

SCOPE OF WORK

RFQ No.:

Description: **Crushing Section: General Crusher Maintenance Assistance-Primary Section**

1. INVITATION TO TENDER

You are hereby invited to tender on the supply of labor, transport (kombi) and tools to execute general crusher maintenance on a weekly basis for a period of three years on a contract basis. The scope of work will cover the Primary section, primarily on service days, but will also include major maintenance (annual shutdowns and planned stoppages. A rigger to inspect lifting equipment for safe use) and breakdowns on the crushing section.

2. SCOPE BACKGROUND

Foskor mechanical workshops do need maintenance assistance during the weekly services and during major breakdowns of Primary equipment to help with the critical work to ensure that the plant is repaired to operate at maximum availability.

3 COMPANY BACKGROUND AND OBJECTIVES

Foskor is one of the world's largest producers of phosphate rock (concentrate) and phosphoric acid. It is one of the world's few vertically integrated producers of phosphoric acid and is the second largest supplier to India, the world's largest consumer of phosphoric acid.

The Company owns and mines phosphate resources and beneficiates the mined material to produce a phosphate concentrate at Phalaborwa, in the Limpopo Province of South Africa. The phosphate concentrate is sold locally and also transported to the Richards Bay plant on the coast of Kwa-Zulu Natal to produce phosphoric acid, sulphuric acid and granular fertilisers MAP and DAP from phosphoric acid and is the leading supplier of fertilisers to South Africa. In all about 95% of the phosphoric acid is exported and the granular sales are divided between exports and local markets. Since 1951 Foskor has supplied more than 95% of South Africa's fertiliser requirements.

4. SCOPE OF WORK

The contractor shall supply all the labour, supervision, tools and consumables to complete the following work during the normal service days, which are envisaged on Tuesdays, Wednesdays and Thursdays generally. However, the days are subject to change due to production requirements, and hence flexibility is required. The labour should

The following general tasks will be included as part of this scope for the general maintenance:

4.1 WEEKLY SERVICES PRIMARY CRUSHER REQUIREMENTS (GENERALLY 9HRS-12HRS SERVICE DAYS)

1. The contractor is required to keep a team of core maintenance personnel who will be dedicated to assist with maintenance activities during crusher service days twice a week.
2. Generally, a staff complement of an average of 12 people for the Primary section (i.e. 12 Primary Crushers) will be required on a weekly basis.

3. The team composition will generally include 2 fitters, 4 welders/boilermakers, and 6 technical assistants.
4. The requirements will be driven by workload during a service day, hence more or less people may be called for on a particular day but not exceeding 15 people at a time for major work.
5. The labour will cover general repairs on structures and chute work, including welding repairs, chute liner maintenance, modifications to plant structures and handrailing
6. Ad hoc tasks may be assigned from time to time including audit and SHEQ driven tasks, housekeeping and minor project related work on conveyors
7. The work will also entail general maintenance activities on conveyor belts, including idler replacements, pulley repairs/replacements, bearing replacements, frames, structural repairs such as deck plates, grating and the likes.
8. Labour teams will also cover work in the areas of crusher maintenance, such as torquing of bowls, stripping of specific components in a crusher, lube system repairs and maintenance, hydraulic and water systems maintenance related to crushers and conveyor belt systems.
9. Work on Primary crusher will also include gouging of bowl liners as required on an ad hoc basis.
10. Provide labour assistance for the removal and installation of drive components such as motors, gearboxes, couplings. fluid drives, v-belts, etc.
11. Provide labour team for the ad hoc tasks such as counterweight preparations and securing, isolation of feeder pins and crusher small ring and big ring installations.
12. On an ad hoc basis, teams will be required for breakdown coverage of Primary crushers, specifically when the crusher has to be stripped, repaired and assembled again. This work will be executed on 24hr shift rotation basis of 12hrs each. Each crusher stripping and assembling event may take up to 56hrs to complete, depending on the nature of the breakdown. However, it is anticipated that most breakdowns will take an average of 36 hrs.
13. Breakdowns teams will consist of 6-day shift personnel and 6-night shift personnel in general.
14. A significant portion of work will also be dedicated to repair of feed points and brute force/electromagnetic feeders, apron feeder maintenance, rock breaker repairs, replacement of corroded beams, general repairs of holes and leaks on chutes/hoppers.
15. A rigger may be appointed to inspect and declare safe all lifting equipment in use or installed at the primary
16. The envisage labour complement for the Primary Crusher section must have all Foskop related training requirements such as Basic Health and Safety, HIRA, Lockout, Conveyor belt authorizations, hot work, working at heights, use of portable power tools equipment, etc.
17. The contractor must have fulltime 2.9.2 appointed personnel and 2.6.1 Subordinate manager, both of whom should have been through the Foskop LACA system.
18. It shall be the responsibility of the contractor to ensure that all contract labour is transported to and from the site of work, including during lunch/tea times as may be required.
19. As such, it is required that sufficient transportation which is open pit compliant be made available to transport people and tools. Recommended that at least one minibus is available to transport people during start of shift and knock-off times at once.
20. The trades people must be fully equipped with tools of the trade, such as fitter's toolbox, welder's toolbox, welding machines and cutting torches, and PPE required for that task. e.g. welding helmets, safety harness.
21. All tools and PPE must comply to Foskop SHEQ system requirements, including inspections and tagging.
22. Provide transport to and from the plant

