

**Scope Of Work****Bulk Material Services**

Title: **Supply and installation of Document Identifier:**

**piezometers at Duvha Power Station**

**“as and when required basis”**

Alternative Reference **Not Applicable**

Number:

Area of Applicability: **Eskom Rotek Industries  
SOC Ltd**

Functional Area: **Bulk Material Services-  
Duvha Power Station**

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## 1. Introduction

Eskom Rotek Industries (ERI), Bulk Material Services (BMS) has various Operations contracts with Eskom Generation on a national contract level. The Scope of Work covers the Ash systems plant area

### 1.1 Purpose

The purpose is to preserve the status of the plant availability and reliability through operations of the assets and maintaining of good housekeeping standards.

#### 1.1.1 Applicability

This document shall apply to the site with attached addendum.

This document shall be effective from the authorisation date.

The stations where the services are required are

Site	Operation
Duvha	Supply and Installation of Piezometers at Duvha ash dam.

## 2. Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs and additional site-specific ones.

### 2.1 Normative

1. ISO 9001 Quality Management Systems
2. OSHAS 1800 Safety Management Systems
3. Occupational Health and Safety Act and Regulations (85 of 1993)

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4. 36-681\_Generation Plant Safety Regulation
5. 240-62196227\_Eskom Life Saving Rules
6. 32-95\_Environmental, Occupational Health and safety Incident Management Procedure

## **2.2 Informative**

1. Criminal Procedures Act 51 of 1977
2. National Road Traffic Act 93 of 1996
3. Labour Relations Act 66 of 1995
4. Basic Conditions of Employment Act 75 of 1997

## **2.3 Definitions**

<b>Description</b>	<b>Definition</b>
<b>Appointed Contractor</b>	Means a contractor appointed by the principal contractor.
<b>Appointed Person</b>	A person who has been authorised in terms of 36-681_Generation Plant Safety Regulation to: <b>(i)</b> Determining appropriate and effective isolations for the anticipated work to be carried out safely. <b>(ii)</b> Ensuring that the isolation and de-isolation on the plant covered by a permit to work is effectively carried out taking health and safety precautions into account. <b>(iii)</b> Issuing of prepared permits once all the associated test certificates are available and the required risk assessments have been presented to the appointed person by the responsible person for review in terms of these regulations.
<b>Baseline Risk Assessment</b>	(32-520) baseline operational risks refer to the health and safety risks associated with all standard processes and routine activities in the business
<b>Cleaning Activity</b>	Means the safe cleaning of transfer chutes from the outside by the disabling of mechanisms to inhibit starting of the plant during the cleaning process, which is done in accordance with formulated safe procedures.
<b>Contractor</b> (includes appointed contractor)	means an employer as defined in section 1 of the Act who performs contract work and includes principal contractors

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<b>Competent Person</b>	(OHS Act) means any person having knowledge, training, experience, and qualifications, specific to work or task being performed, provided that, where appropriate, qualifications and training are registered in terms of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995).
<b>Danger/Dangerous</b>	Means a condition/substance that constitutes a risk of personal injury, impairment of health, or death
<b>Employee</b>	(OHS Act) means, subject to the provisions of subsection (2), any person who is employed by or works for an employer and who receives remuneration or who works under the direction or supervision of an employer or any other person.
<b>Employer</b>	(OHS Act) means, subject to the provisions of subsection (2), any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerate him/her, but excludes TES (ex. labour broker) as defined in section 1(1) of the Labour Relations Act.
<b>Field / Plant Operator</b>	Employee designated to conduct routine Plant inspections, Preventative Maintenance (PM) and (report) defect any breakdowns or abnormal Plant conditions
<b>Lifesaving Rules</b>	(240-62196227) a rule that, if not adhered to, has the potential to cause serious harm to people.
<b>Permit To Work</b>	Means the printed form containing sections entitled application, permits to work, suspension, suspension revocation, clearance and revocation, and used for the authorisation of all work to be carried out on the plant in terms of these regulations.
<b>Plant</b>	Means structure, machinery, low voltage electrical equipment or equipment, which does not fall within the scope of the Operating Regulations for High-voltage Systems, and excludes, mobile, portable lifting equipment, domestic circuits, appliances and tools.
<b>Responsible Person</b>	Means a person who has been authorised in terms of these regulations to be responsible for ensuring that the work on the plant covered by a permit to work can be carried out and executed taking health and safety precautions

