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		RFI Number	E1841CXMWP		

PART A REQUEST FOR INFORMATION (RFI) E1841CXMWP			
Description of the works/goods/services	E1841CXMWP -Request to obtain information on latest available Generator and Auxiliaries Technologies.		
Deadline for submission	13 October 2025	At (South African Standard Time)	10h00
Enquiries/ Eskom Representative	Monica Shuping ShupinDM@eskom.co.za		
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. https://eTendering.eskom.co.za/tender/		
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 Demonstration of latest available Generator and Auxiliaries Technologies may request indicative prices if so stated in this RFI.

Eskom has delegated the responsibility for this **RFI** to the **Eskom Representative**, whose details can be found above.

We look forward to receipt of your response.

Yours faithfully




Procurement Manager

Shamani Padayachee

Date: 12 September 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-BBEE	- means Broad-Based Black Economic Empowerment.
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 in respect of the Project or requested information.
RT&D	- Research, Testing and Development, a business unit in Eskom.
Respondent	- 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.
Gx, Dx and Tx	- Generation, Transmission and Distribution.

INTRODUCTION AND BACKGROUND

Eskom operates an aging fleet of power generators nearing their design life, with the coal-fired units averaging about 45 years old. This advanced age, combined with heavy operational

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demands, has led to deep maintenance and reliability challenges. Over recent years, several catastrophic generator failures (often linked to auxiliary component degradation) have underscored the urgent need for modernization. Unplanned outages and efficiency losses are rising as equipment ages. For instance, chronic issues like hydrogen leaks or cooling inefficiencies can force load reductions or downtime, while brush gear failures and seal oil leaks have caused unit trips. High-profile incidents (e.g., a hydrogen explosion at Medupi Unit 4 in 2021 due to purging error) highlight the safety risks associated with outdated systems and procedures

Aging auxiliary systems such as cooling fans, excitation brushes, hydrogen seal oil systems, and bearings require intensive maintenance. Many of these subsystems were installed decades ago and predate modern standards, making upkeep difficult and sometimes unsafe (e.g., technicians working near high-speed shafts to service old brush gear). This can lead to deferred maintenance and undetected deterioration, further raising the risk of failures. There is a strong motivation to modernize the generator fleet to extend asset life and improve performance. Upgrading to current technologies can address obsolescence and ensure compatibility with future grid requirements. Global utilities are increasingly adopting real-time monitoring and diagnostic systems to catch issues early as well as designing generators with enhanced auxiliary systems (e.g. explosion-proof hydrogen systems or improved cooling configurations). Eskom aims to leverage these advances to resolve reliability gaps and optimize generation availability.

By conducting a comprehensive market scan of new and emerging generator and auxiliary technologies, Eskom can identify specific upgrades or innovations that will mitigate the above problems. The underlying assumption is that proven modern technologies (in areas such as improved cooling, brushless excitation, advanced seals, etc.) exist and can be retrofitted or integrated into Eskom's current plants. If Eskom can pinpoint the right technologies that are compatible with its generators and offer clear reliability or efficiency benefits, then implementing these will improve unit reliability, reduce unplanned outages, and extend the life of the generation fleet. In essence, modernizing critical generator subsystems is expected to bridge current performance gaps and meet Eskom's operational needs more effectively.

PURPOSE AND STRUCTURE OF THE RFI

- 1) The objective of this RFI is to obtain market information from interested Suppliers/Service providers for Demonstration of latest available Generator and Auxiliaries Technologies.

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- 2) The future latest available Generator and Auxiliaries Technologies 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 market technology survey of generator and auxiliary technologies is expected to deliver the following key benefits for Eskom's Generation Division:

- Identification of modern, proven technologies (e.g., upgraded cooling, brushless excitation, advanced seal systems) will support a reduction in unplanned generator trips and forced outages.
- By replacing aging and failure-prone auxiliary components, overall unit reliability and Mean Time Between Failures (MTBF) will increase.
- Provides Eskom with a structured overview of viable upgrade options and their applicability across different generator models.
- Technologies identified will include systems that reduce operational hazards, such as explosion-proof hydrogen systems and automated purging tools.
- Highlights technologies that can reduce long-term maintenance effort and costs, such as low-maintenance bearing systems, online condition monitoring tools, and brushless excitation.
- Enables a shift from reactive to predictive and condition-based maintenance across the generator fleet.
- Facilitates the adoption of common technologies across multiple power stations, improving spare parts commonality, training efficiency, and diagnostic consistency.
- The insights gained will feed into Eskom's Asset Management and R&D strategies, aligning with plant health, lifecycle extension, and operational excellence objectives.
- Supports long-term planning by identifying emerging trends and technologies that future-proof Eskom's generation assets.