All work according to Foskop Engineering and Safety specifications

Scaffolding requirements will be provided by Foskop with input from contractor team supervisors. It is expected that arrangements will be communicated to Phalaborwa Scaffold at least 3 days before requirement.

5 General /Commercial Conditions:

1. Please allow for a site manager to compile and manage the contractor's quality management. In the event of quality and safety system failures, the 2.6.1 appointee shall be on hand for investigations and presentations to management
2. Nominate a single point of contact to Foskop - Typically the contractor 2.6.1 appointee
3. The contractor 2.6.1/2.9.2 appointee shall avail himself for crusher planning meeting in order to understand the scope and needs of labour resources for the service days. The 2.6.1/ 2.9.2 appointee shall give inputs based on execution feedback from the teams of future maintenance requirements noted during service days

4. The contractor shall be held responsible for any comebacks due to poor work performed by the contract, which shall include penalties equivalent to the value of work paid or breakdown hours as determined by the Engineer.
5. The contractor 2.6.1 and 2.9.2 appointees shall be expected to perform monthly SHEQ inspections for legal appointees in line with the Foskor requirements and give feedback to engineer on findings
6. All meetings will be held at FOSKOR offices, unless otherwise stated.
7. The contractor will be expected to provide own tools for the execution of the scope, and including but not limited to welding equipment, gas sets, consumables, PPE, lighting equipment etc.
8. Pricing on an hourly rate as per minor works for all artisan disciplines and should include all costs for execution of the tasks like medicals, induction, basic training, transport, tools, equipment, consumables, UIF, PPE etc. No additional cost will be paid.
9. All task assigned by the technical supervisor of the area shall be executed and managed on a turkey basis, whereby the contractor shall be held fully responsible for the execution of the scope for the day, quality, quantity and housekeeping.

6. **LIAISON AND CO-OPERATION WITH OTHERS**

- The CONTRACTOR/ SERVICE PROVIDER shall be required to co-operate and liaise with Foskor appointed project manager
- The CONTRACTOR/ SERVICE PROVIDER must note that construction is within an operational plant.
- The CONTRACTOR/ SERVICE PROVIDER may appoint a Foskor approved sub-contractor
- The CONTRACTOR/ SERVICE PROVIDER shall be required to work in conjunction with the Foskor appointed structural-, electrical-, equipment- and instrumentation installation contractor

7. **TENDER DELIVERABLES**

Not submitting the required documentation listed below or not completing the documentation correctly may lead to a disregard of the tender: -

- Submit Pricing Schedule supplied with this Scope of Works.
- Submit Tender Evaluation Criteria Documentation.
- Submit the following procurement documentation:
 - Copy of 2.6.1 and 2.9.2 legal exam certificate of employees which will be assigned to project.
 - Tax Clearance
 - Letter of Good standing (Workman compensation)
 - BEE Certificate
- Foskor Training Matrix (See Annexure C) must be completed for al contractor employees to see if the contractor fulfils the minimum requirements of the project. Any deviation may lead to disregarding of the tender.
- The contractor/ consultant must clearly state in his tender submission that there is an exclusion on the Foskor scope (As per the site meeting procurement scope and site meeting minutes) Failure to state the exclusion will mean that the full Foskor scope is still applicable.

8. TENDER EVALUATION CRITERIA

- The following tender evaluation criteria will be used for adjudicating the Contractor submitted tender.
- Please provide the required documentation as requested in the "Proof / documents to be submitted" column. Please be specific when submitting documents by ensuring it answer the item specified.
- Failure to submit the relevant documentation as requested in the Evaluation criteria document may lead to a disregard of the submitted tender

Bid submission not meeting the mandatory requirement will result in the bid being disqualified.