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	into account and within the terms of 36-681_Generation Plant Safety Regulation
<b>Safe/Safely/Safety</b>	Means a condition not posing any danger, an activity that can be carried out without danger, or protection against danger.
<b>Shall and Should</b>	The word “shall” is to be understood as mandatory and “should” as recommended.
<b>Skilled Person</b>	Means a person who has been trained, has adequate knowledge for the task at hand and declared competent in writing.
<b>Supervision/Supervise</b>	Means to oversee the actions of a person(s) to such an extent as to prevent any dangerous act, as far as reasonably practicable. Such a supervisor must be trained in risk assessment techniques and be able to understand the dangers / hazards associated with the task and who has the authority to ensure that precautionary measures taken are implemented.
<b>Visitor</b>	Any person visiting a workplace with the knowledge of, or under the supervision of, an employer.

## 2.4 Abbreviations

<b>Abbreviation</b>	<b>Explanation</b>
RA	Risk Assessment
AP	Appointed Person
DHP	Dust Handling Plant
LAR	Limited Access Register
ERI	Eskom Rotek Industries
OHSACT	Occupational Health And Safety Act
OEM	Original Equipment Manufacturer

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<b>Abbreviation</b>	<b>Explanation</b>
RA	Risk Assessment
AP	Appointed Person
RP	Responsible Person
PPE	Personal Protective Equipment
PTW	Permit To Work
H&S Rep	Health and Safety Representative
RA	Risk Assessment
-	-

### **3. Supporting Clauses**

#### **3.1 Scope**

The scope of work is the provision and installation of piezometers on and around Duvha ash Dam (Tailings Dam) **the duration of 36 months, on an “as and when required basis”**, at Duvha Eskom Rotek Industries (ERI) Bulk Material Services (BMS).

##### **3.1.1 Sites generic scope**

- Drilling the holes on the provided positions of the dam and installing the piezometers as required and as per the scope. Supplying all the labour, equipment's and materials used for drilling and installing piezometer and install the piezometer as per the scope and drawing.

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### 3.1.2 Scope of work for installation

