
	<b>Request for Information (RFI) Template</b>	Document Identifier	240-72663051	Rev	2
		Effective Date	14 March 2025		
		Review Date	March 2030		
		RFI Number	E1263CXMWP		

PART A REQUEST FOR INFORMATION (RFI)			
Description of the works/goods/services	E1263CXMWP - Request to obtain information about the sourcing of the online SF6 gas dry-out system for HV substations		
Deadline for submission	13 June 2025	At (South African Standard Time)	10h00
Tender Office address	Tenders are uploaded via Eskom Tender bulletin site on the Eskom E-tendering page.		
RFI are to be submitted electronically via Eskom E- tendering site by the stipulated closing date and time.  <i>Please note it is the responsibility of the supplier to ensure that RFI submission is submitted before the closing date and time</i>	Tenders are uploaded via Eskom Tender bulletin site on the Eskom E-Tendering page. <a href="https://eTendering.eskom.co.za/tender/">https://eTendering.eskom.co.za/tender/</a>		
Electronic Submission of RFI	<p>The tenderer must upload the tender via Eskom Tender bulletin site on the Eskom E- tendering page.</p> <p>All documents need to be submitted in a PDF and Excel format (The limit is 50MB per file and total submission of 900MB per submissions). No Zip/condense files can be uploaded No hard copy will be accepted</p> <p>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.</p> <p>Please ensure that the submission status is indicated as complete.</p> <p>Supplier Help Manual guide and video can be found on Eskom E-Tendering page</p>		
E-tendering Help Manual for supplier	available on e-tendering platform.		

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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 online SF6 gas dryout system for HV substations Eskom may request indicative prices if so stated in this RFI.

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

We look forward to receipt of your response.

Yours faithfully




Procurement Manager

Shamani Padayachee

Date: 16 May 2025

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Please find below our response to Eskom's questions:

## DEFINITIONS

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


<b>B-BBEE</b>	- means Broad-Based Black Economic Empowerment.
<b>ERIC</b>	- Eskom Research and Innovation Centre that is located at Lower Germiston Road, Rosherville, Gauteng.
<b>Procurement Process</b>	- Means the procurement process being conducted in terms of this RFI in respect of the Project or requested information.
<b>RT&amp;D</b>	- Research, Testing and Development, a business unit in Eskom.
<b>Respondent</b>	- any entity or consortium that submits a Response to this Document.
<b>State Owned Company or SOC</b>	- 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.
<b>HV</b>	- High Voltage
<b>Gx, Dx and Tx</b>	- Generation, Transmission and Distribution.

## INTRODUCTION AND BACKGROUND

Eskom utilizes Sulphur Hexafluoride (SF6) gas as an insulating gas in high voltage electrical equipment like outdoor substation circuit breakers and gas insulated switchgears. SF6 is renowned for its excellent electrical insulation properties, and arc-quenching capabilities effectively preventing prolonged electrical arcing upon circuit-breaker clearing short circuits or

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fault currents. Upon use in the gas insulated switchgear (GIS), SF6 gas must have a specific quality which is predetermined by the manufacturer of switchgear and the IEC 60480 standard. Amongst the specified constituents of the gas is moisture content which is specified to be not more than 400 parts per million by volume (ppmv) for SF6 filled switchgear at a maximum gas pressure of 1 MPa and pressures below 1MPa the moisture content may exceed 400 ppmv provided that the IEC/SANS criteria of -5 °C at working pressure is not exceeded. The moisture infiltrates the GIS in various ways. The most common ways are through the leaking points on the enclosure, and through the desorption of moisture from the spacer, the conductor, and the internal surface of the enclosure.

The moisture content is also affected by temperature. A higher than accepted moisture content in the gas decreases the dielectric properties of the gas i.e. the ability of the gas to interrupt currents during a fault is also decreased.

The focus is on sourcing out an SF6 gas dry-out system that will dry the gas online without taking the bay to outage.

The system shall be capable of drying the gas while the bay or feeder is online with no risk of trip. The system will also monitor the moisture content levels in each compartment. The pressure safety system shall be controllable during the dehydration of SF6 gas.

