Eskom Rotek Industries	Scope of Work	ERI/BMS/CCP

Title: **Scope of Work for the Harvesting and Beneficiation of Legacy Ash for Mining Applications**

Document Identifier:	
Alternative Reference Number:	Not Applicable
Area of Applicability:	Eskom Rotek Industries SOC Ltd
Functional Area:	Bulk Material Services
Revision:	0
Total Pages:	7
Next Review Date:	
Disclosure Classification:	**Controlled Disclosure**

Compiled by	**Functional Responsibility**	**Authorised by**
Boitshoko Morake **Project Manager**	**Tony Nhlabathi** **Ash & Gypsum Manager**	**Khomotso Kekana** **HOD Coal Operations 1**
Date: 23 September 2025	Date: 25 September 2025	Date: 9 october 2025

1. EXECUTIVE OVERVIEW

Eskom hereby invites suitably qualified and experienced tenderers to submit proposals for the harvesting and beneficiation of legacy ash from designated ash disposal facilities located at various Eskom power stations. The appointed service provider will be responsible for the extraction of ash from these facilities and the execution of beneficiation activities at approved mining sites, in accordance with applicable environmental and operational standards.

This initiative will be structured as a long-term commercial venture with an initial contract duration of Ten (10) years, subject to performance and compliance. Eskom reserves the right to extend the contract period beyond the initial term based on mutual agreement and strategic requirements.

2. BACKGROUND

Eskom's coal-fired power stations generate approximately 33 million tons of ash annually, which has historically been disposed of in ash dams and dumps across various sites. Over time, many of these ash disposal facilities have reached or exceeded their design capacity, with some having been capped and others nearing depletion. The growing volume of legacy ash presents both an environmental challenge and an opportunity for sustainable reuse.

Traditionally, coal ash has found application in the construction sector, particularly in cement blending (72%), ready-mix concrete (10%), and brick and block manufacturing. However, with the slowdown in South Africa's manufacturing and construction industries, demand for ash in these sectors has declined, necessitating the exploration of alternative high-volume applications.

One such opportunity lies in the mining sector, where ash beneficiation can play a critical role in supporting environmental rehabilitation and operational efficiency. Beneficiated ash can be used in:

- Mine backfilling: Filling voids in opencast mines to stabilize ground conditions and support post-mining land use.
- Acid mine drainage (AMD) treatment: Utilizing ash's alkaline properties to neutralize acidic water and reduce environmental contamination.
- Soil amelioration and conditioning: Enhancing soil structure and fertility in disturbed mining areas.

- Road construction within mining operations: Using ash as a stabilizing agent in haul roads and access routes.

These applications not only reduce the environmental footprint of ash disposal but also contribute to cost-effective mine rehabilitation and compliance with regulatory requirements.

3. ASH BENEFICIATION PROGRAMME

Coal ash presents significant opportunities for beneficiation in mining and related industries. Research has demonstrated its potential to replace virgin materials extracted from the earth, thereby conserving natural resources. Beyond traditional uses such as fertilizers, plaster industries, and cement production, coal ash has proven applications in mine backfilling, road construction, concrete mixes, and other industrial processes.

In line with this, the Department of Forestry, Fisheries and the Environment (DFFE) actively promotes the beneficial use of coal ash in appropriate and environmentally protective ways. Consequently, coal ash is excluded from classification as a hazardous material when utilized in approved applications including cement, brick and block making, geopolymers, filler applications, zeolites, mineral extraction, fibre production, road construction, mine backfilling, acid mine drainage treatment, soil amelioration and conditioning, as well as wallboards and plaster of Paris.

For Eskom, the beneficiation of ash is primarily aimed at reducing and ultimately eliminating the financial and environmental burden associated with ash disposal facilities. By redirecting ash towards sustainable uses, Eskom simultaneously addresses environmental risks and creates opportunities for value creation.

Both international and local research confirm the viability of ash in mining applications. Eskom's strategy is to drive the consumption of high ash volumes at affordable prices rather than restricting access through cost barriers. To achieve this, it is vital to unlock large-volume markets such as mine backfilling, road construction, and agriculture, while continuing to support innovation and research into alternative applications.

