

Request for Information Supply, Installation and Commissioning On-Line Partial Discharge Monitoring System for 11KV Electrical Equipment at O.R. International Airport

Tender Number: : 74393

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LIST OF ACRONYMS

Term	Definition
ACSA	Airports Company South Africa (SOC) Ltd
ORTIA	O.R Tambo International Airport
OEM	Original Equipment Manufacturer
OHS	Occupational Health and Safety
PPE	Personal Protective Equipment
SHE	Safety, Health and Environment
RFI	Request for Information

GLOSSARY

Term	Definition
Authorised Signatory	This is an individual with limited rights on the APAC system for the administration and approval of permit applications as well as conducting other related permit activities on behalf of the stakeholder.
Authorised Permit Administrator	This is an individual with limited rights on the APAC system for the administration of permit applications and other related permit activities on behalf of the stakeholder. This individual does not have approval rights.
Client	Airports Company South Africa SOC Limited.
Permit	A permit acts as official approval for an individual or vehicle to access certain restricted areas with certain approved equipment. A permit may indicate restrictions and privileges for the holder
Permit card	This is a card provided to a holder as proof that the holder is in possession of a valid permit.
Solution	The solution includes people, process, technology and information.
Supplier	This is the entity that will provide all the services and products required for scope of works. This supplier could include sub-contractors.

1 BACKGROUND

OR Tambo International Airport (ORTIA) electrical network receives 11kV power supply from Ekurhuleni Municipality through two intake points, namely Isando Super Substation (Main intake) to the Terminal Building, Kempton Park Cargo Substation (Alternative intake) to Cargo. During lifespan of electrical infrastructure, such as Switchgears, Cables, Power Transformers, Current Transformers, Ring Main Units, Mini-Substations etc, the equipment experiences insulation failures due to various factors electrical, thermal, mechanical and environmental stress factors over many years in service.

Some factors that impact the performance of the medium voltage electrical infrastructure:

- Due to high currents, electrical equipment is susceptible to hot spots.
- Insulation material degradation due to exposure to heat.
- Aging electrical equipment becomes less resistive to electrical stress leading to major breakdowns.
- Partial Discharge (PD) activity in electrical equipment due to weak insulation.
- Extreme weather conditions, high humidity, and water ingress in cable trenches accelerates the aging process.

Regular maintenance, condition monitoring, and timely upgrades are crucial to managing the risks associated with aging electrical infrastructure. On-line Partial Discharge (PD) will help detect potential

failures early, enabling maintenance teams to take preventative actions before failures occur. It identifies issues like hot spots, insulation degradation, and electrical leakage early, it ensures the reliability and longevity of electrical equipment, ultimately preventing costly outages and enhancing safety. On-line Partial Discharge (PD) monitoring provides you with continuous insulation condition status while electrical equipment is in operation and under the influence of deteriorating forces.

This is a pilot project, to test effectiveness of the permanent On-line Partial Discharge therefore ACSA reserves the rights to change quantities in order to manage and control the cost.

2 OBJECTIVES

- a) To obtain information from potential bidders for supply, installation and commissioning of permanent on-line Partial Discharge Monitoring System for 11kV electrical equipment.
- b) To determine suppliers which have the technical expertise, OEM partnerships, and experience to deliver permanent on-line Partial Discharge Monitoring System
- c) To Understand the different technologies, monitoring methods, and integration options available from bidders, including advantages and disadvantages for each solution.
- d) To Identify Risks and highlight potential challenges in installation, commissioning, or long-term support.
- e) To understand Licensing and software integration details.
- f) To award the tender to a tender with a viable solution or restrict the tender to bidders that have provided information.

3 SCOPE OF WORK

3.1 Scope

The *works* that the *Contractor* is to perform *involve* the supply, installation and commissioning of permanent on-line Partial Discharge Monitoring System for 11kV electrical equipment at O.R Tambo international Airport at precincts namely Terminal Building, Cargo, and Airside. on-line Partial Discharge Monitoring System must cover:

- a) Monitoring of entire cable length and cable terminations (suitable for both tunnel/ air or underground cables).
- b) Monitoring of Switchgears.
- c) Monitoring of Power Transformers.
- d) Monitoring of Current Transformers.
- e) Monitoring of Busbars.
- f) The contractor shall ensure OEM is present throughout the commissioning of the PDM system.
- g) The contractor shall provide training to ACSA personnel.
- h) The contractor shall provide aftersales support.
- i) The contractor shall provide license rights for an online Partial Discharge Monitoring (PDM) System including but limited to access to software features, data analysis tools, hardware integration, and support services, depending on the available packages.

