TENDER FOR KILN REFRACTORY BRICK REPLACEMENT

SAFETY MEASURES AND REQUIREMENTS.

i) A thorough site risk assessment to be done before commencement of work.

ii) All personnel involved in the job to be safety inducted for familiarisation with the scope of work and the risks involved.

iii) A risk assessment board to be availed on site furnished with the permit to work, risk assessment form, hot work permit and job procedure.

iv) Ensure all electrical connections have been isolated and a Lock out, try out, tag out procedure have been followed before taking over the plant for the job.

v) A tool box talks to be held before commencement of every shift to highlight on the new risks encountered or expected and how to mitigate them.

vi) A person in charge of safety to be identified and be known to all the personnel during every shift.

vii) A first aid kit to be availed on site at all times and a shift first aider identified.

viii) All oxy-acetylene sets to be inspected and tested for leakages before use and hoses to be clear of falling hot material, sharp edges and dropping debris.

ix) All personnel shall wear the mandatory PPE at all times and ensure use of other relevant PPE depending on the nature of work and condition of the work site.

x) Housekeeping to be done at every stage of work and thoroughly at every close of shift.

TOOLS REQUIRED

i) Two sets of combination spanners ranging from No. 17 to 32

ii) 4 Nos. 2 Kg. engineering hammers.

iii) 4 Nos. steel wedges size 40x250x50mm.

iv) 2 Nos. long claw bars.

v) 4 Nos. soft slings size 1 tonne x 3 meters.

vi) 2 Nos. DC welding machines 400amps and above complete with welding and earthing cables 70 cubic mm and above, each cable 15meters long or more, fitted with welding holders and earth clamps of 600 amps or above.
vii) 1 Nos. 9” grinder complete with its safety guards.

viii) 2 Nos. complete oxy-acetylene cutting sets, each with 15-meter-long or more hoses, double diaphragm oxygen and acetylene regulators, cutting torches and non-return valves for fitting at the regulator side.

**CONSUMABLES REQUIRED**

i) 2 Nos. size 1/8” Acetylene Cutting nozzles of good quality preferably ‘Affrox’ from BOC.

ii) 2 Nos. size 1/16” Acetylene Cutting nozzles of good quality preferably ‘Affrox’.

iii) 5 Kgs. 3.25mm Low Hydrogen Welding electrodes.

iv) 5 Kgs. 4.00mm Low Hydrogen Welding electrodes.

v) 1 Kgs. 3.25mm mild steel Welding electrodes.

vi) 5 Kgs. 4.00mm mild steel Welding electrodes.

vii) 2 pcs. 9” grinding discs.

viii) 1 Nos. full acetylene cylinders of size 6.8 cubic meters or more.

ix) 3 Nos. full oxygen cylinders of size 8.3 cubic meters or more.

x) 2 Nos. wire brushes.

xi) Refractory bricks

xii) Stools and lifter plates-60º/30º both SS and MS

**EQUIPMENT**

i) A low loader and prime mover or tractor with open body trailer for moving new parts closer to the loading area, with carrying capacity of at least 5 tonnes.

**WORKS TO BE ARRANGED BY THE TCML**

Unless otherwise specified in the tender documents, the following works shall be arranged by the owner.

i) Space for accommodating all the equipment and components involved in the work.
ii) An empty 1-bedroom house  
iii) Water and Electricity free of cost  
iv) Provide all technical drawings required.  
v) Provide all equipment, consumable items and materials required.  
vi) Provide all the casings and refractories required as per the drawings.

**WORKS TO BE ACCOMPLISHED**

i) Removing the lifter plates and Replacement  
ii) Removing the stools and replacement  
iii) Removing the Bricking and replacing with new ones.  
iv) Welding of anchors  
v) Welding cracks if any  
vi) Casting where necessary.

**JOB PLAN**

**PREPARATIONS.**

1) Crew safety inductions.  
2) Carryout job safety analysis and risk assessment.  
3) Site establishment - Tooling & equipment  
4) Ascertain dimensions of the parts to confirm fitting on site to the existing.