Dumped ash already deposited and stored at Eskom's ash disposal facilities is particularly well-suited for these large-scale applications, as it is abundant, readily available, and capable of meeting long-term demand from the mining sector and other industries.

4. SCOPE OF WORK : HAVERSTING AND BENEFICIATION OF LEGACY ASH FOR MINING APPLICATIONS

Eskom intends to enter into a long-term contract (minimum 10 years) with a suitably qualified company to harvest legacy ash from various Eskom power station ash disposal facilities and beneficiate it for approved mining applications.

The objective of this project is to facilitate the harvesting of legacy ash from ash disposal facilities located at various Eskom power stations and to beneficiate the recovered ash for use in mining-related applications. These applications include, but are not limited to:

- Mine backfilling, where ash is used to fill voids in opencast or underground mining operations to stabilize ground conditions and support post-mining land rehabilitation.
- Acid mine drainage (AMD) treatment, leveraging the alkaline properties of ash to neutralize acidic water and reduce environmental contamination.
- Soil conditioning and amelioration in disturbed mining areas to improve soil structure and support vegetation growth.
- Construction of haul roads and infrastructure within mining operations, using ash as a stabilizing agent in road base layers.

Bidder’s Responsibilities

The successful bidder(s) shall:

a) Conduct all necessary geotechnical, chemical, and environmental tests to ensure the suitability of the harvested ash for mining-related beneficiation applications.
b) Develop and implement a safe, efficient methodology for ash harvesting, loading, stockpiling, and transportation from the ash disposal facility.
c) Bear all costs of professional engineering services, excavation, equipment, and operational processes required for ash harvesting.
d) Establish beneficiation facilities or processing infrastructure, either on-site or at nearby mining sites, at their own cost.
e) Provide all equipment, utilities, and infrastructure required for beneficiation (including water, electricity, transport, and weighing facilities).

f) Ensure beneficiation methods comply with Department of Forestry, Fisheries and the Environment (DFFE) guidelines and Department of Mineral Resources and Energy (DMRE) licensing requirements.
g) Submit monthly records of ash harvested and beneficiated, including weighbridge slips, delivery notes, and manifests, for Eskom's audit and environmental reporting.
h) Comply with all applicable mining, environmental, and waste management regulations.
i) Secure the necessary capital investment for the development, commissioning, and operation of beneficiation facilities.
j) Ensure sufficient working capital to sustain operations over the full contract period.
k) Work in collaboration with Eskom and relevant stakeholders to ensure environmental compliance and alignment with Eskom's sustainability objectives.
l) Facilitate site inspections and monitoring visits by Eskom or its appointed representatives.

5. OTHER CONSIDERATIONS

Legislative Requirements - According to the National Environmental Management Act.

The successful bidder would be required to be aware of the relevant requirements of the:

- National Environmental Management: Waste Act;
- National Environmental Management Water Act;
- National Environmental Management Air Quality Act;
- And all other relevant pieces of legislation.

Research has shown that coal ash has multiple beneficial applications, particularly in the mining sector where it can play a critical role in sustainable operations. Legacy ash harvested from Eskom's power stations can be utilised in activities such as mine backfilling to stabilise voids, the treatment of acid mine drainage, and soil amelioration for rehabilitation of disturbed land. In addition, ash can contribute to road construction linked to mining operations and other large-scale civil works that support mining logistics.

The Department of Forestry, Fisheries and the Environment (DFFE) encourages the beneficial use of coal ash in a safe and environmentally protective manner. Accordingly, ash has been excluded from being regulated as hazardous waste when used in approved applications, including:

- Mine backfilling and rehabilitation,

- Treatment of acid mine drainage,
- Road construction in mining areas, and
- Soil amelioration and conditioning of mining-impacted land.

These mining-related uses not only conserve natural resources by replacing virgin materials but also reduce the environmental footprint of both mining and power generation activities.

3. COMMUNITY PARTICIPATION

The proposal must clearly demonstrate the bidder’s intention to address the injustices of the past through transformation, inclusive growth and the involvement of Local Municipality companies. Skills upgrading and direct employment from the neighbouring communities will contribute towards such transformation.