No	Technical Criteria Description	Requirements	Proof / documents to be submitted
3.	VALID CIBD grading level 2 or higher (ME-Mechanical Engineering) certificate. Scoring: Non-compliant Disqualify Comply Qualify	Mandatory	<u>Annexure A:</u> Submit a copy of the certificate.

Evaluation Criteria (Technical)				
General Crusher Maintenance Assistance- Primary				
No	Technical Criteria Description	% Contribution	Proof / documents to be submitted	Notes
a)	Company – Previous major Plant maintenance contracts held over R1 000 000. Scoring: >R1 000 000= 30% <R500 000= 20% < R250 000= 10% R0 = 0%	30%	Give reference list of service with values and contact numbers for verification on a signed company letter/ award letters/ completion letters/ PO's <u>Annexure A</u>	
b)	Company – Experience in General Plant maintenance, construction and Manufacturing activities in a mining environment. Scoring: No Experience = 0% Less than 3years = 15% 3years and above = 30%	30%	Give reference list of service with values and contact numbers for verification on a signed company letter/ award letters/ completion letters/ PO's <u>Annexure B</u>	

	Evaluation Criteria (Technical)			
	General Crusher Maintenance Assistance- Primary			
No	Technical Criteria Description	% Contribution	Proof / documents to be submitted	Notes
c)	Team – Capabilities -Provide Organogram indicating names, positions, trades for this project. Scoring: No organogram = 0 % Organogram with some skills =7.5% Organogram with all relevant skills = 15%	15%	Submit organogram with names and positions. 2-fitters 4-welders 6-TO's (Technical assistants) <u>Annexure C</u>	
d)	Training: Provide training certificates for Health and safety, First Aid, HIRA. Working at Heights, Conveyor belts, Lock-out and Hot work training for the team. Scoring: No Training = 0% Partial Training =12.5% All relevant personal trained= 25%	25%	Provide proof of Training in the form of certificates/Training matrix <u>Annexure D</u>	
	Total Technical Score	100.00%		
	Note: In order for the bid to be considered the bidder needs to score 70% and above, and comply to all mandatory requirements			

9. GENERAL CONDITIONS – COMMERCIAL

- Extension on the promised completion or Milestone date may be requested but needs to be approved by Foskor. The contractor should be in possession of a formal document issued via Foskor Procurement indicating that this request was approved
- Any additional works not defined in the order needs to be approved by Foskor in writing before any work commence.

Description	Condition	Duration
Penalties	1% per invoice value affected	Late Delivery after promised completion date
Performance Bond	N/A	N/A
Type of Contract	Foskor General condition of contract	
Escalation	None	None

State any other commercial issues that may be relevant for this procurement Scope of Work

10. SAFETY

Service provider to refer to the full and updated Foskop COP's available:

- The service provider and subservice providers need to comply with the Mine Health and Safety act at all times. All Foskop COP's Policies and procedures needs to be adhered to.
- A service provider 2.9.2 to be permanently on site.
- Medical, Induction, Foskop ID Card, etc. is approximately R800 per Person. Exit medicals need to be done at termination of contract.
- The Successful tenderer will be required to compile a Foskop Work permit and at least 2 weeks should be allocated for this. The service provider must provide the following appointed persons in terms of the MHSA: 2.6.1; 2.9.2 and Section 29(1) – SHE REP for the duration of the contract
- All vehicles and cranes and other TMM's to be inspected before entering Foskop Premises.
- All person competencies to be verified before being allowed to work on Foskop premises for a specific task.
- The service provider must compile a Safety File as per Foskop standard for all service providers and sub-service providers
- Site access will need to be controlled, and all persons must receive site specific induction before entering the site.
- Conduct inspections as per Foskop Safety System. Analyse data and trends and recommend preventative measures where required
- Ensure all authorizations are in place as per the Foskop Safety System. Arrangement with Foskop training to be done by the service provider to ensure that authorization and training is conducted. Arrange timeously.
- Ensure all workers competencies are available and have been validated.
- Ensure proper security, sign boards, fencing and barricading is in place on site where applicable
- The service provider shall in general comply with the FOSKOR General Engineering Specifications, COP's, latest revisions and all relevant regulations
- The service provider must complete a Baseline Risk Assessment (COP 01) before a work permit can be issued for the installation.
- All service providers not in possession of a valid Foskop ID card have to complete the Foskop induction course and have to undergo a medical examination at the Foskop clinic for the service provider's account
- The service provider shall be responsible for coordinating and integrating his schedule and responsibilities with other FOSKOR appointed contract manager on site for this Scope of Work.
- All personnel operating mobile equipment including LDV's must have a Foskop driver's permit.
- An open Pit Licence is required for driving in the mining area's
- All the required PPE and Safety Equipment are for the service provider's account.
- All service providers must ensure that:
 - His workers are issued with the correct personal protective equipment free of charge.
 - That the workers wear the PPE in accordance with the project area's requirements or as given by the service provider Supervisor.
 - Training is provided in the correct use of PPE to workers.
 - Daily inspections are done on PPE.
 - The registers will be complete at least monthly on findings on PPE. (All PPE must be kept in good condition)
- All providers of services need be informed of the following minimum training is applicable to all service providers (irrespective of the tasks or scope of work) that will enter Foskop Phalaborwa site with effect from 1 April 2014. This training is not presented by Foskop Training section and service providers must ensure that the training is sourced through accredited external training companies:
 - Basic health and safety principles
 - HIRA
 - First Aid Training
- All other training requirements must be aligned with the baseline risk assessment. Risks identified in the baseline risk assessment will guide the requirements for training. A summary of the training must be completed as well as status on required authorization as per Foskop COP's.
- Training certificate will be accepted if complying to the following:
- Unit Standard Title

