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		EOI/RFI No.	MPKUS10509GX		

**PART A
REQUEST FOR INFORMATION (RFI)**

Description of the works/goods/services

Request for information on Chemical Analysis for Wet Flue Gas Desulfurization

Kusile Power Station is the first power station in Africa to implement wet flue gas desulphurization (WFGD) technology at each of its six units. The purpose of this atmospheric emission abatement technology is to remove oxides of sulphur from the exhaust flue gas thereby ensuring compliance with air quality standards.

To ensure long-term plant health and compliance with environmental legislation, the chemistry of the WFGD system is required to evaluate and optimise process performance.

The following is being requested from potential suppliers:

- a) Information and pricing are being sought to conduct chemical analyses as per the required sampling and analysis routine, with rapid turnaround time.
- b) Information and pricing on implementing a mobile laboratory on site to provide the service.
- c) Additionally, guidance is requested on how to set up a permanent WFGD laboratory on site to conduct these analyses.


DESCRIPTION

Information and pricing are being sought from applicable suppliers to conduct selected chemical analyses of WFGD process streams at the required frequencies. Information is also required on the set up of a mobile WFGD laboratory; such that, this laboratory has the capability to conduct the selected chemical analyses on site at Kusile Power Station. The mobile laboratory must be installed with the analytical equipment required to conduct the various chemical analyses required as well as the staff to operate and maintain the system for a period of 24 months.

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SCOPE OF WORK

- Information and pricing to conduct selected chemical analyses of WFGD process streams at the required frequencies as indicated below. Please provide the cost per sample and parameter analysed.
- It must be noted that the samples are high concentration streams with high scaling potential. The samples include slurry mixtures and samples with low pH ranges. The following table indicates the typical ranges for major analytical parameters to be analysed.


Chemical Parameter	Units of Measurement	Range of Detection Required
pH	-	4 - 8
Total Dissolved Solids	mg/kg	50 000 – 150 000 aqueous
Calcium	mg/l as CaCO ₃	
Sulfate	mg/l	
Magnesium	mg/l as CaCO ₃	
Chloride	mg/l	< 30 000
Specific Gravity Density	g/m ³	1050 - 1800

- Valid accreditation for each analysis shall be provided where available.
- A list of all analytical instruments that will be utilised to conduct the analysis.
- The supplier shall indicate the minimum lead / turnaround time from receipt of samples to issuing of results.
- Also include the cost of transport for the option of fetching the samples from the Kusile Power Station site
- Information for a mobile WFGD laboratory at Kusile Power Station; such that this laboratory has the capability to conduct the selected chemical analyses on site to minimise the turnaround time for the results. Information provided must include the following:
 - Utility requirements for the mobile laboratory (water, drainage, power, etc.)

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- Civil requirements – footprint and loading
- Resources required to meet the required analytical frequency, 365 days a year.
- A senior supervisor must be included and will be required to report to the Chemical Services Manager
- Inputting and managing of the data analysis on Eskom's LIMS database.

SERVICES


Information and pricing to conduct the following chemical analyses of WFGD process streams at the required frequencies. The Cost must be indicated per sample analysis. The frequency of analysis may increase during start-up or plant upset conditions.

WFGD Chemistry Parameters	Number of Samples	Measurement Frequency during Normal Operation
FGD Process Streams		
pH	18 (3 x 6 units)	Daily
*Specific Gravity/ Density/ Suspended Solids	6	Daily
*Specific Gravity/ Density/ Suspended Solids	6	Weekly
*Specific Gravity/ Density/ Suspended Solids	6	Weekly
*Specific Gravity/ Density/ Suspended Solids	6	Twice a week
*Specific Gravity/ Density/ Suspended Solids	6	Twice a week
Total Dissolved Solids	6	Twice a week

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	Slurry Chemistry		
	Filtrate: Mg, Ca, Na, K, F, Al, SO ₄	6	Weekly
	Solids: Ca, SO ₄	6	Weekly
	Conductivity	6	Weekly
	Commercial Grade Gypsum		
	Residual/Free Moisture	36	Daily
	CaSO ₄ •2H ₂ O (purity)	6	Daily
	Crystal size	6	Monthly or analysis as required if free moisture increases
	Heavy metals	6	Monthly
	Free silica	6	Monthly
	Aspect ratio Z to Y/whiteness	6	Monthly
	Sodium di-oxide, water soluble	6	Daily
	Sodium di-oxide, total	6	Monthly
	Magnesium oxide, water soluble	6	Daily
	Magnesium oxide, total	6	Monthly
	Nickel	6	Monthly
	Vanadium	6	Monthly
	Ammonia	6	Monthly
	CaCO₃		
	Slurry particle size	6	Weekly
	Particle size	6	Monthly
	Purity	6	Weekly
	Reactivity	6	Weekly
	Make-up Water Chemistry		