3.2 Specification

The On-line Partial Discharge (PD) monitoring system shall have, but not be limited to, the following capabilities and functionalities. Similar, additional or comparable products may also be considered as part of the scope.

- a) Permanent on-line Partial Discharge monitoring system for high-voltage and extra- high-voltage cables or similar product
- b) The system shall allow users to access data remotely Email/ SMS Notifications
- c) The system shall provide Analysis, Custom Dashboards/ Reporting through Email/ SMS Notifications
- d) The system shall be equipped with AI capabilities.
- e) The system shall use Fiber optic cable or LAN for communication
- f) The system shall be compatible to ACSA laptops
- g) The system shall support a minimum of 24 sensors on one system
- h) The system shall Monitor Transformer Dissolve Gas Analysis (DGA) and PD on bushings
- i) The system shall be able to read and report on abnormal conditions such as electrical, thermal, mechanical and environmental factors etc
- j) The system shall be able to discriminate between partial discharge sources and external interference.
- k) The system shall be able to keep historical records for extended periods
- l) The system shall be powered through 230V AC.
- m) The system shall be interfaced with IMC System.
- n) The system shall be interfaced with existing IT Server.
- o) The Online Partial Discharge Monitoring (PDM) System shall be compatible with SCADA (Supervisory Control and Data Acquisition) systems to allow for centralized monitoring, real-time alerts, and better asset management.
- p) The Online Partial Discharge Monitoring (PDM) System shall be compatible with existing infrastructure and scalable for future installations.



Procurement timelines

Potential respondents are advised to read through all the information provided carefully to obtain a thorough understanding of the nature and complexity of this project.

INSTRUCTIONS TO RESPONDENTS

The following should be noted in terms of this RFI process and submission:

Clarifications

Formal enquiries and clarifications with respect to this RFI should be submitted to this email theo.nkomo@airports.co.za

Clarifications by potential respondents may be submitted to ACSA until the **10 July 2026 at 16h00** (CAT).

RFI Closing Date and Time

The RFI closing time and date is **17 July 2026 at 12h00** (CAT).

Responses should be submitted to the following address on or before the closing date and time.

a) Electronic Submission:

The requested Information must be emailed to ACSARfq@airports.co.za before the closing date and time.

No late submissions will be considered. Respondents are therefore advised to submit their responses on time.

Responses should be clearly marked as – Request for Information for RFQ 74393“on subject

RFI Document

The RFI tender document will be published on the National Treasury Website as the National Treasury Regulations and SCM Policies and Procedures.

Structure of The Response Document

Respondents should ensure that the document is structured in a logical manner giving clarity on the sections in the technical information and specification of the scope of works (**section 3 and section four**).

General Information

ACSA reserves the right to request any respondent to provide a presentation on their proposed solution at short notice. Respondents are required to respond to any queries that ACSA may have in terms of the respondent's document within 48 hours of receipt.

4 ENQUIRIES

Enquiries can be directed to the email address theo.nkomo@airports.co.za

5 TERMS AND CONDITIONS

The following terms and conditions are applicable to this RFI process.

- ❖ Costs are estimates for budget purposes only. There is no commitment on the part of either the vendor or ACSA; or any obligation by ACSA to the vendor. The information provided must be presented in a format that corresponds to and references sections outlined within this RFI. This will allow ACSA to more easily formulate a budget based on a comparison and extraction of information from all respondents. Unlike an RFP where a single vendor is selected, each RFI response will be a potential contributor to part of the overall specification formulation, budget and other.
- ❖ All responses will be kept confidential and not be available for public knowledge.
- ❖ Any irregularities or lack of clarity in the RFI should be brought to ACSA's attention as soon as possible so that corrective addenda may be furnished to prospective respondents.
- ❖ Alterations, modifications, or variations to a proposal may not be considered unless authorized by the RFI or by addendum or amendment.
- ❖ Proposals may be withdrawn by written notice received prior to RFI closure.
- ❖ In addition to the terms and conditions stipulated, potential respondents should ensure that they have relevant experience and capacity to embark on a project of this nature with contactable references/sites.



- ❖ ACSA reserves the right to stop this process.