- Learner Full name
- Learner ID number
- Competency achieved
- Date of Assessment
- Assessors signature
- Training provider logo
- Training provider registration number and accreditation number.
- Seta logo

10.1. LEGISLATIVE REQUIREMENTS

- The successful or appointed service provider shall comply with:
 - The Mines Health and Safety Act with Regulations (Latest revision)
 - The National Road Traffic Act with Regulations (Latest revision)
 - All applicable national and international legislative requirements and regulations.
 - Foskop (Pty) Ltd. COP (Code of Practise) No. 25 for Service provider Control (Available on request)
 - Foskop (Pty) Ltd. COP (Code of Practise) No. 59 for Trackless Mobile Machinery (Available on request)
 - All Foskop (Pty) Ltd. safety, health, quality and environmental procedures applicable to the successful application of the contract. (Available on request)
 - All Foskop procedures and policies applicable to the successful application of the contract. (Available on request)
- Before entering and operating a service vehicle (Own vehicle) on the Foskop site, the appointed service provider shall:
 - Ensure that his driver/s are in possession of a valid national driver's licence for the specific class of vehicle, has been tested by the Foskop mobile equipment training centre and authorised by a Foskop MHSA (Mines Health and Safety Act) regulation 2.13.1 appointee for the class of vehicle to be used on site. (Contact the Foskop mobile equipment training centre on 015 789 2840 to make an appointment for competence testing and authorisations)
 - The appointed service provider shall, before entering and operating a vehicle or trailer on the Foskop premises:
 - Obtain permission from the Foskop Safety & Security manager to operate his nominated service vehicle/s or trailers on the Foskop site. (Forms will be provided)
 - Obtain a certificate of fitness from the Foskop Light Vehicle maintenance workshop supervisor or appointed Foskop inspector for his nominated service vehicle/s. Inspections conducted daily between 08:00 and 08:30 and between 13:30 and 14:00 (excl Fridays) at the Light Vehicle Maintenance workshop.
 - Submit the above permission and COF in at the main security office for issue of a vehicle access disk.
 - Ensure that his service vehicles / trailers have been inspected (Daily) in accordance with the Foskop standard (COP 59) to ensure that they are safe and fit for use. (Forms will be provided)
 - See Foskop COP 59, Trackless Mobile Machinery for details.
- Before entering and working on the Foskop site the appointed service provider shall ensure that his workmen are:
 - Briefed on the required task and have been informed of any abnormal conditions/situations.
 - Physically, emotionally and mentally fit to perform their duty.
 - Issued with the necessary PPE (Personal Protective Equipment) to safely operate his service vehicles and perform the duty of maintaining, servicing, inspecting and testing earthmoving- and mobile equipment.
 - Before commencement of work:
 - All tools and equipment shall have been inspected and tested to be in a good and safe working order.
 - All workmen have participated in the completion of a standard Foskop site risk assessment (Commonly known as a HIRA or Hazard Identification and Risk Assessment) and taken appropriate actions to mitigate any identified hazards.
- Before entering and working on the Foskop site the appointed service provider shall ensure that his portable electrical equipment have been tested and declared safe to use by the Foskop electrical services workshop.