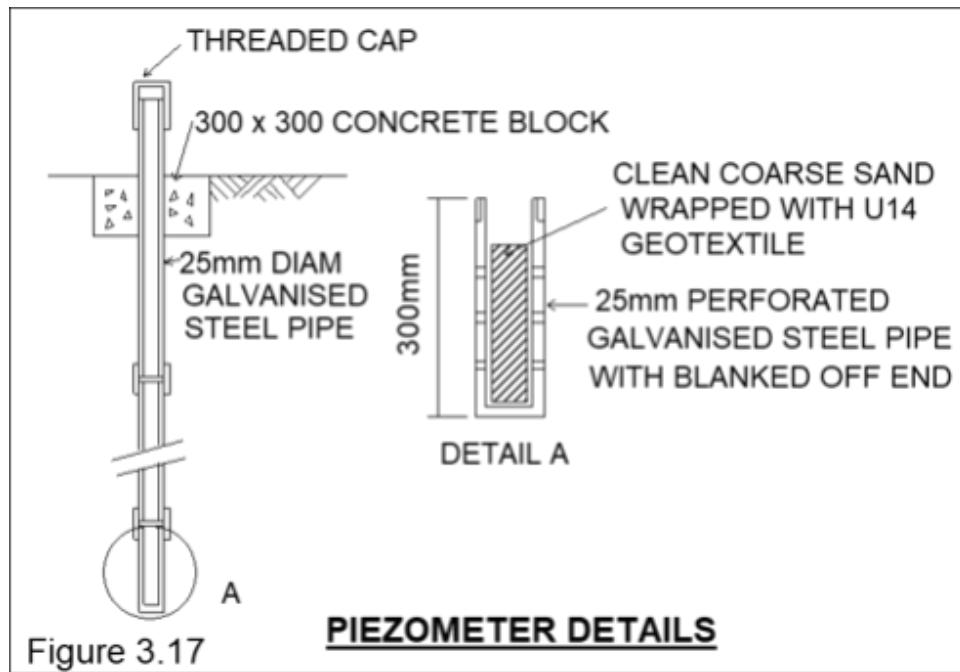


Figure 3.17

- Figure 3.17 shows some typical details for the installation of a piezometer. The 300mm square by 300mm deep concrete block is only to be installed after the wall has reached the final level at this specific position. Galvanized steel pipe sections are also only required for the top 3 metres of the piezometer, the remaining sections may consist of PVC piping provided that suitable couplings between the two types of material are available. This is to reduce the risk of damaging the piezometer during the normal operation of the dam. Special caution shall also be exercised when top soil for rehabilitation is placed in the vicinity of a piezometer. The piezometer tip, shown in detail A, can also be a proprietary porous ceramic or plastic tip. The augured hole for the piezometer is to be thoroughly washed with water until the water flowing from the hole is clear prior to installing the piezometer. The following installation procedure is recommended:
  - Drill the hole to required depth as per the site requirement.
  - Lower the porous tip into position, about 200mm from the bottom of the hole.
  - Pour a sand mixture down the hole until the tip is covered to a depth of 300mm. The sand shall have a  $D_{10}$  of between 0.1mm and 0.7mm.
  - Seal off the sand layer using bentonite balls using a ring punner.
  - Seal the remainder of the hole by pouring coarse ash grout down the hole.

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### **3.2 PERFORMANCE SPECIFICATION**

- The employees must be in a mental and physical healthy condition to be able to work harsh conditions on average of 9 hours day
- Supplier must submit the safety file prior commencement of work for verification and approval
- Employees must be medically fit.
- All Employees must be in possession of valid Criminal and fraud Clearance certificates not older than 6 months.
- Supplier must provide employees transportation to and from site on daily basis
- Supplier must appoint a competent supervisor to oversee the execution of the work
- Supplier must source all the necessary equipment's, materials and labour to execute the work
- Supplier must supply fuel for his machinery and vehicles.
- Supplier must provide all PPE as per the site requirements (see 4.1.1)

#### **3.2.1 Working times**

- The work hours for day personnel at Duvha will be 07h00-16h15
- Safety officers will be available at any time required during the activity
- Supervisor and team will work normal day hours while activity is scheduled
- The supplier must provide a cover in case someone is on leave at their own cost

## **4. PPE**

### **4.1.1 Required PPE (Specification to be supplied under SHEQ) supplied by contractor**

- Overalls-specific to activity
- Safety boots ( that provides protection to the ankles)

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- Gumboots (as required)
- Pigskin Gloves
- Safety goggles
- Ear plugs/muffs
- Dust masks
- Cloth masks (Covid19 as required)
- Reflector vests

#### **4.1.2 Required Tools/Resources**

- All operators to be competent with the equipment that they will be operating This is a minimum requirement for the contract in terms of skill requirement.
- The drilling machine must have checklist

### **5. Operating Philosophy**

- The supplier will drill and install the piezometers as per the scope.
- Supplier must communicate any changes to the scope

### **6. 4. Management strategy and start up**

#### **6.1 The Contractor's plan for the service**

Operations services schedule to be supplied by the Contractor after the employer has given them the operations plans.

#### **6.2 Management meetings**

There will be a monthly meeting for the *Contractor* with the *Employer* held at the *Employer's* premises where contract issues will be discussed, while the activity is taking place on site (not expected to attend when no activity) i.e. monthly report from the *Contractor* which will include safety meetings,

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incident report an any other issues relating to the service being delivered. The following meetings are to be attended by the *Contractor's* Supervisor:

- Safety meeting (once a month / as and when required)
- Contractor's meetings (to be specified)
- Assessments meetings (end of the month on the 25th)
- Any other meetings relating to the *Contractor's* outputs or necessary for business continuity
- Risk register meeting with the client.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or registers shall not be used for the purpose of identified in the *conditions of contract* to carry out such actions or instructions.