## PURPOSE AND STRUCTURE OF THE RFI

- 1) The objective of this RFI is to obtain market information from interested Suppliers/Service providers for online SF6 gas dryout system.
- 2) The future online SF6 gas dryout system specifications will be developed based on the technologies that are available in the market.
- 3) Service providers/Suppliers are encouraged to provide complete information as much as possible.
- 4) Responses submitted should be as comprehensive as possible and include information requested and any supporting documentation in respect thereof. If proprietary information is included in the response, the clauses on the use of such information must be indicated.

## BENEFITS TO ESKOM

The devices will aim to improve the system stability and performance including amongst others such as

An elevated moisture content obstructs the natural recombination of SF6 decomposition byproducts, leading to the formation of highly corrosive substances that corrode GIS equipment. An increased moisture content diminishes the withstand voltage level of SF6 gas insulation

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within GIS, triggering partial discharge faults and endangering the safe and reliable operation of GIS equipment.


The sort after system will trace moisture in gas under no power outage in SF6 electrical equipment in order to meet the standard requirements. This can also delay the equipment maintenance time, avoid the peak period of electricity consumption, and ensure the safe and stable supply of electricity.

#### ADDITIONAL INFORMATION:

No.	Questions	Response
4.1	Provide Supplier name, technology name and technology description, including: <ul style="list-style-type: none"> <li>Type of technology utilised.</li> <li>Unique features in the technology.</li> <li>Capacity.</li> <li>Design life.</li> <li>General arrangement drawing.</li> <li>Footprint requirement for the technology.</li> </ul>	
4.2	Provide a process and flow diagram of a typical installation (including overall mass/material/heat balance, inputs, and outputs), as well as applicable design codes.	
4.3	Provide functional descriptions and operating parameters of all key components.	
4.4	Describe the control and operating philosophy of the technology.	
4.5	Describe the maintenance philosophy of all key components, including: <ul style="list-style-type: none"> <li>Typical wear parts and replacement durations.</li> <li>Service intervals and duration.</li> </ul>	

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No.	Questions	Response
	<ul style="list-style-type: none"> <li>Typical service costs, including repairs, spares and labour for each type of service.</li> <li>Reliability and availability statistics from previous installations.</li> <li>Specialised engineering, operating and maintenance skills.</li> </ul>	
4.6	The Respondent to provide information on the budgetary cost estimated for the design, supply, and installation of the technology [capital and operating expenditure] in ZAR/kW.	
4.7	Provide the life cycle costs of the technology, including: <ul style="list-style-type: none"> <li>Fixed Operation and Maintenance costs in ZAR/kW.</li> <li>Variable Operation and Maintenance costs in ZAR/kW.</li> </ul>	
4.8	Provide information on the required capabilities exchange post demonstration/installation: <ul style="list-style-type: none"> <li>Training Requirements.</li> <li>Upskilling/retraining requirements.</li> <li>Certification of operator requirements.</li> </ul>	
4.9	Provide reference SF6 gas dryout system installations: <ul style="list-style-type: none"> <li>Name of facility.</li> <li>Capacity.</li> <li>Date of initial deployment.</li> <li>Date of commercial operation</li> <li>Years of operation after technology deployment, reason for removal if any.</li> <li>Type of storage medium, Footprint, and specification.</li> <li>Lessons learned from the deployment, demonstration, or operation of SF6 gas dryout system.</li> </ul>	

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No.	Questions	Response
	<ul style="list-style-type: none"> <li>Possibility of visiting reference installation/s.</li> </ul>	
4.10	Reference installations: <ul style="list-style-type: none"> <li>Name of company/organisation installed.</li> <li>Date of installation</li> <li>Date of commercial operation.</li> <li>Typical guarantees and warranties that would be offered for the equipment and systems supplied.</li> </ul>	
4.11	Intellectual property (license and ownership - if licensee, provide details including terms and conditions).	
4.12	Provide any other additional information in respect of the technology which you may deem necessary to bring to the attention of Eskom.	