INFORMATION REQUESTED

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Suppliers are requested to submit comprehensive information related to commercially available and emerging generator and auxiliary technologies applicable to large turbo generators operating in coal-fired power station environments. Submissions must include both printed hard copies and electronic copies (PDF format on a memory stick) of all relevant documentation. The information should cover the following aspects for each technology offered:


- Supplier Name
- Product Name
- Detailed Product Description
- Main Technical Datasheet / Specifications
- Piping and Instrumentation Diagram (P&ID) and General Layout
- Operation and Maintenance Manual (OMM)
- Repair Requirements
- Specify local or international support availability
- Maintenance Requirements
- Indicate whether support is local or international
- Years on the Market / Commercial Maturity
- Expected Life Cycle and Associated Life Cycle Costs
- Availability of Spares
- Clarify local vs international supply channels
- International Usage
- Detail global deployment (including country, utility/company name, and usage duration)
- Case Studies / Application Reports / Technical Literature
- Provide evidence of successful application or performance benchmarking
- Training Requirements
- Specify training scope, duration, and location (local/international)
- Estimated Capital and Operational Costs

This information will be used to support Eskom's evaluation and strategic planning for technology upgrades, reliability improvements, and long-term maintenance optimization across its generator fleet.

PART B RESPONSE SHEET IN TERMS OF A REQUEST FOR INFORMATION

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To be completed by the supplier

To	Eskom Holdings SOC Ltd	Date	
Attention			
Tel no		Fax no and /or e-mail address	
From		Address	
Address			
Sender			
Description of the works/goods/services	E1841CXMWP-Request to obtain information on latest available Generator and Auxiliaries Technologies.		

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.	

SECTION A: GENERATOR AND AUXILIARIES TECHNOLOGIES

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No.	Question	Please indicate your response in this column
5.1.1	Supplier profile details such as: <ul style="list-style-type: none"> • Company Name • Company structure and staff compliment • Capability to provide and operation and maintenance (O&M) service • Local South African agent or representative if available. • Product name • Relevant experience regarding latest available Generator and Auxiliaries Technologies. • References for similar projects (commercial/ demonstration) • Estimated percentage of local content for associated technology 	
5.1.2	Product Description <ul style="list-style-type: none"> • Scientific basis of technology • Commercial readiness level of technology • Unique features of the technology • Capacity basis – <ul style="list-style-type: none"> ○ Absorber module capacity (% of flue gas flow or percentage of boiler load or proposed modular demonstration capacity) ○ Proposed number of absorbers to treat 100% flue gas from the unit ○ Balance of plant capacities ○ Indication of how redundancy of plant is built into capacity • Limitations on the flue gas feed for the technology in terms of concentration of gas and particulate matter constituents and other process parameters • Design life of plant • Implementation timeline of the technology for the demonstration phases and an indication of timelines for full scale unit deployment • Key technology risks • Typical footprint and height range for <ul style="list-style-type: none"> ○ Module ○ Balance of plant ○ Plant to treat 100% flue gas flow from the unit • The scalability and flexibility of operation • Brochure • Process flow diagram • General arrangement drawing 	
5.1.3	Demonstration Strategy or Plan	

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	<ul style="list-style-type: none"> How well does the system align with the demonstration strategy? 	
5.1.5	Design philosophy <ul style="list-style-type: none"> Process Description Operating and control philosophy, including control and protection philosophy of existing boiler if technology is utilised Maintenance and redundancy philosophy Integration with existing plant or retrofitting narrative or philosophy Requirements or upgrades required for existing plant such as draught plant, particulate emission abatement technology upgrades, boiler protection to ensure performance Functional descriptions Operating and performance parameters of key components. Demonstration plan of proposed technology End-of-Life management plan for the technology 	
5.1.6	Maintenance philosophy of key components: <ul style="list-style-type: none"> Availability of spares required for routine operations and maintenance. Can equipment be repaired locally in South Africa? Typical wear parts and replacement time frames. Service intervals and duration. Details of typical service and maintenance contracts available and recommended for the equipment supplied. Typical service costs, including repairs, spares and labour for each type of service. Reliability and availability statistics from previous installations. Specialised engineering, operating and maintenance skills. Redundancy philosophy 	
5.1.7	Budget Costs <ul style="list-style-type: none"> Capital: budgetary cost estimated for the design, supply, and installation for Lifecycle cost assessment Operating expenditure in South African Rand (ZAR) per kilowatt hour (kWh). Cost of sorbent sourcing 	
5.1.8	Supply of equipment for demonstration: <ul style="list-style-type: none"> Typical demonstration volume and scalability guarantee. Integration to existing plant A letter of intent if willing to implement a demonstration plant Terms and conditions for the use of the equipment. Typical guarantees and warranties that would be offered for the equipment and systems supplied. 	

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	<ul style="list-style-type: none"> • Provide information on after sales service capability: <ul style="list-style-type: none"> • Training Requirements • Upskilling/retraining requirements. • Certification of operator requirements 	
5.1.9	Provide reference details <ul style="list-style-type: none"> • Name of facility. • Capacity. • Date of initial deployment. • Date of commercial operation • Lead time: Contract award to commercial operation • Outage Duration • Years of operation after technology deployment, reason for removal if any. • Size of the plant medium, Footprint, and specification. • Lessons learned from the deployment, demonstration, or operation of Generator and Auxiliaries Technologies. Interfaces to and/or upgrades other plant such as draught plant, particulate abatement control plants and dust/ash handling plants etc. • Possibility of site visit to reference installation/s. 	
5.1.10	General <ul style="list-style-type: none"> • 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. • Information on relevant Case Studies / literature. • Intellectual property details if applicable • Alternate Options: Alternate technologies or configurations or approaches that is deemed to meet the emissions requirements and intent of demonstration • Additional information in respect of the technology which is deemed necessary to bring to the attention of Eskom. 	

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