### **6.3 Contractor's management, supervision and key people**

The *Contractor's* staff structure – supervisors and workforce is to be submitted in the form of an organogram. The employer must approve any changes to such staff structure, and after the approval, the contractor shall submit an updated staff structure.

The *Contractor* shall provide a competent representative to be available on site during all normal working hours (Supervisor).

The Contractor's representative will be required to keep the time sheets, which are required, signed at the end of each month/activity if less than 30 days.

NB: The Contractor's representative will assume the role of a supervisor or lead for this contract

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#### **6.4 Documentation control**

The service provider shall submit all proof of purchase, SHE bin certificates, time sheets and delivery note to the employer for assessment. Cleaning control sheets to be signed after each cleaning is completed (in respect of the COVID 19 pandemic) if required.

#### **6.5 Invoicing and payment**

Invoicing and payment turnaround time is 30 days. Assessments are to be conducted from the 26<sup>th</sup> of each month.

#### **6.6 Contract change management**

Task Order form to be used when work within the service is instructed to be carried out within a stated period. A task Order will be sent to the *Contractor* via an email. In the case of a compensation event, the *Contractor* must give the *Employer* an early warning and a quotation for the total costs, must be submitted electronically by the *Contractor* for that compensation event by email

#### **6.7 Records of defined cost to be kept by the Contractor**

The Employer will do all hours worked by the Contractor. Timesheets will be submitted to and kept by the *Employer* on a weekly basis, and these will be used for assessment purposes.

#### **6.8 Training workshops**

- The following training is necessary for the Supervisor and Team leaders. The cost will be for the *Contractor*:
  - Safety, Health and Environment Representative (SHE Rep.)
  - Applying SHE Principles and Procedure
  - Hazard Identification and Response
  - First Aid level 1

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## 5. Health, Safety, Environment and Quality assurance

### 5.1 Health and safety risk management

The *Contractor* shall at all times comply with the health and safety requirements prescribed by law as they may apply to the services.

The *Contractor* shall, when coming on site abide by the Lifesaving Rules and COVID-19 safety requirements at all times. The Employer on the start of the contract will provide these. The *Contractor* shall also abide by Safety, Health and Environmental Specifications for Contractors Procedure, which will also be provided by the *Employer*.

The *Employer* follows an accident/ incident prevention policy that includes the investigation of all accidents/ incidents involving personnel and property. This is done with the intention of introducing control measures to prevent recurrence of the same incidents. The *Contractor* is expected to fully co-operate to achieve this objective. Refer to 32-95\_Environmental, Occupational Health and safety Incident Management Procedure

The *Contractor* implements a safety plan and maintains the safety system until completion of the whole of the works. The plan, will as a minimum, contain PPE information, written safe work procedures, job specific risk assessments, safety meetings, etc. The plan will be to the *Employer's* satisfaction and will be accepted prior to the commencement of any work.

The *Contractor* will be subject to periodic audits by the *Employer* in order to ensure compliance with the plan. Any deviations will be corrected to the *Employer's* satisfaction.

The *Project Manager* has the right to stop the *Contractor's* work activities which, in the opinion of the *Project Manager*, is un-safe. The *Contractor* may only continue with work activities when all safety deficiencies have been corrected to the *Service Manager's* satisfaction. The *Contractor* shall have no claim against the *Employer* in respect of delay due to the above.

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## 5.2 Environmental constraints and management

The *Contractor* shall comply with ERI management system. This includes the identification, collection, storage, transportation and disposal of waste. Hazardous waste shall be disposed of in line with the applicable environmental legislation. It is important to note that all spillages must be cleaned immediately and reported to the project manager as soon as possible. It is the responsibility of the polluter to clean all spillages and for the rehabilitation of the polluted land and the cost associated with that.