<b>PART B</b> <b>RESPONSE SHEET IN TERMS OF A REQUEST FOR INFORMATION</b> <b>To be completed by the supplier</b>			
<b>To</b>	<b>Eskom Holdings SOC Ltd</b>	<b>Date</b>	
<b>Attention</b>			

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<b>Tel no</b>		<b>Fax no and /or e-mail address</b>	
<b>From</b>		<b>Address</b>	
<b>Address</b>			
<b>Sender</b>			
<b>Description of the works/goods/services</b>	<b>E1263CXMWP - Request to obtain information about online SF6 gas dryout system</b>		

Please find below our response to Eskom's questions:

## 1. RESPONDENT INFORMATION

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)	
6.	Is the company locally based or have a local office in South Africa? If no, indicate if the company is familiar with the requirements of South African State-Owned Companies tendering processes.	


## 2. SECTION A – SF6 GAS DRYOUT SYSTEM MODULES:

No.	Question	Please indicate your response in this column
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<b>A1.1</b>	<p>The Respondent is required to provide Supplier name, product name and product description, including:</p> <ul style="list-style-type: none"> <li>• Type of technology utilised and the scientific background.</li> <li>• Estimated technology readiness level.</li> <li>• Unique features in the technology.</li> <li>• Capacity.</li> <li>• Design life.</li> <li>• Implementation timeline of the technology.</li> <li>• Local South African agent or representative if available.</li> <li>• Estimated percentage of local content for associated technology.</li> <li>• Key technology risks</li> <li>• Storage requirements</li> <li>• Typical footprint range to deploy SF6 gas dryout system</li> <li>• The possibility of scalability and flexibility of operation.</li> </ul>	
<b>A1.2</b>	The Respondent to provide applicable technology performance characteristics of the technology including:	
<b>A1.3</b>	Provide a process and flow diagram of a typical installation	
<b>A1.4</b>	Provide functional descriptions and operating and performance parameters of all key components.	
<b>A1.5</b>	Describe the control philosophy and operating strategy of the technology.	
<b>A1.6</b>	<p>Maintenance philosophy of all key components:</p> <ul style="list-style-type: none"> <li>• Availability of spares required for routine operations and maintenance.</li> <li>• Can equipment be repaired locally in South Africa?</li> <li>• Typical wear parts and replacement timeframes.</li> <li>• Service intervals and duration.</li> <li>• Details of typical service and maintenance contracts available and recommended for the equipment supplied.</li> <li>• Typical service costs, including repairs, spares and labour for each type of service.</li> <li>• Reliability and availability statistics from previous installations.</li> <li>• Specialised engineering, operating and maintenance skills.</li> </ul>	

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<b>A1.6</b>	Provide information on after sales service capability: <ul style="list-style-type: none"> <li>• Training Requirements</li> <li>• Upskilling/retraining requirements.</li> </ul> Certification of operator requirements.	
<b>A1.7</b>	Supply of equipment for demonstration: <ul style="list-style-type: none"> <li>• Terms and conditions for the use of the equipment.</li> <li>• Typical guarantees and warranties that would be offered for the equipment and systems supplied.</li> </ul>	
<b>A1.8</b>	Provide reference SF6 gas dryout system installations: <ul style="list-style-type: none"> <li>• Name of facility.</li> <li>• Capacity.</li> <li>• Date of initial deployment.</li> <li>• Date of commercial operation</li> <li>• Years of operation after technology deployment, reason for removal if any.</li> <li>• Type of storage medium, Footprint, and specification.</li> <li>• Lessons learned from the deployment, demonstration, or operation of online SF6 gas dryout systems.</li> </ul> Possibility of visiting reference installation/s.	
<b>A1.9</b>	Intellectual property (license and ownership - if licensee, provide details including terms and conditions).	
<b>A1.10</b>	Provide information on the relevant standards, permitting and licensing authorisations (including environmental and other) that the technology should comply to. An estimate of the time required to obtain necessary authorisations to be provided.	
<b>A1.11</b>	The Respondent to provide Case studies / patents / reports / literature based on product experience / usage (provide report title, year published, author names, author's affiliation).	
<b>A1.12</b>	Provide any other additional information in respect of the technology which you may deem necessary to bring to the attention of Eskom.	

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