- Although every effort has been made to ensure that the information contained within this document is correct, it remains the responsibility of the bidder to verify actual status and site conditions. (A site visit can be arranged)

10.2 PERMIT TO WORK

Before any on-site work under this contract may commence, the appointed or successful service provider shall obtain from FOSKOR a PERMIT TO WORK. The following guidelines are provided in order to assist the appointed service provider in obtaining a PERMIT TO WORK. (See FOSKOR COP 28 Permit to work and COP 25 Control of Externally Provided Processes, Products and Services (Service provider Control) for details):

- The PERMIT TO WORK can be obtained from- and on completion returned to the Legal Administrator, FOSKOR Safety department.
- Obtain a contract number from the FOSKOR procurement or projects department.
- Appoint a subordinate manager in accordance with Regulation 2.6.1 and an on-site supervisor in accordance with Regulation 2.9.2 of the Mines Health and Safety Act.
 - The appointed subordinate manager and -supervisor shall be required to write and pass the FOSKOR 2.6.1 and 2.9.2 legal examinations within 30 days after being awarded this contract.
 - Attend an hour-long legal exam briefing any Thursday between 08:00 and 09:00 at the Security training hall.
 - Write legal examination any Friday between 07:30 and 10:30 at the Security training hall. (Please book)
- Appoint an on-site SHE-Rep in accordance with section 29(1) of the MHSA to assist the Regulation 2.6.1 and 2.9.2 in the daily on-site management of health, safety and environmental issues.
 - The designated SHE Rep must have the ability to read, write and express him/herself.
 - The appointed SHE-Rep shall be required to attend a five day SHE-Rep training course within 30 days after being awarded this contract (Training free of charge). Make booking on 015 789 2531
 - A pre-requisite for attending the SHE-Rep training course is successful completion of Basic Health & Safety Principals- and HIRA training.
 - See FOSKOR's COP 5 Health and Safety Representatives for details.
- Provide a name list, including ID numbers, residential and postal addresses and telephone numbers of all of the appointed service providers on-site employees.
- All the appointed service providers on-site employees shall undergo a full medical examination at the FOSKOR on-site Clinix Clinic. The clinic can be contacted at 015 789 2427 for an appointment. Please note:

All NEW- and employees LEAVING the service of the appointed service provider must undergo a full entry or exit medical examination

Women who are pregnant or suspect that they may be pregnant must notify the examining medical practitioner.
- The appointed service providers designated on-site drivers shall receive competence testing and authorisation to operate vehicles on the FOSKOR site
- All the appointed service providers' employees shall receive/have received training in:
 - First aid level 1 (Provide own training)
 - Working at heights (Provide own training)
 - Basic Health & Safety Principals (Provide own training)
 - HIRA (Provide own training)
 - Basic firefighting. (Provide own- or receive FOSKOR training, contact 015 789 2531 to book)
 - Lock out. (Provide own- or receive FOSKOR training, contact 015 789 2531 to book)
- All training not provided by FOSKOR must be verified by the FOSKOR training superintendent Mr. Johan Fouche. Please contact him on 015 7789 2525 to make an appointment or alternatively email proof of training and certificates to johanfo@foskor.co.za to confirm compliance before requesting his approval on the PERMIT TO WORK.
- All the appointed service providers' on-site employees shall receive the basic FOSKOR site induction training at the FOSKOR Security office.

- All the appointed service providers' on-site employees shall receive site specific induction training provided by the Foskor area Regulation 2.6.1 appointee/s.
 - i. A BRA (Baseline Risk Assessment) shall be completed for ALL "typical" tasks that will be completed under this contract. The BRA to be approved by the responsible Foskor MHSA 2.13.1 appointee and signed by all of service providers employees. Make use of Foskor's own BRA document, Annexure 1.2, contained in COP 1, Risk and Opportunities Management (Available on request)
 - ii. Attach a detailed SCOPE OF WORK describing the required task and -outcome of this contract.
 - iii. All Foskor's appointed MHSA Regulation 2.9.2, 2.6.1, 2.13.1 and 3.1.a managers must undersign/approve the PERMIT TO WORK.
 - iv. Registration and proof of payment under the Compensation for Occupational Injuries and Diseases Act, no. 130 of 1993. Registration number must be provided.
 - v. SARS issued tax clearance certificate.
 - vi. All relevant documentation and/or evidence of compliance must be attached to the PERMIT TO WORK.
 - vii. Upon successful completion and approval of the PERMIT TO WORK the security department will issue the appointed service providers' employees with access ID cards.
 - viii. Any other documents, certificates or records as requested by a Foskor official deemed necessary to ensure that all safety, legislative and administrative requirements have been met must be attached to the PERMIT TO WORK.
 - ix. The appointed service provider must allow at least three to ten working days to complete all the PERMIT TO WORK requirements.