**NB: In cases of inclement weather, the Project Manager will assess the risk of continuing with the works. When it is unsafe to continue, the Project Manager will stop the works and payment will be per the work covered in this instance.**

## 5.3 Quality assurance requirements

The *Contractor* implements a quality system and maintains the quality system until the completion of the whole of the works. The system, will as a minimum, comply with the provisions of the ISO9001 series. The system will be to the *Employer*’s satisfaction and will be accepted prior to the commencement of any work on site. The *Contractor* will be subject to self-assessments by the *Employer* in order to ensure compliance with the system. Any deviations will be corrected to the *Employer*’s satisfaction.

The *Project Manager* has the right to stop the *Contractor*’s work activities, which, in the opinion of *Project Manager*, does not meet the requirements of the system and will have a detrimental effect on plant performance. The *Contractor* may only continue with work activities when all deficiencies have been corrected to the *Project Manager*’s satisfaction. The *Contractor* shall have no claim against the *Employer* in respect of delay due to the above.

The *Contractor* ensures that all plant and materials for the works are to the standard and quality accepted by the *Employer* and ensures that they are suitable for the purpose intended by the manufacturer.

The *Contractor* will work according to the *Employer*’s standards, specifications, guidelines and procedures. Where no standards, specifications, guidelines and procedures are available, the

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*Contractor* will work according to the Generation Quality manual and professional guidelines. Where possible, standards will be reflected in the Task Order.

The employer shall evaluate, control and monitor the performance and effectiveness of the Contractor

## **6. Procurement**

### **6.1 People**

Eskom Holdings Limited's requirements regarding employment of unskilled or semi-skilled workers are as follows:

- ERI requires that during recruitment of unskilled or semi-skilled labour, a contractor should make every effort to employ minimum target of 100 % suitable candidates from all disciplines from the local community and will only resort to other avenues if the local community cannot provide the required resources.

### **6.2 Plant and Materials**

#### **6.2.1 Correction of defects**

If there is part of work that the *Employer* is not happy with, this will be indicated to the *Contractor* and will have to be rectified by the *Contractor* immediately where reasonably possible or within 5 working days after the defect was reported.

#### **6.2.2 Plant & Materials provided by the *Employer***

- a. Water and Electricity
- b. Lighting and Ventilation
- c. Ablution facilities
- d. Sitting facilities

NB: The *Contractor* will be responsible for their meals, own accommodation and transport to and from the place of work.

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## **7. Working on the Affected Property**

Under no circumstances will the *Contractor* do the work without proper PPE. The Supervisor on the *Contractor's* side will make it his duty to make sure that this is properly addressed.

### **7.1 Employer's site entry and security control, permits, and site regulations**

The *Contractor's* access to site shall be in line with the Site access procedure. The *Contractor* shall be required to make an application for his employees to enter site for the duration of the contract, including defects period. The permits shall only be issued once the *Contractor's* employees have attended the safety induction training, submitted police clearance certificates and have undergone medical checks. The safety induction will be for the *Employer's* account. The medical and Police clearance checks will be for the *Contractor's* account

### **7.2 People restrictions, hours of work, conduct and records**

The *Contractor* will carry out the *Works* on an 9 hour basis. Work on Saturdays, Sundays and Public Holidays will be as and when required and in agreement.

### **7.3 Records of *Contractor's* Equipment**

The *Contractor's* Supervisor should keep record of all the equipment used by the *Contractor*. The *Contractor* is responsible for the safekeeping of all their equipment.

### **7.4 Control of noise, dust, water and waste**

The contractor must supply their own dust masks and cloth masks as part of PPE. Drinking water is available on site as well as waste bins for disposing waste

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## 8. List of drawings

Fig 3.17

## 9. Acceptance

This document has been seen and accepted by:

Name	Designation
Khomotso Kekana	HOD Coal Ops 1
Neil Brealey	Project Manager

## 10. Revisions

Date	Rev.	Compiler	Remarks
February 2023	1	<b>K Motlhabane</b>	No existing work instruction

## 10. Development Team

The following people were involved in the development of this document:

- I K Motlhabane

## 11. Acknowledgements

None

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