

 <b>Eskom</b>	<b>Expression of Interest (EOI) or Request for Information (RFI) Template</b>	<b>Document Identifier</b>	240-72663051	<b>Rev</b>	1
		<b>Effective Date</b>	October 2022		
		<b>Review Date</b>	October 2027		
		<b>RFI Number</b>	<b>MWP2434CX</b>		

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

<b>Description of the works/goods/services</b>	Network Compensation using D-FACTS Devices		
<b>Deadline for submission</b>	20 March 2024	<b>At (South African Standard Time)</b>	10H00
<b>Tender Office address</b>	Eskom Megawatt Park Tender Office Retail Centre 1 Maxwell Drive Sunninghill 2000 <b>(NB: TENDERS DELIVERED LATE TO THE ABOVE ADDRESS WILL NOT BE ACCEPTED)</b>		

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 [Drafting note: insert name of project]. Eskom may request indicative prices if so stated in this RFI.

Eskom has delegated the responsibility for this **RFI NO. MWP2434CX** to the signatory of this document, whose details can be found below.

We look forward to receipt of your response.

Yours faithfully

<b>Name</b>	<b>Designation</b>	<b>Signature</b>	<b>Date</b>
Damela Mathetja	Procurement Manager		16.02.2024
<b>Telephone number</b>	011 800 5611	<b>Fax and/or e-mail address</b>	MatheD@eskom.co.za

**Controlled Disclosure**

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**PART B**  
**RESPONSE SHEET IN TERMS OF A REQUEST FOR INFORMATION**  
**To be completed by the supplier**

<b>To</b>	Eskom Holdings SOC Ltd	<b>Date</b>	15/02/2024
<b>Attention</b>			
<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>			

## 1. BACKGROUND INFORMATION

The power grid is ageing and getting increasingly congested, and the major challenge in power system sub-transmission and distribution network is the inability to effectively manage the control of power flow. D-FACTS devices can realise variable line impedance, vary the phase angle, and regulate bus voltages and that allows for the control of active power flow. Voltage sags and power system oscillations are also some of the major power quality related problems the distribution network faces. The concept of distributed FACTS (D-FACTS) devices has recently been proposed as an alternative approach for realizing their functionality especially the series FACTS devices, but at a lower cost and higher reliability.

The concept of Distributed Series Impedance (DSI) that can realize variable line impedance which helps to control active power flow, the concept can be further extended to realize a Distributed Static Series Compensator (DSSC) using small modules rated (~10 kVA) single phase inverters and a Single Turn Transformer (STT), along with associated controls, power supply circuits and built-in communications capability. Each module is rated at about 10 kVA and is clamped on the line, floating both electrically and mechanically, these modules can also be controlled to increase or decrease the impedance of the line, or to leave it unaltered. The voltage sags are one of many power supply quality related problems the industrial process sector must face. The Dynamic Voltage Restorer (DVR) has become popular as a cost-effective solution for protection of sensitive loads from voltage sags, the implementations of DVR have been proposed at medium voltage level and gives an opportunity to protect high power applications from voltage sags.

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## 2. THE INFORMATION THAT NEEDS TO BE PROVIDED IS AS FOLLOWS:

Please find below our response to Eskom's questions:

<b>No.</b>	<b>Question</b>	<b>Please indicate your response in this column</b>
1.	<b>Your contact name and contact details?</b>	
2.	<b>Company registration number?</b>	
3.	<b>Brief description of previous experience and Description of the solution that you can offer?</b>	
4.	<b>Indicative prices (optional and only for use of RFI's)</b>	
5.	<b>At what stage of development is the device?</b>	
6.	<b>Description of operation of the device's (DSI, DSSC and DVR)</b>	
7.	<b>Please provide the details of where the device has been used worldwide in practical installations</b>	
8.	<b>Year of installation</b>	
9.	<b>Level of voltage installation</b>	
10.	<b>Sizing of the device</b>	
11.	<b>Cost of the device</b>	
12.	<b>Detailed discussion of the problem that the device was meant to solve</b>	
13.	<b>Why the device was selected as the preferred technology</b>	
14.	<b>Availability of models for the device e.g., Retic Master and/or PowerFactory</b>	

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### 3. BENEFITS TO ESKOM

- Reduce congestion on distribution lines by altering the reactive power of the line.
- Increased available transfer capacity (ATC) of the system,
- Deferred capital investment of building new capacity.
- Enhanced system stability.
- Eliminate the impact of voltage sags on sensitive loads.

**All RFI responses must be clearly marked: “MWP2434CX Request for Information (RFI) about the Network Compensation using D-FACTS Devices”**

### METHOD AND PLACE OF DELIVERY

**All the responses must be sealed and be delivered at the tender box located at the following:**

THE TENDER OFFICE  
 Eskom Megawatt Park Tender office  
 Retail Centre  
 Maxwell Drive  
 Sunninghill

### FORMAT OF SUBMISSION

**The respondent shall be submitted as 1 (one) printed original RFI, plus 1 (one) printed copy.**

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