10.3. SAFETY FILE

The appointed contractor must compile a SAFETY FILE specifically for this contract. The SAFETY FILE must at all times be available for inspection by a Foskor official: The following guidelines are provided in order to assist the appointed contractor in compiling a SAFETY FILE:

- i. Title and index cover page
- ii. A copy of the PERMIT TO WORK.
- iii. A copy of the MHSA Regulation 2.6.1 and -2.9.2 and SHE Rep appointment letters.
- iv. A copy of Foskor COP 25, Service provider control.
- v. A copy of LME (Lifting Machine Entity) registration certificate with the Department of Labour.
- vi. Copy of LMI (Lifting Machine Inspector) registration certificate with the Engineering Council of South Africa in the employ of the service provider.
- vii. Base line risk assessment of ALL and ANY POTENTIAL tasks that may be performed on site under this contract. See Foskor COP 26, Critical Task Descriptions for details.
- viii. Copies of critical task descriptions and standard operating/maintenance procedures.
- ix. Copies of the appointed service providers safety, health, environmental, HIV and AIDS, smoking and waste management policies.
- x. Training records of all on-site employees.
- xi. Employee records of actual time worked (Normal and overtime).
- xii. Copy of on-site induction training.
- xiii. Records of inspections of TM (Trackless Mobile Machinery) and trailers. See Foskor COP 59, Trackless Mobile Machinery for details.
- xiv. Records of issues and inspections of PPE (Personal Protective Equipment) and safety equipment. See Foskor COP 65, Personal Protection Equipment for details.
- xv. Records of issues and inspections of PEE (Portable Electrical Equipment). See Foskor COP 60, Portable electrical Equipment for details.
- xvi. Records of daily, weekly and monthly 2.6.1 /SHE Rep safety inspections. See Foskor COP 2, SHE Inspections for details
- xvii. Records of daily green area and safety talk. See For COP 7, Communication for details
- xviii. Any other documents, certificates or records as requested by a Foskor official deemed

11. QUALITY

- i. The service provider must provide the necessary quality management systems and plans to ensure that the quality of his work complies with the requirements of this scope of work.
- ii. The service provider shall during all phases of construction comply with the Foskor approved Quality Assurance Plan
- iii. The service provider shall be responsible for all the resources required for executing the Quality Management System including but not limited to, developing the Quality Assurance Plan & performing the Quality Control measures to ensure that the deliverables comply to the specifications & standards mentioned in the scope of work
- iv. Any change requests /additional work resulting due to inadequate quality management system will be to the account of the service provider
- v. Foskor might appoint a third party for Quality Control Inspections
- vi. The Service provider will have to provide an approved quality system for all work executed
- vii. This will include the following but is not limited to
 - a. Quality plan
 - b. Quality compliance - Performance and reports
 - c. Quantity surveying
 - d. Quality Assurance
 - e. Quality Authorization matrix - part of Quality pain
 - f. Quality control
 - g. Quality administration. - All documents, checks, measurements, reports, variances, analysis, Corrective actions, etc. needs to be properly filed and available on request at any time. The file will require an index
 - h. Includes all test work, laboratories, Filing, etc.
 - i. Survey and survey verifications
 - j. Construction versus design -Any Deviations from the approved "Construction Drawings"
 - k. Quality communication - What needs to be reported to whom and at what frequency
- viii. Foskor envisage a complete quality System driven by the Service provider and this system / plan will be approved by Foskor and the appointed designer (if applicable) before construction/fabrication will be started
- ix. Compliance to this plan will be measured and failure to adhere to the quality plan will result in the stopping of Construction activities until concerns have been addressed. The cost for this delay will be for the service providers account.
- x. Foskor may appoint a third part to measure and control Foskor's interest in the terms of quality in this contract and the service provider is expected to work in conjunction with this company
- xi. Hold points will be discussed and finalized with the successful service provider based on the approved Quality plan

The Quality plan will only be compiled and signed off after the Method Statement and WBS* have been compiled. Quality on Shutdown type tasks will be included in the Scope of Works but the service provider will have to submit proof of an experienced quality assurer or relevant qualifications. If the service provider does not have this, it will be required that this service be hired in by the service provider at his cost.