**INSTALLATION WORK.**

i. Removal of worn lifter plates.  
ii. Removal of bricks around broken stools.  
iii. Removal of worn out bricks a span of 25Meter from discharge.  
iv. Welding new stools and replacing worn lifter plates.  
v. House keep the area.  
vi. Cast areas around the installed stool.  
vii. Install brick rings.
viii. Bricking:
   - Lining of slightly more than the bottom half of the kiln.
   - Fastening of the lining by means of screw-jacks and wooden wedge. The distance of the screw jacks is 0.5-1m depending on kiln diameter.
   - Turning the kiln by 1 quarter of circumference.
   - Lining of the third quarter.
   - Fastening according to point 2.
   - Turning of the kiln until the last section is on the bottom.
   - Lining of the last section and keying with closure bricks.

ix. Demolish the 5Meters casting

ox. Clear the rubbles.

xi. Perform housekeeping.

xii. Welding of anchors.

xiii. Securing the form work.

xiv. Cast kiln a span of 5Meters.

g. Allow casting to cure.

xvi. Demolish the form work.

xvii. Perform housekeeping.

NOTE:
The following drawings should be referenced:

Drawing no., A/1724
Drawing no., A/0488
Drawing no., A/0686
Drawing no. 3455
Drawing no., A/0677
## TECHNICAL REQUIREMENT

<table>
<thead>
<tr>
<th>Quantitative Technical Criteria Description</th>
<th>Tender Returnable Proof Format</th>
<th>Criteria Weighting</th>
<th>Criteria Sub Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Technical criteria</td>
<td></td>
<td>90%</td>
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<td>The company should submit the following:</td>
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<td>• A certified copy of a valid tax compliance certificate.</td>
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<td>• A valid business permit/council trade license including evidence of physical address</td>
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<tr>
<td>• A valid certified copy of registration certificate issued by National Construction Authority (NCA) for category relevant for the civil jobs (NCA 9 to NCA 1)</td>
<td>Attach current Certificates and documentations.</td>
<td>10%</td>
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<td>• Audited accounts of the</td>
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</table>
| 1 | company for the last three financial years (Certified by a registered Certified Public Accountant)  
- Tender Form duly completed, signed and that the Tender is valid for the period required |   |   |
| 2 | - The vendor MUST have done similar jobs (Bricking, Casting, Extensive fabrication and welding jobs).  
- Attach 3 POs and Completion Certificates of similar jobs and value within the last five (5) years. |   | 40% |
| 3 | - Show detailed preparation and installation work plan  
- Evidence of ownership of equipment and tools. (At least one open pickups/trucks)  
- Give a list and type of relevant construction tools and equipment owned by the company | - Attach a detailed work schedule for all the activities/work scope (Gantt Chart complete with staffing levels).  
- Attach log books bearing the company’s name/name of one of the directors, list of tools and equipment as well as documentary evidence of ability to lease or hire relevant tools and | 40% |
<table>
<thead>
<tr>
<th>Safety criteria</th>
<th>10%</th>
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</thead>
<tbody>
<tr>
<td>• The company should have competent, trained, safety conscious, and insured personnel</td>
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<tr>
<td>• A list of Names and ranks of employees together with the assigned responsibilities.</td>
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</tbody>
</table>
| • Attach a valid WIBA for your staff | 10%
| • certified copies of CVs and certificates for all management /at least two key technical personnel (certified by an Advocate or commissioner for oaths) | |
| • Appointment letters for the key personnel should be provided | |
| TOTAL | 100% |
## FINANCIAL REQUIREMENT

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>QTY</th>
<th>UNIT</th>
<th>PRICE  @</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tender for bricking of 30m Kiln.</td>
<td>1</td>
<td>LUMP SUM</td>
<td></td>
</tr>
<tr>
<td>2. Other Charges</td>
<td>1</td>
<td>LUMP SUM</td>
<td></td>
</tr>
</tbody>
</table>

- **NB:**
  1. Site Visit is MANDATORY on 13th June 2017
  2. WIBA-Work Injury Benefit Act