



## **AROS CAMPUS: REQUEST FOR A TENDER - BACKUP SOLAR SOLUTIONS**

2024-04-11

### **Background**

Aros campus is currently dependent on grid power for normal operations. Due to the increased frequency and duration of loadshedding, this is posing a major disruption to normal operations.

Aros is investigating alternative sources of power supply that are more reliable and sustainable. In this regard, solar is the most suitable for this application.

### **Invitation to service providers and/or suppliers to provide quotations**

Several buildings will be fitted with backup solar systems to accommodate critical loads for operations to continue. This will be done to address some essential load requirements. Therefore, a quotation is requested from relevant service providers with a proven track record. The service provider or its subcontractor must be registered with the DOL and be a member of the ECB/ECA. This quotation may include the following:

1. an assessment of each building to verify requirements and system upgrades required
2. a detailed load recording to confirm system sizing
3. supply and install equipment as required
4. maintain equipment after installation in the form of post-installation services

The following buildings need to be fitted as specified:

### **Main building**

An independent electrician estimated the main building's emergency power to be around 50 kW. It is advised that this be assessed, all emergency power be identified, and only emergency power be connected to the emergency DB.

The following indicative system should be quoted and further confirmed to be suitable for the application:

1. A 50-kW hybrid 3-phase inverter
2. An approximately 100 kWh HV battery (expandable)
3. Battery BMS
4. Battery cabinets
5. 120 x 545 W PV panels or similar
6. A full-roof mounting system (also see note below on the alternative of a solar “farm”)
7. All cabling and accessories
8. All AC system integration, DB modification and solar system integration
9. Lighting and surge protection (AC & DC)
10. An earthing system
11. Protective equipment and installation to SANS 10142

### **The rector’s house**

This house should be fitted with a single-phase inverter to facilitate normal emergency loads. The current DB will be modified to split essential and non-essential loads. The following typical system should be quoted:

1. An 8-kW hybrid inverter
2. An approximately 10 kWh 48 V lithium battery (expandable)
3. Battery cabinets
4. 18 x 545 W PV panels or similar
5. A full-roof mounting system (also see note below on the alternative of a solar “farm”)
6. All cabling and accessories
7. All AC system integration, DB modification and solar system integration
8. Lighting and surge protection (AC & DC)
9. An earthing system

## 10. Protective equipment and installation to SANS 10142

### 3 x administration blocks

Each of these buildings will also be fitted with a fully independent solar system, complete with PV and battery backup. Each building will be individually evaluated, and system suitability will be confirmed. For each building, the following typical system should be quoted:

1. A 16-kW hybrid inverter
2. An approximately 20 kWh 48 V lithium battery (expandable)
3. Battery cabinets
4. 38 x 545 W PV panels or similar
5. A full-roof mounting system (also see note below on the alternative of a solar “farm”)
6. All cabling and accessories
7. All AC system integration, DB modification and solar system integration
8. Lighting and surge protection
9. An earthing system
10. Protective equipment and installation to SANS 10142

Each of these systems should be individually quoted by the relevant service provider, and all current installation changes should be included to ensure essential and non-essential load splits are executed. Tenders should provide cost analyses for **2 options separately**:

- For solar panels to be mounted **on the roofs** of the buildings, and alternatively
- For solar panels to be all grouped in one area of the campus, preferably in the southwest corner (**a solar “farm”**)

A detailed engineer’s report can be requested from Nick Venter, with contact details listed below.

All quotations by relevant service providers are to be provided by no later than 28 April 2024. No late quotations will be accepted for consideration.

Tenders must either be hand-delivered in a sealed envelope marked: *Tender Solar* or emailed to:

Aros campus:  
1037 Besembiesie Road  
Montana Park  
Pretoria

For the attention of Nick Venter

E-mail: [nick.venter@aros.ac.za](mailto:nick.venter@aros.ac.za)

No contract exists without Aros's unqualified acceptance of a tender/offer made by a tenderer **and** the subsequent undersigning of a detailed contract. Acceptance will be provided in written form to the accepted service provider and/or supplier after all relevant quotations have been received and reviewed.

Aros reserves the right to:

1. withdraw a tender after issue; and
2. accept no submitted tender

Please do not hesitate to contact the Aros Manager: Facilities for further clarification or queries.

Nick Venter

Email address: [nick.venter@aros.ac.za](mailto:nick.venter@aros.ac.za)

Telephone number: 012 332 3227