- i. State any specific hold points that is not negotiable here
- ii. State any other quality that is applicable that is not in the "Parameters" section

Method statement - the service provider must list all steps and actions required to complete the work as per the scope of work - typically includes the items listed below:

- I. Key step and stages of the work required
- II. Tools, Equipment, TMMS, etc
- III. Labour requirements, etc

- IV. Spares, resources,
- V. Safety requirements
- VI.

WBS is a hierarchical and incremental decomposition of the project into phases, deliverables and work packages. It is a tree structure, which shows a subdivision of effort required to achieve an objective, for example a program, project, and contract. This includes arrangements, tools, equipment labour, Tasks, Purchase, Quality, Communication, etc

12 Specifications, Codes, Standards and Regulations

Latest addition of the South African National Standards in effects at the date of projects design shall establish the minimum requirements for design, materials and construction. This should be referenced with the Foskor General Engineering specifications and requirements of the Foskor SHEQ system (COP's)

No work shall be contemplated which is in breach of any Legislation in South Africa – Typically:

- Water license (04/B72K/ACGIJ/962)
- Occupational Health and Safety Act
- South African Mine Health and Safety Acts and regulations (Act 29 of 1996)
- Explosive Acts and Regulations - South Africa
- DWA and the National Water Act.
- Foskor COP's
- Foskor Engineering Specifications
- The latest revisions of the SANS standardized specifications and Foskor Specifications as applicable at the time of quotation shall apply to this contract.

Note! The equipment to be capable of continuous operation 24 hrs/day, 365 days/year with operating availability equal to 100%.

13 Site Geography

The plant is located at Phalaborwa, Limpopo, South Africa

13.1 Ambient conditions

- Ambient temperature

Summer	35 Degrees Avg.	50 Degrees Max
Winter	17 Degrees Avg.	2 Degrees Min

- Site Altitude: 380m
- Prevailing wind direction: Generally South Easterly - Maximum design velocity 40m/s (144km/h)
- Very dusty conditions
- Average annual rainfall = 540 mm

Item	Description	UOM	Number of People	Estimate Quantities Per Person Per Annum (NT/OT1.5/OT2)	NT Rate/hour	OTx1.5 Applicable Weekday and Saturdays only	OTx2 Applicable Sundays and Public Holidays only	Total
1	Supervisor-Artisan (Section 13)	Hour	1	470/80/36 hrs				
2	Artisan fitter (Section 13)	Hour	2	470/100/72 hrs				
3	Semi-skilled/TO	Hour	6	470/100/72 hrs				
4	Artisan Welder	Hour	2	470/100/144 hrs				
5	Artisan Boilermaker	Hour	2	470/100/72 hrs				
6	Labourers	Hour		470/100/72 hrs				
7	Standby	Day						

NB! Please note the overtime will be applied as per labour relations act strictly, and no other provisions will be done.

Breakdown Crusher stripping and repairs

Item	Description	UOM	Estimate Quantities Per Annum	Rate/Hour (Max 12hr shift)
1	Supervisor- Artisan (Section 13) x1	Hour	620 hrs	
2	Artisan fitter (Section 13) x3	Hour	620 hrs	
3	Labourers x3	Hour	620 hrs	
4	Artisan Boilermaker/welder	Hour	620 hrs	
5	Semi-skilled (section 28) x6	Hour	620 hrs	

WHO WILL SUPPLY THE FOLLOWING?					
N/A = NOT APPLICABLE C = CONTRACTOR FF = FOSKOR, FREE OF CHARGE FC = FOSKOR, AT COST TO CONTRACTOR					
1.Sanitary –		2.Transport		3.Electrical	
1.1 Water on site and toilet facilities / janitorial services	FF	2.1 Labour	C	3.1 Generators	C
1.2 Potable connection point	FF	2.2 Materials	C	3.2 Electrical Extensions	C
1.3 Connection to construction water supply	FF	2.3 Equipment	C	3.3 COC Site Establishment	C
1.4 Change rooms	FF	2.4 All TMMS	C	3.4 Temporary lighting	C
				3.5 Electrical connection point	FF
				3.6 Connection to Electrical supply	C
				3.7 Electric panel + distributing wiring	C
				3.8 Power for tools on site for existing Foskop electrical supply point (Welding plugs and 220v plugs)	C
4. Quality –		5. Security		6. Lifting and Rigging	
4.1 Plan, Management, QA, QC	C	5.1 Site Security	C	6.1 All rigging equipment (Slings, Chain blocks, turfers, etc)	FF
4.2 All quality test Civil, Paint, Mechanical, etc	C	5.2 Foskop ID Card	C	6.2 Rigger	FF
4.3 Sampling and laboratory testing	C			6.3 Mobile cranes	FF
7. Medicals -		8. Communication devices – All communication devices like laptops, computers, networks , radios, cellphones, etc	C	9. PPE	
7.1 Entry and Exit	C			9.1 Supply, Issue, inspect and manage	C
7.2 First aid box at place of work	C				
10 Site Surveys	C	11. Safety File - Foskop will issue template	FF	12 Training & Authorizations	

