PART A REQUEST FOR INFORMATION (RFI)			
Description of the works/ goods/ services	**E1805CXMWP** - Request for Information for the Oil in water removal by a suitable technology		
Deadline for submission	02 October 2025	**At (South African Standard Time)**	10h00
Tender Office address	Tenders are uploaded via Eskom Tender bulletin site on the Eskom E-tendering page.		
Enquiries – Representative	Letsibogo Mahlatji MahlatLN@eskom.co.za		
EOI's/RFI are to be submitted electronically via Eskom E-tendering site by the stipulated closing date and time. ***Please note it is the responsibility of the supplier to ensure that EOI/RFI submission is submitted before the closing date and time***	Tenders are uploaded via Eskom Tender bulletin site on the Eskom E-tendering page.		
Electronic Submission of RFI	The tenderer must upload the tender via Eskom Tender bulletin site on the Eskom E- tendering page. All documents need to be submitted in a PDF and Excel format (The upload size per document is 500 megabytes and total submission is restricted to 4 gigabyte). No Zip/condense files can be uploaded No hard copy will be accepted If for some reason you resubmit your RFI, then the latest version of the RFI submitted will only be accepted and all previous submission/s will be null and void. Please ensure that the submission status is indicated as complete. Supplier Help Manual guide and video can be found on Eskom E-Tendering page		
E-tendering Help Manual for supplier	E-tendering Help Manual attached		

Eskom Holdings SOC Ltd ("Eskom") invites you to submit an:

- **Request for information (RFI)** to submit information for the works/goods/services 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 Oil in water removal by suitable technology. Eskom may request indicative prices if so, stated in this RFI.

Eskom has delegated the responsibility for this **RFI** to the Representative of this document.

We look forward to receipt of your response.

Yours faithfully

Corporate Procurement Manager

Shamani Padayachee
Date: 04 September 2024

DEFINITIONS

In this Document, except as otherwise defined herein, the following terms shall have the following meanings:

B-BBEE Document	_	• means Broad-Based Black Economic Empowerment. • this document which outlines the requirements of Eskom's further deliberation and development of Oil in water removal by a suitable technology
ERIC	_	• Eskom Research and Innovation Centre that is located at Lower Germiston Road, Rosherville, Gauteng.
Procurement Process	_	• Means the procurement process being conducted in terms of this RFI inspect of the Project or requested information.
RT&D Respondent	_	• Research, Testing and Development, a business unit in Eskom. any entity or consortium that submits a Response to this Document.
State Owned Company or SOC	_	• a legal entity that is or has previously been created by the Government in order to partake in commercial activities on the Government's behalf, where in the context of the Project, such entity may include any entity with a mandate to engage in the energy or financing sector

INTRODUCTION AND BACKGROUND

This request for proposal is to find a suitable technology for removal of oil in process water. Eskom has prescribed to a Zero Liquid Effluent Discharge (ZLED) philosophy. As a result, stations must recover, treat and/or reuse all wastewater on site. Some of the streams such as process drain condensate, recovered stormwater run-off from clean areas, and treated sewage effluent are of good quality (have low salinity, total dissolved solids (TDS) and total suspended solids (TSS)), but may contain undesirable contaminants such as oil, which negatively impact downstream systems, especially those based on membrane technologies.

Medupi power station has approximately 500 000 m^3 of water contaminated with oil up-to 10ppm as fats, oil and grease (FOG), which is stored in the Crocodile-west reservoir. This water currently cannot be reclaimed for reuse without fouling ultra-filtration (UF) and reverse osmosis (RO) membranes in Water Treatment Plant (WTP). This results in demineralised water production loss and possible unplanned capability loss factor (UCLF) and poses a risk of microbiologically induced corrosion (MIC) failures on WTP equipment. Membrane fouling by oil in water also increases OPEX, as it leads to high rate of chemical usage in the WTP due to the increase in frequency of membranes “Clean In Place”, and pre-mature membrane replacement. In order to safeguard the plant, the water needs to be pre-treated to remove oil and to control microbiological activity. Therefore, the organisation would like to pilot test the different technologies that are available in the market.

MOTIVATION OF THE RFI

Raw water allocation for Eskom is governed by zero effluent liquid discharge, therefore the water resources that are within the stations should be re-used continuously even after recovery. The recovered “wastewater” contains oil as one of the pollutants and that means that, treatment technologies should encompass oil removal in its processes. Oil in water has a tendency of fouling the membranes, resulting in pre-mature replacement that is costly, as experienced at Medupi Power Station. Direct impact which will be positive for Eskom, if the technology is implemented, indicate savings in OPEX due to low rate of chemical usage and membrane replacement.

The recovered water can also serve as make-up water to the cooling towers (biggest source of water losses), resulting in savings if the technology is implemented promptly.

