is more than 2hours = 0% (Not Acceptable)	15%	Availability of the Technician to Foskor site when required after hours, written guarantees in terms of call response time to be provided.	This information is essential for complete evaluation of the bid

<b>3</b>	<b>Competence</b>			
<b>3.1</b>	<b>Supplier experience and competence</b>			
a)	Company experience similar to the scope of work  Scoring More than 5 years = 20% Between 2 to 4 years = 15% 1 = year = 5% No experience = 0%	20%	Signed reference letters from the current or previous customers where similar work was done.	Provide proof of documents
b)	Supplier to provide proof of ISO 9001 and 14001 certificates.  Scoring: Both certificates submitted = 10% One certificate submitted = 5% None of the certificates submitted = 0%	10%	Provide valid accreditation certificates for ISO 9001 and 14001	This information is essential for complete evaluation of the bid
<b>Total Technical Score:</b>		<b>100%</b>		
<b>NOTE: Bid to score a minimum 70% considered.</b>				
<b>DISQUALIFICATION CRITERIA **</b>				
1 Mandatory requirements are not met.				