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		pH	1	Weekly
		Conductivity	1	Weekly
		M-Alkalinity	1	Weekly
		Total Hardness	1	Weekly
		CaCO ₃	1	Weekly
		MgCO ₃	1	Weekly
		Sulfate	1	Weekly
		Chloride	1	Weekly
		Fluoride	1	Weekly
		Sodium	1	Weekly
		Reclaim and Recycle Water Chemistry		
		pH	6	Weekly
		Conductivity	6	Weekly
		M-Alkalinity	6	Weekly
		P- Alkalinity	6	Weekly
		Total Hardness	6	Weekly
		CaCO ₃	6	Weekly
		MgCO ₃	6	Weekly
		Sulfate	6	Weekly
		Chloride	6	Weekly
		Fluoride	6	Weekly
		Sodium	6	Weekly
		<i>*This analysis is conducted on different process streams</i>		
		Guidance on how to set up a permanent WFGD laboratory; such that, this laboratory has the capability to conduct the above chemical analyses. This guidance shall include recommendations for:		
		<ul style="list-style-type: none"> Laboratory equipment Personnel 		

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- Selection of analytical methods
- Laboratory safety
- Quality control

1. The supplier must indicate all utilities that are required to be provided by the Employer.
2. References of previous contractors/services to be supplied with contract numbers as well as the clients.
3. Provide a budget cost for the supply, installation, and commissioning of the equipment
4. Provide a budget cost for the supply, installation, commissioning, operation, and maintenance of the equipment
5. Indicate the typical estimated lead time for the delivery.
6. Indicate any exclusions from the Contractor's supply.

Clarifications must be sent via e-mail to the following Eskom email address:
MokwenRJ@eskom.co.za

BASIC COMPLIANCE

In order to avoid the risks of tender tampering and/or the disclosure of confidential information during tender evaluations, tenderers are required to supply Eskom with two exact copies of the tender in the following format and quantities, by the deadline for tender submission:


HARD COPIES – 1 ORIGINAL AND 1 EXACT COPY OF THE TENDER

Failure to provide the necessary copies by the deadline for tender submission will immediately render their tender nonresponsive and will be disqualified from further evaluation. Tenderers will not be permitted to provide the required copies after the deadline for tender submission have passed, and Eskom will not be responsible for the making of copies for the purposes of evaluation.

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	Tenders will be opened at the same date and time as the tender deadline. FRI will be opened on: 06 December 2022 Place: Eskom Holdings SOC Limited The Tender Advice Centre – Tender box at Main Reception Area 10 Smuts Avenue, Witbank, 1035 Time:10.00 am Address your RFI to: Romeo Mokwena RFI number MPKUS10509GX Eskom Holdings SOC Limited The Tender Advice Centre – Tender box at Main Reception Area 10 Smuts Avenue, Witbank, 1035		
Deadline for submission	06 December 2022	At (South African Standard Time)	10h00
Tender Office address	Eskom Holdings SOC Limited The Tender Advice Centre – Tender box at Main Reception Area 10 Smuts Avenue, Witbank, 1035		

Eskom Holdings SOC Ltd (“Eskom”) invites you to submit a:


- Request for information (RFI) on chemical analysis for the wet flue gas desulfurization process streams as stated in the table. This RFI is a stand-alone information-gathering and market-testing exercise, intended only to inform and assist Eskom’s further deliberation and development of a strategy for the Chemical Analysis for Wet Flue Gas Desulfurization Process Streams. Eskom request indicative prices.

Eskom has delegated the responsibility for this **RFI** to the signatory of this document, whose details can be found below.

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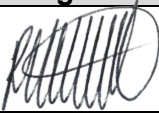
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We look forward to receipt of your response.

Yours faithfully


Name	Designation	Signature	Date
Romeo Mokwena	Assistant Officer Procurement		03.11.2022
Telephone number	013 699 7369	Fax and/or e-mail address	MokwenRJ@eskom.co.za

PART B RESPONSE SHEET IN TERMS OF A REQUEST FOR AN EXPRESSION OF INTEREST /REQUEST FOR INFORMATION To be completed by the supplier			
To	Eskom Holdings SOC Ltd	Date	
Attention	Romeo Mokwena		
Tel no		Fax no and /or e-mail address	
From		Address	
Address			
Sender			
Description of the works/goods/services			

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Please find below our response to Eskom's questions:

No.	Question	Please indicate your response in this column
1.	<i>Your contact's name and contact details</i>	
2.	<i>Company registration number</i>	
3.	<i>Brief description of previous experience and Description of the solution that you can offer</i>	
4.	<i>Indicative prices</i>	
5.	<i>[Add applicable questions]</i>	

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Yours faithfully

Name	Designation	Signature	Date
Telephone number		Fax and/or e-mail address	

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