BENEFITS TO ESKOM

- Upholding of ZLED philosophy adopted by Eskom for efficiently re-use of process water after removal of oil.
- Cost savings with regards to water required in Eskom
- Prevention of UF and RO membranes failure due to oil ingress in water, resulting in costs savings.

SCOPE OF WORK/SUPPLY

The scope of work is to demonstrate efficient and cost-effective oil removal in process water by use of a suitable technology. The technology applied should not have a negative impact on downstream water processes. Similarly, the proposed technology should be cost efficient and sustainable.

The supplier should indicate as to whether the proposed product can meet the requirements as stipulated in the RFI.

SPECIFICATION OF PRODUCT OR GOODS

Propose, supply and demonstrate the efficiency of a technology (product) that has the ability of removing oil in water. The supplied product should not negatively affect the quality of water as in Table 1 (page 6) and should also support a positive cost and life cycle of the process.

ADDITIONAL INFORMATION

There are two phases to be undertaken in the evaluation of the technology, that are as follows:

Phase 1

Suppliers that will be participating will be required to supply the intended product/consumable that will be evaluated on benchtop/laboratory scale at Medupi Power Station. If the product is found to be suitable (based on the results produced), then Eskom will purchase small quantities for further laboratory evaluation with process water from other power stations.

The average water quality for water in the Crocodile West Reservoir is shown in Table 1, with FOG concentration ranging from 0-10ppm.

Table 1: Medupi Crocodile West Reservoir Water Analysis

Parameter	Units	Minimum concentration	Maximum Concentration	Average Concentration
Barium	mg/kg	0.062	0.117	0.084
Calcium Hardness	mg/kg	94.1	103	99.19
Calcium	mg/kg	36.4	42.1	39.64
Anions	mEq/l	-4.25	8.01	5.25
Cations	%	5.22	5.97	5.44
Chloride	mg/kg	18.3	23.5	21.18
Copper	mg/kg	0.004	0.014	0.01
Fluoride	mg/kg	0.15	0.844	0.44
Iron	mg/kg	0.011	0.038	0.02
Potassium	mg/kg	5.75	6.82	6.15

Conductivity	µS/cm	5.69	611	596.27
M-Alkalinity	mg/kg	45.7	55.7	49.81
Magnesium Hardness	mg/kg	29.4	33.2	31.74

Magnesium	mg/kg	6.69	7.92	7.38
Manganese	mg/kg	0.009	0.033	0.02
Sodium	mg/kg	54.40	73.8	61.43
Nitrate	mg/kg	0.111	0.894	0.51
P- Alkalinity	mg/kg	0	17.50	8.64
pH		7.43	9.79	8.93
Phosphate	mg/kg	0.03	0.25	0.16
Silica	mg/kg	11.7	17.4	14.85
Sulphate	mg/kg	92.3	194	173.73
Strontium	mg/kg	0.16	0.20	0.19
TOC (as Carbpn)	mg/kg	4.22	6.34	5.57
Total Hardness	mg/kg	126	137	131
Turbidity	mg/kg	1.12	3.68	2.36

It is anticipated that Phase 1 and laboratory evaluation will be completed by end of November 2025.

Phase 2

The next phase preceding the laboratory evaluation of the different products will be plant trials, where the product will be dosed at a large scale in process water treatment plant.

The supplier will be expected to demonstrate the capability of the technology, with minimum negative impact on the process downstream, with emphasis on the following:

- To what extent does the suitable technology remove oil in water
- What are the by-products (if any) and how do they impact downstream processes
- Is this technology able to provide a cost-efficient solution for removal of oil in water

Product efficacy (in terms of percentage oil removal), by-products (TDS, TSS, pH and microbiological counts), and their impact on downstream processes will be evaluated by both Eskom and the supplier and the most suitable product will be selected. The cost benefit or life cycle cost will be determined based on the selected technology**.**

PART B RESPONSE SHEET IN TERMS OF A REQUEST FOR INFORMATION To be completed by the supplier			
To	Eskom Holdings SOC Ltd	**Date**	04 September 2025
Attention	Letsibogo Mahlatji		
Tel no		**Fax no and /or e-mail address**	
From		**Address**	
Address			
Sender			
Description of the works/goods/services	Request for Information on the Oil in water removal by a suitable technology.		

Please find below our response to Eskom's questions:

No.	Question	Please indicate your response in this column
1.	Name of the Respondent	
2.	The name and contact details of the person appointed by the Respondent as its representative in the event that Eskom needs to contact the company for clarification or further details.	
3.	Company profile and description of key service offerings and capacities.	
4.	Is the respondent/company an existing registered Eskom vendor? (Please provide vendor registration details)	
5.	Provide details on respondent/Company empowerment, localisation credentials (Black Youth & Women Owned Enterprise, BBBEE Enterprise etc)	

Yours faithfully

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