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		Ensure file conform/ populate to Foskop standards	C	12.1 All Required Training	C
				12.2 Authorisation - As per Foskop COP	FF
13. Site Establishment		14. Waste management on site		15. Painting - All Equipment and tools paint, labour , etc	C
13.1 Site office/s with suitable facilities for daily "Green Area" meetings, and lunch area	C	14.1 Transport all waste to Foskop designated waste sites	C		
13.2 Site establishment space	FF				
16 Scaffolding		17 Labour		18. Compressed air	
16.1 Scaffolding Supply & Erect	FF	17.1 All labour as per Scope of Work to execute task including management	C	18.1 Sandblasting or flash blast	C
16.2 Scaffolds be managed by the Contractor	C			18.2 Compressor	C
16.3 Cherry Picker's – only if and when available by pre-booking	FF			18.3 Air for power tools - If available	FF
16.4 Cherry Picker's Driver– Trained and authorized driver	FF				
19 Fuel		20. Storage and inventory control		21 Consumables	
19.1 Fuel Supply	C	20.1 Protective coverings/tarpaulins	C	21.1 Welding rods	C
19.2 Fuel storage	C	20.2 Storage area and inventory control	C	21.2 Bolts & Nuts	C
19.3 Fuel fire protection	C			21.3 Ect	C
19.4 Refuelling	C				
22 Tools & Equipment		23 Certificates -		24 Training	
22.1 All Portable electrical Equipment	C	Supply All certificates as required		All required training and training manuals as required to ensure that Foskop can train its workforce and operate the plant / equipment safely	C
22.2 Hot Work Equip as per Foskop COP - Welding Machines, Gas Cutting, Grinding, Gauging, etc	C			All manuals and related documents to be supplied to project Eng and Foskop Drawing office for safe keeping	C
22.3 Tools as required to execute task	C				

WHO WILL SUPPLY THE FOLLOWING?

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				25 Mechanical	

16.5 FOSKOR General Engineering Specifications *(should be consulted prior to finalization of any design or specification)*

Name	Modified	Modified By
Engineering Specification Index	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS001 - General Design Information - Rev 1	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS002 - Engineering Drawings - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS003 - Quality Control Procedures - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS005 - Concrete and Formwork - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS007 - Plate work - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS008 - Welding procedures - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS009 - Structural fabrication and erection - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS011- Piping - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS012 - Pressure vessels - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS013M - Painting and Protective Coatings	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS014 - Rubberlining - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS015 - Fencing - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS016 - Roofing and side cladding - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS017 - Fuel - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS018 - Lubrication - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS019 - Liquid containemt bund walls - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS020 - General purpose valves - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS021 - Gearboxes - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GS022 - Chainblocks and lever hoists - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
GSI-004 - Field Instrumentation Standards	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu

Service provider /Contrator /Supplier - Please ensure that you have the latest copy of Specifications before any activity is committed.

ELECTRICAL SPECIFICATIONS		
<u>SPECIFICATION NUMBER</u>	REVISION	TITLE
EE-1	Latest Revision	Motor Control Centre & Switchgear
EE-2	Latest Revision	Squirrel Cage Induction & Wound Rotor Motors
EE-11	Latest Revision	Power Factor Correction Equipment
GE-1	Latest Revision	Design Criteria for Electrical Installations
GA-1	Latest Revision	Procedures for Enquiries & Tenders
GD-1	Latest Revision	General Requirements for Design, Project Management & Tenders
GD-2	Latest Revision	Engineering Change Order (E.C.O) Procedure
GM-1	Latest Revision	Mechanical Equipment
GM-5	Latest Revision	Pipe Standards
GM-6	Latest Revision	Engineering Drawing & Document Requirements
GM-8	Latest Revision	Surface Protection
GM-3	Latest Revision	Painting & Surface Protection of Steel
GS-1	Latest Revision	Structural Steel work & Plate work Fabrication & Erection
GQ-1	Latest Revision	Quality Control
GI-1	Latest Revision	General specifications & Procedures
GI-2	Latest Revision	Installation & Commissioning
GI-3	Latest Revision	General Equipment Specification
GI-4	Latest Revision	Field Instrumentation Specification

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